

Box Hill Transit City Activity Centre Structure Plan

City of Whitehorse

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Prepared for the City of Whitehorse



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Figure 1: STUDY AREA



The study area encompasses the key areas of influence on the future and identity of Box Hill. It includes the main commercial, office and retail areas of Box Hill, its civic, hospital and education developments, residential areas of substantial change nominated under Council's Housing Strategy (2003), and where appropriate takes in an additional margin to consider the impact and transition of future change on adjoining areas.

1 Introduction

1.1 AIMS & SCOPE OF THE STRUCTURE PLAN

Box Hill is the main activity centre in Whitehorse. It provides retail, education, civic, medical, community service, entertainment and recreational opportunities for the regional population, as well as a hub for local community activities. It is strategically located along the Melbourne to Lilydale and Belgrave rail line, Whitehorse Road and the 109 tram route, which jointly form the spine of an area of intensive economic activity that extends through Melbourne's eastern suburbs.

As part of Melbourne 2030's strategy for sustainable metropolitan development, Principal Activity Centres and Transit Cities such as Box Hill are expected to develop into high-density, pedestrian-friendly urban centres that are intimately connected to public transport services, so as to help reduce urban sprawl and dependency on private motor transport. The Whitehorse City Council supports this strategy and sees Box Hill as having the scope to accommodate substantial growth, as well as the potential for improved amenity to support this growth.

To realise this agreed potential, many issues need to be addressed to ensure the objectives of Melbourne 2030 are achieved, in particular:

- Providing clarity as to the expectations of appropriate development within the Activity Centre, to facilitate the development process.
- Improving infrastructure and services to enable intensive development and to support new activities within the public realm – transforming a place created to support 'suburban' activity into one that supports 'urban' activity.
- Managing transitions between existing low-density uses that will remain for the foreseeable future and areas of higher-density new development; and managing the evolution over time of a new character in areas where existing low-density uses will sit amongst high-density development over a transitional period.

In 2002, Council adopted in principle two major studies to guide development of the area: The Box Hill Transport Interchange Study and the Box Hill Urban Design Framework. Council has also adopted a Housing Study, which nominates the area to the north of Box Hill shopping centre and three areas to the south as areas for substantial growth. However, there is a need to integrate these various plans and develop them into a clear framework for action by all concerned parties.

The Structure Plan is intended to build upon this previous work, addressing:

- A vision for Box Hill as an urban activity centre and Transit City, supporting its development as a shared aspiration of the community, Council and Government.
- A framework for development that assists and coordinates public and private sectors, and recognises economic requirements and market pressures.
- The needs of residents and community groups, to give confidence in the future direction for the centre and its surrounding areas.
- A circulation environment that supports walking as the principal means of access in the Activity Centre; that integrates all transport modes as part of development; and that enhances the street network for circulation, public activity, and development frontages.
- The consolidation, viability and management of car parking to support growth of the centre while minimising its detrimental impacts.
- Strategies for increased development density to create a compact centre with appropriate transitions to established surrounding areas.
- Good urban places and a public open space network appropriate to the context of the Activity Centre.
- An implementation strategy to inform long and short term planning and works by Council and Government and to guide private investors and developers.

1.2 STUDY PROCESS

Development of the Structure Plan has been coordinated by the City of Whitehorse with support from the Victorian Government's Department of Sustainability and Environment. The multi-disciplinary consultant team engaged to prepare the plan commenced the project in May 2004 with extensive research, analysis and consultation including:

- Mail-based and existing situation surveys:
 - Traffic and transport
 - Land use activities and existing conditions
 - Commercial property owners
 - Commercial property real estate agents
 - In centre survey of users/visitors
- Eight focus group sessions with participants representing different categories of users of the Activity Centre, including workers, students, and people from different age ranges, household types and genders.
- A series of direct consultations with the community and representatives of major organisations and groups:
 - 1st General Community Workshop (28 August 2004)
 - Asian Business Leaders Round Table discussion (11 September 2004)
 - Walking the Beat – consultants walked through the centre meeting with traders (September-October 2004)
 - Department of Community Services and related organisations (17 September 2004)
 - Box Hill TAFE staff and students (22 September 2004)
 - Box Hill Hospital representatives (11 October 2004)
 - Youth Services representatives (13 October 2004)
 - 2nd General Community Workshop (28 October 2004).
- Eleven detailed working papers addressing a range of technical and contextual issues related to the Structure Plan, including:
 - Land use activities
 - Traffic and transport conditions
 - Physical infrastructure
 - Residential demand
 - Office demand
 - Retail demand
 - Socio-economic issues
 - Economic development context
 - Investment context
 - Policy and statutory planning context
 - Affordable housing options

A draft Issues and Opportunities paper based on this work was produced and made available for public comment in September 2005. Feedback on this draft was summarised and incorporated into the final Issues and Opportunities paper in April 2006. The Structure Plan builds on the findings of this work as well as earlier projects including the Box Hill Urban Design Framework.

1.3 PLANNING & POLICY CONTEXT

A number of Victorian Government and City of Whitehorse documents are relevant to Box Hill. The Structure Plan draws from and complements these, providing guidance that links broader policies to local issues and opportunities. It is particularly important in supporting existing policies through:

- Addressing relationships between private development and the public realm.
- Providing a site-specific context for interpreting generic policies and guidelines.
- Helping to identify and prioritise public works that will maximise support for activities in Box Hill, including stimuli for desirable types of development.

It is intended that this Structure Plan provide the overarching policy direction for existing strategic plans and policies relating specifically to Box Hill. The structure plan will also identify actions that may need to be included in future revision of other relevant Council documents to ensure strategic and policy consistency.

1.3.A Melbourne 2030 and the Transit Cities Program

Melbourne 2030 is the State Government strategy for Melbourne's future development. Its broad objectives relevant to Box Hill are to create:

- A great place to be: through good design; a sense of place and community; a city that is and feels safe; protection of heritage; and more open space.
- A more compact city: through high quality activity centres that are easy to reach and serve the whole community; more community services in and around shopping centres; and more housing close to services and public transport.
- A fairer city: through well-located affordable housing; social, cultural and creative facilities where these do not exist; better community transport services; and neighbourhood houses that are inviting places to meet and learn.

One of Melbourne 2030's main thrusts is to protect the character of established areas while concentrating major change in strategic redevelopment sites such as activity centres and underdeveloped land.

Under Melbourne 2030 and the Government's **Transit Cities program**, the Box Hill business district is designated as a 'Principal Activity Centre' and one of nine 'Transit Cities' in metropolitan Melbourne. This reflects the intent that development of several urban centres in the metropolitan area should:

- Extend convenient access to employment, services and cultural facilities to a larger proportion of the population.
- Significantly increase use of public transport, through improved services and, more fundamentally, through development patterns that support its use.
- Increase density within existing metropolitan boundaries so as to allow growth while slowing suburban sprawl.

Principal Activity Centres like Box Hill are at a secondary level in a hierarchy of metropolitan centres, with the Melbourne CBD as the primary centre and many smaller centres with a more local or specialised focus. From a metropolitan perspective, aims for the future development of activity centres are to:

- Encourage economic activity and business synergies.
- Broaden the mix and increase the density of uses appropriate to the centre and the needs of the population served.
- Provide focal points for the community at different geographic scales.
- Reduce private motorised vehicle trips by concentrating activities that generate high numbers of (non-freight) trips in highly accessible locations.
- Improve access by walking, cycling and public transport to services and facilities for local and regional populations.
- Support development of the principal public transport network.

Principal Activity Centres serve large catchments covering several suburbs. They

are focal points for government and community services. They will accommodate a mix of activities that generate high numbers of visits for business, shopping, services, and entertainment, as well as providing locations for higher-density housing. They are to be well served by multiple public transport routes, and walking will be the dominant mode of travel within the centres. In short, they are envisaged as substantial but compact cities, set within suburban Melbourne.

1.3.B City of Whitehorse Planning Scheme, MSS and Local Policies

The **Whitehorse Planning Scheme** provides direction for development in the City of Whitehorse, aimed variously at controls over private development, support for economic and cultural activity, and guiding Council programs including capital works and delivery of community services. While addressing the municipality as a whole, it sets out objectives for individual neighbourhoods including Box Hill.

Clause **21.07 Economic Development** forms part of Council's Municipal Strategic Statement in the Planning Scheme and was approved as part of Amendment C50 in August 2006. It recognises the importance of Box Hill as a Principal Activity Centre under Melbourne 2030 and its role in the economic growth and prosperity of Whitehorse. Aiming to develop the Box Hill Activity Centre as the major focus for retail, commercial, health, education and entertainment facilities in Melbourne's east, strategies in this clause include:

- Facilitate development within the Box Hill Activity Centre in accordance with the Box Hill Urban Design framework Strategy.
- Encourage a wider range of uses in Box Hill including residential and entertainment that will help the Activity Centre become a focus of activity.
- Develop appropriate levels of parking within all commercial precincts.
- Direct large entertainment, comparison or convenience retail uses serving a regional catchment into the Principal and Major Activity Centres.

Clause **22.07 Box Hill Activity Centre** was approved as part of Amendment C50. The objectives of this clause are to:

- Ensure that the Box Hill Activity Centre is the preferred location for major entertainment, retail and office development.
- Reinforce the role of each precinct in the Centre by appropriate land use and development.
- Improve traffic circulation in and around the Centre while providing for adequate parking facilities.
- Achieve high quality design for all new development that enhances the streetscape.
- Ensure that development and use in the Transport Precinct are appropriate to its role and function as a regional transport interchange for rail, bus, tram and taxi services.
- Ensure that an adequate and appropriate range of facilities and services for commuters including car parking, taxi stands and pick up facilities are available.

These policies update previous directions in the planning scheme and include the **Box Hill Transport Interchange concept design** and the **Box Hill Urban Design Framework** (adopted by Council in 2002) as reference documents. The interchange study recommended a significant upgrade to the bus interchange and its recommendations are supported by the Structure Plan. The Urban Design Framework provides a design vision for Box Hill, with recommendations for key sites as well as streetscape and general development aims for key sites and precincts. These recommendations have been absorbed by and further developed in the Structure Plan. A Public Transport Interchange Investigation Report was also undertaken by DOI in 2004 (Stage 1) which defined and prioritised the public transport related issues and problems at Box Hill interchange. The next stage is to finalise the project scope.

Council has also adopted a **Housing Study**, which nominates the area to the north of Box Hill shopping centre and three areas to the south as areas for

substantial growth. These areas have been included in the Box Hill Activity Centre study area. **Clause 21.06 Housing** states that ‘the Box Hill Activity Centre will be especially important to meet the emerging needs of smaller households near transport, commercial and community facilities.’

1.3.C City of Whitehorse Integrated Transport Strategy

The City of Whitehorse has prepared an **Integrated Transport Strategy** that envisions ‘providing transport facilities which enable people to have safe and easy access to goods, services and opportunities.’ The strategy addresses the road network, public transport and walking and cycling. Whitehorse is served by seven stations on one train line, three tram lines and numerous bus services. The strategy recognizes that the capacity of some of these services is underutilized, and that there is scope for council to take a lead in improved information and marketing.

1.3.D State Government – Meeting our Transport Challenges

The recently announced Government Transport vision statement, **Meeting our Transport Challenges** outlines an action plan to spend \$1.4 billion on bus service improvements over the next ten years. Over the next four years, improvements including extension of operational hours can be expected to a number of bus routes serving the Box Hill Interchange and the Whitehorse area.

The statement also provides a range of other proposals for the study area including:

- Additional cross-town bus services for the middle and outer suburbs
- Late night train services on the Belgrave and Lilydale lines
- New Park and Ride facilities in the south-eastern suburbs
- Building a rail underpass at Middleborough Road level crossing to separate road and rail traffic.

The Department of Infrastructure is undertaking a series of bus service reviews over the next four years which cover the entire metropolitan area including Box Hill. Whitehorse City Council will be consulted and asked to participate in these reviews to ensure local issues and community requirements are fully considered.

1.4 KEY ISSUES & STRATEGIC OPPORTUNITIES

From the background analysis a number of issues and strategic opportunities have been identified and are detailed in the Issues and Opportunities Paper, which is a separate report available from Council. In summary these are:

1.4.A General economic issues

Box Hill is arguably the main driver of socio-economic wealth in the Whitehorse Local Government Area (LGA) and has a complex socio-economic profile. Its strength, particularly its clusters of economic activity, can be built on to provide increased opportunities for residents and businesses.

1.4.B Clusters of economic activity

A cluster of economic activity is a number of related businesses and/or services located near each other. Box Hill has several established activity clusters:

- The *health and medical* cluster in the Nelson Road / Thames Street / Arnold Street area. Its expansion is replacing housing on many sites.
- The *education* cluster associated with Box Hill TAFE has three main campuses along Elgar and Whitehorse Roads. Also on Elgar Road is the Biotech and New Enterprise Scheme Centre. Student accommodation north of Whitehorse Road is associated with this education cluster.
- The *community services* cluster is generally spread widely although there some concentration in Carrington Road and Ellingworth Parade / Harrow Street.
- The *restaurant and café* cluster focused around Carrington Road, Station Street, Bank Street, and Nelson Road and including a wide range of Asian cuisines.

1.4.C Socio-demographic profile

- Box Hill has a high cultural diversity signifying that it has a large population that was born overseas, particularly in north-east and south-east Asia.
- Like the wider Whitehorse LGA, the Box Hill study area has a large elderly (60+) population. Conversely, compared to the Whitehorse and the Melbourne Statistical Division (SD), Box Hill has a relatively low (19%) proportion of its population in the 0-19 age group.
- A large proportion of households and individuals in the study area earn a low income, significantly more than typical for Whitehorse or the Melbourne SD.
- The Box Hill Study area has a much higher unemployment rate than the Melbourne SD or Whitehorse, 9.3% compared to 6.6% and 5.0% respectively.
- The Box Hill Study area has a much lower workforce participation rate than the Melbourne SD or Whitehorse.
- Twenty two percent of the residents in the Box Hill Study area have a bachelor degree or higher. This is well above the Melbourne SD average of 16%.
- The Box Hill Study Area has a large professional population, at a proportion greater than the Melbourne SD. Box Hill has a small tradespersons and related worker population compared to the Melbourne SD.
- The Box Hill study area has a higher proportion of dwellings with no or one motor vehicle than the larger Whitehorse or Melbourne SD region. This is not surprising given the built form or higher density of the study area.
- Box Hill has a lower proportion of households with two or more motor vehicles. A third of household in Box Hill do not have a motor vehicle (not taking into account motorbikes).
- Seventy percent of households in Box Hill are sole or two-person households. This is much greater than for Whitehorse (58%) or the Melbourne SD (54%).

1.4.D Cultural distinctiveness

- There is significant potential to leverage off Box Hill's multicultural population, which has strong representation from north-east and south-east Asia.

1.4.E Residential development

- There is a need to increase the population of the region – Whitehorse's human capital is constrained to the extent that its population growth is minimal. More residential opportunities need to be provided in the area.
- There is a trend towards higher density residential development in Box Hill, with strong growth in student accommodation. The demand for medium to high density residential is likely to increase in the next decade.
- The local population could more than double from 3,825 people in 2001 to around 8,500 people. This population growth is likely to further enhance the cultural diversity of the area, which is already very high. Between 1,400 and 2,700 new dwellings would be needed to accommodate this growth.
- Land required for future redevelopment could be between ten and forty hectares depending on residential densities and the extent of demand.
- Mechanisms to facilitate development of affordable housing need to be provided.
- This structure plan incorporates the principles of the substantial change areas defined by the City of Whitehorse Housing Study, Feb 2003 (refer Appendix 8.1)

1.4.F Retail activity

- Box Hill has a variety of retail but lacks:
 - Automotive dealers
 - White goods, furniture and other durable household goods
 - High order fashion and fashion accessories
 - Major department store
- Competition for these activities in the wider area is high. Automotive dealers and bulky goods outlets like furniture and white goods stores are well provided for in the Nunawading Mega-mile.
- The fresh food market is a key retail activity that distinguishes Box Hill from other centres in the region and could be further developed and promoted.
- Box Hill has an opportunity to develop its street and laneway retail areas to provide a different shopping experience to that of the major competing centres.
- Box Hill could provide for 'direct factory outlet' stores to capture some of the retail market that has moved to BrandSmart and Global Rags in the Mega-Mile, particularly with the trend to these outlets becoming increasingly accepted as more mainstream in the retail offer they provide.
- Future demand for retail space (around 13,000sqm) could be mostly achieved by redevelopment and increased efficiency in the existing retail areas.

1.4.G Office development

- Box Hill provides a range of private and public sector office space in both small and large tenancies. Currently, there is 117,251sqm of office floor space. The two major locations are Prospect Street and Ellingworth Parade/Rutland Road.
- Future office demand is difficult to forecast accurately but between 55,000 sqm to 75,000 sqm may need to be provided. The land area required for future office growth is modest, in the order of 1.1 to 2.2 hectares depending on demand. For comparison, this represents approximately one to two-thirds of the existing Prospect Street Precinct.

1.4.H Restaurants and cafes

- Box Hill offers a range of restaurants and cafes with a strong specialization in Asian cuisines from many different countries. This provides a strong profile and identity for Box Hill.
- Box Hill's reputation and market share as a regional centre for Asian restaurants could be further developed.
- This specialization is supported by the fresh food market.
- There is also an opportunity to attract other, non-Asian cuisines.

1.4.I Recreation, leisure and entertainment

- The most notable gap in the recreation, leisure and entertainment offer is the lack of cinemas, live theatre and public bars/hotels. If Box Hill is to be a Principal Activity Centre, a strategy is needed for these activities though recognizing the market realities and community aspirations around cinemas and liquor licensing.
- Box Hill's multi-cultural character provides scope for the development of additional community events (e.g. Chinese Festival, Asian nation national days).
- The centre lacks adequate recreation, leisure, and entertainment facilities for children. An activity centre of this status should provide a range of facilities and services for all age groups.

1.4.J Visitor accommodation

- There is no visitor and tourist accommodation in the Activity Centre, although there are motels to the east and west along Whitehorse Road.
- If it proceeds, the development at the corner of Station Street and Carrington Road (i.e. hotel and conference centre plus residential, cinemas and shops) would make a major contribution to Box Hill.
- There are other sites that could possibly be redeveloped to include accommodation such as Council's open air car park.

1.4.K Open space

- Box Hill and Kingsley Gardens are major parks north of Whitehorse Road but there is a lack of small parks south of the railway to serve the commercial area.
- Surrey Park is just outside the study area to the south.
- There is scope to improve bicycle routes in and around Box Hill.

1.4.L Urban design

Environmental amenity and urban design opportunities relate to:

- Improving the Whitehorse Road median which is an important feature of Box Hill
- Creating active street frontages at the west end of Main Street and on the north side of Carrington Road to open up the fresh food market to the street.
- Producing guidelines for higher density residential development.
- Improving community safety by:
 - Encouraging development and enhancing the streetscape along Irving Avenue to provide passive surveillance of Box Hill Gardens.
 - Developing over the railway cutting on the east side of Station Street.
 - Creating a more direct and legible route through the shopping centre to the railway station.
- Improving Box Hill's image and sense of place by:
 - Redeveloping landmark sites.
 - Enhancing the laneways as active, pedestrian environments.
 - Enhancing the open space around the Town Hall.
 - Creating a better pedestrian link from Elgar Road TAFE to the Mall.
 - Preservation and enhancement of existing heritage and cultural features
- Encouraging sustainable development (ESD) by:
 - Providing a set of ESD guidelines and performance standards for development (an example set from Docklands ESD Guide 2003 is included as Appendix 8.2).
- Encouraging higher density mixed use development throughout much of the Activity Centre.

1.4.M Road access

- A lack of alternative local north-south road links mean a large proportion of local traffic uses Elgar Road and Station Street, adding to traffic congestion at intersections and reducing bus reliability. The recently completed reconstruction of Middleborough Road to provide grade separation at the railway crossing is expected to encourage some through traffic to bypass the Activity Centre.
- Sections of Whitehorse Road and other arterials are at or close to capacity during peak periods.
- A large proportion of peak period traffic is through traffic (in the order of 60%).
- Turning movements between arterials are subject to peak hour congestion and delays.
- Some arterial intersections in the Activity Centre are amongst the highest ranked accident sites in the City of Whitehorse. However, even the highest ranked site in the Activity Centre (the intersection of Whitehorse Road/ Elgar Road) ranks low relative to other sites in the metropolitan area (143rd) for the number of casualty accidents over the past five years.
- Speed of vehicles does not appear to be a major issue.

1.4.N Public transport

- A good range of public transport services are provided at Box Hill, however, there is a need to improve access to public transport facilities. The Department of Infrastructure is investigating opportunities to improve interchange arrangements at Box Hill.
- Train tracks are already operating to capacity in the peak hours. There is an opportunity to construct a third line between Box Hill and Ringwood.
- Links between the three public transport modes are not facilitated adequately, physically or visually.
- The bus interchange is difficult to navigate and presents an unattractive waiting environment.
- Bus access arrangements into and out of the bus station delays both buses and general traffic and would benefit from bus priority measures.
- Frequencies of bus services at the weekend and in the evenings could be improved.
- Bus routes could be improved (e.g. reviewed to follow main roads; implementation of SmartBus along a number of routes; and creation of localised bus routes).
- Coordination between bus and train timetables could be improved.
- The bus interchange needs to be improved to provide full DDA compliance including access to the lift.

1.4.O Parking

- Commuter car parking at the station is fully occupied.
- The provision of car parking in suitable locations with appropriate limits on length-of-stay is an on-going issue.
- Additional park and ride facilities at Box Hill may not be appropriate because of the congestion caused by the traffic movements at peak hours.
- Parking restrictions were exceeded more frequently on Saturdays than during the week, particularly in streets with one-hour restrictions.
- There is limited off-street parking north of Whitehorse Road
- Demand for parking by hospital related uses is adding to the demand placed on limited local area parking resources.
- The health and education precinct would benefit from the development and adoption of a package of travel planning initiatives that support the use of transport other than the private car.

- As the centre develops and additional commercial floor space is leased, the management of the loading bays will be critical.
- Box Hill, unlike other centres in the region, has pay parking.

1.4.P Pedestrian and bicycle movements

- North-south pedestrian routes are inhibited by the railway.
- Large volumes of traffic along Whitehorse Road can make it difficult for pedestrians to cross this major road through the centre.
- Connections between major pedestrian attractors in the Activity Centre are poor.
- There is a lack of directional signage from Centro Box Hill to the TAFE, hospital etc.
- East-west pedestrian routes are lacking immediately north of Whitehorse Road.
- Pedestrian access between Market Street and Carrington Road through Centro Box Hill is inconvenient and confusing.
- Access to the bus station for disabled passengers is limited.
- Poor directional signage between the train and bus stations is made even less effective by competing retail clutter.
- The lack of a continuous local bicycle network discourages cycling in Box Hill.
- Poorly located bicycle parking at the station discourages cycling 'park and ride'.
- Large intersections are a safety concern for cyclists, especially those travelling across the tram tracks.
- The mid-block section of Station Street south of Whitehorse Road experiences the largest number of pedestrian casualties in the municipality. A reduction in vehicle speed along Station Street could improve pedestrian safety in this location, however lower speeds brought about by congested traffic conditions may also encourage pedestrians to cross at unsafe mid-block locations.
- Improvements to the pedestrian environment could occur from better use of the existing underpass.

2 Vision

In August-October 2004, community consultation was undertaken in order to develop a vision for the Box Hill Activity Centre. This vision has since been expanded to include more specific reference to Melbourne 2030 objectives, Transit Cities policy and the associated transport visions:

Box Hill will continue to develop as the most significant urban centre in Melbourne's eastern suburbs.

- **Box Hill will be a place where people can live, work, shop and access social networks and personal services.** It will be an important residential growth area, accommodating a significant increase in the number of dwellings and housing of different types and scales, supporting diversity in terms of household size and affordability. It will accommodate growth in office space and local employment and its status as a major retail centre will be reinforced.
- **Box Hill will be a focus for regional health care, educational and community services.** It will accommodate growth in educational facilities, medical services and associated specialist activities, and offer an environment that attracts related business investment. It will be a focus for provision of local and state government services within the region and community health and support services.
- **Box Hill will support a diverse, inclusive, participatory, caring and healthy community.** It will contribute to local community development with improved meeting places, neighbourhood hubs, access to services, and public spaces that encourage community activity and interaction.
- **Box Hill will be a distinctive, vibrant and enjoyable place – day and night.** It will provide a safe, comfortable and attractive environment that includes high quality public spaces and that is enhanced by quality architecture, open space design, and art. It will accommodate more diverse recreational, entertainment and dining options. To maintain Box Hill's distinctive character, designated heritage features will be protected and enhanced.
- **Box Hill will be sustainable.** It will contain complementary land uses in a compact area, enabling easy access to and between them by public transport, walking and cycling. It will support a dramatic increase in the proportion of trips made using sustainable transport and encouragement of walking and cycling; the proportion of car trips will dramatically decrease. The designs of buildings and open spaces will help to conserve energy, water and other materials, reduce Box Hill's environmental footprint.
- **Box Hill will be accessible to all.** It will be well-connected to surrounding neighbourhoods and metropolitan Melbourne by both public and private transport systems and by walking and cycling. Its buildings, streets and open spaces will ensure accessibility for people of all capabilities. Careful management of parking and traffic will support access while minimising the detrimental effects of large volumes of traffic.

Box Hill will be sustainable, safe and accessible to all. It will be a distinctive, vibrant, diverse, inclusive, participatory, caring and healthy community where you live, work and enjoy – day and night.



Aerial view of the Box Hill Activity Centre, looking from the south-east. Whitehorse Road runs across the photo from left to right and Station Street from top to bottom.



The Box Hill Town Hall and TAFE, with Whitehorse Road in the foreground.



Box Hill Gardens, looking from the north towards Irving Avenue.



Box Hill Hospital, looking from the north across Thames Street.

3 Planning framework

Box Hill's proposed structure is illustrated on the following pages, showing the desired organisation of major elements of the urban environment. This represents a combination of existing conditions with opportunities for change as directed by the Vision and Strategies in the preceding section.

The planning framework encompasses:

- A network of PUBLIC SPACES to support local recreational needs and community interaction.
- A fine-grained network of safe and attractive STREETS AND LANEWAYS to encourage walking and cycling; public transport facilities integrated with development to encourage increased use; and road management to support a dramatic increase in the proportion of trips made using sustainable transport options.
- LAND USES that complement the qualities of their immediate area, meet community needs, and contribute to the quality and vitality of the public environment.
- BUILDINGS that contribute to the quality of the public environment, protect the amenity of neighbouring users, and provide appropriate transitions between areas of significant change and areas of relative stability.

Objectives for each of these are set out in Section 4 together with a suite of proposed strategies and actions to be undertaken by Council or Government. Development Control Guidelines to be addressed in private development are set out in the Section 5.

Figure 2: PUBLIC SPACE FRAMEWORK

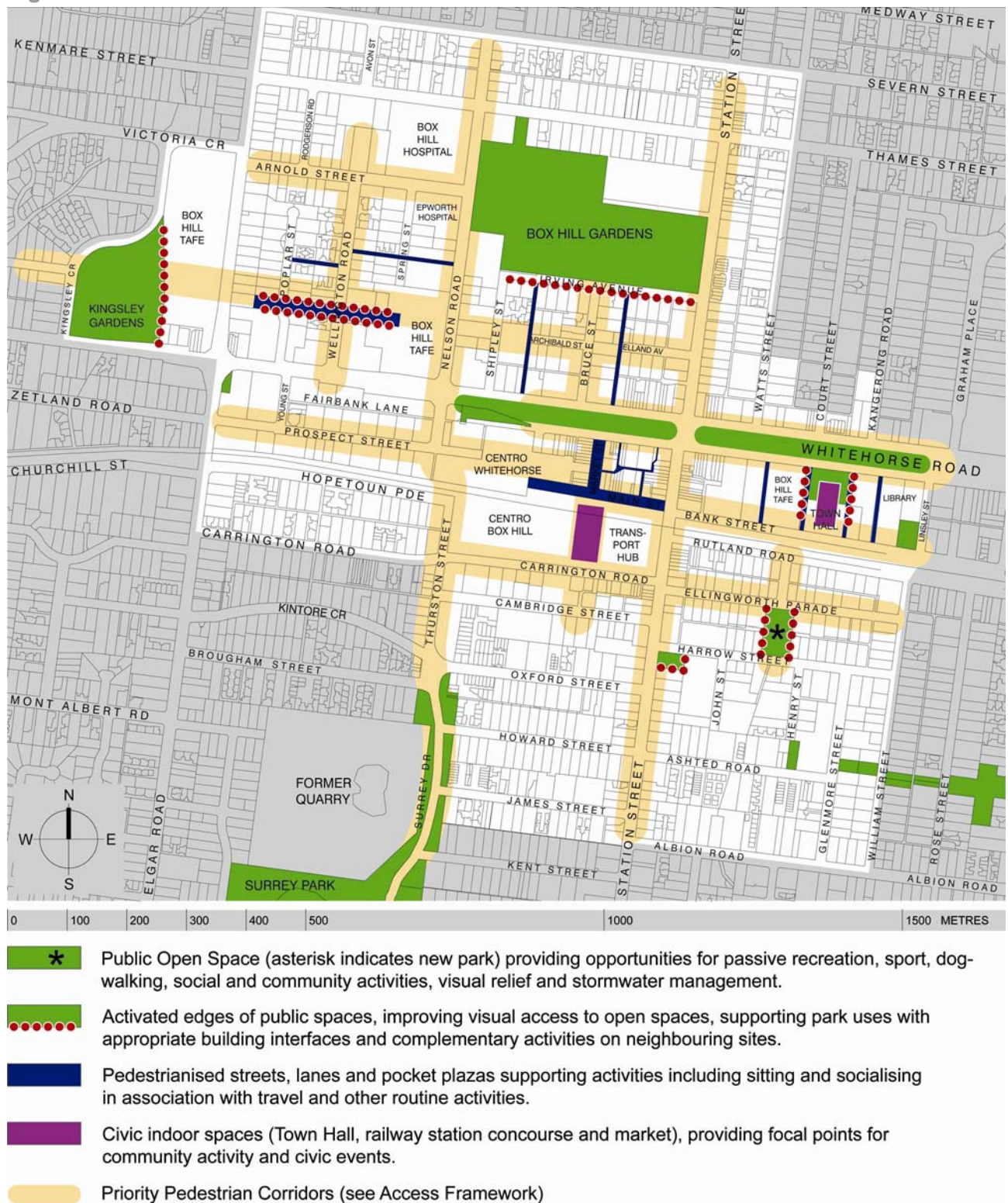
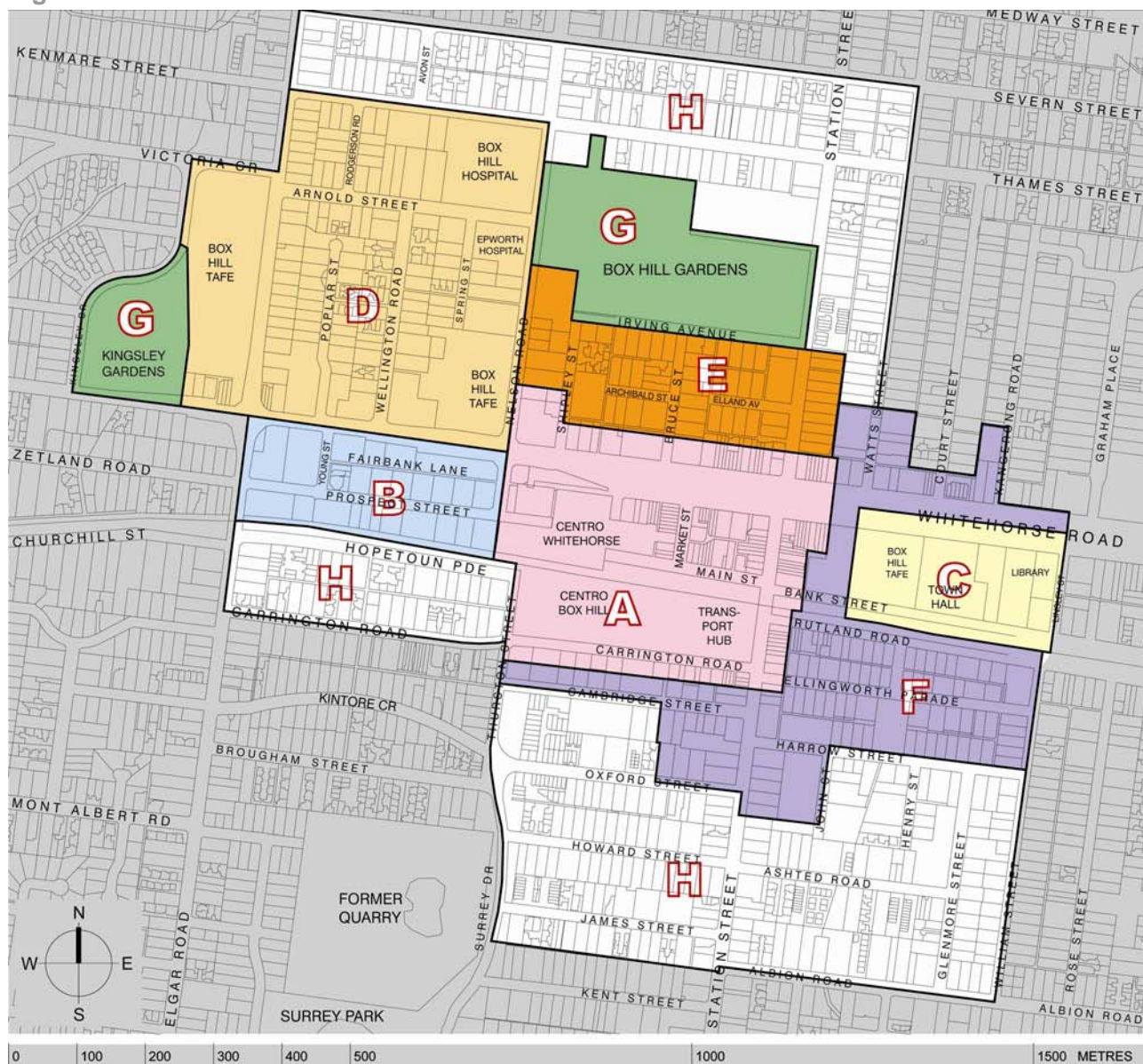


Figure 3: ACCESS FRAMEWORK



- Priority Pedestrian Corridors
- Proposed or significantly improved pedestrian and cycle links
- Proposed public Transit Priority streets (with peak-period bus lanes) + Principal Bicycle Network
- Existing local bicycle routes (on- and off-street)
- Railway
- Train / bus station and transit interchange
- Existing pedestrian overpass
- Existing pedestrian level crossing

Figure 4: ACTIVITY PRECINCTS



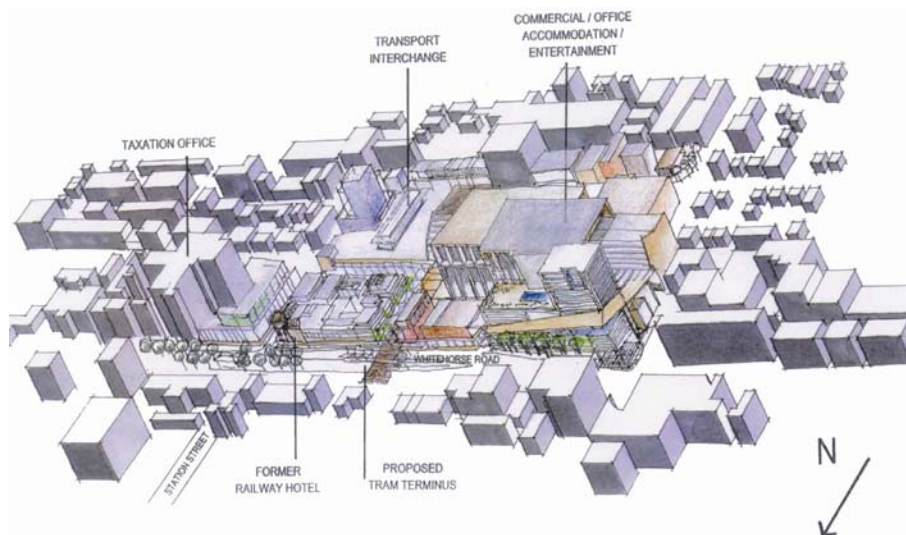
- A** Box Hill Transport & Retail Precinct: Retail sustained throughout the area complemented by entertainment, hospitality, commercial and other uses with extended hours of activity creating a central focus for Box Hill.
- B** Prospect Street Precinct: Consolidation as the primary office precinct in the activity centre.
- C** Civic & Eastern TAFE Precinct: Consolidation of cultural, community and educational facilities in the precinct.
- D** Hospital & Western TAFE Precinct: Growth and enhancement of educational and medical institutions and support for related businesses and services, plus high density residential (including student housing).
- E** Box Hill Gardens Precinct: Provision for significant high to medium density residential growth with small scale offices, limited retail and community services and retail to activate ground level street frontages.
- F** Southern & Eastern Precincts: Mix of office and retail uses responding to prominent Whitehorse Road and Station Street frontages, and mixed use (residential) as transition to purely residential precincts.
- G** Box Hill Gardens & Kingsley Gardens: Convenient access to high quality public open space and recreational opportunities within the activity centre.
- H** Residential Precincts: The areas' residential role and amenity protected but medium density residential development encouraged. (Most areas surrounding the study area are also residential.)

Figure 5: BUILT FORM PRECINCTS

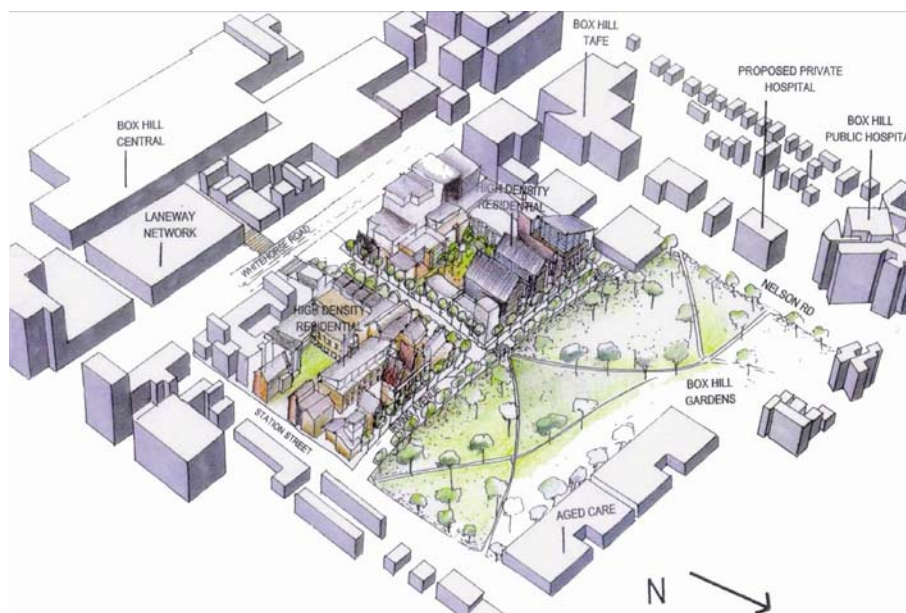


- A** Peripheral Residential Precincts: New development supporting higher densities but consistent with the areas' existing built form character.
- B** Low-rise Higher-density Residential Precincts: 3-storey height limit with reduced setback requirements enabling increased residential densities while maintaining a transitional building scale.
- C** Traditional Town Centre: The existing built form character and 2 to 3-storey scale of the precinct retained including listed heritage buildings as well as complementary buildings.
- D** Mid-rise Commercial and Mixed Use Precincts: 4 storey height limit supporting increased density, with no (or minimal) front and side setbacks to create active frontages onto streets.
- E** Town Hall Precinct: Civic buildings given visual emphasis and the significance of heritage buildings and related spaces protected. Heights to be determined on case-by-case basis and may vary across each site.
- F** Major Development Precinct: Taller buildings permitted, enabling increased density. Heights must not cause overshadowing of Key Open Spaces, Residential Precincts A or B or residential areas beyond the study area. Transitional heights to be provided at edges of the precinct to respect the scale of neighbouring precincts.
- Key Open Spaces:** Protect and enhance existing public and major private open spaces' character and provide an effective increase in useable open space through removal of encumbrances and design improvements.

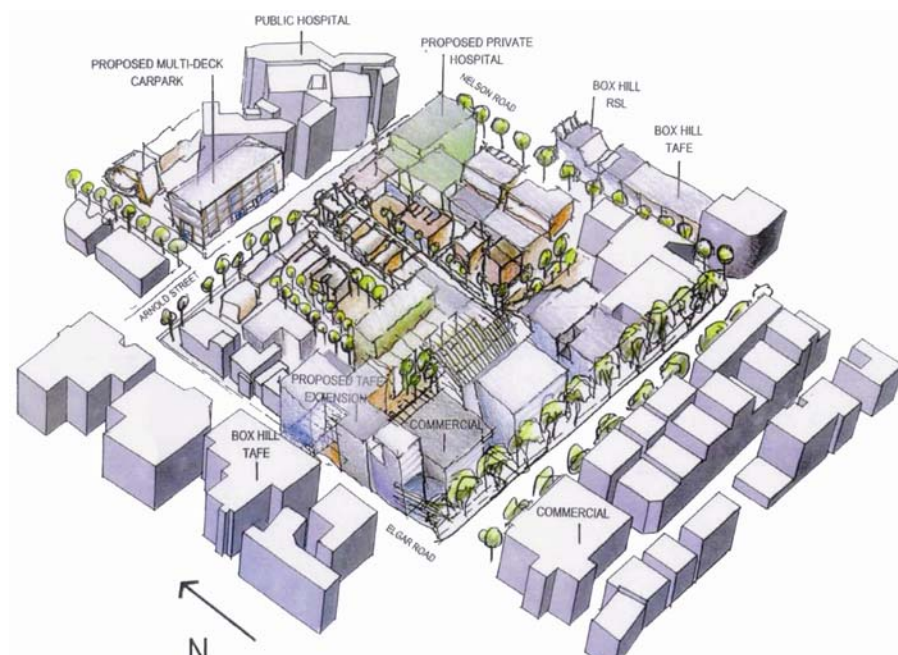
BOX HILL ACTIVITY CENTRE TRANSIT CITY STRUCTURE PLAN



Axonometric view illustrating potential redevelopment in the area of the Centro shopping centres and transport interchange, between Carrington Road, Whitehorse Road, Station Street and Nelson Road. While the scale of new buildings should be kept relatively low in the traditional town centre between Station and Market Streets, there is scope for significant increases in density in the remainder of this area.



Potential redevelopment in the area between Whitehorse Road and Irving Avenue. Higher density development in this area would benefit from the relationship with Box Hill Gardens as well as the position between the transport interchange and hospital precinct.



Potential redevelopment in the hospital and TAFE precinct between Thames Street and Whitehorse, Elgar and Nelson Roads. This area has been, and is likely to continue to be, subject to pressure for increased development density to support expansion of the surrounding medical and educational institutions and related uses such as student housing. It is expected to undergo a significant change in built form character.

[Drawings from Box Hill Urban Design Framework, Arup / McGauran Soon, 2002]

4 Strategies & actions

The following section expands upon the Vision and Planning Framework to outline aims specific to various components of the Activity Centre, including:

- Public spaces including parks, plazas and pedestrian streets
- The circulation network including pedestrian mobility, bicycle access, public transport services, road traffic management, and car parking
- Land uses and activities
- Built form

For each of these, it proposes various strategies to deal with existing problems and to help realise the vision for Box Hill. For most strategies, a number of specific actions are nominated. The actions in this section are intended to be appropriate for execution by the City of Whitehorse or the Victorian Government, acting either as planning authority or as the agents of public works programs.

Guidelines for private sector development are addressed in the Development Control Guidelines section.

4.1 PUBLIC PLACES

Box Hill should provide accessible, lively and comfortable public spaces that offer diverse opportunities for recreation and social engagement, including:

- Parks and other spaces providing opportunities for passive and active recreation, social and community activities, visual relief, wildlife habitat and stormwater management.
- Pedestrian-friendly streets and laneways enabling a range of activities for all age groups including sitting and socialising to occur in association with travel and other routine activities.
- Improved visual access to parks from nearby streets and sites, greater support for park uses through complementary activities on neighbouring sites, and increased passive surveillance to support personal safety in public spaces.
- Private recreation spaces and facilities that complement broader land use objectives for the area.

Strategies to support these aims include:

4.1.A Protect and improve access to existing public open spaces

Public spaces play an increasingly important role with increasing urban density. Unencumbered open spaces available for flexible use become more precious when there is less private open space. At the same time, increasing land values exaggerate pressures to use parkland to accommodate a variety of facilities, whether or not they need to be set in a park to support their use. There are two main recreation facilities in the study area (i.e. Box Hill Gardens and Kingsley Gardens) and a third major recreation facility to the south-east in Aqualink Box Hill and its adjoining parkland. Linkages from within the centre to nearby recreation facilities are important, as is the provision of a safe and secure network linking these facilities to other public open spaces.

Such development for limited uses, or alienation of open spaces from general public access, is an ongoing threat to be resisted. It has also occurred in the past, with examples such as the tennis courts in Box Hill Gardens. Where possible, such structures that reduce the effective size of existing parks should be removed. In the case of the tennis courts, there is merit in retaining an active space within the park however this area should be redesigned (or relocated).

4.1.B Improve the design and management of public places

The quality of public space design and management needs constant attention. Open spaces serve the entire community including workers, residents, shoppers and other visitors. Where change in these populations is expected, as in Box Hill, recreational opportunities need to evolve in parallel with demographic change. Moreover, landscapes change with or without any plans. Plants grow and die, and furniture and other features have limited life-spans. Care is needed to ensure that an open space's value increases over time. The character and identity of open spaces can be enriched or degraded by incremental changes.

Of critical importance is the maintenance of public spaces through regular cleaning and refurbishment programs. The community is more likely to value and use spaces that are fresh, clean and convey a sense of amenity and safety.

In a context where about a third of the Melbourne's scarce drinking water is used to irrigate gardens, the sustainability of landscapes is a paramount concern. The low-lying positions of Box Hill Gardens and Kingsley Gardens offer opportunities to integrate water sensitive urban design into the Activity Centre's development.

Actions

Adopt a policy to protect parkland from alienation e.g. a 'no net loss of parkland' policy that allows flexibility for exchanges of land to facilitate better open space and development outcomes.

Redesign or relocate the Box Hill Gardens tennis courts.

Actions

Prepare or update master plans for all major open spaces including Box Hill and Kingsley Gardens and the Town Hall.

Explore opportunities to collect and recycle rainwater and stormwater in parks, and to plant drought tolerant species with the aim of achieving irrigation free environments.

Select a suite of coordinated paving materials, street furniture, light fittings, etc. for the Box Hill Activity Centre, to be used in all small-scale projects, maintenance and replacement programs.

Monitor public space maintenance programs and

adjust as appropriate to improve visitors' comfort and amenity.

4.1.C Create new public spaces and facilities

While Box Hill features some reasonably large parks, open space is poorly distributed and access is limited by walking distances and crossings of busy roads. The area where access to good open space is now poorest is generally south of the rail line. The Rose-Glenmore local area of public open space and Surrey Park are located some distance from the Activity Centre, but access to them could be improved. High land values and aims for increased density limit opportunities for new parks, but useful open spaces need not be large and there is also potential to integrate provision of local open space with objectives to improve the pedestrian network. For example to link the TAFE campuses, and as a gateway to the Bruce Street upgrade.

Redesign of the at-grade car park at Pippard Street as an open space could act as a stimulus for redevelopment of the area, both for commercial and residential purposes. The design of a park on the site and redevelopment of adjacent sites should be coordinated to provide active frontages onto the open space, passive surveillance, and opportunities for adjoining uses to benefit from views to and interaction with the park.

If opportunities arise to reconfigure existing open spaces or to create better ones in different locations, the protection of existing spaces should not be taken so literally as to limit opportunities for improvement. It is possible to use developer contributions, property acquisition, land consolidation, rationalisation of council-owned car parks, and land exchanges (e.g. between Council and Box Hill TAFE) to create strategically located new open spaces.

The Activity Centre would benefit from greater provision of facilities that serve a broad range of age groups, including children. This could include street furniture, sculptures and occasional found objects located throughout the centre. The use of the centre by young people would also be reinforced by improved passive surveillance and security.

Actions

Consider creating a new park at the Pippard Street car park.

Create a small plaza at the church at the north-west corner of Whitehorse Road and Bruce Street as part of a streetscape upgrade of Bruce Street.

Develop a new linear link parallel to Whitehorse Road between Nelson and Elgar Roads, integrated with the TAFE footbridge over Elgar Road.

Consider creating a small local park in the residential area south of Hopetoun Parade/east of Elgar Road if the opportunity arises.

Provide street furniture and sculptures that appeal to people of all ages including children.

Develop and run an occasional program of street entertainers.

Develop and run an annual kids' day out program.

Require developers to provide child-related facilities or services pertinent to medium/high density housing in new developments.

Provide more and higher quality children's recreation and play facilities in Box Hill Gardens and other open space areas.



Artworks can make the public environment more intriguing and attractive to children as well as adults.

4.1.D Develop synergies between public spaces and uses at their edges

Parks and green spaces such as the Whitehorse Road median provide important recreational and visual resources. Public benefits from these should be maximised by locating land uses and facilities next to them that attract a broad sector of the population, and enable people to fully enjoy the view and the space. More activity around parks encourages more people to walk in the area, enhancing parks' role in providing visual enjoyment for passers-by. Furthermore, at night and in bad weather, parks may be virtually abandoned; at these times, important walking routes through parks may be perceived as unsafe. Increasing the activity around spaces can enhance real and perceived safety by increasing passive surveillance.

There are a number of locations where development adjoins an open space or faces it across a quiet street, where this interaction could be improved. The northerly aspect of Irving Avenue overlooking Box Hill Gardens is an especially underutilised opportunity. The development of such sites adjoining or overlooking parks and other major spaces should be encouraged to accommodate uses that:

- Support public use of the space.
- Maximise public benefits associated with views into the space.
- Contribute to passive surveillance and personal safety.
- Offer opportunities for improved building design at the park interface.

Pioneer Park is an ornament to Station Street but relatively unattractive for actual use due to its exposure to traffic and lack of engagement with nearby activities.



Active frontages help create pleasant spaces and support public activity in them.



Buildings overlooking parks provide passive surveillance, increasing safety, as well as adding a way for more people to enjoy the open space.



4.1.E Explore provision of alternative kinds of spaces

Not all spaces need to be traditional grassed parks. Community garden allotments have been popular in Whitehorse (e.g. Combarton Street, Box Hill).

Laneways present an opportunity to become vibrant, usable spaces throughout the centre. Some laneways are used for deliveries, rubbish collection and car park access, whilst others could be used more as pedestrian environments and there are opportunities to improve the safety and vibrancy of these spaces.

Actions

Improve Irving Avenue to create generous pedestrian spaces with a northerly aspect over Box Hill Gardens and supporting uses of adjacent buildings for cafes, etc.

Relocate or redesign the tennis courts in Box Hill Gardens and re-landscape the area to open up and enhance views into the Gardens from Irving Avenue.

Actions

Enhance the station concourse within the shopping centre and associated market spaces as an important civic place.

Upgrade laneways as active, vibrant, public spaces.

Spaces other than parks are also important to support denser development. Many social roles associated with parks can be accommodated in un-parklike spaces. Streets, markets, plazas and foyers of major public buildings and the transport interchange can provide places to sit and relax, to meet and socialise, and for civic events. Some private spaces including the Centro shopping malls also serve as quasi-public places, supporting civic interaction alongside their commercial functions (although such a 'privatised public space' can be problematic if it is the major public space for a community, since its use is inevitably controlled by corporate rather than community interests).

Less private open space with denser development makes it more important to accommodate a variety of outdoor activities in shared and public spaces – including gardening.



A new pedestrian link north of Whitehorse Road has the potential to serve as an attractive public space, equivalent to campus spaces at Melbourne University or RMIT.



Develop a new linear link parallel to Whitehorse Road between Nelson and Elgar Roads, integrated with the TAFE footbridge over Elgar Road.

4.1.F Encourage private sector provision of recreational facilities

The typical suburban housing in and around Box Hill provides private open space and recreational opportunities with each house. Dense development in the Activity Centre will be supported by reducing this provision of private open space, but this does not mean all recreational needs can be met in public spaces or at public expense. There is an important role for private sector provision of recreation facilities, shared by multiple users and thereby increasing efficiency in the use of space as well as distributing costs.

Many recreation facilities can be provided in dense urban contexts. Gyms, fitness centres and swimming pools are typically preferred if indoors and can easily be provided in new developments. Other facilities, ranging from tennis courts to bowling greens, can be provided on rooftop spaces as seen in Prospect Street. The Aqualink Box Hill is an established recreation facility in the local area and there is potential for stronger links between the facility and the Activity Centre.

Facilities could be in the form of privately-owned communal facilities (e.g. church tennis clubs), clubs (e.g. the RSL bowling green), or commercial operations. They can be provided for shared use by body corporate members, by employees of large businesses and institutions, or by the wider public in a user-pays system.

Actions

Allow developer contributions in the form of indoor recreation facilities, subject to criteria including:

- **Recreational needs assessment for the Activity Centre as a whole.**
- **Meeting high design standards for the type of facility proposed.**
- **Public access on a fair user-pays basis.**
- **An agreed permanent management structure.**

4.2 PEDESTRIAN MOBILITY

Walking should be supported as the primary means of access in and around Box Hill – encouraging most trips of 1km or less to be taken on foot. Walking should be catered for with:

- Direct, safe, accessible, convenient and legible routes connecting key destinations in the Activity Centre and providing links to surrounding areas.
- A fine grain of inter-connecting pedestrian routes supporting intense activity and convenient access throughout the Activity Centre, including streets, parks and laneways.
- Attractive links between the Activity Centre and surrounding areas.
- Street spaces that provide a pleasant setting for public activities.

Strategies to support these aims include:

4.2.A Widen footpaths wherever possible

Few streets in Box Hill have footpaths wide enough for more than two people to walk abreast. Access can be improved significantly simply by increasing pedestrian space in existing streets.

There are opportunities to re-allocate space to pedestrians, with wider footpaths along the length of some streets particularly along priority pedestrian corridors (fig 3), and localised kerb extensions near intersections in others. In streets where there is both pedestrian and vehicular congestion, it may be possible to widen footpaths by removing kerbside parking and introducing clearways in peak periods. This would allow for more pedestrian space without affecting traffic capacity, as well as reducing excess traffic capacity and traffic speeds in off-peak times when kerbside parking is allowed. Even where pedestrian volumes are now low, widening footpaths on an opportunistic basis can be important to create opportunities for casual activities. In some locations it may also be desirable to continue footpath treatments across intersecting side streets, where this is in line with VicRoads guidelines.

Actions

Prepare and implement a plan of works and footpath widening along priority pedestrian corridors.

Treat all lanes or streets that are too narrow for DDA-compliant footpaths as Shared Zones.

Consider continuing footpath treatments across intersecting side streets in suitable locations

4.2.B Improve pedestrian crossings of busy streets

Traffic can create delays and difficulties for pedestrians crossing streets. The Station/Carrington Street intersection – the busiest location for pedestrians during peak periods – is a particular issue and improvement of the pedestrian environment in general should be a priority. The Rutland Road/bus exit area is also highly congested at times and diminishes pedestrian safety. While there is an underpass, access is poorly organised and signed, and ramps do not comply with the Disability Discrimination Act. It is not used as fully as it could be so jaywalking across Station Street is commonplace. There is scope to provide some small improvements around the underpass such as signage and lighting.

Whitehorse Road is classified by VicRoads as an Arterial Highway and its regional role must not be compromised. There are a number of signalized locations where pedestrians can cross Whitehorse Road and these pedestrian crossings are essential to link the train, bus and tram stations to catchments to the north including the hospitals and TAFE. Given the much greater width of the highway reserve east of Nelson Road compared to that to the west, there is obviously scope to continue to accommodate through traffic and to provide more and improved space for other users, and to promote more sustainable forms of travel. Moreover, modelling associated with projects such as Eastlink and the Middleborough Road grade separation indicates that traffic volumes on parts of Whitehorse Road and Station Street will be reduced initially, but is likely to increase again in the long term if allowed to. Subject to further investigation, this provides an opportunity to review the design of Whitehorse Road, taking into account the needs of vehicles, pedestrians and cyclists and the amenity on the median. Redesign of Whitehorse Road may also make the crossing less of a

Actions

Undertake short term improvements of the Station Street underpass including lighting, painting, mirrors and better maintenance. Investigate longer-term replacement of the underpass with an at-grade signalised pedestrian crossing if signals to accommodate bus movements are installed.

Continue to review the design and traffic impacts of Whitehorse Road between Nelson Road and Linsley Street, aimed at better provision for pedestrians and local traffic. Investigate developing a two stage plan e.g. maintain existing road cross section profile in short term works but in the longer term, in parallel with traffic changes due to projects such as Eastlink and the Middleborough Road grade

psychological barrier.

Improvement of pedestrian crossings of streets is supported and could be achieved, for example, by:

- Single-stage pedestrian crossings provided at frequent intervals.
- Traffic signal cycles adjusted to minimise waiting times for pedestrians.

Both Whitehorse Road and the railway create difficulties for pedestrian access, and split the Activity Centre into parts.



separation, consider opportunities for the reallocation of road space and better provision for sustainable transport options.

Improve pedestrian crossing facilities where feasible to improve service for pedestrians. This could serve as a demonstration project for other parts of the municipality.

4.2.C Improve connectivity of the pedestrian network

Box Hill's retail core is relatively impermeable and illegible for pedestrian access. The Centro shopping centres cover a large area without public links through them. Their interior routes are not part of the public realm, are indirect and disorienting. These will remain under the control and management of the property owner, Centro, but further improvements (such as the recently completed Centro Whitehorse) would be valuable in providing more direct north-south routes from Carrington Road to Box Hill Gardens, and east-west access from Prospect Street to Station Street, and would be especially valuable in improving access to the rail and bus stations.

The railway creates a barrier to north-south access beyond the area of the shopping centres. There is an existing pedestrian/cycle crossing at Linsley Street, but not to the west, until Elgar Road. Although bridged by the shopping centre, north-south access through the centre is indirect, confusing and does not link to streets and paths to the south. Crossings of the railway are widely separated (600m+ between Elgar Road and the shopping centre, 400m+ between Station and Williams Streets). The cutting is unsightly and creates a gap that undermines the strength of the Station Street retail strip.

Poor connectivity of the street grid is also a problem between Box Hill Hospital, the TAFE and shopping centre, where there is no continuous east-west link between Arnold Street and Whitehorse Road, and two of the north-south streets are cul-de-sacs. Better access through this area is important to the TAFE and hospitals, and to support its continued transformation from low-rise residential to activities and development more in keeping with these institutions. Bruce Street provides an important connection between the health/education and shopping precincts and upgrade of this streetscape is planned in 2006/07. Also, movement from Carrington Road to Cambridge Road is very limited.

Actions

Reconfigure pedestrian access through the Centro shopping centre to provide more direct, open and obviously public links.

Create new public pedestrian links at strategic locations to increase the connectivity of the street network, including:

- An east-west route north of Whitehorse Road from Elland Avenue to Kingsley Gardens.
- Grade separated access for pedestrians and bicycles across the railway to link Thurston Street to Nelson Road.
- Undertake planned streetscape improvements in Bruce Street.

Overall, this existing circulation network is inadequate to encourage a dramatic shift toward sustainable transport, to accommodate denser development, and to foster a change from a suburban to an urban community.

North of Whitehorse Road, the streets provide for reasonable north-south access but there are few east-west links. This is especially limiting for access to the TAFE and its integration with other local activities. There are opportunities to improve access, either with redevelopment of large blocks of land or through acquisition of strategically-located smaller properties.

4.2.D Enhance streets as public spaces

City streets are important pedestrian spaces beyond their role as travel routes. Good streets encourage people to pause and engage in 'optional' activities, supporting social and civic interaction. When this happens the presence of people in the street makes it safer and more attractive for others just walking through.

Streets are also an important complement to parks in providing local recreational opportunities. The walk from home to a local park makes an important part of the experience of the park itself. People walking or jogging for exercise rely as much on street spaces as on parks. Open space and circulation networks should be planned to complement each other, providing access to public spaces and using pedestrian circulation to generate activity and interest within the spaces.

Laneways provide important pedestrian connections and present an opportunity to become vibrant, usable spaces throughout the centre. However, some lanes are important as routes for loading and deliveries, rubbish collection and car park access, helping to avoid negative impacts from these uses along main street frontages. These laneways often appear to be unattractive and unsafe places.

Recent improvements of Main Street and Market Street have improved visibility, revitalised the space and made them seem safer. The amenity of streets should be improved to achieve these benefits throughout the Activity Centre. The paving, lighting and street furniture used in such improvements should be consistent to help develop a legible hierarchy of walking routes and public spaces, and to reinforce Box Hill's identity.

Typical works to improve pedestrian amenity are likely to include:

- Improve footpath maintenance standards, especially to meet DDA requirements
- Put power lines underground
- Plant or replant street trees
- Improve lighting
- Provide furniture including seating, litter bins and drinking fountains

While generous provision of furniture (especially seating) is important to support use of street spaces, minimising clutter is also important to allow greater use of existing footpath space, and may include rationalising signs, poles and fencing.

There are few opportunities for new parks in Box Hill but more can be made of existing spaces such as laneways.



Actions

Develop a suite of standard paving, lighting and furniture details to be applied in streetscape improvement and maintenance programs.

Develop and implement a public lighting strategy.

Enhance the laneways between Market Street and Station Street as a pedestrian activity precinct.

Prepare a laneways strategy for the Activity Centre to identify those which are suitable for improvement as pedestrian priority spaces and those to be managed as service access ways.

Review and rationalise signage, furniture and other features to reduce obstructions in footpaths.

Water sensitive urban design should be pursued. This street collects light rainfall to water the trees; any excess from heavy rain overflows to drains. Where there is more space (in parks) there may be opportunities to collect and re-use larger amounts of rainwater.



Recent works have been undertaken to improve Market Street as a public space, but streets do not need to be closed to traffic to merit such attention. Some streets in the Box Hill Activity Centre that are important walking routes now offer very little amenity to pedestrians.



4.2.E Support way-finding

Box Hill serves a diverse and widespread population, including people with visual impairments and those who visit only on rare occasions (e.g. to visit the hospital). It should be easy for people to find their way around the Activity Centre and to various facilities, even if they are not familiar with the place. However, many existing pedestrian routes are poorly designed and unattractive. There are several dead-end streets and cul-de-sacs. Use of the transport interchange is discouraged by its visibility and confused access. Basic issues with the design of these circulation routes and spaces need to be addressed to improve wayfinding.

Streets, buildings and open spaces should contribute to way-finding through:

- Apparent logic and legibility in the alignment of routes.
- Maintenance of clear sight-lines along routes; avoid dog-legs in paths and lanes; avoid building overhangs or bridges over streets and lanes that block views; and ensure trees have a high canopy that maintains views along and across streets.
- Street design that adds to the legibility of the system, including features such as street trees, lighting and artworks to give major routes a distinctive identity.
- Maintenance of the primary public access network at ground level. Avoid pedestrian underpasses and overpasses.
- Buildings that give public spaces three-dimensional form, with facades aligned

Actions

Use new tree planting and street lighting to create a more legible, attractive and safe hierarchy of pedestrian links such as:

- Station Street south of the railway
- Carrington Road
- Whitehorse Road

Ensure way-finding is supported by all private development.

Create clearly identifiable public entries to the railway station and transport interchange through alteration and refurbishment of the shopping centre.

Develop and implement a public signage master plan for the Box Hill Activity Centre.

to the street and architecture that visually reinforces the street hierarchy.

- Architecture that makes buildings' entrances and their functions (public and service) apparent to passers-by without signage.
- Landmark buildings and building features that are visible from a variety of vantage points and therefore help with orientation.

Way-finding should rely on directional signs as little as possible, but some signs are needed. At the least, signage should include street names and building numbers. Simple directional signs are also appropriate for major destinations. At present there is little directional signage from Centro Box Hill to the TAFE, hospital etc. or between the between train and bus stations.

Develop and implement a consistent standard for property identification throughout the Activity Centre (i.e. common placement of street numbers in a consistent format).

4.2.F Enhance personal and community safety

Box Hill is arguably over-represented in pedestrian casualty accidents compared to the remainder of the Whitehorse municipality. While this is probably due to the higher exposure of pedestrians within the Activity Centre, alterations to the traffic system should be considered to achieve greater compatibility with human tolerance levels. This could include an examination of additional 40km/hr or even 30 km/hr speed limits in areas of high pedestrian activity, and improvements to intersections in areas such as Surrey Drive and Thurston Street.

The mid-block section of Station Street south of Whitehorse Road is the site of the largest number of pedestrian casualties in the municipality. A reduction in vehicle speed along Station Street could improve pedestrian safety in this location.

A sense of personal safety and security from violence is also important to support increased residential use and extended evening activities in areas such as Box Hill. While there is no current indication of any problem with personal safety, people's uncertainty can be as significant a factor as any real threat. Measures that contribute to a real and perceived sense of personal safety should be pursued in the design of public spaces and in development around them. There are various sources for guidelines for crime prevention through environmental design and for safety in city car parks that can be referred to when designing and assessing development proposals in the Activity Centre. Among these, *Safer Design Guidelines for Victoria* (refer Appendix 8.4) was published by the DSE in 2005 to facilitate the planning of safer urban environments for all Victorian communities.

An important factor in promoting personal safety is the presence of other people in streets and in buildings overlooking the streets. This provides for passive surveillance, deterring crime and antisocial behaviour. It is therefore important to avoid internalised building layouts (e.g. as with the existing Centro shopping centres) and pedestrian overpasses and underpasses, all of which remove pedestrian activity from the most important public spaces. All buildings at street level should provide active frontages to the street.

Actions

Review speed limits in areas of existing and proposed high pedestrian activity. Review the designs of intersections along Surrey Drive and Thurston Street to improve pedestrian and cycle safety.

Prepare, adapt or adopt guidelines for crime prevention through environmental design.

Encourage ground-level land uses that provide active frontages over extended hours along key pedestrian routes, open spaces and near bus and tram stops.

Encourage Centro to create active frontages onto surrounding streets, especially Carrington Road.

Discourage any further development of building links across streets, or pedestrian overpasses and underpasses for street crossings.

4.3 BICYCLE ACCESS

Cycling should be encouraged as a sustainable and healthy means of travel within Box Hill and for trips of up to 5km between the Activity Centre and surrounding areas.

Strategies to support this aim include:

4.3.A Provide secure parking and amenities for cyclists

Secure parking and end of trip facilities at places of employment (showers, lockers, change rooms etc.) are important to encourage cycling.

Bicycle parking facilities are available near the railway station entrance and there are bike lockers on the central platform but these are poorly positioned and poorly utilised. The bicycle parking needs to be in a safe and visible location that encourages its use. Cycling 'park and ride' use of the station is far more sustainable than vehicular 'park and ride' because it requires relatively little space, and should be strongly encouraged.

Limited bike parking facilities are now provided elsewhere in the Activity Centre.

Bicycle parking should be provided on street as well as with secure lockers at major facilities.



Actions

Require provision of secure bicycle parking and end of trip facilities in all developments.

Increase on-street bicycle parking near attractors such as the TAFE, hospitals, shopping centre, and council and community facilities.

Provide additional secure bicycle parking at Box Hill Station and the tram terminus.

4.3.B Create a local network of bicycle routes

There are no existing on-road bike lanes in the Activity Centre and the only off-street paths are along Bank and Thurston Streets. The number of cyclists in Box Hill is now very low, and most use arterial roads despite the safety risks of cycling in heavy traffic, possibly because these provide the fastest travel time.

The 1996 Eastern Rail Trail Feasibility Study investigated a cycle route following the rail line, but this would carry cyclists through the most congested pedestrian area of Box Hill and therefore requires careful consideration if pursued.

There are other opportunities to provide a bike network throughout the Activity Centre in accordance with Council's Bicycle Strategy. Paths and facilities should be provided in accordance with the Principal Bicycle Network Design Guidelines. Specific provisions should include:

- Dedicated on-street bicycle lanes or wide kerbside lanes where possible.
- Smooth pavement surfaces on bike lanes.
- Advanced start lines and storage boxes at signalised intersections
- Management of traffic signal operations to favour cyclists.
- Avoidance of angle or perpendicular parking along bike lanes.
- Off-street paths wide enough for safe shared use with pedestrians.
- Careful design of intersections. Green pavements for bike lanes may be appropriate where movements are complex and lane alignments are confusing.

The current layout of Centro Box Hill precludes bicycle access to the train station from Carrington Road. There may be scope to review bicycle access to the train station through Centro Box Hill as part of any future redevelopment plans for the centre.

Actions

Create a north-south bike route along Nelson Road, Thurston Street and Surrey Drive with a new crossing of the railway and intersection modifications along Surrey Drive to improve cycle safety.

Examine route options and develop a regional east-west cycle trail along the rail corridor as part of Councils bicycle strategy.

Improve provision for on-street cycling throughout the Box Hill Activity Centre and on routes extending at least 5km in all directions from the Activity Centre, with bicycle lanes, wide kerbside lanes, advance stop lines, etc. as space permits.

Review scope to improve bicycle access to the train station through Centro Box Hill in any future redevelopment.

4.3.C Provide information to encourage cycling

While the provision of physical spaces and facilities for cyclists is the most fundamental issue at present, various kinds of information can also be helpful to

Actions

Provide bike route signage including pavement markings that

promote cycling including:

- Signage addressed to cyclists indicating safe routes, locations of parking, etc.
- Signage addressed to motorists to help increase safety for cyclists.
- Provision/limitations for bicycles on public transport.

help way-finding for cyclists and alert motorists to cycle paths.

Publicise details of when bikes are allowed on trains.

4.4 PUBLIC TRANSPORT SERVICES

Private development and the provision and management of transport services should encourage significantly increased use of public transport and reduced rates in the use of private vehicular transport for travel to and from the Box Hill Activity Centre, to provide for:

- More efficient use of available street space and land generally to support increased levels of activity in Box Hill with higher density development.
- Implementation of TravelSmart programs
- Greater social equity in access to important public services in the Activity Centre.
- Improved sustainability and reduction in pollution and energy use.

Refer to State Government 'Meeting our Transport Challenges' action plan and City of Whitehorse Integrated Transport Strategy for additional actions which are to be read in conjunction with this structure plan.

Strategies to support these aims include:

4.4.A Improve existing transport infrastructure

Trains are by far the most highly utilised mode of public transport in and out of Box Hill. A small proportional increase in train patronage could therefore be very significant. However, the potential to accommodate increased patronage is affected by the line's capacity in peak hours. Minor increases in peak hour rail services may be possible by reducing headways between existing peak period train services. However, to support significantly increased peak period use, the line capacity needs to be increased. A third track between Box Hill and Ringwood would improve the peak hour capacity of the system and allow express services between Box Hill and Ringwood. Otherwise, increased use will rely on increased off-peak patronage. The construction of a third track is being allowed for in the current Middleborough Road grade separation project.

Actions

Work with State Government to provide a third rail track between Box Hill and Ringwood to enable increases in peak period services.

Investigate the potential to reduce headways between existing peak period train services.

4.4.B Promote increased frequency of off-peak and counter peak services

At present, infrequent off-peak and counter-peak services limit the use of public transport. Low frequencies are a major deterrent to use of public transport. This is especially a problem for trips that require transfers between different routes or modes, since arrival and departure times are difficult to coordinate. With frequent services, coordination of different routes is unnecessary as waiting times are short regardless. In some instances, the proposals outlined in 'Meeting our Transport Challenges' will significantly improve frequency and service provision through the Activity Centre.

Actions

Investigate potential increases in the frequency of public transport services, especially in off-peak periods (including weekday evenings and weekends) and counter peak.

4.4.C Improve bus routing and services

A review of public transport services is needed to better serve the hospital and western TAFE precinct, which is relatively distant from rail and tram services but contains major public facilities as well as being a growth precinct and should be easily accessed by public transport. This is an issue at all times, but especially at night when walking to the station is a deterrent for hospital shift-workers. Provision of shuttle buses or other ancillary transport services would help increase use of existing infrastructure.

A wider reform of bus services is also needed, focusing on direct routes to the centre, predominantly following main roads plus implementation of the recommendations from the Box Hill Transport Interchange Concept Design (2002). This review should also support the continued expansion of SmartBus, providing sufficient priority to guarantee reliable services meeting SmartBus criteria.

A review is currently being undertaken of the Whitehorse/ Maroondah/ Manningham bus services. A greater emphasis will also be placed on the operation

Actions

Work with transport providers to review and adjust bus routes to and through the Box Hill Activity Centre, and increase the frequency and reliability of major bus services to 'SmartBus' standards.

Investigate provision of night-time shuttle bus services between the hospitals and railway station.

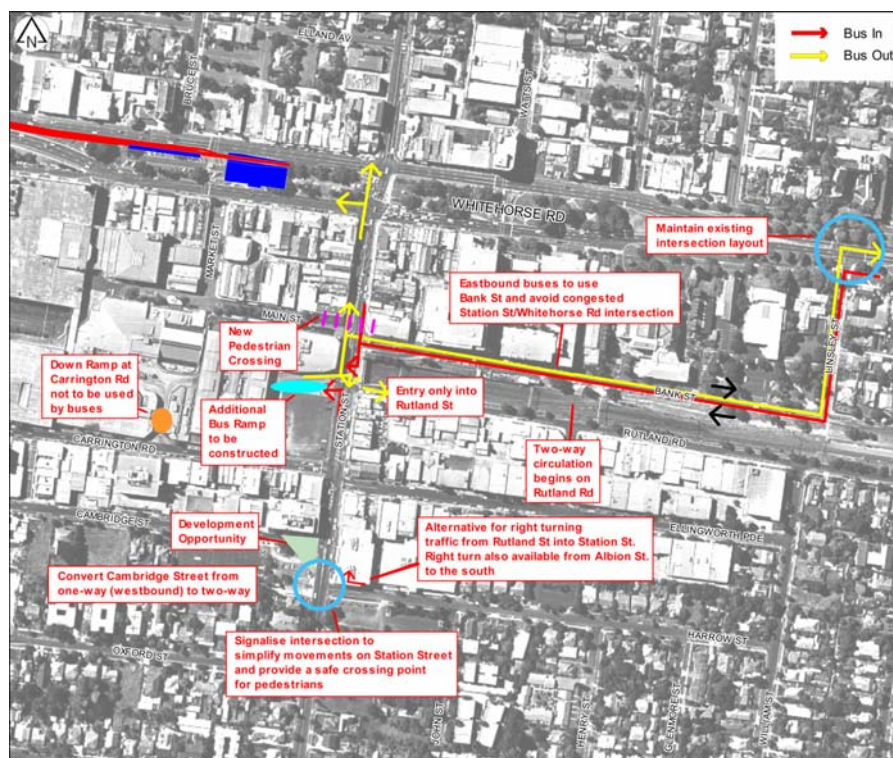
of low floor, all-ability access buses through Whitehorse.

4.4.D Integrate bus, train, tram and taxi services

The Box Hill train and bus stations allow for modal interchanges but the facilities are inconvenient. The railway station is in the Centro shopping centre's basement and the bus interchange is on its upper floor, with access to both exclusively via shopping centre elevators, ramps and lifts. The route between the two stations through the retail area is difficult to identify and indirect. Both stations offer poor environments for travellers. External platforms are poorly lit, isolated and uninviting. The bus interchange is difficult to navigate and an unattractive waiting environment, with limited access for disabled passengers. The stations are perceived to be unsafe despite the presence of surveillance cameras. There are also operational issues associated with the bus deck, with poor turning movements and safety problems associated with private vehicles accessing the deck and people crossing from bus waiting areas to the lifts and centre's facilities.

Pedestrian access between buses and trains needs improvement. The bus interchange needs to be improved to provide full DDA compliance including access to the lift. Interchanges between all transport modes, including taxis, walking and cycling should be easy and inviting. Access to the interchange should be linked to, but not confused with, access to the shopping centre. The Box Hill Transport Interchange Study recommends a significant upgrade of the bus interchange and relocation of the train station entrance directly beneath the bus deck to support more convenient interchanges and better access to both stations from external areas (refer plan below for recommendations) It also identifies opportunities to create a better retail environment.

Recommendations from Box Hill Transport Interchange Study (2002)



In addition to works at the stations, service timetabling is important to facilitate transfers between routes (although the need for this would be minimised by more frequent services). Bus services should meet and co-ordinate with each train. Bus stops along routes into Box Hill need to have appropriate passenger facilities such as shelters.

Actions

Work with State Government and transport providers to redevelop the bus terminus to SmartBus standards in anticipation of a number of services being upgraded to SmartBus service levels, including changes to facilitate bus access / egress on Station Street, and to improve pedestrian safety and access.

Work with State Government to improve passenger amenity in the railway station and bus terminus.

Improve the legibility of links between the railway station, bus terminus, tram terminus and surrounding streets through physical improvements of pedestrian routes and with directional signage.

Investigate means to coordinate arrival and departure times to support transfers between routes e.g. 'Real-time' information.

Improve passenger facilities at bus stops along routes to Box Hill.

Create taxi ranks in Whitehorse Road adjacent to the tram terminus, on the south side adjacent to Market Street mall, and at a more appropriate location in Carrington Road.

Work with State Government to review commuter car parking facilities (refer also 4.6.D)

Work with State Government in the detailed planning and upgrade of the Box Hill Transport Interchange.

Extension of the 109 tram line from Mont Albert to Box Hill was completed in 2003, and a cafe/juice bar has been installed to complement services at the terminus. Redevelopment of Market Street has provided a high quality pedestrian link between the tramway and the bus and train stations.

The main taxi rank was previously located on the bus deck but was relocated because of capacity and safety issues and is now on Carrington Road. The location is not central to the Activity Centre as a whole, relatively hidden, and poorly signposted from the bus and train stations. A taxi rank in a more obvious location with more convenient links to train, tram and bus services would be of value.

4.4.E Promote public transport and reduced use of cars

Physical changes to the Activity Centre address only one side of the challenge of increasing use of public transport. A variety of inducements for people to change their travel habits is also important. These include:

- Promote car sharing and/or pooling.
- Provide staff with public transport tickets instead of car parks or company cars.
- Provide travel packs to employees to inform them of all travel options.
- Promote awareness of the area with maps, signs and photos of destinations.
- Demonstrate potential time and cost savings when using public transport.

Council has funding to undertake a TravelSmart program with the Box Hill Hospital and TAFE. The TravelSmart program aims to achieve a change to more sustainable travel such as public transport, walking and cycling for the thousands of workers, students, visitors and outpatients using these major institutions. The results of this work could provide opportunities for application of similar programs with other major activities or areas within the centre, such as the Prospect Street office precinct and traders.

Actions

Provide directional pedestrian signs at public transport facilities indicating routes to key destinations.

Provide on-street information of train, tram and bus schedules (real time or static timetables).

Publicise route and timetable information at hospitals and other locations accessible to visitors and employees.

Work with employers to develop Travel Plans and to promote changes in people's travel habits and extend principles developed in TravelSmart programs with Box Hill Hospital and the TAFE to other areas of the centre (e.g. Prospect Street and traders)

Consider reviewing the fare structure for Box Hill as part of the introduction of the new ticketing system to look for opportunities to increase travel by public transport.

4.5 ROAD TRAFFIC MANAGEMENT

Vehicular traffic in Box Hill should be carefully managed to:

- Increase the use of sustainable transport options for travel to and within the Activity Centre.
- Maintain flexible access for local traffic to support local uses including freight and services.
- Minimise the detrimental impacts of vehicular traffic on other activities.
- Maintain regional traffic functions of arterial roads such as Whitehorse Road and Station Street but discourage increased traffic volumes.
- Optimise safety on all roads.

Refer to City of Whitehorse Integrated Transport Strategy for additional actions which are to be read in conjunction with this structure plan.

Strategies to support these aims include:

4.5.A Manage traffic and choice of travel modes

Road management in Box Hill needs to balance support for arterial road functions and local access while limiting the growth of traffic volumes. The aim is not to reduce travel demand to the area but to manage mode choice and the times at which people use private motor vehicles. Traffic management measures should focus on enhancing local accessibility while reducing the attractiveness of streets to through traffic and circulating traffic seeking parking, thus limiting overall traffic volumes.

Given the dominance of through traffic in Box Hill and the pressures of increasing traffic throughout the metropolitan area, reducing local congestion would merely encourage more through traffic and increased traffic speeds in the area.

Opportunities to improve the management of through traffic and local traffic should be examined by VicRoads and Council.

The opening of Eastlink may reduce traffic flows through the centre and could provide opportunities to review the allocation of road space in Whitehorse Road, including the number of lanes to make better provision for sustainable transport options.

Actions

Avoid creating any increased capacity for vehicular traffic traveling through the Activity Centre in peak periods.

Improve signage encouraging use of routes for through traffic that bypass the Box Hill Activity Centre (e.g. directing traffic via Middleborough and Elgar Roads rather than Station Street).

Identify major off-peak routes and destinations such as car parks offering significant numbers of short-term parking spaces. Enhance traffic management arrangements along those routes and to those destinations.

When Eastlink is fully operational, work with VicRoads to review traffic conditions and design of Whitehorse Road.

Work with the State Government to improve provision of and access to non-peak public transport services.

While the rail and tramways operate in their own reserves (at least within the Activity Centre), buses share roads with other traffic and their operation is therefore affected by congestion.



4.5.B Create transit-supportive roads

The key strategic problem with traffic congestion is its interference with bus operations. Increased development in Box Hill will rely on more people moving around on its streets. It is important to favour walking, cycling and public transport as these use far less space per person than travel by car, allowing much greater access without a proportional increase in road space.

However, the efficiency and reliability of bus services are undermined by traffic congestion, and this deters increased patronage. Traffic in Station Street impedes buses, as do access arrangements in and out of the station; buses leaving the station experience significant delays, especially turning south onto Station Street from Carrington Road, and east onto Whitehorse Road from Station Street.

The design and management of streets can support public transport in a variety of ways, including transit lanes or other priority systems on busy roads, priority signal phases, etc. The Box Hill Transport Interchange Study proposes measures to address bus delays and improve related pedestrian amenity issues. In addition to local route changes it proposes changes to the road network.

The State Government's 'Meeting our Transport Challenges' action plan proposes to improve the arterial road network in the south-eastern suburbs in addition to building a rail underpass at Middleborough Road.

Actions

Work with VicRoads and DoI to provide priority for buses along Whitehorse Road and Station Street.

Work with the State Government to review the operation of services on all routes and develop traffic management treatments to address identified problems.

Create a west-bound bus lane in Bank Street by making it one-way for eastbound private vehicles, so buses do not have to queue with other traffic at Station Street.

In the context of the recommendations of the Box Hill Transport Interchange Study (refer Section 4.4.D) make Rutland Road one way (eastbound) east of Station Street to allow turning time at Station Street and Rutland Road to be transferred to southbound buses.

4.5.C Improve connectivity of streets while deterring through traffic

There are a number of problems with the local street network. The railway creates a major barrier to north-south movement, with Station Street as the only vehicle crossing in the Activity Centre and Elgar Road on its western boundary. There are also various one-way streets, restricted right turn movements and dead ends. While these have been designed to enhance the performance of some intersections and remove 'rat-runs' through residential areas, they create a confusing and illegible road network. The lack of alternative routes for access into and across the Activity Centre exacerbates congestion on the few through streets.

Maximising the flexibility of access via other streets would reduce pressure on Station Street and Whitehorse Road, enabling these to be managed more appropriately for the pedestrian activity and public transport services they must support. However, there are limited opportunities to physically alter the road network. Traffic in Station Street could, hypothetically, be redirected to a new railway crossing at Linsley Street but this would require lowering the railway line. Circulation can be improved more practically through more modest intersection works and by providing more efficient bus routes. The grade separation at Middleborough Road will improve north-south traffic flows and improve rail efficiency.

In addition, some existing road closures (e.g. Wellington Road) and one-way streets can be altered to increase flexibility of access. This would be particularly important in association with increased development density and a change from traditional low-rise housing in the area near the TAFE and hospitals. With any such new links, it is important that flexible access routes are not used as rat-runs that encourage more through traffic. Traffic calming and measures to restrict capacity on such routes should be installed where necessary to prevent this, including traffic signal linking (i.e. to prevent clear runs through multiple intersections), public transport priority measures, narrowed lane widths, restricted traffic speeds, road humps, and turn restrictions.

Actions

Convert Cambridge Street to two-way operation.

Change the north end of Thurston Street from one-way to two-way, for all vehicles. Widen its intersections with Carrington Road and Cambridge Street as required to allow this.

Consider replacing the closure of Wellington Road with traffic calming measures as the pattern of development changes in this area.

Consider widening footpaths, implementing traffic calming measures, etc. in local streets where current traffic volumes are below their potential traffic capacity or if there is a particular problem or need to be addressed.

4.5.D Minimise conflict between freight and service access and other uses

Box Hill is a focus for much of Whitehorse's economic activity, and so there are substantial freight movement activities in and around the Activity Centre that must be provided for. However, truck movements in streets can add to congestion and safety problems if not carefully managed. Delivery vehicles now load and unload at several locations around the retail core, on and off-street. The loading area at the west end of Main Street detracts from this important pedestrian precinct. Delivery vehicles on Carrington Road detract from nearby office and restaurant uses. Some vehicles also drive along the Market and Main Street mall for deliveries, causing conflict with pedestrians, and in many cases engines are left running causing air and noise pollution. Use of the mall for this purpose is not permitted as of right and permits can be issued for special cases. Enforcement may be needed with regard to this issue to improve the functions and amenity of the mall area.

New development needs to take account of freight and service requirements, ensuring that local service clusters can be served by local streets. For example, provision and management of off-street loading bays for larger trucks could become an issue for the retail core if it expands.

Potential conflicts between general traffic and freight and other service traffic can also be minimised through a variety of management initiatives:

- Set preferred delivery times that avoid conflict with other activities.
- Regulate on-street delivery hours outside of peak traffic and pedestrian periods.
- Encourage use of rear laneways for service deliveries.
- Encourage drivers to switch off their engines when loading.

Truck access should be considered in all road design and management proposals. Roadway design issues affecting freight and service access include:

- Intersection and driveway geometry to for truck turning movements.
- Steep cambers on roads and curves with inadequate super-elevation that present hazards of trucks tipping.

Access route planning can also help identify the best routes for delivery vehicles to the core retail precinct. These may include:

- Thames Street, as it links to the health precinct.
- Carrington Road, as it links the Retail Precinct to Surrey Park and the associated sporting / leisure facilities in the southwest of the Activity Centre.

4.5.E Develop targeted programs to address prevalent accident types

There are a number of intersections within the Activity Centre where road safety should be improved. Some local intersections are among the highest ranked accident sites in the Whitehorse, although even the worst in the Activity Centre for casualty accidents over the past five years (the Whitehorse Road / Elgar Road intersection) ranks very low relative to other sites across metropolitan Melbourne. Improvements were undertaken at this intersection as part of the Tram 109 extension.

While traffic speeds do not appear to be a significant issue at present, safety (especially for pedestrians and cyclists) is dramatically increased by lower speeds. Limiting speeds can also be useful to deter unnecessary through traffic along local streets.

Actions

Ensure new development provides for service vehicle parking and access in appropriate locations that minimise conflicts with other uses.

Investigate the potential for improved off-street delivery access to Carrington Road and Cambridge Street properties.

Enclose the Centro loading area west of Main Street so it is not visible from the street.

Develop and implement a freight and delivery access plan for Box Hill in consultation with local businesses, to establish agreed times for deliveries to minimise conflicts with other activities.

Instigate greater control over the use of the Market and Main Street mall by delivery vehicles.

Prepare a laneways strategy for the Activity Centre to reconcile potential conflicts between service delivery and pedestrians.

Actions

Review the appropriateness of speed limits on arterial roads and municipal roads in the Activity Centre.

Investigate works to further improve safety at the Whitehorse / Elgar Road intersection to reduce the incidence of casualty accidents (while avoiding solutions that disadvantage pedestrians and cyclists).

Investigate the need to install red-light cameras at signalised intersections on Whitehorse Road.

4.6 CAR PARKING

Provision and management of car parking in Box Hill should balance objectives for access, sustainable transport and land use, with:

- A proportional reduction in the number of cars that need to be parked within Box Hill to support increasing levels of activity.
- Parking used to support access to important activities in Box Hill that are relatively difficult or unlikely to be sustained without car access.
- Reduced detrimental impacts of parking on environmental amenity.

Refer also to City of Whitehorse Integrated Transport Strategy for additional actions which are to be read in conjunction with this structure plan.

Strategies to support these aims include:

4.6.A Encourage reduced rates of car ownership among local residents

A central idea behind transit cities is that greater provision of goods and services within walking distance of housing and public transport services will help reduce people's use of cars. Reduced car use does not necessarily equate with reduced car ownership. However, it is easier to live with fewer cars if they are not so necessary for getting around, and reduced levels of car ownership among local residents will bring advantages complementing broader objectives for Box Hill.

Car share schemes can provide one cost-effective way to reduce car ownership. Recently introduced in the Cities of Darebin and Port Phillip, these are essentially a co-operative car rental system, requiring only six or seven cars per hundred members.

Actions

Provide incentives for participants in car share schemes, such as free kerbside parking permits for car shares.

Work with the State Government to develop a program for reduced car registration fees for participants in car share schemes.

Reduce the number of resident and visitor on-street parking permits issued for new developments.

4.6.B Encourage lower parking provision rates in new development

Some areas of Box Hill experience heavy parking demand with little spare capacity in on- or off-street areas to satisfy needs at times. Traffic congestion is also an existing problem. In this context, growth is problematic if reliance on private vehicle transport continues at existing levels. Development should be managed to significantly reduce dependency on cars, and increase the role of public transport. Rates of car parking provision should therefore be reduced. However, the Planning Scheme does not currently differentiate between parking requirements in activity centres and other areas. Parking requirements are the same irrespective of location or access to public transport. Allowing lower parking rates in Box Hill than the current standard requirements (either reduction or full waiving) can promote a number of favourable outcomes in line with the Transit Cities objectives.

Car parking is significant as a land use rather than only as a transport issue. Car parks are storage facilities that use a great deal of space, and this works to reduce other land use opportunities. Car parks also represent a significant component of development costs, especially as heavy construction and ventilation requirements for parking structures add to costs of the space itself. Reduced parking rates can therefore contribute to more affordable housing and more competitively-priced commercial tenancies.

Actions

Prepare a Parking Precinct Plan for the Box Hill Activity Centre including a parking limitation strategy with minimised rates for mandatory provision of parking in new development, or upper limits for parking provision rather than minimum rates.

Enable a reduction of parking requirements in new developments in return for contributions / improvements to public transport infrastructure and services.

Encourage major employers to develop 'Green Transport' plans.

4.6.C Support sharing of parking spaces between multiple users

Car parks should allow for sharing between different users at different times. The more widely parking is shared, the more any variation in its use by one group is balanced by variations in others, so that use of each space is maximised. Sharing between offices and entertainment activities, and between residents and daytime workers, is likely to be feasible given their differing peak hours. Even where current arrangements do not allow shared or public parking within a particular building it is still desirable to support options in its future management. The need for large lots to build parking structures efficiently also limits development densities on small properties, if they must provide on-site parking. The ability to use nearby car parks would enable higher density development on small properties, and is another factor promoting parking structures for multiple users.

4.6.D Use local parking spaces to support local uses

There are about 600 park-and-ride spaces at Box Hill Station that are now used to capacity, generating traffic and occupying precious space with few benefits to the Activity Centre. These could instead be managed to support local uses, providing a way to support growth without a corresponding increase in traffic. Continued provision of park-and-ride facilities is therefore incompatible with key objectives for the Activity Centre, and should be directed to stations other than Box Hill. Parking arrangements for uses such as the hospital need to support the range of visitors including short-term parking as well as longer-term parking for patients (eg: attending day procedures or overnight stays).

Striking a balance in parking restrictions and fees is also important to support the Activity Centre. While parking fees can be important to deter commuting by car and to ensure that spaces are kept available for other users, high short term fees also work against Box Hill's attraction for shoppers since parking is free in competing retail centres such as Doncaster, Ringwood and Glen Waverley.

4.6.E Favour priority uses of on-street kerbside parking space

On-street parking can be shared easily between multiple user groups. It supports adjoining land uses and encourages buildings to address streets as public spaces. Although wider footpaths would be more valuable to pedestrians in most places, short-stay kerbside parking can generate activity and form a buffer to traffic, contributing to amenity and personal safety. Kerbside parking can be used in off-peak times to narrow carriageways, reduce driving speeds and discourage through traffic. Kerbside parallel parking should therefore be provided where possible.

However, competing demands on street spaces inevitably limit the total quantum of kerbside parking, so it needs to be made available to the most critical users. Priority should be given to uses that cannot use multistorey parking structures, including bus stops, taxi ranks, loading zones (e.g. for couriers), disabled parking, very short-stay parking for other users, and passenger pick-up and drop-off.

Both the use and management of kerbside parking spaces can change rapidly. Signs and metres can be altered at little cost, enabling responsiveness to changing demands. Demand can fluctuate in response to nearby land uses (e.g. a shop opening or closing) and changes in availability, time restrictions or costs of alternative parking. Reports indicate that the Harrow Street car park is heavily used on particular days, however on the day of observation only about half of the spaces were occupied during weekday peak hours.

4.6.F Provide information to enable efficient access to available parking

Regular users of an area quickly work out the best parking options to suit their needs. However, finding the most appropriate parking can be difficult for new and

Actions

Support multi-site developments in which car parking for a development on one site may be provided on a nearby site that is a more efficient size or in a better position for a parking structure.

Discourage construction of car parks that do not allow flexible management to accommodate shared or public use.

Actions

As part of a Parking Precinct Plan, review and adjust the pricing and management of car parking in the Activity Centre to give greater support to short stay shoppers, hospital patrons, etc. and to discourage park-and-ride and commuter parking.

Consider suitable sites at nearby train stations for park and ride facilities.

Actions

Replace on-street parking on the north side of Carrington Road with a formalised kiss and drop facility and taxi rank. Consider an additional kiss and drop facility on Whitehorse Road as part of road improvements.

Monitor the use of kerbside spaces throughout the Activity Centre and adjust management as needed to favour bus stops, taxi ranks, delivery and servicing activities, and passenger pick-up and drop-off.

Modify car parking ratio standards to reflect the different levels of demand in different areas (e.g. drop off and collection areas around the public transport interchange and major community services, longer stays in shopping areas for shoppers).

Actions

Publicise the locations and cost of existing car parking facilities.

infrequent visitors. It can even be a challenge for regulars who arrive outside their usual visiting times, when usage patterns and parking management differ from conditions they are accustomed to. Confusion about parking can add to traffic congestion as people circle to find spaces. Appropriate signage, as well as careful location of car park entries, can also help to reduce unnecessary traffic circulation by helping motorists to readily reach parking spaces.

4.6.G Replace open air car parking with structures under new buildings

The many existing open air car parks in Box Hill dramatically reduce the density of land use and detract from the area's amenity as a pedestrian environment. Their poor appearance, lack of active frontages and resulting lack of passive surveillance make walking an unattractive option for moving around these areas. However, these car parks are also opportunities for development, which could reduce negative impacts of parking as well as accommodating more activities in Box Hill. Construction of public parking in basements of new buildings on existing council car parks can potentially be subsidised by residential or commercial development above.

Provide dynamic real-time car parking occupancy information on the arterial road network to inform motorists of parking availability in off-street multi-level car parks.

Actions

Redevelop open air car parks, providing replacement parking spaces in multi-level structures below or contained within buildings for other activities.

Prohibit the creation of new open air ground level car parking within the Activity Centre.

4.7 LAND USE MIX AND ECONOMIC AND SOCIAL ACTIVITIES

Box Hill should accommodate more intensive and diverse activities that increase choices and opportunities, support synergies between different uses, encourage use of sustainable transport, and complement surrounding areas, including:

- A broad range of health, education and community services.
- Clustering of business and institutional activities and provision of required infrastructure for economic development.
- Employment opportunities in offices and institutions.
- Retail that maintains and builds on the centre's existing strengths including restaurants and fresh food.
- Increased numbers and types of housing opportunities.
- Lifestyle, entertainment and cultural activities to make the area more attractive to workers, shoppers and residents.

Strategies to support these aims include:

4.7.A Support the continued development of key activity clusters

Box Hill is a diverse economic area with established and expanding 'activity clusters'. These include related businesses and services, located near each other to facilitate interaction between separate but mutually dependant facilities, to increase efficiencies in the supply of goods and services, or so clients can compare and choose what suits them best. The strength of these clusters is fundamental to Box Hill's status as a focus for regional services and as an employment centre.

Box Hill is a centre for health and medical services, dominated by the Box Hill and Epworth Eastern Hospitals. Several other medical facilities are clustered around these in the north-west quadrant of the Activity Centre. There is an increasing demand for related businesses in Box Hill and this is likely to be heightened by the Epworth development, leading to pressure to redevelop existing residential sites.

Box Hill provides a strong offer in vocational training. There is an important education cluster linked to Box Hill TAFE, which is one of the largest organisations in the Activity Centre. There are another eight education facilities including a music school, language centre, college of natural medicine, VCE college, kindergarten and the Biotech and New Enterprise Scheme Centre on Elgar Road. As with the medical cluster, expansion of the institutions and associated activities such as student housing are encroaching into traditional residential areas.

Box Hill provides a comprehensive range of private and public sector offices within small and large tenancies. The two major concentrations are at Prospect Street and Ellingworth Parade/Rutland Street. Other major offices are the Australian Taxation Office and the Department of Human Services on Whitehorse Road. Future demands for office space are difficult to forecast but growth is likely to be modest with around 1.2 to 2.2 hectares likely to be required, which is about one to two thirds of the area of the existing Prospect Street office precinct. However, even modest growth may require higher-density redevelopment of existing sites as there is little vacant land in the office areas. It is also desirable to allow for increases in the number of small businesses, small office space, and in alternative working arrangements including home offices.

Community services also form an important activity cluster in Box Hill, with government and philanthropic providers such as religious organisations. Although these uses are scattered through the Activity Centre there is a concentration in Carrington Road, Bank Street, Nelson Road, Ellingworth Parade and Harrow Street, and the Department of Human Services office is an obvious focal point. As a Principal Activity Centre, it is appropriate for Box Hill to accommodate a wide range of highly-accessible services and facilities serving a wide catchment. They also need to meet the specific needs of Box Hill's residents and workers, with provision for projected local population growth and demographic changes.

Actions

Allow for expansion of health and medical services, especially in the area south of Box Hill Hospital, but prevent the spread of facilities beyond the Activity Centre into residential areas to the north.

Change the land use zoning in the north-west quadrant of the Activity Centre (between Arnold Street and Whitehorse Road) to support mixed use development with educational and health facilities and complementary uses including:

- Medical suites
- Health and fitness services
- Student housing
- Conference facilities
- Hotel accommodation
- Small office floor space

Facilitate consolidation of properties between Arnold Street and Whitehorse Road to enable efficient, higher density and higher-rise redevelopment complementing the hospitals and TAFE.

Facilitate networking between the community service providers and relocated activities in the area.

Encourage high density redevelopment of the existing low-level/low density offices in the Ellingworth Parade / Rutland Street precinct

Public and private sector offices are an important part of the employment base in Box Hill.



4.7.B Fill strategic gaps in the local retail offer

The most notable missing or poorly-represented components of a comprehensive retail offer in Box Hill are:

- Automotive dealers
- White goods, furniture and other durable household goods
- High order fashion and fashion accessories
- Major department store

However, not all of these are necessary or desirable in Box Hill. Bulky goods use large spaces for relatively little human activity; automotive sales and servicing demand car access rather than encouraging public transport use; and whitegoods and furniture often require car access for shoppers to carry home purchases.

It is important to build on local strengths such as the fresh food market including extending the 'market profile' of Box Hill by operating a night market. Also, Box Hill's retail opportunity may lie in emphasising its street and laneway areas to provide a shopping experience different from that offered by competing centres.

A large department store is unlikely to open in Box Hill given Myer's and David Jones's business focus on Melbourne's Central Business District and major regional shopping centres, but 'factory outlet' stores may be possible and would help to recapture some of the fashion market that has been lost to other regional centres and the Whitehorse Road Mega-Mile.

Without capturing market share from other centres, the demand for extra space in the next decade or so is unlikely to exceed 13,000sqm; much of this could be met by redevelopment, refurbishment and increased efficiency in existing retail areas.

4.7.C Create more, and more diverse, opportunities for housing

There is a trend towards higher density residential development in Box Hill, including student accommodation. Although DSE has modest population forecasts through to 2030 (another 600 people) recent analysis indicates a strong latent demand for medium to high density housing that may develop in the next decade.

Council's Housing Study (2003) identifies four areas in Box Hill that are preferred locations for higher residential densities / substantial change. The Housing Study should be read in conjunction with the structure plan. The substantial change areas are shown at Appendix 8.1. In addition, locations such as Carrington Road (west end) and Hopetoun Parade are undergoing transition to higher densities and should be considered in any future review of the Housing Study.

The existing local population of 3,825 could possibly increase by up to 4,600 people over the next decade to make a total around 8,500. This growth is likely to increase cultural diversity in the area, which is already very high. The land required for this will depend on development density and actual demand. At the least, a low market demand could be accommodated in ten hectares with around 40% in high rise development (12 storeys). A higher demand could require over forty hectares if only 10% of units are in high rise apartments.

The demand for higher rise residential development will primarily come from 'empty nesters' and young couples. Two other forms of residential demand that are likely to grow in Box Hill are student accommodation and aged persons care such as that provided by Moorfields. Council is undertaking a student accommodation study to identify needs, investigate demands for and examine the

Actions

Provide for modest expansion of retail floor space. This should be focused in areas that help to consolidate the existing retail core or contribute to attractive links to other major attractions.

Encourage the accommodation of retail attractors (e.g. book/music stores, sportswear and lifestyle stores, high quality bars/cafes) at favourable rents as parts of larger developments, to enhance the attractiveness (and viability) of the development as a whole.

Investigate potential sites for 'factory outlets' and encourage such development in Box Hill.

Discourage development of bulky goods, big box and drive-in retailing, petrol stations and other uses that depend on car access.

Investigate the feasibility of a night market

Actions

Allow for higher densities of development by allowing taller buildings and reduced setbacks in certain areas and by encouraging appropriate building types for higher densities.

Maximise the flexibility of land use zones within the Activity Centre to enable a variety of housing types in mixed use and residential-only developments.

Encourage the design of residential units to provide for long term flexibility in the types of people living in them e.g. through ensuring high standards of access for the elderly and people with disabilities in all buildings.

Encourage development of visitor and tourist accommodation within the Activity Centre.

implications of this land use.

Although there are motels on Whitehorse Road to the east and west, there is no visitor and tourist accommodation within the Activity Centre. This is a major limitation of the centre. The proposed hotel and conference centre plus shops, cinemas and apartments at 545 Station Street would make a major contribution if it proceeds. Other potential sites that could be developed for this purpose include the bowling alley or the north-east corner of Elgar and Whitehorse Roads.

More housing is needed to cater for an aging population including units for 'empty nesters' and retirees, as with this new development in Bentleigh, and facilities offering varying degrees of aged care.



Higher density housing can be provided in a variety of forms, ranging from attached houses of a scale and character designed to blend with surrounding neighbourhoods of single family homes, through row houses that adopt a more urban character, to larger apartment buildings. Each of these may be appropriate in particular parts of the Box Hill Activity Centre.





4.7.D Create opportunities for affordable housing

Affordable housing is an important issue facing Box Hill and for that matter other activity centres and locations across the metropolitan area. Three major options are available to support the provision of affordable housing in the Activity Centre:

- Opportunities offered on land owned by Council including partnerships with adjoining land owners
- Inclusionary Zoning Agreements
- Community Betterment Agreements

Council has control of a number of sites within Box Hill that may be suitable for mixed use projects including affordable housing. Such projects could be delivered in conjunction with the not for profit sector.

An Inclusionary Zoning Overlay could be applied to the whole Activity Centre, covering all development types including commercial land uses. This can be managed via Section 173 Agreements and would require all developments to incorporate a prescribed number of affordable housing units or make an equivalent cash contribution to a fund that enables acquisition of the required units elsewhere in the area.

A Community Betterment Fund could be developed in response to zoning changes or other planning scheme amendments that increase the development capacity of particular sites. As a condition of exhibiting those amendments, Council can require that development proponents for the affected sites enter into a binding agreement with Council to contribute to a Community Betterment Fund supporting social and physical infrastructure improvements in the area, including provision of affordable housing.

The housing generated through any of these mechanisms would be managed by a Housing Association registered with the Office of Housing, and will be targeted at, and permanently available to, low income households (i.e. those within the bottom twenty percent in the income distribution for Melbourne).

4.7.E Support social and economic development and lifestyle aspirations

Principal Activity Centres should be positioned to attract advanced business services, high technology industries and other value-added, export-oriented businesses. The attractiveness of Box Hill to such businesses as well as to higher density residential development depends heavily on the ability to support lifestyle aspirations and provide a distinctive and rewarding cultural environment.

Box Hill's multi-cultural character provides scope for the development of additional community events (e.g. Chinese New Year, Asian Festivals, Asian nation national days) which would improve the social environment and identity of the Activity Centre.

Box Hill offers many restaurants and cafes, mainly clustered around Carrington Road and Station Street and dominated by a range of Asian cuisines. These

Actions

Prepare a prospectus and invite expressions of interest for the redevelopment of selected Council sites for mixed use development including an Affordable Housing Component.

Develop an 'Inclusionary Zoning' overlay to the whole study area to provide directly Affordable Housing or funds for Affordable Housing.

Develop a 'Community Betterment' overlay to the whole study area to raise funds to provide Affordable Housing and supporting social and physical infrastructure.

Actions

Continue annual staging of Chinese New Year celebrations which appeal to a regional catchment.

Provide opportunities for celebrating national days for the Asian nations.

Promote the Asian cuisine specialty of Box Hill's restaurants and cafes to the wider regional market and extend operating

provide a profile for the centre that can be built on, further developing its reputation and market share as a regional centre for Asian restaurants and produce. This specialization is supported by the fresh food market.

Box Hill contains established retail uses generally serving a local market. There is an opportunity to develop the retail areas to provide a different shopping experience to that of the major competing centres. An opportunity also exists for 'direct factory outlet' stores to capture some of the retail market that has moved to BrandSmart in the Mega-Mile. Future demand for retail space (around 13,000sqm) could be mostly achieved by redevelopment and increased efficiency in the existing retail areas. To ensure longer-term retail success, operating hours could be extended on a daily basis.

A notable gap in recreation, leisure and entertainment opportunities is the lack of cinemas, live theatre (apart from the Oxford Theatre) and public bars/hotels. These are common elements in most Principal Activity Centres.

Expansion of local arts programs could also enrich public spaces and introduce people to the cultural heritage of the district, helping to strengthen its points of difference from competing centres. Redevelopment of the Box Hill Town Hall as a community hub is currently planned to accommodate use by community groups and agencies as well as to display Council's art and historical collections and fulfil civic needs. Other opportunities are being explored involving students and faculty in creative arts programs of the TAFE and local schools, as well as other regional artist groups, who provide a motivated local resource.

The dedication of particular spaces to specific groups could have a powerful impact on the appearance, ownership and vibrancy of these spaces. For example, this could include Box Hill Gardens (e.g. open air cinema / theatre / music and sculpture exhibitions), the tram terminus and the pedestrian mall (outdoor display and performance space), laneways (workshops and galleries), and Whitehorse Road (public art).

hours to ensure greater activity in the centre for longer hours.

Promote outdoor dining opportunities.

Encourage increased diversity of retail uses and allow extended operating hours to ensure greater activity in the centre for longer hours.

Consider proposals for cinemas, theatres, public bars and hotels in the Activity Centre in the long term, if market circumstances change and if liquor licensing constraints are ever removed.

Continue to provide a range of physical spaces and venues that support formal and informal community activity.

Promote the further development of arts programs throughout the Activity Centre.

Redevelop the Town Hall as a new community hub and arts facility.

The Box Hill Town Hall is an important focus for community cultural and social activities.



Supporting casual activities in public places also provides desirable 'lifestyle' opportunities.



4.7.F Encourage complementary mixed uses and links between activities

There are many potential synergies between uses in a well-rounded activity centre. Among other factors, multipurpose trips supported by the co-location of services and shops can reduce the number and distances of trips, thereby helping to reduce reliance on car travel. Mixed uses can add to the richness of urban experience, adding to the liveliness, attractiveness and safety of areas that, with single uses, may be busy at some times but empty at others.

Vertical land use mixes with different activities at different levels of higher buildings can help to activate ground level spaces, exploit higher ground level rents for retail and upper level views for housing, and provide residential privacy even along busy public spaces. Higher development with vertical use mixes

Actions

Provide for greater mixtures of complementary uses within some areas currently affected by restrictive land use zones, especially between:

- Arnold Street/ Irving Avenue and Whitehorse Road.
- Prospect Street
- Ellingworth and Rutland Roads

Investigate means to promote

therefore provides potential for increased development even in the retail core, where existing buildings almost completely cover their sites.

Institutions such as the TAFE have traditionally been developed as stand-alone facilities. However, the value of interaction between teaching facilities and other activities has been increasingly recognised, as exemplified in the TAFE's Biotech and New Enterprise Scheme Centre, which will include a cyber cafe, hair salon, and vet clinic in 'shopfronts' along Elgar Road. Provision of student housing has become more important with students from other cities (and countries) attending tertiary institutions.

vertical use mixes in new development.

Encourage the TAFE to provide integration between TAFE spaces and facilities and surrounding streets, enabling access and use by the wider community.

4.8 BUILT FORM

Buildings in Box Hill should attain an outstanding level of design that contributes to the environment, gives a distinct character to the place, and accommodates the mixtures and densities of activities desired within the Activity Centre. Redevelopment should provide for:

- Minimised front and side setbacks and increased heights to enable significantly increased densities in the Activity Centre.
- Maintenance of the traditional built form character of shops in the block between Whitehorse Road and Market, Main and Station Streets.
- Transitional heights around the core to protect amenity in surrounding residential neighbourhoods where existing heights will be maintained.
- Maintenance of the characteristic pattern of buildings set in landscaped grounds within the civic precinct near the Town Hall
- Protection of key open spaces from overshadowing.
- Design for better public transport access to modes and stops.

Strategies to support these aims include:

4.8.A Create street-oriented development

In a high-density urban setting such as Box Hill it is vital that buildings contribute to the quality of the public environment. Buildings with a significant public role should be exemplary in this regard, but all buildings, public or private, should contribute to the amenity and vitality of surrounding spaces. They should protect spaces from undue overshadowing and wind turbulence. Active frontages should add liveliness, interest and safety to streets. Good architecture should contribute to the sensory and cultural richness of the place. However, many existing buildings measure up very poorly to these expectations. The shopping centre, many offices and TAFE buildings, and parking structures in Prospect Street and Watts Street present blank walls or inactive frontages to the streets.

Actions

Negotiate with the shopping centre owners to undertake remedial development creating active frontages onto surrounding streets.

Encourage integration of buildings with surrounding public spaces.

4.8.B Bridge major barriers

Public circulation is generally provided for with streets, lanes and paths through parks. However, Box Hill's street network is poorly interconnected and options for movement across the Activity Centre are limited.

In these circumstances, private development can have an important role in contributing to better public access networks including access to public transport modes and stops. There is potential to reorganise the interior of the shopping centre and railway station concourse to provide a more direct link through the centre. There is also potential for air rights development over the railways east and west of the shopping centre, which could contribute to links in those areas.

Actions

Work with the shopping centre owners to create an improved and more direct station concourse aligned with Market Street and linked legibly to Carrington Road.

Investigate opportunities to develop over the railway in general, looking initially at creating an active frontage along the east side of Station Street.

Investigate air rights development linked to redevelopment of properties at the south end of Nelson Road to create a link to Surrey Drive / Thurston Street.

Work with Box Hill TAFE to create an east-west public walkway north of Whitehorse Road in connection with development of properties in the area.

Air rights development over the railway east of Station St would to shelter and activate the streetscape, as well as supporting the vitality of nearby retail areas. Light-weight low rise buildings have been successfully developed in a similar situation over the railway at Chapel Street, South Yarra.



4.8.C Integrate new development with heritage buildings

Although substantial redevelopment in the Activity Centre is expected, and encouraged, it is important to maintain a sense of continuity with its history. Diversity in building stock, including accommodation at a variety of scales and suiting various budgets, can be important to support small local businesses and foster new business development, as well as to support a variety of residential needs. It is also desirable to retain diversity in architectural character rather than creating a uniform and bland environment. It is also usually more effective to retain and build upon local character rather than applying a contrived character to replace that which has been lost. The cultural significance of heritage buildings and landscapes should be protected and used as an integral part of a newly-developing sense of place.

The Town Hall and a modernist brick building at Box Hill TAFE are protected by Heritage Overlays in the local planning scheme. St Peters Church is also a nicely detailed and proportioned building, as is the public library, and the role of these buildings as focal points for the community adds to their significance. The open areas around the civic buildings also make an important contribution to the character of the precinct, provide potential for public use, and contribute to the prominence of the civic buildings. However, these spaces tend to be used mainly as car parks. Ad hoc development of secondary buildings has also fragmented some of the spaces rather than helping to define well-proportioned forecourts and pedestrian corridors.

The image of the traditional retail centre (bounded by Whitehorse Road and Station, Main and Market Streets) is dominated by the former Railway Hotel, but there are several other two storey Art Deco or Modernist buildings that contribute to the area's identity. The integrity of this as a block with an internal system of laneways (rather than a linear strip as in most suburban shopping areas) makes it an unusual and significant feature of Box Hill. Many of these buildings are in poor repair and there is extensive clutter on facades with signs, unsightly awnings, etc. There are also a number of buildings of heritage interest beyond the traditional retail centre.

Actions

Ensure any development in the Town Hall civic precinct integrates carefully shaped open spaces with the built form.

Encourage restoration of the former Railway Hotel (Whitehorse Road and Station Street) and accommodation of upper floor uses, to reinforce the heritage character of the precinct and promote links to the laneways behind.

Encourage restoration of listed heritage buildings and contributory buildings.

Encourage a clean-up of facades, awnings and signs in the traditional retail centre to support the image and retail viability of Box Hill.

Consider Heritage Restoration Grants or low interest loans schemes to support restoration of buildings.

This TAFE building is one of Box Hill's important heritage buildings, and contrasts starkly with new 'heritage' style housing being built in the area.



4.8.D Facilitate change in nominated areas while protecting areas of stability

Despite extensive recent infill redevelopment with higher density units, one and two storey housing dominates the neighbourhoods around the Activity Centre. Yet at its centre, a 23-storey building has been approved at the corner of Station Street and Carrington Road. Creating acceptable transitions between these existing and new, low and high-rise buildings is a challenge.

There are large areas in the Activity Centre that have lost their former character through partial redevelopment, without creating a strong new character. For example, the area between the hospitals and Whitehorse Road is in a transitional state as larger scale offices, the TAFE, the hospitals and associated developments are spreading into a former residential neighbourhood. Some houses remain, but are fragmented into pockets located between major developments and are isolated from other residential neighbourhoods. Land acquisition for the tram extension has further disrupted the area. These pockets of established residential development, which are highly valued by some residents, should be given due consideration as the activity centre changes.

Within these disrupted areas where a change in character is acceptable, maximising the scope of change will help to minimise the area that is subject to change. However, some areas of moderate change may be useful buffers to low-rise areas, and the resolution of transitions between major redevelopment sites and existing buildings needs to be addressed carefully in development proposals.

The management of significant change that happens in stages is also an issue. For example, where side setbacks now allow light and privacy in houses with windows facing side boundaries, eliminating side setbacks in new buildings to support higher-density development may have adverse impacts on residents in existing houses. While not addressing short-term amenity issues, maximising the scope of permissible change in these areas will increase the value of the properties and help to accelerate redevelopment, shortening difficult transitional periods.

There may be covenants existing along Irving Avenue and in other areas and this may restrict development and subdivision potential. Examination of the extent of these impacts needs to be undertaken.

Actions

Recognise areas of stability where protection of the existing character is important, and areas that can change with minimal loss of community values

In areas of change, maximise development potential to reduce pressures in areas of desired stability (See Built Form Precincts).

Support the consolidation of properties to enable desired development (especially efficient parking structures).

Use car parks as development sites (replacing public parking in basement structures) e.g. Station Street at southern gateway to the Activity Centre.

Consolidate a redevelopment site at the north-east and north-west corner of Whitehorse and Elgar Roads.

Examine the existence of restrictive covenants on residential properties and resolve the potential to remove these to enable appropriate development.

There are many situations where development should create sensitive transitions between large and small buildings. However, in areas where a marked change in building scale is appropriate, a transitional period with an awkward mix of building types and scales must be



accepted. New buildings in these areas should be designed to respond to the desired character of the area rather than to existing buildings.



4.8.E Design appropriately for a high density context

One of the underlying considerations of the structure plan is the need to provide increased opportunities for residential development in the centre. This will involve higher densities, requiring sensitive design solutions to overcome issues such as overshadowing and loss of privacy. Such issues are likely to become problems if densities are increased merely by scaling down lot sizes without changing building patterns, and so there is a need to adopt more 'urban' built forms for all types and heights of development.

All developments should be designed to reasonably protect amenity on their own and neighbouring sites. This will entail a wide range of considerations such as:

- Anticipate and allow for likely future development of neighbouring sites.
- Incorporate measures to ensure occupants' acoustic and visual privacy as an integral part of building layout and design, rather than relying on spatial separation, or screening attached to neighbouring buildings.
- Isolate and baffle noise sources. Use mechanical systems in air conditioners, garage door openers etc. that minimise noise generation. Separate noise sources such as entertainment spaces and service areas from sensitive spaces including bedrooms and shared light courts.
- Use building orientation, intelligent floor plans and consideration of heights to ensure good solar access and avoidance of overlooking of private spaces.
- Provide high standards of internal amenity including access to daylight and natural ventilation to compensate for reduced access to private open space.
- Ensure development proposals support comprehensive functional requirements within the building site including waste storage and access for disposal, post boxes, community space around buildings, etc.

There are new Department of Sustainability and Environment (DSE) guidelines for higher-density residential development that address these issues, which can be used and expanded upon as necessary to guide new development.

4.8.F Promote sustainable building design and construction

Melbourne 2030 and the Transit Cities program aim to support a more sustainable future for Melbourne. Regardless of these broad strategies, sustainability also relies on the detailed design of buildings, use of materials in them, energy used to run them, maintenance, lifespan and replacement costs. All development in Box Hill should demonstrate high standards of environmental sustainability.

Support by infrastructure is an issue. There is minimal sewage capacity in the study area and there may be a need to upgrade the connection to Canterbury Road that runs along Station Street. The staging of growth will therefore be important as will a water conserving approach for new development in the interim. Melbourne Water has advised that part of the study area is covered by its Box Hill Redevelopment Scheme and that future subdivision within this area may be affected by developer contribution charges. In addition, the 1:100 year stormwater flow path crosses Howard St and is covered by a Special Building Overlay.

Actions

Adopt building height and setback controls for development to support efficient construction and use of land, including:

- Eliminate requirements for side setbacks, encourage party wall construction and prohibit side-facing windows.
- Minimise requirements for front setbacks where these are of ornamental value only.

(See Development Control Guidelines: Built Form)

Apply the DSE Guidelines for Higher-Density Residential Development within the Activity Centre instead of ResCode.

Develop a process to audit the amenity impacts of development proposals including benchmarks for acceptable and superior design, and use these in the application of any discretionary development controls.

Evaluate development proposals to ensure protection of adjoining sites' development potential.

Actions

Develop a tool to assess and a process to audit the sustainability of development proposals with benchmarks for acceptable and superior design, and use these in the application of any discretionary development controls.

Invest in and upgrade infrastructure capacity and ensure the conservation of resources and efficient supply of services.

As the area changes designs should aim improve landscaping and consider increased use of indigenous vegetation, which consume less water than many of the existing exotic species in the area.

Adaptability of buildings is also important to allow changes in use without wasteful rebuilding. For example, buildings that supply a short term market for student housing could be converted in the longer term to suit empty nesters or the elderly, if it is designed to meet appropriate accessibility standards and with consideration of varied user needs.

Encourage landscaping with indigenous species that use less water than commonly-grown exotic species and that contribute to the ecological sustainability of the area.

Promote floor plans and building standards that allow for future adaptation to other uses e.g. maintaining high accessibility standards in all residential units.

The 'Oasis' apartments in St Kilda integrate stormwater catchment into the landscaped open space.



The East Melbourne library emphasises sustainable design principles including use of natural lighting and ventilation.
[Photo: D Hannah]



4.8.G Promote design excellence

Good design will contribute amenity for people living and working in Box Hill, and is an essential tool for marketing the area to encourage local investment and shopping. This applies to permanent features – requiring the input of architecture, landscape architecture and urban design – as well as more ephemeral things such as retail presentation, shopfronts, advertising and promotional materials.

A widespread understanding in the community of the value of design is an important basis for improving design results. Programs such as the City of Whitehorse Urban Design Awards are an important way to develop this understanding. New projects also set examples, and Council or the State Government projects should always strive for design excellence.

There is also scope for improvement of designs during pre-application discussions and through the planning approvals process. This is often limited since schemes have become entrenched, but there is usually scope to improve almost any design at any stage. In addition, the fact that good design can expedite the approvals process should be made clear from the outset.

Actions

Encourage developers to use qualified and experienced design professionals. Reinforce the message that good design can save costs by expediting approvals as well as by providing potentially higher returns on capital investments.

Use the City of Whitehorse Urban Design Awards program to promote design excellence.

Establish a place management process that includes assisting with and promoting higher standards of retail presentation.

Good 'contextual' design does not rely on pastiches of historical styles, nor does it require architecture that is subservient in relation to existing buildings. New development should always make a contemporary contribution to design excellence in Box Hill.



4.8.H Encourage development to contribute to Box Hill's sense of place

Several landmark sites and 'gateways' to Box Hill are vacant or underutilised. Redevelopment of these sites could contribute significantly to Box Hill's identity both through the visual impact of prominent new buildings, and by accommodating significant uses.

Actions

Encourage redevelopment of landmark sites including:

- NE corner Elgar Road / Whitehorse Road (possibly including Bowls Club)
- NW corner Station Street / Carrington Road
- SW corner Station Street / Cambridge Street
- SW corner Market Street / Whitehorse Road
- SE corner Harrow Street / Station Street (car park)
- NE corner Bruce Street / Whitehorse Road
- NE corner Nelson Road / Prospect Street (AMF Bowls site)
- NW corner Elgar Road / Whitehorse Road

5 Development control guidelines

This section sets out recommended controls over development aimed to support the vision and objectives of the Structure Plan. The recommendations are set out under the categories of:

- **Land uses**, as controlled by designations of Land Use Zones. Desired outcomes are set out together with a brief description of the types of activities that should be supported, and the recommended zones. Where this requires a change to the existing Planning Scheme (re-zoning) this is noted.
- **Built form**, as may be controlled through Design and Development Overlays and/or other incorporated policies in the Planning Scheme.

Both of these are set out within precincts – ‘Activity Precincts’ and ‘Built Form Precincts’ – that cover the area addressed by the Structure Plan, as illustrated under the Vision and Planning Framework earlier in this document.

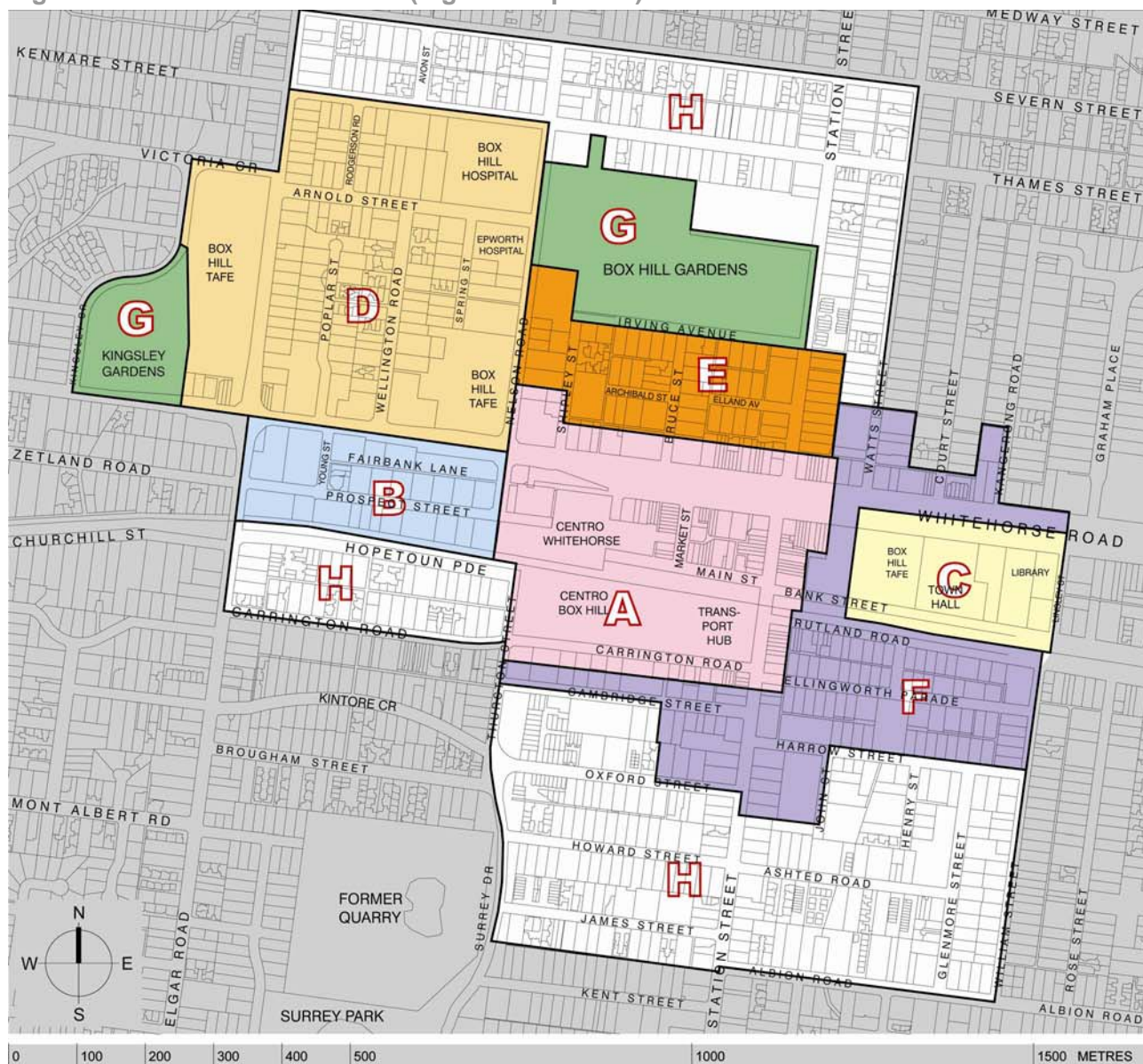
It should be noted that variations in recommended land uses in the Activity Centre do not necessarily correspond with variations in the desired built form character. For example, residential use is recommended within areas of low-rise detached houses as well as in areas where larger apartment buildings are appropriate. As a result, the boundaries of the two types of precincts do not correspond with each other.

It should also be noted the precincts noted above differ from the 2002 Box Hill Urban Design Framework (UDF) because:

- The Structure Plan addresses a slightly different area than the UDF.
- It adopts a different approach than the UDF, addressing activities separately from built form as variations in land uses do not correspond with variations in desired built form character.
- Uses and built form are controlled with different mechanisms (Land Use Zones and Design and Development Overlays, respectively).

As a result, the, precinct boundaries in the two studies differ. This is demonstrated in Appendix 8.3.

Figure 6: ACTIVITY PRECINCTS (Figure 4 repeated)



- A** Box Hill Transport & Retail Precinct: Retail sustained throughout the area complemented by entertainment, hospitality, commercial and other uses with extended hours of activity creating a central focus for Box Hill.
- B** Prospect Street Precinct: Consolidation as the primary office precinct in the activity centre.
- C** Civic & Eastern TAFE Precinct: Consolidation of cultural, community and educational facilities in the precinct.
- D** Hospital & Western TAFE Precinct: Growth and enhancement of educational and medical institutions and support for related businesses and services, plus high density residential (including student housing).
- E** Box Hill Gardens Precinct: Provision for significant high to medium density residential growth with small scale offices, limited retail and community services and retail to activate ground level street frontages.
- F** Southern & Eastern Precincts: Mix of office and retail uses responding to prominent Whitehorse Road and Station Street frontages, and mixed use (residential) as transition to purely residential precincts.
- G** Box Hill Gardens & Kingsley Gardens: Convenient access to high quality public open space and recreational opportunities within the activity centre.
- H** Residential Precincts: The areas' residential role and amenity protected but medium density residential development encouraged. (Most areas surrounding the study area are also residential.)

5.1 LAND USES

Desired outcomes

Guidelines

5.1.A Box Hill Transport and Retail Precinct

Intense mixtures of activity over extended hours to create the central focus for Box Hill.

Retail sustained throughout the precinct, complemented by entertainment, commercial and other uses e.g. hotel and conference facilities.

A vital streetscape environment that will encourage additional investment in retail activity.

Activities

- Retail to all ground floor areas, especially at street frontages
- Uses that activate the streetscape daytime and evenings (including restaurants and entertainment) encouraged along all streets and laneways
- Uses that support an emphasis on pedestrian access and activity
- Office space at upper levels
- Residential at upper levels, especially hotel accommodation.
- Health and community services co-located with shops enabling multipurpose trips

Zoning

- Business 1 – most of the precinct (no change)
- Business 2 – small area north side of Whitehorse Rd, near Nelson Rd (no change)

5.1.B Prospect Street Precinct

Consolidation as the primary office precinct in the region.

Activities

- Continuation as the primary office precinct in Box Hill.
- Small scale cafes and service retail at ground levels of taller buildings
- Mixed use including residential development to create 24 hour/7 day activity

Zoning

- Business 2 – entire precinct (no change)

5.1.C Civic and Eastern TAFE Precinct

Consolidation of council services, meeting spaces, and cultural, community and educational facilities in the precinct.

Activities

- Education – Box Hill TAFE (incorporating Creative Arts, Design and Fashion faculty)
- Arts and cultural facilities including the library, the Town Hall utilised as an arts and cultural centre, and potential development of community hub at the rear of the Town Hall accommodating various community groups and services
- Retention of St Peters Church and funeral parlour encouraged as community facilities and services complementing the civic nature of the precinct

Zoning

- Public Use 2 – TAFE (no change)
- Public Use 6 – Town Hall, Library (no change)
- Church sites and funeral home (no change)

5.1.D Hospital and Western TAFE Precinct

Growth and enhancement of educational and medical institutions and support for related businesses.

Property consolidation to facilitate redevelopment and creation of public access-ways through the precinct.

Development addressed to Nelson Road to create a pedestrian-friendly street.

Activities

- Hospitals and associated medical suites and services
- TAFE and associated services and offices
- Community facilities and services
- Offices, complementing the existing office precinct south of Whitehorse Road
- Higher density residential including student housing
- Gyms, fitness centres, swimming pools and other private communal or commercial recreation facilities that complement those available in public spaces
- Multi-storey car parking on sites with direct access from main roads

Zoning

- Public Use 2 and 3 –TAFE and hospital sites west of Elgar Rd and north of Arnold St
- Priority Development Zone– area between Whitehorse Rd, Nelson Rd, Arnold St and Elgar Rd (change from Residential 1, Public Use 2 and 6 and Business 3), with

Desired outcomes

Guidelines

appropriate recognition of the provisions that currently apply under the existing Public Use Zones and the Planning and Environment Act 1987 to the Box Hill Hospital and Box Hill Institute / TAFE owned properties.

5.1.E Box Hill Gardens Precinct

Provision for significant residential growth, in an area with good access to transport services and Box Hill Gardens.

Development of small scale offices, community services and retail to activate ground levels.

Activities

- Higher-density residential
- Limited retail, small offices, community services and complementary uses to activate ground floors, especially at frontages to Irving Ave, Bruce St and Station St
- Gyms, fitness centres, swimming pools and other private communal or commercial recreation facilities that complement those available in public spaces
- Public/shared car parking in basement structures

Zoning

- Mixed Use (change from Residential 1, Business 3 and Public Use 6)

5.1.F Southern and Eastern Precincts

Accommodation of growth in the local supply of office space.

Continuation of the precinct's role in supporting some retail activity.

Office and retail activities that respond to prominent Whitehorse Road and Station Street frontages.

Mixed uses including higher density residential as a buffer to established residential precincts.

Activities

- Offices
- Restricted retail
- Higher density residential especially at upper levels
- Gyms, fitness centres, swimming pools and other private communal or commercial recreation facilities that complement those available in public spaces

Zoning

- Business 2 – existing
- Mixed Use – transitional areas to residential precincts (change car parks from Public Use 6, change peripheral Business 2 and Residential 1)
- Public Use – police station at Kangerong Rd (change from Residential 1)

5.1.G Box Hill Gardens and Kingsley Gardens

Convenient access to high quality public open space and recreational opportunities within the Activity Centre.

Activities

- Public recreation

Zoning

- Public Park and Recreation – Box Hill Gardens and Kingsley Gardens (no change)

5.1.H Residential Precincts

The areas' residential role protected.

Medium density residential development encouraged.

Encroachment of medical facilities north of Thames Street prohibited.

Activities

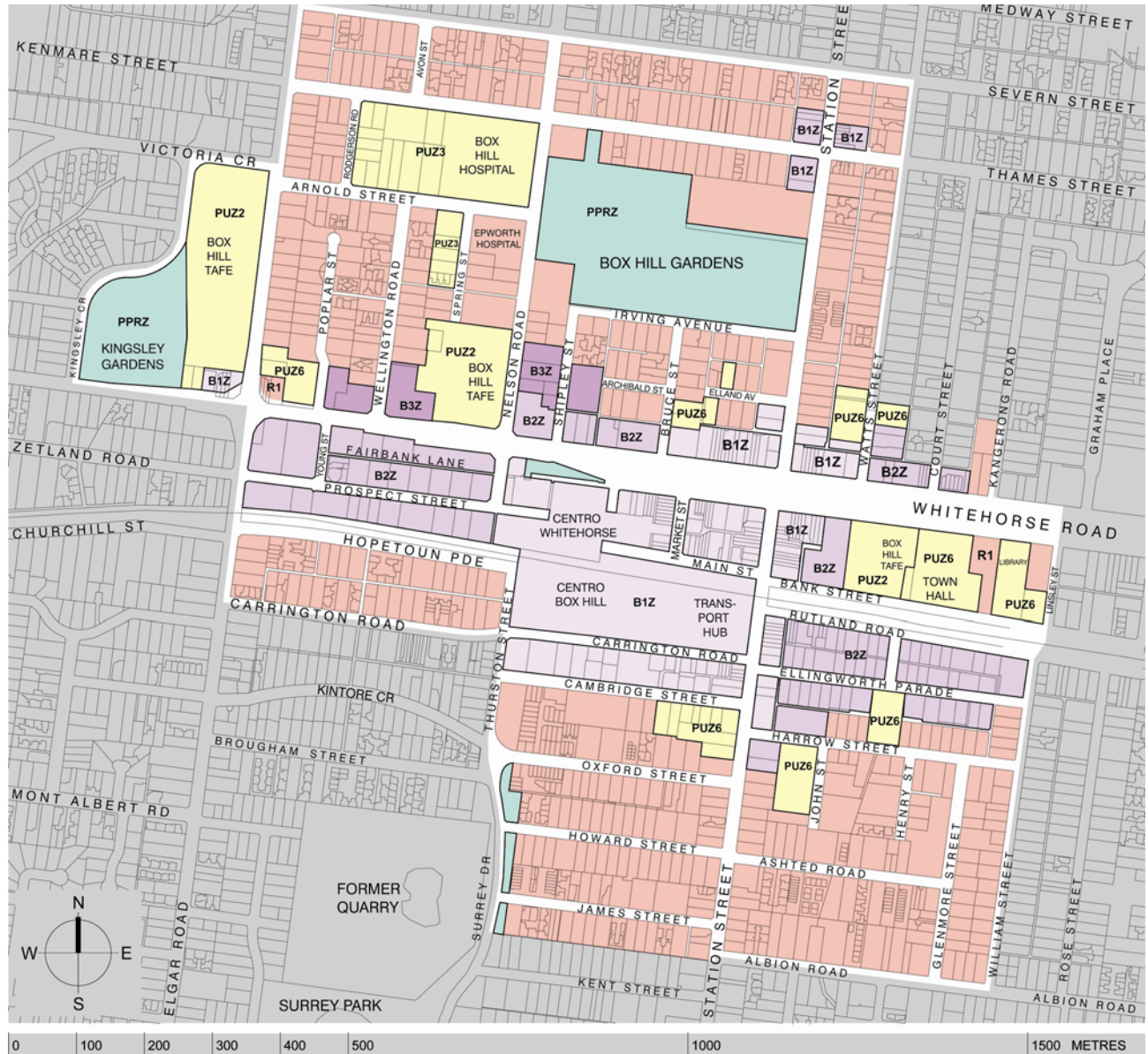
- Residential – Refer to City of Whitehorse Housing Study (Feb 2003) for nominated areas of substantial change / higher density precincts

Zoning

- Residential 1 – bulk of precincts (no change)
- Public Park and Recreation – pocket parks (no change or change from Residential 1)

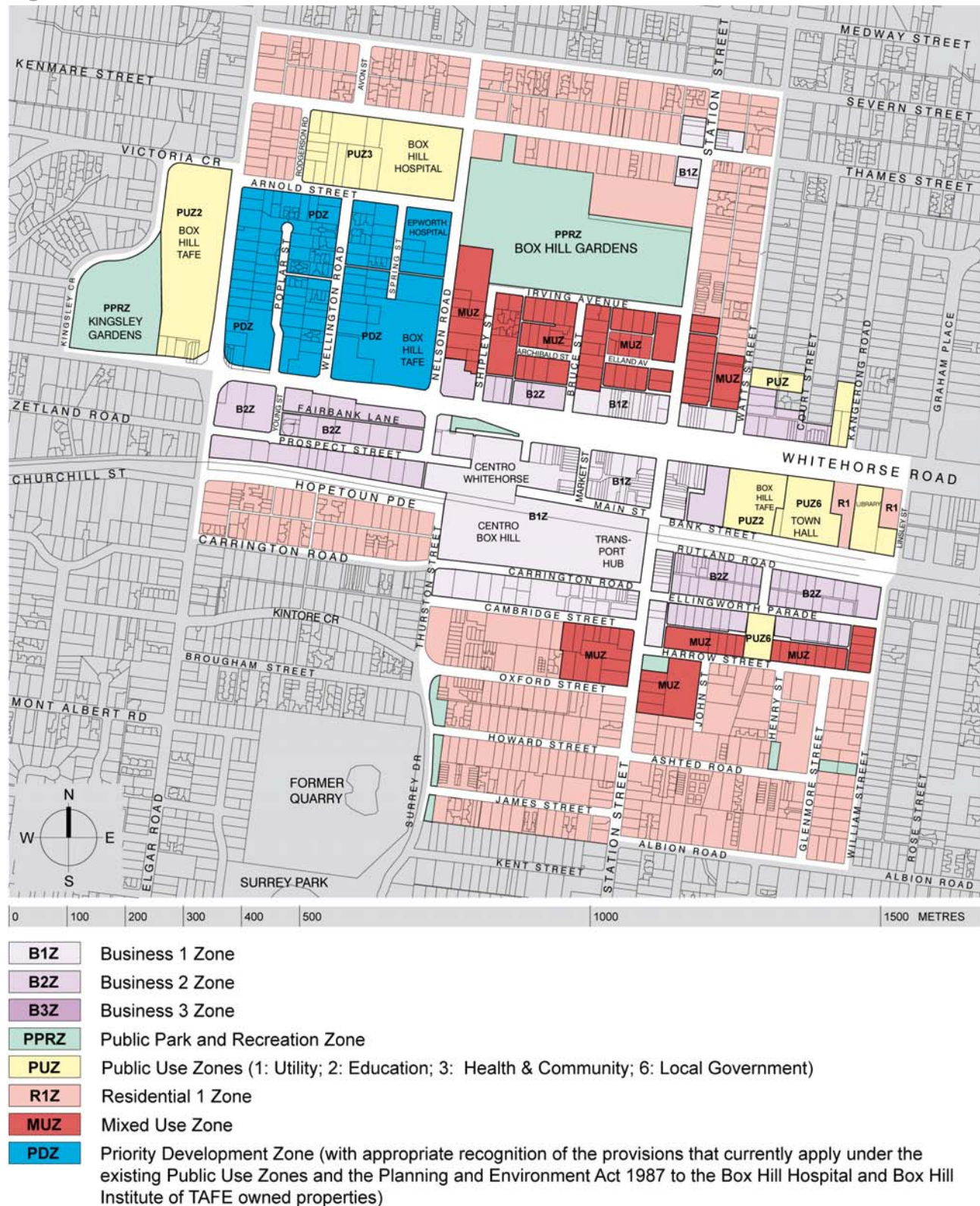
*Any future rezoning of land will require an amendment to the Whitehorse Planning Scheme as part of a separate process

Figure 7: EXISTING ZONING

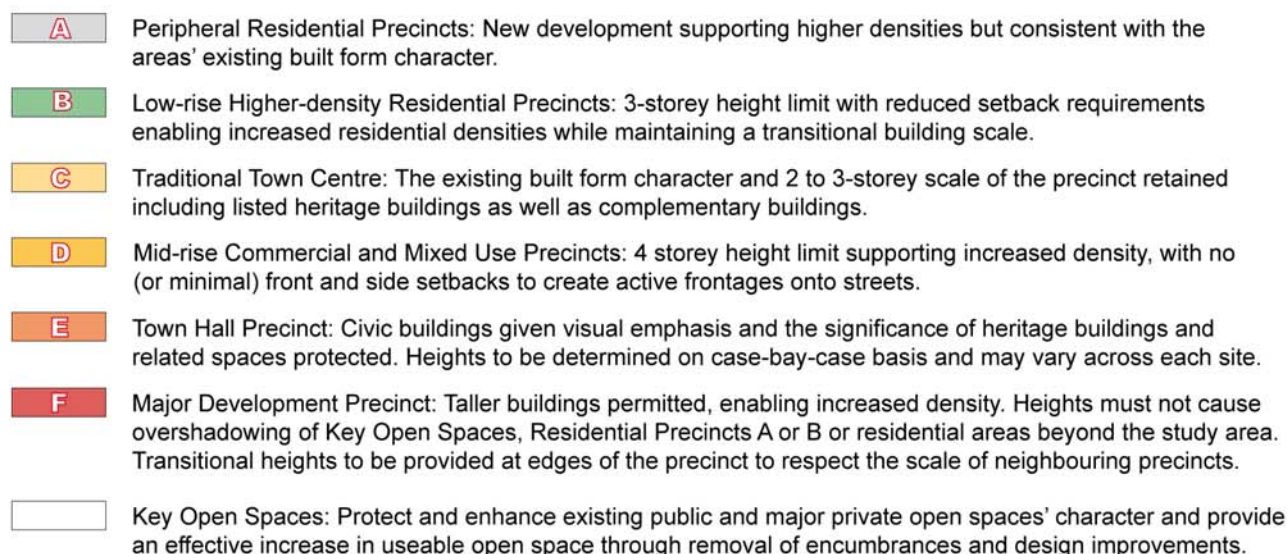


- B1Z** Business 1 Zone
- B2Z** Business 2 Zone
- B3Z** Business 3 Zone
- PPRZ** Public Park and Recreation Zone
- PUZ** Public Use Zones (1: Utility; 2: Education; 3: Health & Community; 6: Local Government)
- R1Z** Residential 1 Zone

Figure 8: PROPOSED ZONING



* Any future rezoning of land will require an amendment to the Whitehorse Planning Scheme as part of a separate process



5.2 BUILT FORM

Desired outcomes

Guidelines

5.2.A Peripheral Residential Precincts

The area's residential amenity protected.

Modest increases in density.

Protection or replacement of existing buildings

- Retain and restore heritage buildings, and encourage retention and refurbishment of other houses that contribute an appropriate setting for them.

Height limits and setbacks

- Refer to ResCode.

5.2.B Low-rise Higher-density Residential Precincts

Attractive residential streetscapes enhanced by private gardens.

A transitional building scale between residential areas at the edge of the Activity Centre and high-density redevelopment areas.

Increased residential development densities.

High standards of privacy and amenity in new developments and adjoining sites.

The amenity (including access to sunlight) of Key Public Spaces protected.

Protection or replacement of existing buildings

- Support general redevelopment of the precinct.

Building height limits and upper level setbacks

- 3-storey preferred limit (11 metres approx. including roof).
- Avoid overshadowing of Key Public Spaces, Peripheral Residential Precincts or residential areas outside the Activity Centre between 11am and 2pm on 22 June, beyond what would result from an 11m building over the full extent of the site.

Ground-level setbacks

- Match the front setbacks of adjoining buildings, adopting the lesser setback where existing buildings on either side differ.
- No side setbacks required.

Frontage qualities

- Each building should provide for its occupants' privacy at interfaces with adjoining properties (e.g. with party walls, translucent glazing, etc.).
- Create good 'street architecture' with articulated facades, fenestration, parapets, detailing and materials that give a sense of human scale and interest to the street.
- Avoid car parking at the street frontage of properties.

Private open space

- Ensure that private open spaces including balconies, courtyards, etc. are useable having regard for factors including size, access, sunlight and wind, as well as privacy in relation to public spaces, neighbouring units and private rooms in the same unit.
- Provision of roof gardens is encouraged on large building sites.

5.2.C Traditional Town Centre

Pedestrian-friendly streets and lanes lined by attractive buildings, given a sense of vitality and safety by active building frontages.

The precinct's built form character retained and heritage buildings protected.

Retail activity sustained throughout the precinct and complemented by shop-top commercial and mixed use.

The amenity (including access to sunlight) of Key Public Spaces protected.

Protection or replacement of existing buildings

- Retain and restore buildings with heritage significance.
- Encourage restoration of contributory buildings.
- Encourage replacement of one-storey buildings with new multi-storey buildings to support more intense land use.
- Encourage sympathetic infill development of other sites.

Building height limits and upper level setbacks

- 3-storey preferred limit (11 metres approx.).
- Any height above 11m should be set back from the street/lane to maintain consistency of the streetscape scale.
- Avoid overshadowing of Key Public Spaces between 11am and 2pm on 22 June beyond what would result from an 11m building over the full extent of the site.

Ground-level setbacks

- Do not create front or side setbacks at street level.

Frontage qualities

- Provide active frontages at ground level along all streets and lanes.

Desired outcomes

Guidelines

- Provide windows overlooking streets and lanes at levels above ground floor.
- Create good 'street architecture' with articulated facades, fenestration, parapets, detailing and materials that give a sense of human scale and interest to the street.
- Avoid ground level car parks or parking in structures exposed street frontages.
- Each building should provide for its occupants' privacy at interfaces with adjoining properties (e.g. with party walls, translucent glazing, etc.).
- Provide enclosures for bins and other service facilities within the buildings.
- Encourage use of rear lanes that are not pedestrian priority spaces to provide service and vehicular access to the site, to minimise detrimental impacts on major pedestrian frontages.
- Provide continuous weather protection along the Station St, Whitehorse Rd and Main St footpaths using cantilever awnings / canopies, unless conflicting with the architectural character of significant heritage buildings.

5.2.D Mid-Rise Commercial and Mixed Use Precinct

Attractive pedestrian-friendly streets lined by buildings and given a sense of vitality and safety through their activation by adjoining uses.

A transitional scale between low-rise development near the periphery of the Activity Centre and high-density redevelopment areas.

Increased land use densities.

The amenity (including access to sunlight) of Key Public Spaces protected.

Protection or replacement of existing buildings

- Encourage general redevelopment of the precinct.

Building height limits and upper level setbacks

- 4-storey preferred limit (14 metres approx. including roof).
- Avoid overshadowing of Key Public Spaces, Peripheral Residential Precincts or residential areas outside the Activity Centre between 11am and 2pm on 22 June, beyond what would result from an 11m building over the full extent of the site.

Ground-level setbacks

- Avoid front setbacks
- Avoid side setbacks unless required for access.

Frontage qualities

- Provide active frontages at ground level.
- Provide windows overlooking streets and lanes at levels above ground floor.
- Create good 'street architecture' with articulated facades, fenestration, parapets, detailing and materials that give a sense of human scale and interest to the street.
- Each building should provide for its occupants' privacy at interfaces with adjoining properties (e.g. with party walls, translucent glazing, etc.).
- Encourage use of rear lanes to provide service and vehicular access to the site.
- Provide enclosures for bins and other service facilities within the buildings.
- Avoid ground level car parks or parking in structures exposed street frontages.

Car parks

- Design car parks to allow for shared or public use (even if it is to be managed for restricted/private use in the short term). Provide good quality pedestrian access into parking structures directly from the public realm. Provide separation and security of private storage, rubbish disposal and other building functions from parking areas.

5.2.E Town Hall Precinct

Attractive pedestrian-friendly streets and open spaces given formal definition by buildings and a sense of vitality and safety through their activation by adjoining uses.

Consolidation of civic and educational facilities in the precinct.

Protection or replacement of existing buildings

- Retain and restore buildings of heritage and community significance.

Links

- Maintain and improve mid-block pedestrian links for permeability between Whitehorse Road and Bank Street.

Building height limits and upper level setbacks

- Limit heights or provide upper level setbacks as appropriate to respect listed heritage buildings (Town Hall and TAFE building W2), as well as other significant civic buildings (Library and St Peter's Church).
- 4- to 6-storey preferred limit (nominally 20 metres).

Desired outcomes

Civic buildings given visual emphasis and the significance of heritage buildings and associated open spaces protected.

Guidelines

Ground-level setbacks

- Provide setbacks as appropriate to the context of significant buildings.

Frontage qualities

- Provide active frontages at ground level and overlooking windows at levels above ground floor, along all streets and where buildings front onto pedestrian spaces.
- Create good 'street architecture' with articulated facades, fenestration, parapets, detailing and materials that give a sense of human scale and interest to the street.
- Avoid ground level car parks or car parking in structures exposed street frontages.

Car parks

- Design car parks to allow for flexible management to accommodate shared or public use (even if the car park is to be managed for restricted/private use in the short term). Provide good quality pedestrian access into car parking structures directly from the public realm. Provide separation and security of private storage spaces, rubbish disposal and other building functions from car parking areas.

5.2.F Major Development Precinct

A fine grain of attractive pedestrian-friendly streets, lanes and arcades lined by buildings and given a sense of vitality and safety through their activation by adjoining uses.

Significantly increased land use densities close to the railway station, and in the area between the station, hospitals and TAFE.

The amenity (including access to sunlight) of streetscapes and Key Public Spaces protected.

Synergies between public parklands and uses at their edges, and enhanced community safety in parkland.

Amenity in surrounding low rise precincts protected.

Protection or replacement of existing buildings

- Retain and restore buildings with recognised heritage significance.
- Encourage general redevelopment of the precinct.
- Higher density mixed use development south of Box Hill Gardens is encouraged to create active frontages to Irving Ave and Nelson Rd with uses complementary to Box Hill Gardens and supporting public activity in the area.
- Redevelopment of the TAFE buildings overlooking Kingsley Gardens and adjacent to the Town Hall is encouraged to create an active interface with the public space.

Links

- Provide direct public pedestrian access from Market St to Cambridge St.
- Provide direct east-west public pedestrian access north of Whitehorse Road between Elland Ave and Kingsley Gardens.
- Encourage use of rear lanes, where they exist, to provide service and vehicular access and to provide mid-block pedestrian links.

Building height limits and upper level setbacks

- No specific height limit.
- Avoid overshadowing of Key Public Spaces, Peripheral Residential Precincts or residential areas outside the Activity Centre between 11am and 2pm on 22 June, beyond what would result from an 11m building over the full extent of the site.
- Provide transitional heights within this precinct to respect low-rise development in adjoining precincts (i.e. along Thames St, Thurston Cr and William St).
- Along Market St and Main St any height above 3 storeys (12m) should be set back from the street.
- Along Whitehorse Road any height above 6 storeys (24m) should be set back above a podium.
- Along other streets any height above 4 storeys (16m) should be set back above a podium.
- Provide ample spacing between the upper levels of high-rise buildings to ensure private amenity including access to sunlight and outlook.

Ground-level setbacks

- Avoid front and side setbacks.

Frontage qualities

- Provide active frontages at ground level and windows at levels above ground floor overlooking streets, lanes and parks to support natural surveillance.
- Encourage first-floor public activities and allow balcony verandahs over footpaths on street frontages opposite Box Hill Gardens.

Desired outcomes

Guidelines

- Create good 'street architecture' with articulated facades, fenestration, parapets, detailing and materials that give a sense of human scale and interest to the street.
- Design buildings facing Box Hill Gardens and Kingsley Gardens to suit close views by pedestrians in the street as well as distant views from within and across the parkland.
- Provide weather protection using colonnades, awnings over footpaths, etc. especially where pedestrians must wait for traffic signals or for public transport services.
- Protect footpaths from wind turbulence.
- Minimise driveway crossovers and service entries onto important pedestrian routes if access to properties can be made from other streets or lanes. Where crossovers cannot be avoided their widths should be minimised and clear priority given to pedestrians on the footpaths.
- Avoid ground level car parks or parking in structures exposed street frontages.
- Provide service areas, bin enclosures and other service facilities within buildings.
- Each building should provide for its occupants' privacy at interfaces with adjoining properties (e.g. with party walls, translucent glazing, etc.).

Private open space

- Ensure that private open spaces including balconies, courtyards, etc. will be useable rather than merely ornamental, having regard for factors including size, access, sunlight and wind, as well as privacy in relation to public spaces, neighbouring units and private rooms in the same unit.
- Provision of roof gardens is encouraged on large building sites.

Car parks

- Design car parks to allow for flexible management to accommodate shared or public use (even if they are to be managed for restricted/private use in the short term). Provide good quality pedestrian access into parking structures directly from the public realm. Provide separation and security of private storage spaces, rubbish disposal and other building functions from parking areas.

5.2.G Key Public Spaces

Convenient access to public open space and recreation opportunities in the Activity Centre.

Protection and enhancement of open spaces' character.

An effective increase in useable open space through removal of encumbrances and design improvements.

Protection or replacement of existing buildings

- Rationalise or redesign poorly utilised or unnecessary buildings.
- Avoid new buildings in parkland unless no alternatives exist on surrounding sites to provide facilities supporting intended uses of the open space.

Building height limits and upper level setbacks

- Minimise overshadowing of open spaces.

Frontage qualities

- Ensure any buildings within open spaces provide attractive frontages from all surrounding vantage points.
- Provide enclosures for bins and other service facilities within any buildings.

6 Managing change

6.1.A Place management and promotion

Successful implementation of transit oriented development often requires a ‘place manager’ if it is to be successful.

There also needs to be increased effort to further develop and implement a business plan for the Box Hill Activity Centre by the trader groups and the Chamber of Commerce. This should address marketing campaigns, improvements to the appearance of shops, improvements to the environs of the Centre, etc. The business plan and marketing campaign could be funded through a special rate scheme. Establishing a representative Business Forum to liaise with Council on local economic and urban development is also an initiative to be considered.

Actions

Appoint a Box Hill ‘place manager’ to help coordinate the implementation of projects, promotion and ongoing community and trader liaison within the Activity Centre.

Prepare a Business and Marketing Plan for Box Hill.

6.1.B Adopt planning scheme and policy amendments

While the Structure Plan is informed by and aims to support the local Planning Scheme, the local analysis and identification of options has been undertaken at a level of detail that enables fine-tuning of policies developed at a municipality-wide level.

The Structure Plan’s recommendations for built form controls are a substantial addition to the existing planning scheme provisions, and should be incorporated into the scheme through Design and Development Overlays (DDOs) or similar. In addition, some recent changes in land use and development are not reflected in current zoning provisions, including the new police station and sites acquired to widen Whitehorse Road in connection with the tramway extension.

Actions

Prepare zoning changes to support desired land use mixes.

Prepare DDOs reflecting recommended built form controls.

6.1.C Use public projects as catalysts

Public projects are important to support development in Box Hill for a variety of reasons. Some may provide basic services or facilities necessary to support development (e.g. upgraded water and sewer connections). However, development may be stymied by a lack of demand as much as by a lack of opportunity, and other projects may be vital in providing an enhanced environmental amenity that will attract and retain users and residents. In addition, public projects have important publicity value and demonstrate to potential private investors and developers a commitment to make the plans work.

Both the State Government and the Whitehorse City Council are responsible for public works in Box Hill. Council has requested the State Government to commit to infrastructure improvements to support the Activity Centre. Such a commitment is an essential complement to the policy statements in Melbourne 2030.

Government support can also take the form of greater involvement by the tertiary education sector, through facilitating private sector projects and increasing business training opportunities.

Actions

Plan and budget for a program of capital works to improve streets and spaces in Box Hill, with priority given to those of highest strategic value in promoting and supporting local redevelopment.

Pursue major State Government projects including:

- **Redevelopment of the Box Hill Transport Interchange.**
- **Provision of a third rail track between Box Hill and Ringwood railway stations.**
- **Improved bus services into and out of the Activity Centre.**

Pursue Council projects such as:

- **Laneway revitalisation**
- **Affordable housing**

6.1.D Acquire and consolidate properties to facilitate development

One barrier to implementation of the plan may be the need to consolidate sites for uses requiring large ground areas (e.g. parking structures) in areas of fine-grained subdivision and fragmented ownership. Where such development is desired, there is a case for Council to consider intervening in the land market. This could entail purchasing sites as they come onto the market, or compulsory acquisition. Taking such action in order to stimulate investment is supported in the 1997 Economic Development Strategy, which states 'Council can facilitate economic development by purchasing key sites at appropriate times, preparing development plans, guidelines etc and then on-selling (usually with development permits)'.

Council now owns properties that could be developed individually or in partnership with owners of neighbouring properties, for example the Bruce Street car park.

Ownership by the City of Whitehorse and Centro of properties on Market Street, Whitehorse Road and Prospect Street as well as Centro Box Hill (VicTrack owned but Centro operated) and Centro Whitehorse is critical. They provide, among a relatively small group of stakeholders, the opportunity to re-brand the precinct with outstanding new gateway buildings that anchor the precinct and provide the impetus for ongoing renewal.

6.1.E Attract and encourage investment

One of the most important potential limitations to realising projections for growth in housing, offices and retail in Box Hill is the proportion of the potential demand that can be attracted to the Activity Centre. A tempering consideration to the question of new office development is Box Hill's attractiveness in comparison to other alternatives. Furthermore, prices for units and apartments in Box Hill rose more than in surrounding suburbs between 1996 to 2003, indicating its increasing attractiveness as a place for medium to higher density living. However, rents have not risen by anywhere near this amount, and this disparity could dampen growth in the rental sector of the local housing supply.

Realisation of Box Hill's potential also depends upon its ability to distinguish itself from other centres in the region with attractions including visitor accommodation, entertainment, enhanced retail offerings, environmental amenity and safety. In particular, it is felt that these initiatives should be targeted to the laneway network and shops abutting Station Street, Whitehorse Road, Main Street and Market Street with potential for linkages with proposed capital works in the core.

The revitalisation of the central business district by Melbourne City Council through its Postcode 3000 initiative provides insight into the benefits of a targeted campaign toward property owners. At relatively small cost, this program – combining marketing, demonstration projects, technical information and support, capital works, and incentives – resulted in the progressive re-populating of the CBD, better street environments and enhanced security together with increased economic activity.

Council should attract and facilitate developments that are considered to be highly appropriate for Box Hill Transit City Activity Centre. Such development would have a high net community benefit, substantial employment and wealth generating benefits and high environmental outcomes. The would not imply any compromises with regards to the standards applied to the assessment of such applications – all planning applications would be assessed equally against the provisions of the Structure Plan and the Whitehorse Planning Scheme.

6.1.F Existing Strategies and Policy Documents

The existing plan has drawn on a range of strategic plans and policies that Council has for the municipality and that apply to Box Hill. In preparing the plan, additional actions have been identified that will mean that the existing strategic and policy base will need to be amended.

Actions

Prepare a Statement of Intent that sets the conditions under which Council may consider the purchase of property to facilitate development according with the Structure Plan, such as:

- Implementation of the key public initiatives identified in Section 6, or others developed in the course of implementing the plan.
- Negotiating sites for redevelopment either by the private sector or for Council purposes.

Actions

Develop a promotion scheme for Living in Box Hill along the lines of Postcode 3000.

Promote innovative projects such as joint ventures using Council owned land to develop a 'green building/neighbourhood' high density / mixed use development in Box Hill that reflects living in a Transit City Activity Centre.

Prepare a prospectus on the future of Box Hill as a Transit City Activity Centre and promote this to major retail companies and developers.

Amend existing Council strategic plans and policies to bring them into line with the Structure Plan once the plan is approved.

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- 21.10 Box Hill Business District – Centre of the Eastern Region
- 21.15 Providing Certainty for Major Education Facilities and Hospital Uses
- 22.05 Box Hill Business District
- 22.09 Box Hill Transport Centre

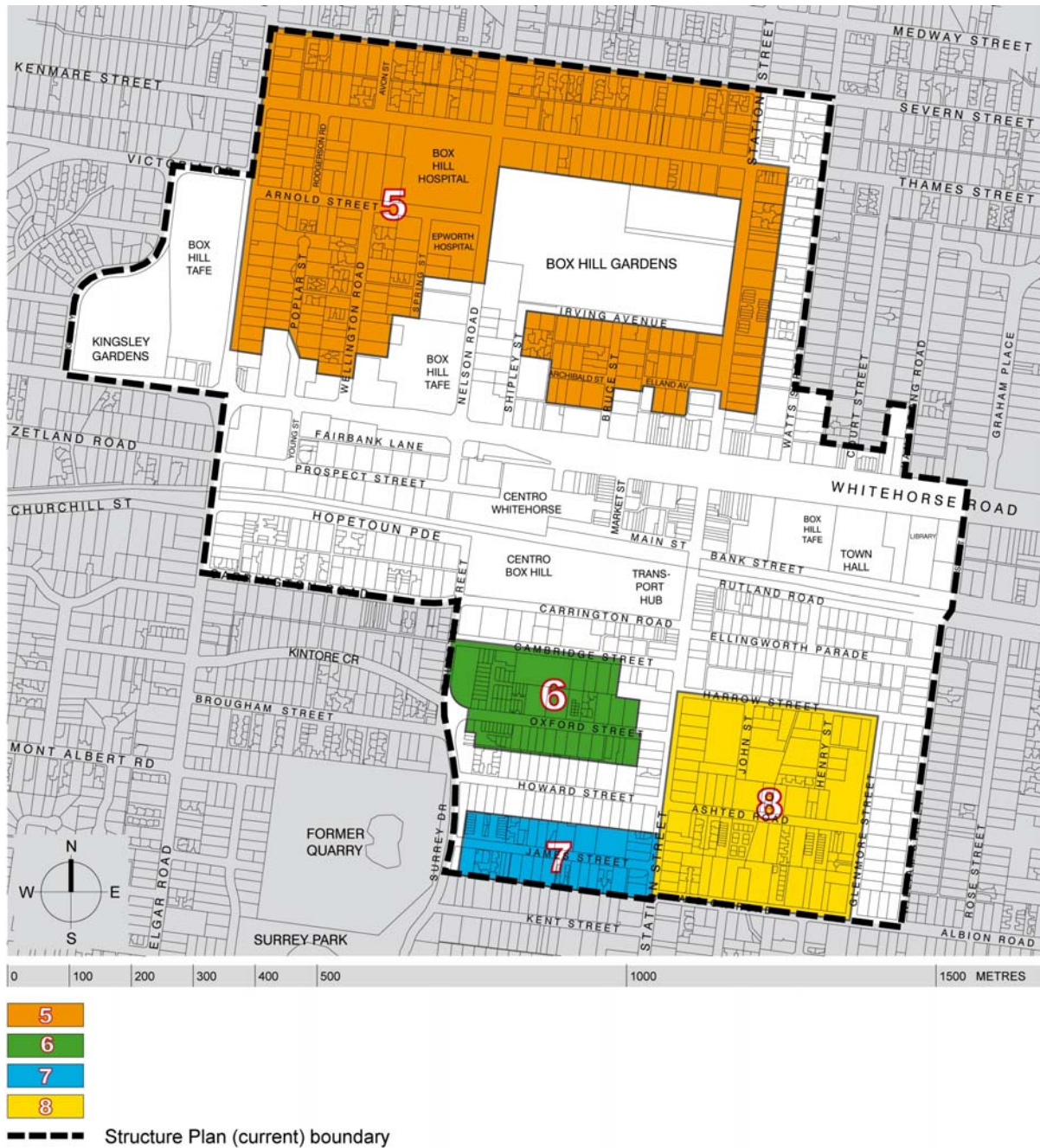
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8 Appendices

8.1 CITY OF WHITEHORSE HOUSING STUDY 2003, SUBSTANTIAL CHANGE AREAS



The plan above shows the adopted 'higher density precincts' for residential development from the 2003 City of Whitehorse Housing Study that fall within the area of the Structure Plan.

8.2 A SUMMARY OF ESD PRINCIPLES

Conserve and protect natural resources

- protect non-renewable resources
- encourage efficient buildings for energy conservation
- explore alternative energy systems
- promote use of renewable energy
- minimise resource consumption and maximise reuse of resources
- minimise waste and pollution
- enhance water quality and minimise use of potable water

Create long-term value

- take a 20-year view and maximise the long-term value of the development
- design buildings and places that are robust and adaptable to changing or unforeseen uses
- develop the area to cater for future generations of users

Maximise precinct opportunities

- maximise the assets of each site and of the area as a whole
- use existing resources on the sites, where possible

Balance economic, social and environmental outcomes

- set Performance Indicators and minimum standards
- measure small and large scale benefits
- balance short-term gains against long-term savings
- encourage applications that maximise return on effort

Set standards, requirements and benchmarks, and continually review

- set minimum standards for assessment
- assess and rate all relevant initiatives
- assess through common reporting criteria
- monitor and assess standards, and continually improve to meet market and community expectations

Develop a collaborative approach, capture and communicate knowledge

- promote the area as a place of ESD excellence
- act as a leader in innovation, and communicate and share knowledge about ESD
- establish partnerships and encourage collaboration between stakeholders
- plan for and encourage a community that practices sustainability
- develop local and international relationships
- plan and encourage complementary resource uses within and across precincts
- develop and encourage knowledge through education that include schools, higher learning and tourism

Promote alternative transport opportunities

- reduce the need for car use through provision and encouragement of quality transport options, including walking and cycling, and public transport
- maximise integration, links and continuity with existing transport infrastructure and surrounding neighbourhoods

Create a healthy urban environment

- develop healthy buildings and urban spaces for visitors, workers and residents
- develop a healthy urban habitat for flora and native fauna
- explore opportunities for environmental education within the urban habitat

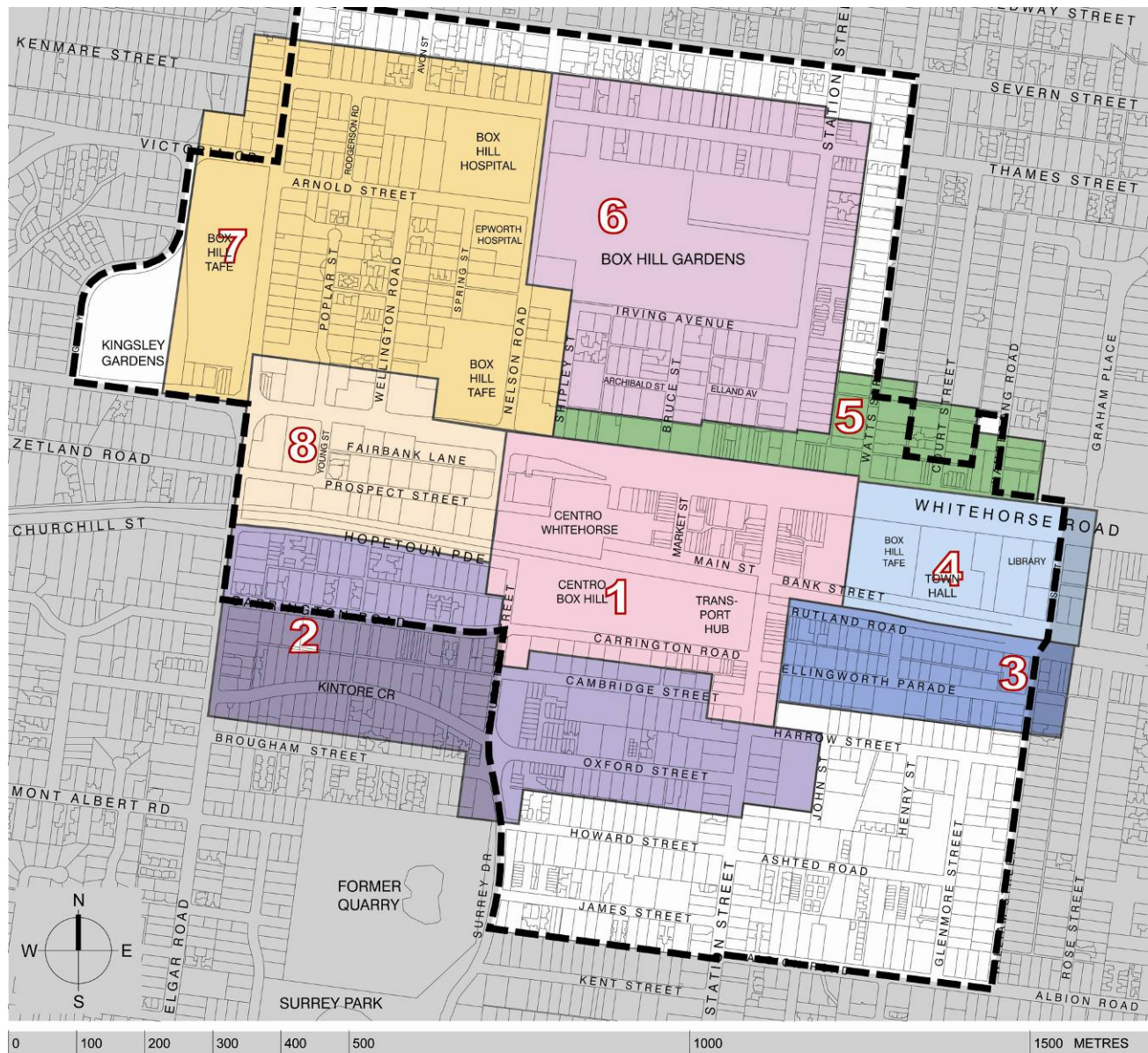
These principles are (in the main) extracted from the *Docklands ESD Guide* (2003). In addition to the explanation of principles, the Guide's system for quantifying ESD performance standards is a valuable tool, as specious claims of sustainability have become commonplace in the development and industries.

As VicUrban is land-owner, development agency and planning authority in Docklands (jointly with the State Government), it has more power than most local government agencies to compel developers to meet given ESD performance standards. However, even without this power the *Docklands ESD Guide* provides a model for the multi-faceted promotion of sustainable development.

Sustainability has become an issue of public concern and a popular marketing catch-cry in many developments. A consistent evaluation method will allow Council to confirm or refute developers' claims of sustainability (depending on their merit) thereby providing Council with greater power of persuasion to encourage genuinely sustainable development.

Moreover, councils can use the ESD scoring system as a negotiating tool when approving development proposals, particularly in the application of discretionary planning controls.

8.3 BOX HILL URBAN DESIGN FRAMEWORK BOUNDARIES



- 1** Central retail and transport core
- 2** Cambridge Street mixed use precinct
- 3** Rutland Road / Ellingworth Parade commercial precinct
- 4** Cultural precinct
- 5** Whitehorse Road commercial precinct
- 6** Box Hill Gardens recreation and housing precinct
- 7** Health and education precinct
- 8** Prospect Street / Whitehorse Road commercial precinct
- Structure Plan (current) boundary

The precincts illustrated above are from the 2002 Box Hill Urban Design Framework (UDF). The Structure Plan addresses a slightly different area than the UDF. It also adopts a different approach, addressing activities separately from built form, because variations in land uses in the Activity Centre do not correspond with variations in desired built form character. Uses and built form are also controlled with different mechanisms (Land Use Zones and Design and Development Overlays, respectively). As a result, the precinct boundaries in the two studies differ.

8.4 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Good design can reduce the opportunity for crime, reduce the fear of crime and improve perceptions of safety. Crime Prevention through Environmental Design is based on provision of certain qualities in the design of a place, which work in combination to help create an environment where people feel safe. These include:

Risk assessment refers to people's ability to determine the safety of a space before they enter it. Ways to support risk assessment include:

- Ensure people can see into foyers and other communal spaces before entering.
- Provide at least two points of egress to minimise risk of entrapment.
- Eliminate hiding places such as alcoves, especially where they adjoin pathways, by closing them off or filling them with objects or uses (e.g. bike racks, kiosks).

Natural (or passive) surveillance is the informal observation of a space by users of that space and users of adjacent spaces. Ways to support natural surveillance include:

- Place windows in locations that allow intended users to see or be seen while ensuring intruders will be seen as well.
- Provide adequate lighting, and create consistency in lighting levels including internal and external spaces to reduce contrast and shadowed areas.
- Provide landscaping that allows unobstructed views, e.g. with low fences and walls, and tall trees and low shrubs with branches and foliage above or below eye level, especially near paths, doors and windows.
- Make communal spaces such as parks visible from the majority (over 50%) of units or workspaces in an adjoining multi-unit dwelling or office building.

Legibility refers to people's ability to place themselves in their surroundings (i.e. not get lost or feel at risk of getting lost) and move about easily and comfortably. Ways to improve legibility include:

- Locate all access/egress points and pathways prominently where they are easily viewed from the street, and well-lit at night.
- Locate and design pathways to allow clear sightlines along them.
- Design and place street signs and property numbers to ensure their visibility and legibility and to make them easy to use by people with low literacy, limited English or impaired vision. Keep signs free from foliage or other obstructions.
- Display information and directional signs prominently, to avoid actual or perceived isolation, e.g. in car parks, shopping centres, office buildings.

Reinforcing territoriality refers to the sense of assumed ownership that can deter criminal use of that space. Ways to use territoriality constructively include:

- Appropriate multiple day and night uses in communal and public spaces.
- Locate public streets and footpaths at the edges of public spaces to establish clear boundaries between the spaces and adjoining private development.
- Use low fences, landscaping, verandas and other elements to define boundaries between public and private areas and provide transitional zones between them.
- Use doors, shrubs, fences, gates and other features elements to discourage access to an area by all but its intended users.

Safety in city car parks

To raise the standard of safety in car parks, the City of Melbourne set up a Safe City Car Parks Accreditation Scheme in 2000, as a joint project with the Victoria Police and RACV, with input from the Victorian Parking Industry Association. The scheme aims to raise the standard of safety in car parks and recognise and reward car park managers for improvements in safety and security. Car parks are assessed against several criteria and given a star rating to reflect their safety and security. These ratings are publicised through Council information programs including their web site, encouraging public use of the best car parks in the city.

The publication *Safer Design Guidelines for Victoria* was developed and published by the DSE in 2005 to facilitate the planning of safer urban environments for all Victorian communities. All Victorian planning schemes have been amended to require consideration of safety in the design of new proposals.

Consideration of crime prevention principles is relevant at various times, including:

- Encourage developers to address safety within and around their sites.
- Consider safety and crime prevention in all planning applications.
- Undertake safety audits with all streetscape upgrades and maintenance.
- Ensure that all public spaces are designed and maintained with regard to safety.