

Statement of Expert Evidence Urban Design

Amendment C175
Whitehorse Planning Scheme

Instructed by Glossop Town Planning

On behalf of **Box Hill Institute**

Prepared by

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1.0 Introduction

Process and Involvement

- This Statement has been prepared by Amanda Louise Roberts, Director of SJB Urban Pty Ltd. SJB Urban is an independent, specialist urban design practice, based at Level 5, 18 Oliver Lane, Melbourne.
- In July 2017, I was engaged by Box Hill Institute (BHI) to prepare a statement of evidence regarding Amendment C175 and proposed Design and Development Overlay (DDO6) with regard to the Box Hill Institute's Nelson Campus. The Nelson Campus is located within Sub Precinct F6 of the Box Hill Metropolitan Activity Centre (MAC).
- SJB Urban was appointed by Box Hill Institute in July 2016 to provide urban design services for the potential redevelopment of the Spring Street site. During this appointment SJB Urban met with the Council on two occasions to determine the appropriate outcome for the Spring Street Site.
- In preparing this Statement I have inspected the subject site and surrounding area, on 25 August 2016 and 21 June 2017. The photographs in this Statement are mine unless otherwise stated.
- I have received and reviewed the following documents:
 - Box Hill Transit City Activity Centre Structure Plan (Structure Plan) (2007)
 - Plan Melbourne 2017-2050, DEWLP (2017)
 - Box Hill Metropolitan Activity Centre Built Form Guidelines (Draft 6) (The Guidelines), Hansen Partnership (2017)
 - Council Agenda, Whitehorse City Council (15 May 2017)
 - Amendment C175 documents (Panel Hearing versions)
 - Explanatory Report
 - Clause 21.07 Economic Development
 - Clause 22.07 Box Hill Metropolitan Activity Centre
 - Clause 43.02 Schedule 6 Box Hill Activity Centre Built Form Guidelines

Key Considerations

This evidence considers Amendment C175 from an urban design perspective and, particularly, the appropriateness of the controls and built form requirements outlined in the Design and Development Overlay for the Box Hill Institute's Spring Street land (and the Nelson campus), having regard to emerging development within this sub-precinct and urban design principles.

2.0 Background Document Review

The following provides a summary of State and Local Planning Policy and Guidelines applicable to the urban design assessment of the impact and appropriateness of Amendment C175 to the BHI Nelson Campus.

Plan Melbourne 2017-2050 (2017)

- The March 2017 update of the metropolitan planning strategy Plan Melbourne 2017-2050 designated Box Hill as a Metropolitan Activity Centre (MAC) and a Health and Education Precinct. These nominated places of significance are to be the focus of investment and growth.
- [9] Metropolitan Activity Centre:
 - To provide a diverse range of jobs, activities and housing for regional catchments that are well served by public transport.
 - These centres will play a major service delivery role, including government, health, justice and education services, as well as retail and commercial opportunities.
- [10] Health and Education Precincts:
 - To support health and education services that are well served by public transport in a range of locations across Melbourne.
 - Their specialised economic functions will be reinforced, and they should provide opportunity for ancillary health and education services, retail, commercial and accommodation uses.

[11] Policy 1.1.4 Support the significant employment and serving role of health and education precincts across Melbourne (p34)

- Major health and education precincts across metropolitan Melbourne have been identified for further services and jobs growth. These precincts stimulate innovation, create employment and are of fundamental importance to the emerging knowledge economy and surrounding communities.
- Co-location of facilities (for example, a university with a hospital) will make better use of existing
 infrastructure and support the growth of associated businesses and industries.
- Specialised economic functions should be reinforced, but there should also be opportunities to provide ancillary retail, commercial, accommodation and supporting services.

[12] Policy 1.2.1 Support the development of a network of activity centres linked by transport (p37)

They will also be hubs for public transport services and play a major service delivery role, attracting broad investment in education, health and housing at higher densities.

Box Hill Transit City Activity Centre Structure Plan (2007)

- The Structure Plan (2007) provides a strategic vision and land use and development framework for the Activity Centre. The Structure Plan was adopted by Whitehorse Council in 2006. Activity Precinct D and Built Form Precinct F are applicable to BHI Nelson Campus.
- [14] The Structure Plan provides aims for built form in Box Hill MAC:
 - 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 (Precinct E);
- Protection of key open spaces from overshadowing; and
- Design for better public transport access to nodes and stops.
- The relevant desired land use outcomes for Activity Precinct D (Hospital and Western TAFE Precinct) are:
 - Growth and enhancement of educational and medical institutions and support for related businesses.
 - Property consolidation to facilitate redevelopment and creation of public accessways through the precinct.
 - Development addressed to Nelson Road to create a pedestrian-friendly street.
- Built Form Precinct F: Taller buildings permitted, enabling increased density. Heights must not cause overshadowing of Key Open Spaces, Residential Precincts A or B or residential precincts beyond the study area. Transitional heights to be provided at edges of the precinct to respect the scale of neighbouring precincts.
- The relevant desired built form outcomes for Built Form Precinct F (Major Development Precinct) are:
 - 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.

Box Hill Metropolitan Activity Centre Built Form Guidelines (2017)

- The Guidelines were prepared by Hansen Partnership in 2016 for the City of Whitehorse. The Guidelines consider Precincts F (Major Development Precinct) and C (Traditional Town Centre) identified within the Structure Plan. The Guidelines were prepared to provide guidance and clarity on the preferred built form outcomes and improve certainty and consistency for development and community.
- The urban design objectives for the built form controls are:
 - Establish pedestrian scaled public spaces.
 - Encourage consistent street wall definition that responds to its street width.
 - Limit maximum street wall to street width ratio to 2:1 to ensure that taller buildings do not dominate the street, compromising pedestrian experience.
 - Determine the appropriate extent of new 'insertion' behind and above without dominating the traditional street wall & heritage forms.
 - Discourage lot consolidation where traditional fine grain allotments are highly valued and should be protected.
 - Protect and frame valued viewline to the Dandenong Ranges.
 - Frame viewline to existing individual significant heritage buildings and to key open spaces.

 Retain high level of amenity by reducing the impact of overshadowing onto key open spaces.

- The Guidelines provide General Guidelines and Sub Precinct Built Form Guidelines. A set of Objectives and Guidelines are provided for nine (9) themes;
 - Street Frontages,
 - Weather Protection, Awning & Verandahs,
 - Architecture & Building Articulation,
 - Pedestrian Access,
 - Vehicle Access,
 - Building Depths,
 - Building Separation,
 - Overshadowing, and
 - Landscaping.

Guidelines are also provided for the nine (9) identified Sub Precincts. Sub Precinct F6 (TAFE & Hospital) apply to the BHI Nelson Campus.

3.0 Site and Context

Box Hill Institute Nelson Campus

- The Elgar, Nelson and Whitehorse landholdings form the Box Hill Institute's Box Hill Campus. The Nelson Campus is located on the northern side of Whitehorse Road, bounded by Wellington Road to the west and Nelson Road to the east (refer Figure 6).
- The Nelson Campus has a total footprint of 24,090sqm. A two (2) storey building fronting Nelson Street occupies the south-eastern portion of the site, surrounded by at-grade car parking.
- The Nelson Campus has three distinct street frontages; Whitehorse Road, Nelson Road and Spring Street.
- Whitehorse Road is an east west arterial that runs through the Box Hill MAC. At its interfaces with the Campus the road has a width of approximately 35metres boundary to boundary. Containing four lanes in the eastern direction, a central median accommodating trams and two lanes in the western direction. Nelson Road Stop 57 is located at the intersection of Whitehorse Road and Nelson Road. Additionally, bus routes 281, 284, 766, 767 run along Whitehorse Road. Along the northern side of Whitehorse Road there are no nature strips, small street trees and wide footpaths.
- Nelson Road is a north south road that runs from Whitehorse Road to Shannon Street in the north. It is approximately 20 metres boundary to boundary and contains one lane of traffic in each direction and on street car parking. It widens at the intersection of Whitehorse road to allow for turning lanes.
- Spring Street is a north-south road approximately 15.3 metres boundary to boundary. It contains a two-way vehicle carriageway with footpaths along both sides. The carriageway widens at the Arnold Street signalised intersection to allow for turning lanes. Along this portion the street, street trees are located in tree pits within the footpath, for the remainder of the road, where the road pavement narrows to around 7.5metres, the street trees are located in a grassed nature strip.
- Spring Street is not a through street, it terminates at the Box Hill Institute car park. Existing built form along Spring Street includes student housing (14 Spring Street) and Epworth Eastern and Eastern Health. Epworth Eastern is setback approximately 4 metres from the property boundary and accommodates hedge planting. The southern edge of Spring street is currently characterised by at grade car parking, and inactive built form edges.

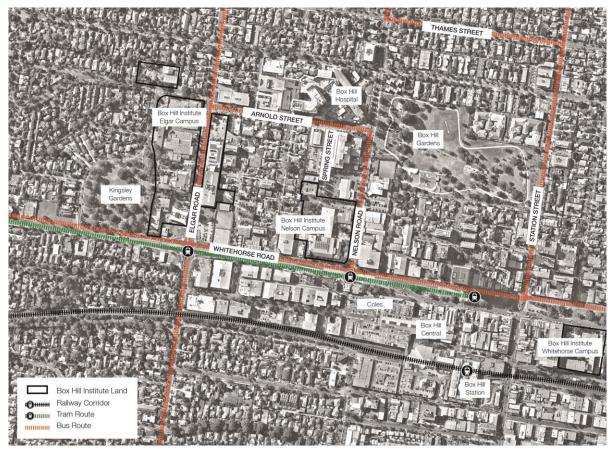


Figure 1: Box Hill Institute Nelson Campus (Nearmap)







Figure 4: Spring Street looking south (SJB Urban)



Figure 3: Nelson Street looking south (Google)



Figure 5: Spring Street looking south (Google)

Health and Education Precinct

- The Nelson Campus described above is located within an established health and education precinct. Health and community institutions include; Box Hill Hospital (Eastern Health), Epworth Eastern, Box Hill RSL and the Salvation Army.
- The precinct is a significant contributor to the Box Hill MAC through employment, health services, education and research.



Figure 6: Health and Education Precinct (SJB Urban)

Spring Street Development Site

- The Spring Street Development Site for BHI, is located in the north-western portion of the Nelson Campus landholding. The site consists of 16-18 Spring Street and a rear portion of 853 Whitehorse Road, with a total site area of 2,630sqm. The site is currently occupied by at-grade car parking for staff and students, accessed from Spring Street.
- The site has direct residential abuttals to the north and west. To the north at 14 Spring Street is a three (3) storey building comprising of student accommodation. To the west, single storey detached residences currently occupy 10, 12, 14, 16 & 18 Wellington Road. A recently completed eight (8) storey residential development occupies 6-8 Wellington Road.
- There is planning approval for a fourteen (14) storey residential development at 16-22 Wellington Road. Along the common boundary, above the three (3) storey podium built to boundary, setbacks of 4.5m (L03-08) and 6m (L9-13) are proposed.



Figure 7: Surrounding Development (SJB Urban)

5.0 Amendment C175

- Amendment C175 proposes to give affect to the Box Hill Transit City Activity Centre Structure Plan (2007) and the Box Hill Built Form Guidelines (2016) by introducing Schedule 6 to the Design and Development Overlay (DDO6). DDO6 is to be applied to Precincts B, C, D, E and F.
- In addition, minor amendments are proposed to the Whitehorse Local Planning Policy Framework (Clause 21.07 Economic Development and Clause 22.07 Box Hill Metropolitan Activity Centre (MAC)) to reference *The Guidelines*.
- The rezoning of some land within Box Hill MAC currently zoned Residential Growth Zone (RGZ) is proposed in conjunction with the application of DDO6. The Mixed Use Zone (MUZ) is proposed to apply to the RGZ land within the BHI Nelson Street Campus.

Objectives & Requirements

- The Objectives, Guidelines and Sub Precincts Built Form Guidelines from *The Guidelines* applicable to Sub Precincts F and C have been adopted into Clauses 1.0 and 2.0 of DDO6. Noting that changes are also proposed for other Precincts however they are not part of this review and therefore are not addressed.
- The Design Objectives and Requirements are categorised similarly to *The Guidelines* Objectives and Guidelines, with the addition of Viewlines to Clause 1.0. It is noted that the General and Sub Precinct specific requirements under Clause 2.0 are discretionary.
- The following is a summary of the relevant *General Objectives and Requirements of DDO6* to *Sub Precinct F6* which includes the BHI Nelson Campus. Where objectives and requirements are not considered applicable to BHI Nelson Campus they have been struck through. Where objectives and requirements are discussed they are highlighted in bold and the key concerns relevant to each category are summarised.

Street Frontages

Objectives (Clause 1.0)

To ensure buildings contribute to the high quality of public streets and public spaces.

To ensure buildings are of a scale that is appropriate to public streets and spaces.

To require building entrances and windows to be oriented to maximise "passive surveillance" of the public realm and support a safer environment.

To ensure there is a clear distinction and separation between public "fronts" and private "backs" of buildings.

To minimise the visual and functional impact of car parking areas and their entrances on the public realm.

To maximise activation at the ground level.

To minimise the visual and functional impact of loading and servicing areas on the public realm.

Requirements (Clause 2.0)

Buildings should be sited close to the street boundary with buildings fronting streets, creating a clear separation between public "fronts" and private "backs".

Buildings in the low rise higher density residential precinct (Precinct B) should match the front setbacks of adjoining buildings, adopting the lesser setback where existing buildings on each side differ.

In the mid-rise commercial and mixed use precinct (Precinct D) avoid front setbacks, and unless required for access avoid side setbacks.

Buildings should prioritise pedestrian access and activation to primary building frontages.

Buildings should provide access and activation to all boundaries that abut a street/adjoin a street abuttal.

Buildings with commercial uses at ground floor should provide clear unobstructed glazing to 70% of the width of the street frontage of each individual occupancy.

To ensure all streets, lanes, parks and other public spaces enjoy a high level of surveillance, activity, access to sunlight and visual amenity from adjoining buildings.

To provide opportunity to create street landscape character.

To discourage lot consolidation of traditional fine grain allotments in the town centre.

Buildings with residential uses at ground floor and balconies facing the street should have the ground floor raised up at least 0.5m and no more than 1.3m above footpath level to achieve privacy on balconies.

Buildings should provide for its occupants' privacy at interfaces with adjoining properties with appropriate measures such as party walls and translucent glazing.

Service equipment such as electrical substations, water and gas meters, fire booster pumps, and the like, should not be located along the primary street frontage. If no reasonable alternative exists, these should minimise impacts on the street and be incorporated into the architecture of the building.

Ground level windows should be provided to achieve passive surveillance of the street and avoid large blank walls.

Where possible, car parking areas, loading and service areas should be located along rear lanes or secondary streets to minimise their visual impact on the streets and public realm.

Car parking access should not dominate the ground level, with crossover and garage entry widths minimised to maintain as much active frontage to the building as possible.

In the low rise higher density residential precinct (Precinct B) car parking at the street frontage of buildings should be avoided.

In the mid-rise commercial and mixed use precinct (Precinct D) and the Town Hall precinct (Precinct E) ground level car parks or parking in structures with exposed street frontages should be avoided.

Discussion

- Overall I am supportive of the intent of these objectives. Spring Street and Nelson Road are currently characterised by inactive edges (at grade car parking and blank interfaces). The need for activation and passive surveillance is evident.
- Of interest is the first requirement,

Buildings should be sited close to the street boundary with buildings fronting streets, creating a clear separation between public "fronts" and private "backs" Which, in urban design terms, refers to the need to distinguish between private and public land to ensure streets remain obviously public, accessible and useable elements of the public realm and avoid the semi or quasi public spaces often created by large setbacks, private/public foyers and entry plazas.

There is also a stated objective to 'maximise activation at the ground level'. It is assumed by me that this refers, in particular, to streets and the important relationship between the activities at the ground level and the activation, safety and amenity of the public realm for pedestrians. If this is the case, then the activation should be located to have a direct and obvious relationship with the public realm.

Weather Protection, Awning & Verandahs

Objectives (Clause 1.0)

To provide shelter and shade over public footpaths in buildings within Sub-Precincts C/F1, F2-F5 and F8 (Refer to Map 2).

To activate ground floor street frontages of buildings within Sub-Precincts C/F1, F2-F5 and F8.

To enhance the visual amenity and continuity of streetscape.

Requirements (Clause 2.0)

All buildings along commercial streets within the Box Hill town centre (Sub-Precinct C/F1) should provide fixed awnings and weather protection over the public footpath.

Awnings and Verandahs should be designed to indicate entries to buildings or shops, and provide adequate protection from sun and rain for pedestrians using footpaths.

To reflect the existing style and character of weather protection within Rox Hill

Awnings should be consistent with existing awning heights, rhythms, human scale and character in order to maintain consistency along the edge of the public realm.

Discussion

- Shelter and shade over public footpaths does not apply to Sub Precinct F6. Whitehorse Road and Nelson Roads in particular, function as major links between Box Hill Hospital, Public Transport nodes and Key Public Spaces. As such, awnings, canopies and verandahs are useful design elements to create pleasant, sheltered walking environments, help define a human scale to the street interface and encourage increased pedestrian activity along these key routes.
- It is understood that these objectives do not prevent these useful design elements being included on new buildings, however when considered together with the following objectives including street setbacks, these protective elements would have a limited benefit to the general public as they would be attached to buildings and therefore at some distance away from the public realm.

Architecture and Building Articulation

Objectives (Clause 1.0)

To provide buildings which contribute to a high quality human scale within the street and public realm (both vertically and horizontally).

To ensure new buildings contribute to maintaining the "fine-grained" nature of built fabric in Box Hill town centre within Sub-Precincts C/F1.

To ensure building elements are integrated into the overall building form and design.

To encourage architectural expression to enhance a strong sense of place in Box Hill.

To ensure architecture and design broadly reflects the heritage and culture of Box Hill.

To encourage consistent street wall definition that responds to its street width, except for where a traditional street wall exists.

To limit maximum street wall to street width ratio to 2:1 to ensure that taller buildings do not dominate the street, compromising pedestrian experience.

To ensure new 'insertions' behind and above sites within a Heritage Overlay are appropriate and do not dominate the traditional street wall and heritage forms.

Requirements (Clause 2.0)

Buildings should be designed with an appropriate scale, rhythm and proportion to its use and context.

Over-articulation of façades and the use of false heritage elements should be avoided.

The design of a building should be three dimensional, with building volumes, façades and building elements such as entries, interior public spaces, drainage, security, services, heating and air conditioning, and telecommunications appropriately integrated into the overall design.

Buildings should have clearly articulated lower, middle and upper levels and materials should reflect and demarcate the role of each part of the building.

Building articulation should reflect the structural logic of the building and avoid reliance of pattern to provide perceived articulation.

Where new buildings are designed abutting buildings with heritage significance, the design of the new building should respond to the context of the heritage building with appropriate scale, rhythm and proportion, and engage in an architectural response with the heritage building.

Discussion

- The objectives are generally supported including to encourage a consistent street wall and the use of street wall street width ratios to help define streets and provide a sense of scale. It is noted that a street wall can be separate from building height as it refers to the podium or the portion of the building that directly addresses the street at the lower levels, upper levels can be setback from the street wall.
- In my opinion, in terms of Sub Precinct F6, these guidelines are problematic in their application. The requirement in F6 to separate all buildings by 10 metres (refer Sub Precinct Requirements F6 Subdivision Pattern) and set them back from the street by 8 metres, results in a highly eroded streetscape with no defined street edge or street scale. It should be also noted that these guidelines are being applied to existing streets that, in the case of Spring Street, are already partially defined by

four to five storey buildings, built close to the boundary. The erosion of these streetscapes are contradictory to the general guidelines.

- The application of the 2:1 ratio, although a guide only, would be also problematic if applied to Sub Precinct F6 where an 8 metre setback is required (refer to Sub Precinct Requirements F6 (TAFE and Hospital) p16). This setback has a direct impact on the distance that the streetwalls are separated, (but has no impact on the site boundary-to-boundary distance).
- As a basic calculation, using the approximate width of the Spring Street road reservation (15.3m) then add the required setbacks of 8 metres either side equalling 15.3+8+8 = 31.30metres. Applying a street ratio of 2:1, this would allow a streetwall of 62.6metres. This height is over the recommended maximum building height.

Pedestrian Access

Objectives (Clause 1.0)	Requirements (Clause 2.0)
To ensure pedestrian entries to buildings are safe, clear and legible.	Pedestrian entries should be clearly visible and designed to signify entry to the building.
To ensure there is equitable access to buildings for people of all abilities.	Building architecture should reflect the position of the building entry through variations in the roofline, architectural emphasis, vertical elements, and design of awnings.
	Buildings which face in two directions (such as a street and a lane) should provide direct access to the lift lobby from both directions.
	Pedestrian access ramps should be located for convenience and be integrated into the overall design without taking up the whole frontage.
	Direct visual access from the street to the lift lobby should be provided.
	Buildings should clearly differentiate between residential and commercial entries in mixed use buildings.
	Pedestrian entries to buildings should be well lit during the night and entry lobbies should not contain places for concealment or entrapment in their design.
	In the Town Hall precinct (Precinct E) mid-block pedestrian links between Whitcherse Road and Bank Street should be maintained and improved.

Discussion

Safe and legible pedestrian entries are supported as key elements of good streets. It is noted that distance plays an important role in visibility, with things further away, generally harder to see, this is important when considering where, in relation to the street/public realm, entrances are located.

Vehicle Access

Objectives (Clause 1.0) To ensure vehicle access to and from a development is safe, manageable and convenient.

To ensure the number, location and design of vehicle cross-overs minimises impact on pedestrians and has regard for the relevant objectives set out under "Street Frontages".

To ensure vehicle entries to developments do not dominate the street façade and are consolidated where possible.

Requirements (Clause 2.0)

Vehicle access should:

- Be designed to allow convenient, safe and efficient vehicle movements and connections between the development and the street network;
- Be at least 3m wide and no more than 6m wide;
- Be provided from a rear lane or secondary street where possible; and
- Be separate from pedestrian entries.

The number of vehicle entries should be minimised and consolidation should be encouraged to avoid multiple vehicle entry points to any development.

Discussion

[49] These objectives and requirements are supported as appropriate ways to minimise the negative impacts vehicles can have on pedestrian amenity.

Building Depths

Objectives (Clause 1.0)	Requirements (Clause 2.0)
To optimise opportunities for natural cross-ventilation of buildings.	All bedrooms should have direct access to natural daylight.
To optimise access to natural daylight in dwellings.	Cross-ventilation of buildings should be demonstrated by proponents to Council satisfaction.
To ensure building adaptability and a change of use within	
buildings is considered.	Avoid the use of light wells above 10 storeys and, should a lightwell be included, it should follow the guidelines in Table 1 –
To avoid the practice of using borrowed light for internal rooms.	Light Wells.

Discussion

These objectives and requirements are supported as ways to assist in providing good quality internal spaces.

Building Separation

Objectives (Clause 1.0)	Requirements (Clause 2.0)
To ensure buildings achieve adequate access to daylight and ventilation.	New development should not limit the future development potential of adjacent neighbours.
To assist with the provision of visual separation between buildings to increase privacy and to reduce noise transfer.	Within Precincts C and F building separation at the rear and side boundaries should follow the guidelines in Table 2- Building Separation.
To create proportional streetscape and massing scale in keeping with the desired character area for each precinct .	Within Precinct E, setbacks should be provided to respect Heritage Overlay buildings (Town Hall and Box Hill TAFE Building
To maximise visual relief and retain visual links to key open spaces.	W2) as well as other significant civic buildings.
To minimise the overshadowing impact of new buildings on the lower levels of adjoining nearby buildings.	
To provide increased ability for substantial canopy trees and landscaping between buildings.	

Discussion

- These objectives and requirements are generally supported. They rely however on the 'desired character' for the Precincts. As discussed in detail below in 6.0 Key Considerations; I am not supportive of the desired character for the Health and Education Precinct.
- It is my understanding that Box Hill is envisioned as an activity centre of major importance supporting a large range of activities in a high and medium density environment, in other words, a city. I do not agree that substantial canopy trees between buildings are a desired element of city streets. Noting that this is separate for the need and desire for large canopy trees in public spaces such as streets and parks.

Overshadowing

Objectives (Clause 1.0)	Requirements (Clause 2.0)
To ensure sufficient daylight into living rooms and private open spaces is achieved.	Buildings should not cast additional overshadow on key open spaces and plazas between 11.00-14.00 on 22 June.

To minimise the shadow impact of buildings on the living spaces and private open spaces in adjoining buildings.

To ensure a high level of amenity is retained by minimising the impact of overshadowing onto key open spaces, plazas and parks.

Buildings should not evershadow front gardens/ balconies on allotments within Built Form Precinct A for more than three consecutive hours between 10.00-15.00 on 22 September.

Buildings should not overshadow private open space on residential land outside the Activity Centre boundary for more than three consecutive hours between 10.00-15.00 on 22 September.

Discussion

[53] These objectives and requirements are generally supported.

Landscaping

Objectives (Clause 1.0) Requirements (Clause 2.0) To ensure landscaping supports the urban character of the Boy. Landscaping should contribute the contribute of the Boy.

To ensure landscaping supports the urban character of the Box Hill Activity Centre and the materiality of the public realm.

To ensure high quality landscaped streetscapes are provided for safety, visual amenity and weather protection.

To encourage high quality, safe and accessible landscaping in streets, parks and other public places.

To encourage high quality landscaped areas in developments for private use by residents to be provided.

To encourage landscaped areas that are sustainable and promote local biodiversity.

To ensure landscaping allows visibility in the public realm so as to allow "natural surveillance" of the public realm from private property.

To encourage street trees that provide deep shade in summer, and allow solar penetration in winter.

To encourage green infrastructure opportunities such as green walls and roofs and rain gardens.

To encourage pedestrian scaled public spaces that incorporate landscaping at ground level.

Landscaping should contribute to a high level of amenity and be functional and sustainable in design.

Roofs and other horizontal surfaces should be used to collect rain water to be reticulated to maintain gardens.

Roof gardens should be designed and provided for social and environmental reasons and be accessible to apartment residents.

Where planting occurs above slabs, car parking areas or buildings, ensure sufficient size, volume and depth of planting beds to enable plants to reach maturity and healthy growth.

Incorporate water-sensitive urban design techniques that allow rain water to penetrate the soil and help to support tree and plant growth, and the reduction of stormwater runoff.

Canopy trees should be retained where possible and new canopy trees planted to contribute to the 'urban forest'.

Discussion

- These objectives and requirements are generally supported; however the guidelines do not provide adequate detail of the required landscape within the 8 metre setback for F6 including:
 - If there is fencing required along the property boundary.
 - The ability to locate basement car parking within the property and under the setback therefore restricting deep root zone planting.
 - The ability to utilise the setback for on-street car parking.
 - How the setback avoids becoming a no-mans-land, neither private nor public and clearly defines what is private TAFE and hospital land and what is public realm.
 - How the setback, if open to the public, addresses issues such as maintenance, access and litigious.
 - How the setback avoids landscape outcomes that create dangerous hiding spots and prevents obscuring views from the building to the public realm (therefore obscuring passive surveillance).

Viewlines

Objectives (Clause 1.0) Requirements (Clause 2.0)

To protect and frame valued viewlines to the Dandenong Ranges.

N/A

To frame viewlines to existing individual significant heritage buildings and to key open spaces.

Discussion

These objectives and requirements are generally supported.

Sub Precinct Requirements - F6 (TAFE and Hospital)

The following outlines the further detail of precinct specific objectives.

Subdivision Pattern

Precinct Objectives	Built Form Response
To support high density education/institutional development within a generous landscape setting at the ground level.	60% site coverage.
To encourage lot consolidation for medium and smaller sites.	A minimum 10m separation between buildings.
To encourage taller forms with smaller footprints with a	A plot - ratio approach is applicable on extra-large sites.
generous separation between buildings	

Discussion

- As per the Panel/track changes version of DD06 circulated as part of these proceedings, reference to 'campus style' development has been removed, on the basis that landscape setbacks and building separation requirements are sufficient to address the intent.
- When applied to BHI Nelson Campus (approx. 24,090sqm), 60% site coverage equates to approximately 14,450sqm of developable area.
- No justification has been provided for the sought after 'generous landscape setting'. Given the landholdings of key institutions providing health and education services within the MAC and the need for the co-location of ancillary services, the campus style approach is not viable, nor, I argue, desirable in the Metropolitian Activity Centre context.
- As discussed further below, building footprint efficiencies and servicing requirements for institutional uses are changing and no longer differ from commercial, residential and mixed use development expected within the MAC. The DDO's expectations of smaller footprints impedes the use of allotments for these uses and places the burden of providing 40% open space on these institutions without due consideration of the need and value of 40% open space on private land within the Metropolitan Activity Centre. Good public realm, landscaping and urban forestry can be achieved in many ways, including utilising the public realm such as streets.
- These controls present a dramatic departure from The Structure Plan which seeks 'minimised front and side setbacks and increased heights to enable significantly increased densities in the Activity Centre'.
- Additionally, no further detail on plot-ratio approach is provided within DDO6 or The Guidelines. Allotments within Sub Precinct F6 are predominately 'extra-large' (>2,500sqm) (BHBFG, Page 18) and would therefore be subject to a 'plot-ratio' approach. As the plot ratio is discussed in relation to subdivision pattern, not height, I assume it means that a greater footprint can be achieved if something is given in return, however, as stated there is no detail so I can not comment on the likely outcome or appropriateness of a plot-ratio approach.

Street Walls and Preferred Maximum Heights

Precinct Objectives

Built Form Response

To encourage continuous belt of landscaping along all street frontages.

Minimum 8m landscape setback from all street frontages.

To encourage diversity of building types.

Preferred maximum height of 15 storeys.

To ensure building orientation considers future development on or adjacent to the site, including potential linkages to such development.

Discussion

- The preferred maximum height of 15 storeys is not in keeping with the scale of development approved within the immediate context, including approvals for 30-37 storeys.
- [63] It fails to respond to the varied streetscapes scales, which includes Whitehorse Road where heights of 30 storeys (Sub Precinct F5) and 20 storeys (Sub Precinct F4) are along this central spine.
- The desire for continuous landscaping belts along all frontages fails to acknowledge the varied character (both existing and emerging) of the Sub Precinct, nor does it provide any reason for the landscape belt, either ecologically or for human use. The nature of the 'belt' is also not defined. A continuous landscape can be achieved in a number of ways including through street tree planting where tree canopies are designed to meet. Spring Street already presents a treed-street character, noting the species and age of trees does not yet provide a continuous canopy.
- Street frontages within Sub Precinct F6 include Whitehorse Road, Nelson Road, Shipley Street, Spring Street, Arnold Street, Poplar Street, Elgar Road, Rodgerson Road and Thames Street, all with different characters, both existing and potentially proposed, and should be accorded due individual consideration.

Key Views

Precinct Objectives	Built Form Response
To ensure building orientation provides a positive relationship to the	A minimum 10m separation between buildings.
open space network and usable open space.	A.E
To ensure buildings 'frame' key viewlines.	Align key view lines with priority pedestrian links.

Discussion

DDO6 Table 2 provides a summary of minimum building separation distances from side and rear boundaries and within sites. Distances are specified alongside storeys, with 0 metres for up to 5-10 storeys, this subsequently increases to 5 metres. Precinct F6 does not follow this approach and it is assumed that 10 metre separation distances apply from the ground floor. This is not supported and is considered a broad brush approach lacking in analysis, justification and appreciation of the resulting urban outcome, for a prominent city precinct.

Additional Street/Laneway Address

Precinct Objectives	Built Form Response
To ensure building orientation provides a positive relationship to the open space network and usable open space.	At grade pedestrian links that are open to the sky.
	Encourage active frontages along pedestrian priority link.
To ensure buildings 'frame' key viewlines.	

Discussion

[67] Increased permeability is supported however the requirement for all pedestrian links to be open to the sky should be considered on a case-by case basis, in particular as it relates to both canopy cover and to the potential to link medical facilities with clinically secure routes.

Amenity / Access to Daylight

Precinct Objectives	Built Form Response
Refer to objectives and requirements under Clauses 1 and 2.	Refer to objectives and requirements under Clauses 1 and 2.

Discussion

[68] As above.

Landscape

Precinct Objectives	Built Form Response
Refer to objectives and requirements under Clauses 1 and 2.	Landscape setback to all street edges (minimum 8m).
	Incorporate landscaping elements within the building façades where possible.
	Incorporate public spaces at the ground level where possible.

Discussion

[69] As above.

6.0 Key Considerations

- [70] As a result of my urban design assessment of the appropriateness of Amendment C175 and the associated *Guidelines* listed above and as they relate to Precinct F6: TAFE & Hospital, there arise 3 main concerns.
- 1. The assumptions made about the desired future and character of the health and education precinct (Box Hill Urban Campus) including;
 - a. How the guidelines incorporate (or not) the changing ways teaching and learning is conducted and how this impacts on built form.
 - b. How places of learning in urban environments are becoming increasingly integrated into their communities resulting in greater mixed-use development outcomes and how this is not supported or considered in The Guidelines.
 - c. The need to provide an attractive, safe, walkable and vibrant precinct and streets supporting uses throughout the day and the night as both a reflection of the hours of operation of the TAFE and hospital and good city centres, and how The Guidelines may prevent this.
- [72] 2. The blanket application of large landscape setbacks on urban streets and between buildings and reduced site coverage where;
 - d. This character does not currently exist,
 - e. How these setbacks and site coverage may affect the 'urban' character including safety and walkability of the streetscapes,
 - f. The impact of the setbacks on distinguishing between private and public land, and
 - g. The appropriateness or clarity of the purpose of these setbacks and site coverage in this location.
- 3. The blanket application of a height limit that does not respond to the emerging character of the area nor allow for a different, future focused, institutional model. These concerns are discussed in further detail below.

The Box Hill Urban 'Campus'

- There is extensive support for the inclusion of well serviced health and education services including; In *Plan Melbourne*. Health and Education Precincts:
 - To support health and education services that are well served by public transport in a range of locations across Melbourne.
 - Their specialised economic functions will be reinforced, and they should provide opportunity for ancillary health and education services, retail, commercial and accommodation uses.
- And from *The Box Hill Transit City Activity Centre Structure Plan* (2007). The relevant desired land use outcomes for Activity Precinct D (Hospital and Western TAFE Precinct) are:
 - Growth and enhancement of educational and medical institutions and support for related businesses.
 - Property consolidation to facilitate redevelopment and creation of public accessways through the precinct.
 - Development addressed to Nelson Road to create a pedestrian-friendly street.

- The relevant desired built form outcomes for Activity Precinct D (Hospital and Western TAFE Precinct) are:
 - 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
- [77] More recently, from the **Box Hill Metropolitan Activity Centre Built Form Guidelines**:
 - To support high density education/institutional development within a generous landscape setting at the ground level (campus style).
- [78] **The Built Form Guidelines** provide *Precinct Objective* assumptions on the desired and likely future built form of the Precinct F6: TAFE & Hospital including:
 - Subdivision Pattern: To support high density education/institutional development within a generous landscape setting at the ground level (campus style)
 - Minimum 8m landscape setback from all street frontages
 - Preferred maximum height of 15 storey
- [79] It is noted that reference to 'campus style' has been removed in the Panel/track changes version of DD06 circulated as part of these proceedings, however the guidelines themselves have not changed and still reflect this 'campus' outcome of separated buildings in a landscape setting (not necessarily green), setback and disengaged from streetscapes.
- [80] My assessment is as an urban designer, not as an educational expert and is therefore limited to urban design and to my experience in working with Universities (University of Melbourne and RMIT) on creating integrated campuses that attract students and staff, provide safe and welcoming places that encourage the knowledge economy and support a range of activities.
- These two universities, as have others including LaTrobe University, have a growing awareness of the benefits of integrating with the surrounding community. RMIT is a good example of an integrated urban campus where the idea of being located within the City and all its amenity is used in marketing material, and as a catalyst for projects such as the new academic street;

Why we're undertaking this project? Our main aim in undertaking the New Academic Street project is to improve the student experience at RMIT's flagship City campus. Students tell us they love being part of the city (rmit.edu.au/about/about-new-academic-street/)

The University of Melbourne notes its Parkville campus as

Our largest campus is in Parkville, just a few minutes from the centre of the City of Melbourne.

The Parkville campus is situated within a renowned knowledge precinct, which includes eight hospitals, many leading research institutes and a wide range of knowledge-based industries (futurestudents.unimelb.edu.au/explore/the-melbounre-model/campuses)

- This desire for integration and the potential for beneficial synergies has already been recognised by the Box Hill Institute as shown by the proposed co-location of medical training facilities with a neighbouring hospital on Spring Street. This adjacency allows for the efficient and effective transfer of skills and knowledge from a learning environment to a practical environment, which I assume, is to the benefit of both Institutions.
- [83] It should also be noted that the Box Hill Institute and the Epworth Hospital are major land owners (Figure 6) and have a significant and crucial role in employment for the City. This also implies that they

- are one of the major consumers of goods and services within the City and that built form provided on these sites will have a significant impact on the character of the City.
- Despite the potential for this Precinct to be a major contributor to city life, the guidelines applied appear to be based on an existing and outdated notion of what an institution is: that is a 'campus style'. The term 'campus' has become common as an expression of an ensemble of buildings for higher education and traditionally and commonly, has been applied to separate, self-contained academic communities where learning is undertaken within a defined 'campus' boundary.
- [85] It is noted that the *General Built Form Guidelines Key Directions* (page 27) describe Precinct F6 as being the *Box Hill 'urban campus'*. However there appears to be minimal, if any, description or understanding of what an 'urban campus' could be.
- [86] If we are to take local examples of urban campuses including RMIT and parts of the University of Melbourne, they are largely indistinguishable from the surrounding, mixed use, city development. This integration and 'blending' is considered a positive outcome for these institutions and is part of ensuring the institution is considered an integral and integrated part of the community.
- [87] I strongly encourage this model of integration of our institutions when they are located within our cities as it achieves a number of beneficial urban outcomes including but not limited too;
 - Efficient land use in Activity Centres.
 - Promoting mixed- use development which supports activity throughout the day and night which in turn supports active, safe streets.
 - Promoting a shared knowledge economy where students, educators and others can interact and engage in the public realm; this is how 'innovation' is encouraged.
 - Ensuring the institutions are an embedded part of their community and positively contribute to these communities.
 - Allowing institutions to provide amenities and accommodation for their staff and students that
 are also available to and integrated with the local community.
 - Allowing the institutions to maximise the value of their landholding to further contribute to the viability and resilience of their business and contribute to the local economy.
- In summary, I consider the role of the Health and Education Precinct to be integral to the current and future success and resilience of the Box Hill Metropolitian Activity Centre. As such the notion of a traditional 'campus style' development within the city centre is outdated and inappropriate.
- In my opinion, the physical presence of institutions should be integrated with the community they serve and contribute to safe, active, vibrant streets and high quality built form outcomes.

 Unencumbered by excessive landscape setbacks, building separation distances and restricted heights that visually distinguish the 'learning' from the 'living' realms.



Figure 8: RMIT Swanston Street, Melbourne

Figure 9: RMIT Swanston Street, Melbourne



Figure 11: UTS Building 2 (proposed), Sydney (source: UTS)



Figure 10: The Cooper Union, New York (source: Rolad Halbe)

Figure 12: Ryerson University (proposed), Toronto (source: Ryerson University)

Landscape Setbacks, Building Separation & Site Coverage

- There are a number of elements, from an urban design perspective, concerning landscape setbacks, building separation and site coverage. Some of these relate directly to the discussion above regarding 'campus' style development, some relate to conflicts in outcomes sought by the General Guidelines and the Precinct Guidelines and have the potential to significantly impact on urban outcomes.
- [91] The DDO for Precinct F6 requires:
 - A minimum 8m landscape setback for all street frontages within Precinct F6. Street frontages within Sub Precinct F6 include Whitehorse Road, Nelson Road, Shipley Street, Spring Street, Arnold Street, Poplar Street, Elgar Road, Rodgerson Road and Thames Street.
 - Site coverage of 60%
 - A minimum of 10 metre building separation
 - NOTE: there are no side and rear setback requirements within the Sub Precinct guidelines.
- These Precinct specific guidelines are in direct conflict with *The Guidelines for Precinct F* within the *Structure Plan (2007)* stating 'avoid front and side setbacks' (p61). They are also in direct or indirect conflict, in my opinion, with the following elements of *Clause 1* of *DD06*:
 - To ensure buildings contribute to the high quality public streets and public space.
 - To require building entrances and windows be oriented to maximise 'passive surveillance' of the public realm and support a safer environment.
 - To maximise activation at ground level.
 - To ensure all streets, lanes, parks and other public spaces enjoy a high level of surveillance, activity
 - To provide opportunity to create street landscape character.
 - To provide shade and shelter over public footpaths (noting it excludes sub-precinct F6).
 - To activate ground floor street frontages of buildings (noting it excludes sub-precinct F6).
 - To enhance the visual amenity and continuity of streetscape.
 - To provide buildings which contribute to a high quality human scale within the street and public realm
 - To ensure new buildings contribute to maintain the 'fine-grained' nature of built form (noting it excludes sub-precinct F6).
 - To encourage consistent street wall definition that responds to its street width.
 - To limit maximum street wall to street width ratio to 2:1.
 - To ensure pedestrian entries to buildings are safe, clear and legible.
 - To create proportional streetscape and massing scale in keeping with the desired character for each precinct.
 - To ensure landscaping supports the urban character of the Box Hill Activity Centre and the materiality of the public realm.
 - To ensure high quality landscaped streetscapes are provided for safety, visual amenity and weather protection.
 - To ensure landscaping allows visibility in the public realm so as to allow 'natural surveillance' of the public realm from private property.
- They are also in direct or indirect conflict, in my opinion, with the following elements of *Clause 2* of *DD06*.
 - Buildings should be sited close to the street boundary and with buildings fronting streets, creating a clear separation between public 'fronts' and private 'backs'.
 - Awnings and verandahs should be designed to indicate entries to buildings or shops, and provide adequate protection from sun and rain for pedestrians using footpaths.

- Direct visual access from the street to the lift lobby should be provided.
- Within Precincts C and F building separation at the rear and side boundaries should follow the guidelines in 'Table 2 – Building Separation', which then refers to 'Sub-Precinct Guidelines' which do not contain side and rear setback guidelines, only building separation of 10 metres and street setbacks of 8 metres.
- The direct and indirect conflicts I note are primarily regarding the creation of safe, legible, active, city streets which are supported through the application of the guidelines directly above. In my opinion, these are generally good urban design guidelines for the creation of successful cities including promoting outcomes such as:
 - Activated streetscapes including a mix of uses and fine-grain activities addressing the street and footpath – extremely difficult to achieve with a building setback of 8 metres.
 - Defined, cohesive and human scaled street walls difficult to achieve with 10 metre building separations and with the built form setback 8 metres from the boundary
 - Good streetscape ratios allowing access to sunlight difficult to achieve city-appropriate ratios of 2:1 with the application of 8 metre setbacks.
 - Opportunities for passive and natural surveillance which relies on 'eyes on the street' difficult
 in my opinion to achieve it the building is setback a minimum of 8 metres from the
 boundary behind landscape
 - Shelter to public footpaths extremely difficult to deliver if the building is setback 8 metres unless stand-alone canopies are provided over the footpath.
- It is also noted that the Nelson Campus is identified within *The Guidelines* as an 'extra large' allotment (>2,500sqm). The Built Form Response for Sub Precinct F6 states 'a plot ratio approach is applicable on extra large sites'. Further clarification of a plot ratio is not provided. It is noted that this is within the Urban Design attribute 'subdivision pattern' not 'street walls and preferred maximum height' which makes its application more obscure.
- In summary, the sub-precinct guidelines for F6 have, in my opinion, been applied to this precinct as a direct result of an assumed character of 'campus design'. This character, as discussed above and in my opinion, is incongruous with a good urban outcome which considers the Health and Education Precinct as an integrated and essential component of the community it serves.

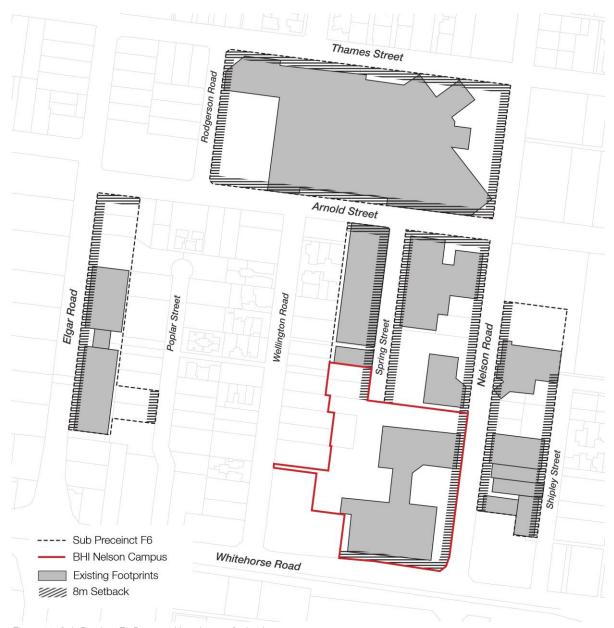


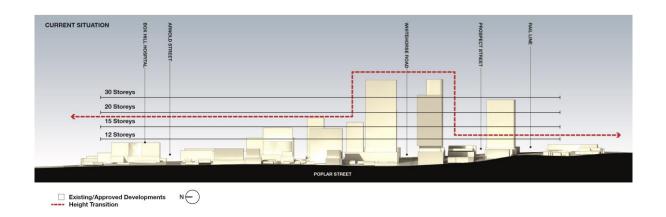
Figure 13: Sub Precinct F6 Proposed Landscape Setbacks

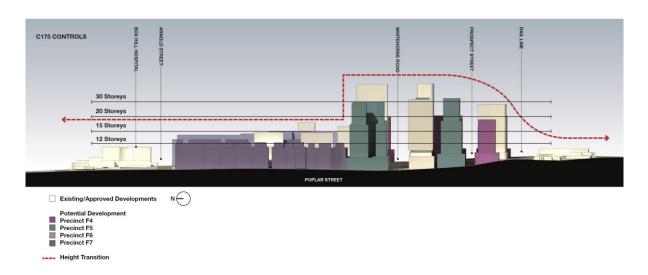


Figure 14: Sub Precinct F6 Landscape Setbacks – detail showing existing built form and the incongruent 8 metre setbacks proposed.

Blanket Height Controls

- A blanket preferred height limit of 15 storeys is proposed for the Sub- Precinct F6. Direct neighbouring sub-precincts have preferred height limits of:
 - F4 20 storeys
 - F5 30 storeys
 - F7 12 storeys
- The outcomes of these Guidelines on the city form have been explored below in Figures 15 17. These massing diagrams also show the existing buildings that are under construction or have planning approval, including those that exceed the proposed height controls.
- A height control that uses storeys as opposed to metres ensures a degree of flexibility however, it may also produce an outcome that lacks rigour and consideration. It is noted that the floor-to-floor assumptions made in *The Guidelines* are "retail/commercial 4.5metres and residential 3.0metres". For the preferred building height applied to Precinct F6 of 15 storeys, this results in a variation in potential height of **22.5 metres** (15 x 4.5 = 67.5 and 15 x 3.0 = 45.0m).
- It is clear to me that the existing land use and assumed character has influenced the development of the height controls. This is most obvious along Whitehorse Road where Precinct F5, directly west of Precinct F6, has a preferred height limit of 30 storeys and Precinct F4, directly to the east of Precinct F6, has a preferred height limit of 20 storeys. Precinct F6, in between yet on the same street frontage has a preferred height limit of 15 storeys; half of its immediate neighbour and three quarters of the other.
- There is, in my opinion, no urban justification for this change in height guidance, hence my assumption that the existing land use (institutional) and the existing built form has led to a character assumption that is lower in height than the surrounding city.
- The height of buildings, podium setbacks and side and rear setbacks, in my opinion, should also be considered in their capacity to meet other standards including access to light and natural ventilation, impact on the streetscape and street ratio and how they provide a transition from high to medium to low scale development.
- [103] In summary, I would suggest a more nuanced and transitionary height control would be more appropriate for Precinct F6 and would allow the Health and Education Precinct to become an integrated part of the city form.





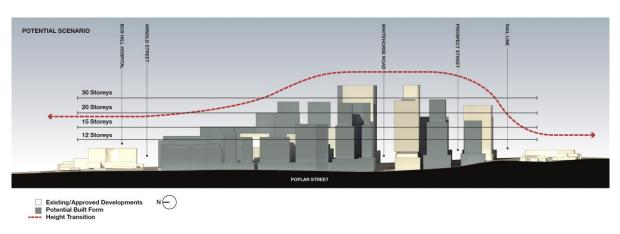


Figure 15: Height Transition Analysis – Sections. As can be seen in the top two sections, the existing and C175 proposed transition from the height located around Whitehorse Road to the north is abrupt. The bottom diagram shows a more considered and appropriate built form.

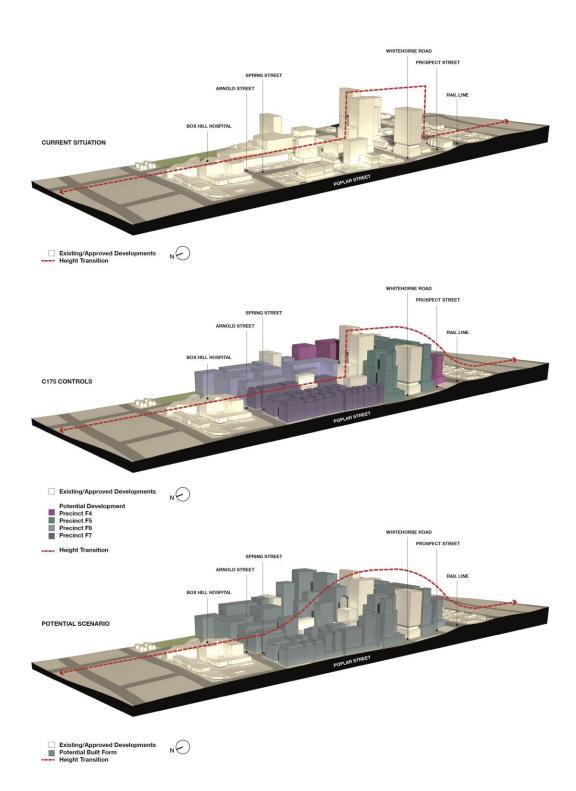
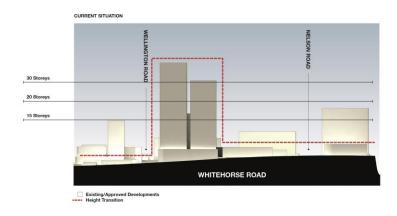
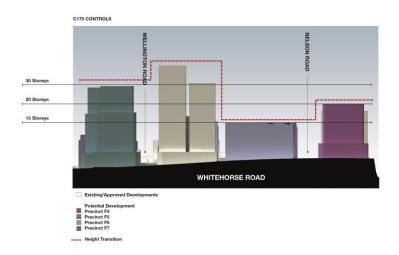


Figure 16: Height Transition Analysis – Perspective. As can be seen in the top two perspectives, the existing and C175 proposed transition from the height located around Whitehorse Road to the north is abrupt. The bottom diagram shows a more considered and appropriate built form.





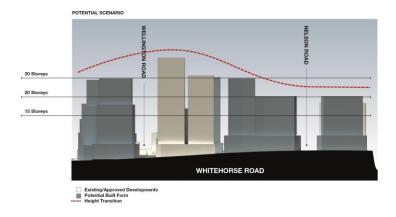


Figure 17: Height Transition Analysis – Sections – Whitehorse Road. As can be seen in the top two section, the existing and C175 proposed transition from the height located along Whitehorse Road is abrupt. The bottom diagram shows a more considered and appropriate built form.

7.0 Conclusion

- In conclusion, I support the use of the Design Development Overlay and associated Guidelines to help guide the development of Box Hill Metropolitan Activity Centre ensuring it delivers appropriate urban form to support a vibrant, resilient and successful City.
- I do not support the Precinct Specific guidelines proposed for the Health and Education Precinct F6 as they appear to rely on an outdated and preconceived idea of what these 'institutions' look like, how they interact with the city and how teaching and learning is and may be conducted into the future.
- They also present a blanket approach across widely varying urban situations and interfaces and appear to miss the opportunity The Guidelines present to determine a cohesive urban future for Box Hill.
- I recommend the Precinct is considered as a more integrated part of the City fabric and that The Guidelines reflect a finer grain of interfaces, relationships and development opportunities that are present within the Precinct.
- [108] I have made all the inquires that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld form the Panel.

Amanda Roberts

Director, SJB Urban

Appendix A: Qualifications and Experience

Name and Address

Amanda Roberts (MUrban Planning, BLandArch, BArchStud, AlLA) Urban Designer and Landscape Architect Director, SJB Urban Pty Ltd Level 5, 18 Oliver Lane Melbourne VIC 3000

Qualifications and Experience

- Master of Urban Planning (MUrban Planning): The University of Melbourne
- Bachelor of Landscape Architecture (BLandArch) (First Class Honours), The University of Adelaide
- Bachelor of Architectural Studies (BArchSTud), The University of Adelaide

2013-present: Director (since 2016), SJB Urban

2012-2013: Team Leader Subdivisions & Urban Design, City of Wyndham

2007-2012: Urban Designer, Places Victoria (VicUrban)

2006-2007: Urban Designer, Department of Planning & Community Development

2002-2003: Landscape Architect, Hames Sharley, Perth

2001-2002: Technical Officer, City of Stirling, Perth

1999-2000: Urban Design/Landscape Architect, Heaton Associates, UK

2010-present: Tutor, occasional Lecturer, The University of Melbourne

2015 – present: Member ODASA review panel

Areas of Expertise and Experience

My area of expertise is Urban Design, derived from my professional experience in urban design practice, landscape architecture practice, and state and local government urban design, as well as my tertiary qualifications in Landscape Architecture and Urban Design.

Within this field, my specific expertise and experience includes the following:

- Design Review:
 - Representative for State Government on review panels for Melbourne Docklands
 - Lead Urban Design review member for Places Victoria on Melbourne Docklands and Dandenong
 - Lead Urban Design review member for local government projects, City of Wyndham;
- Project manager of the Gehl Places for People study on Melbourne Docklands;
- Independent Urban Design Reviews for Councils, including Yarra;
- Urban Design Advice on a range of development proposals and locations;
- Urban Design Analysis and Assessment and preparation of Urban Context Reports;
- Preparation of Development Plans, Master Plans and Urban Design Frameworks for public and private sector clients;
- Urban development research, investigation, modelling; and
- Landscape Architectural practice design, documentation, administration on a range of residential, commercial and master planning projects.