
*Figure 5.10 Public Open space*

**Public Open Space**

Bondi Junction contains several small areas of public open space:

- Clementson Park on Ebley Street;
- Norman Lee Place in front of the old Boot Factory on Spring Street;
- Oxford Street Mall, pedestrian zone between Newland Street and Bronte Road;
- Rowe Street, ramp connection between Oxford Street Mall and the Transport Interchange;
- Waverley Street Mall, pedestrian zone between Oxford Street and Entrance to Westfield Parking;
- Eora Park on the corner of Hollywood Avenue and Waverley Street.

These parks and open spaces do not feature in prominent locations within the centre, instead being located on the periphery. In fact Eora Reserve is difficult to distinguish as public rather than private open space. Significant regional parklands surround the centre including Centennial Park to the west; Queens Park to the south; Waverley Park and Bronte Park to the east; and Trumper Park and Cooper Park to the north. These parks provide active recreation destinations approximately 500m to 1km from the centre but are relatively dislocated for pedestrian access.

1. Clementson Park
2. Norman Lee Place (Boot Factory)
3. Oxford Street Mall
4. Rowe Street (Between Oxford Street Mall and Transport Interchange)
5. Waverley Street Mall
6. Eora Park


*Figure 5.11 Existing Building Heights*

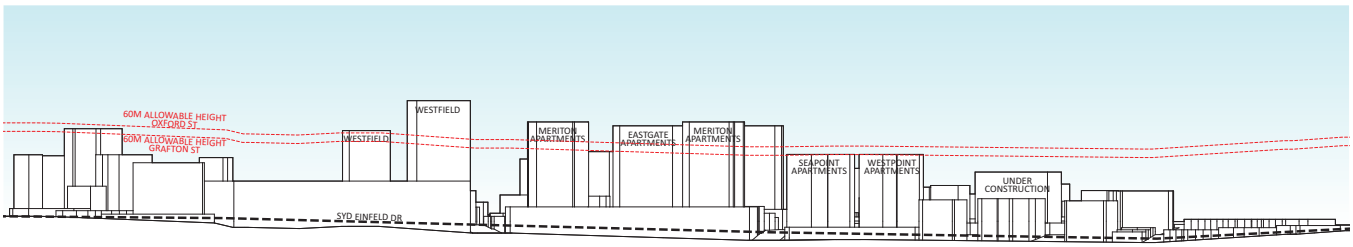
**Existing Building Heights and Skyline**

Bondi Junction is primarily comprised of two types of built form:

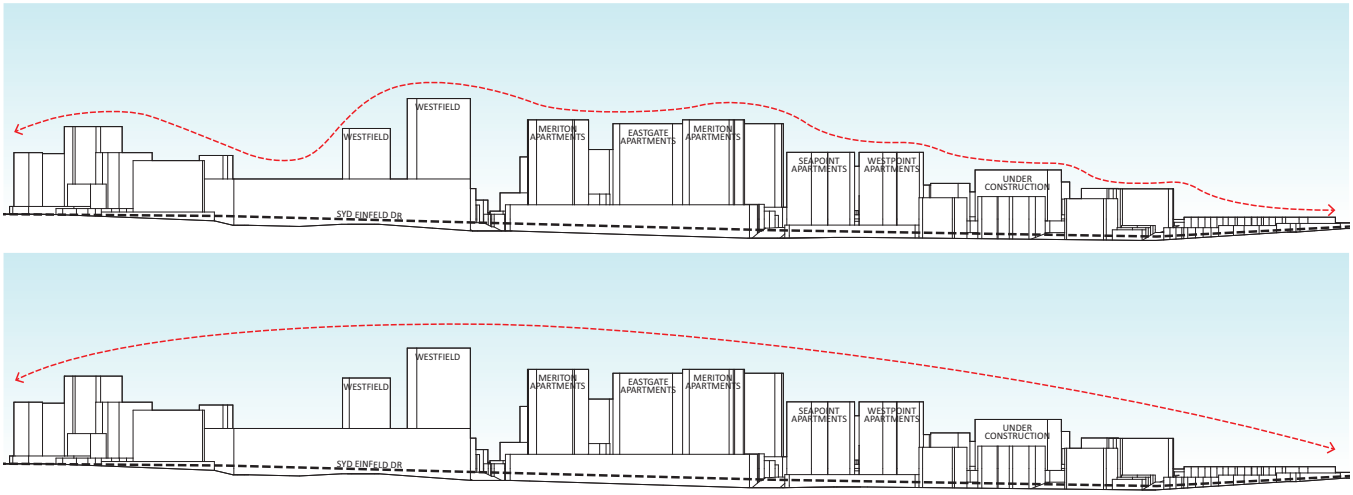
- Podium and tower high-rise developments on large consolidated lots within the commercial core;
- Small lot low-rise residential buildings surrounding the commercial core.

There are eight tower forms of 20+ storeys within the study area, half of which exceed the current maximum building height controls of 60m (see Figure 5.12). The skyline of Bondi Junction appears irregular and undulating when viewed from different angles. Figure 5.12 show the existing undulating skyline as well as the possible arc-shaped skyline with missing height points around the Westfield Centre to support the arc.

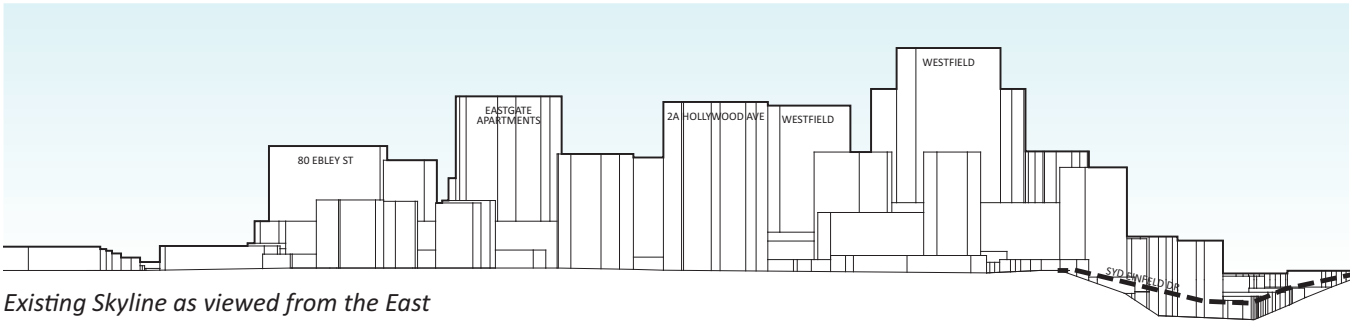
*Picture 5.11 Existing Skyline as Viewed from North*



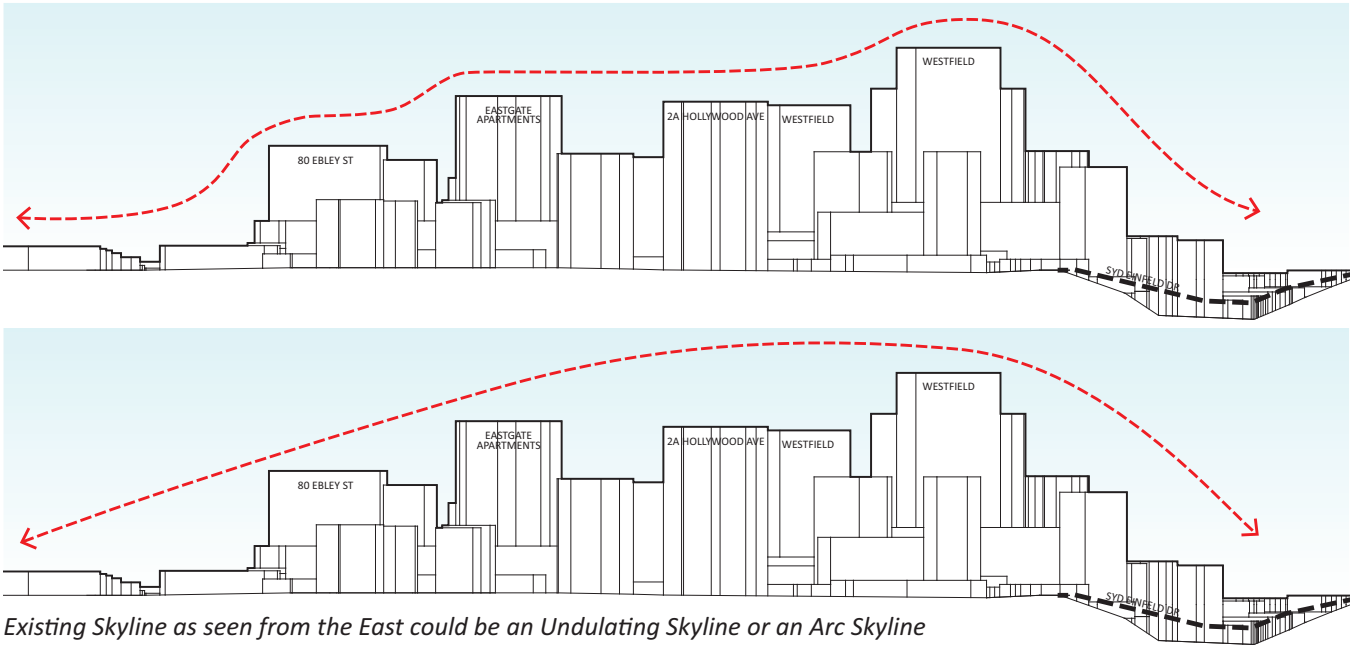

*Existing Skyline as viewed from the North*




*Existing Skyline as seen from the North could be an Undulating Skyline or an Arc Skyline*




*Existing Skyline as viewed from the East*




*Existing Skyline as seen from the East could be an Undulating Skyline or an Arc Skyline*

*Figure 5.12 Skyline Analysis*

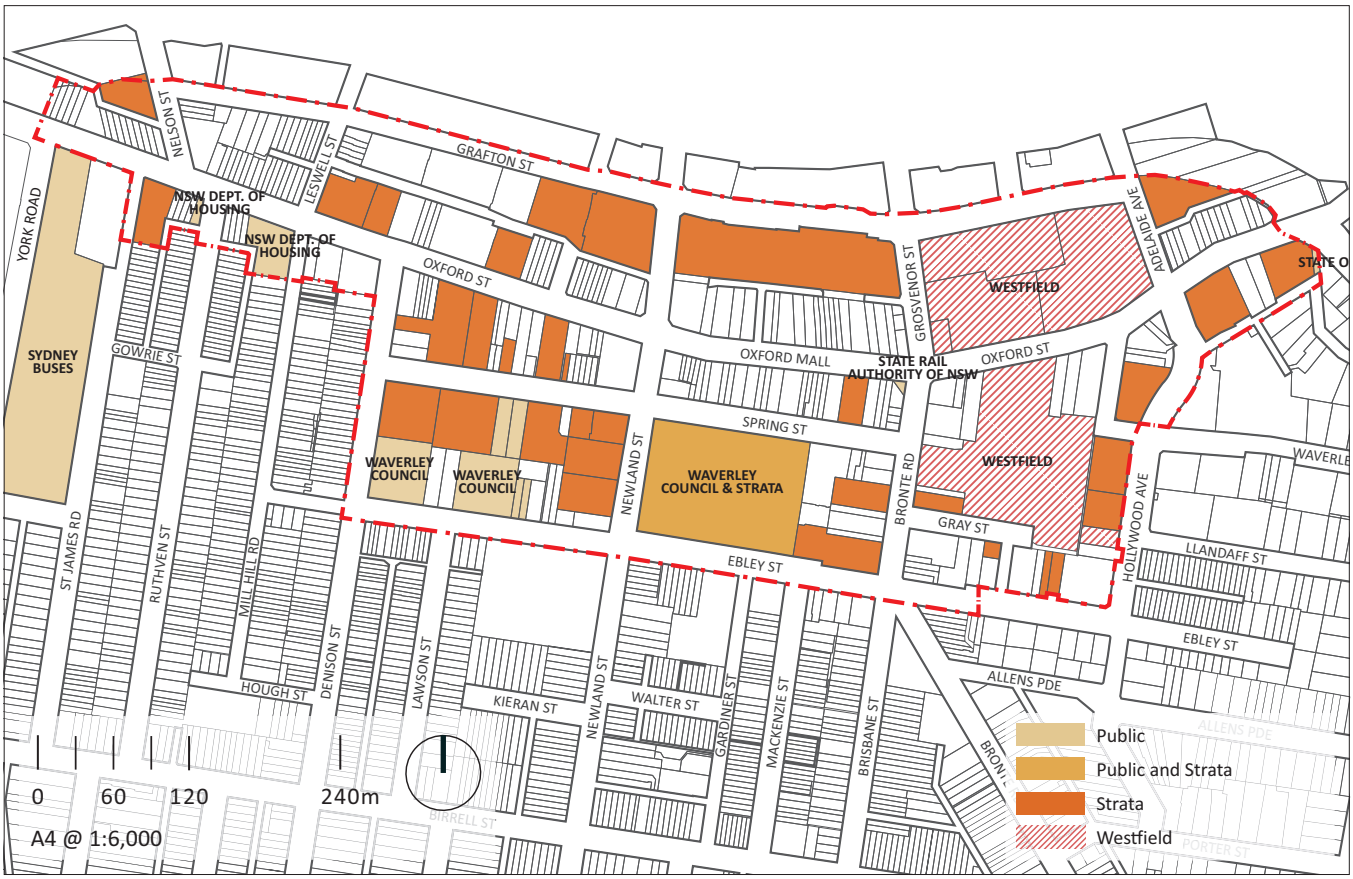



*Figure 5.13 Land Ownership*

**Land Ownership**

The largest land owner in Bondi Junction is the Westfield Group with large sites on both sides of Oxford Street. There are many developments with strata ownership that are unlikely to redevelop in the near future. In terms of public ownership, Waverley Council owns several lots facing Ebley Street and Sydney Buses own a large site on York Road.

**Land Use**

Bondi Junction contains a mix of retail, office, residential, community and entertainment uses. Retail uses are concentrated around Oxford Street Mall, Westfield and Eastgate while office, residential and community uses are scattered throughout the centre. This results in a mix of uses where retail, office and entertainment uses can be found directly adjacent to residential uses. Beyond the centre, residential uses dominate.

**LEP Controls – Previous Changes of Zoning, Height of Buildings and Floor Space Ratio**

*Changes made when Waverley LEP 1996 (Bondi Junction) was superceded by Waverley LEP 2010 (Bondi Junction Centre)*
The following revisions were made from the Waverley LEP 1996 (as used in Bondi Junction Centre Structure Plan 2006) to the Waverley LEP (Bondi Junction Centre) 2010:

- Zoning
  - A conversion from 3(a2) Business General, 3(a3) Business Secondary, 3(a4) Business Special (Low Intensity), 2(b) Residential – Medium Density and 2(c1) Residential – Medium and High Density to the new standard instrument zones of B3 Commercial Core and B4 Mixed Use.

- Height of Buildings
  - The provision of finer grain HOB controls along Oxford Street Mall, including some decreases for solar access and some increases on the southern side of the mall.
  - An increase in Bondi Junction generally, e.g. from 28m to 38m for sites facing Oxford Street west of Newland Street, from 28m to 60m for sites east of Westfield.

- Floor Space Ratio
  - The provision of finer grain FSR controls along Oxford Street Mall.
  - An increase in Bondi Junction generally, e.g. from 4.00:1 (with 1.00:1 residential) to 6.00:1 on the Westfield sites, from 3.00:1 to 5.00:1 for sites facing Oxford Street west of Newland Street.

*Changes made when Waverley LEP 2010 (Bondi Junction Centre) was superceded by Waverley LEP 2012*
The following revisions were made from the Waverley LEP (Bondi Junction Centre) 2010 to the Waverley Draft LEP 2011:

- Zoning
  - An expansion of the B3 Commercial Core boundary to include lots adjacent to Westfield fronting Ebley Street and Hollywood Avenue, lots west of Newland Street facing Oxford Street and lots facing Grafton Street with existing commercial towers.

- Height of Buildings
  - No change.

- Floor Space Ratio
  - An increase from 6.00:1 to 8.00:1 on the two Westfield sites.
  - An increase from 6.00:1 to 7.00:1 on the northern side of Oxford Street west of Adelaide Street.
  - An increase from 4.00:1 to 6.00:1 on some sites adjacent to Westfield facing Ebley Street and Hollywood Avenue.


*Figure 5.14 Zoning – Bondi Junction Centre Structure Plan 2006*

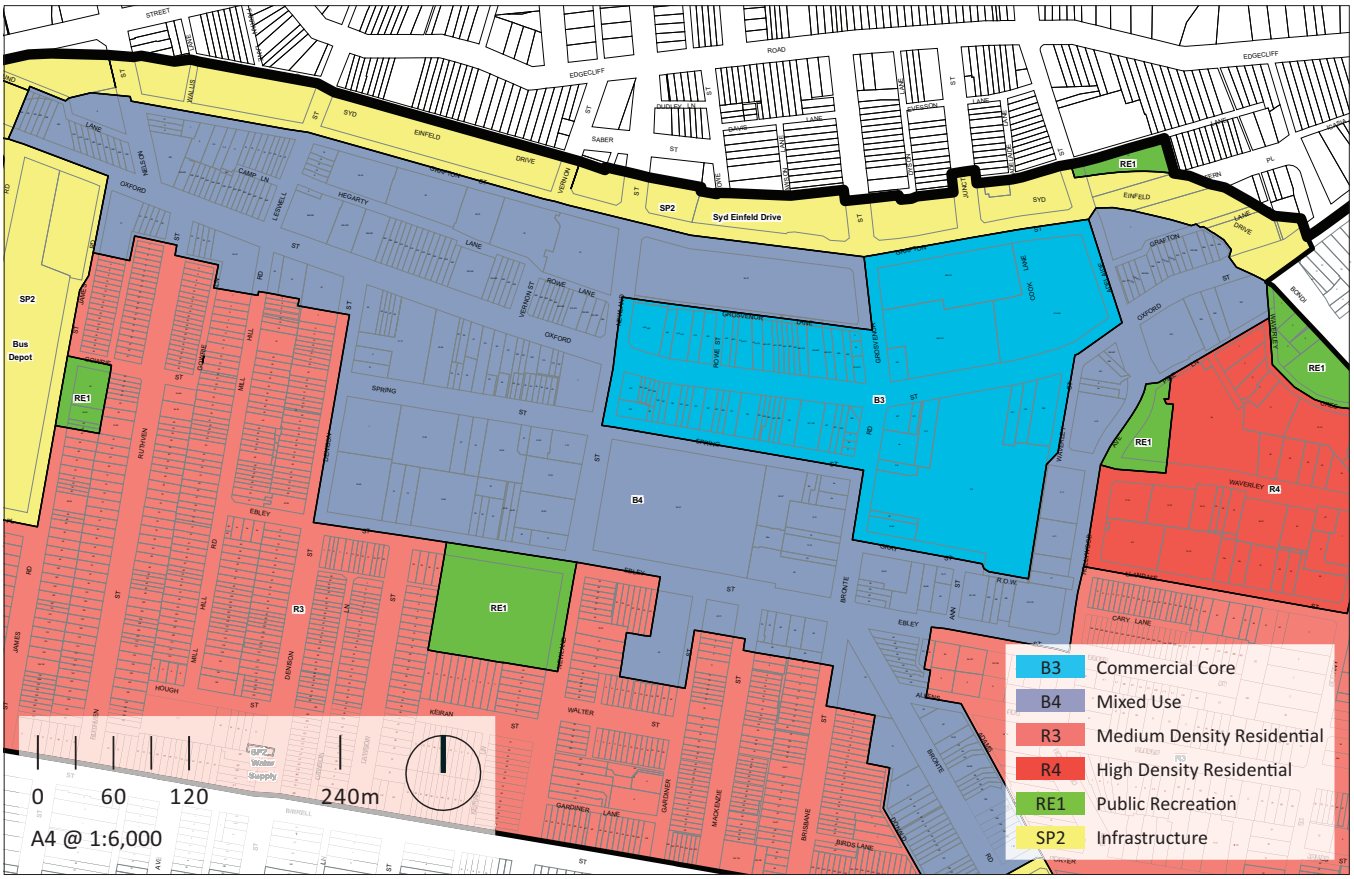



*Figure 5.15 Zoning – Waverley LEP (Bondi Junction Centre) 2010*

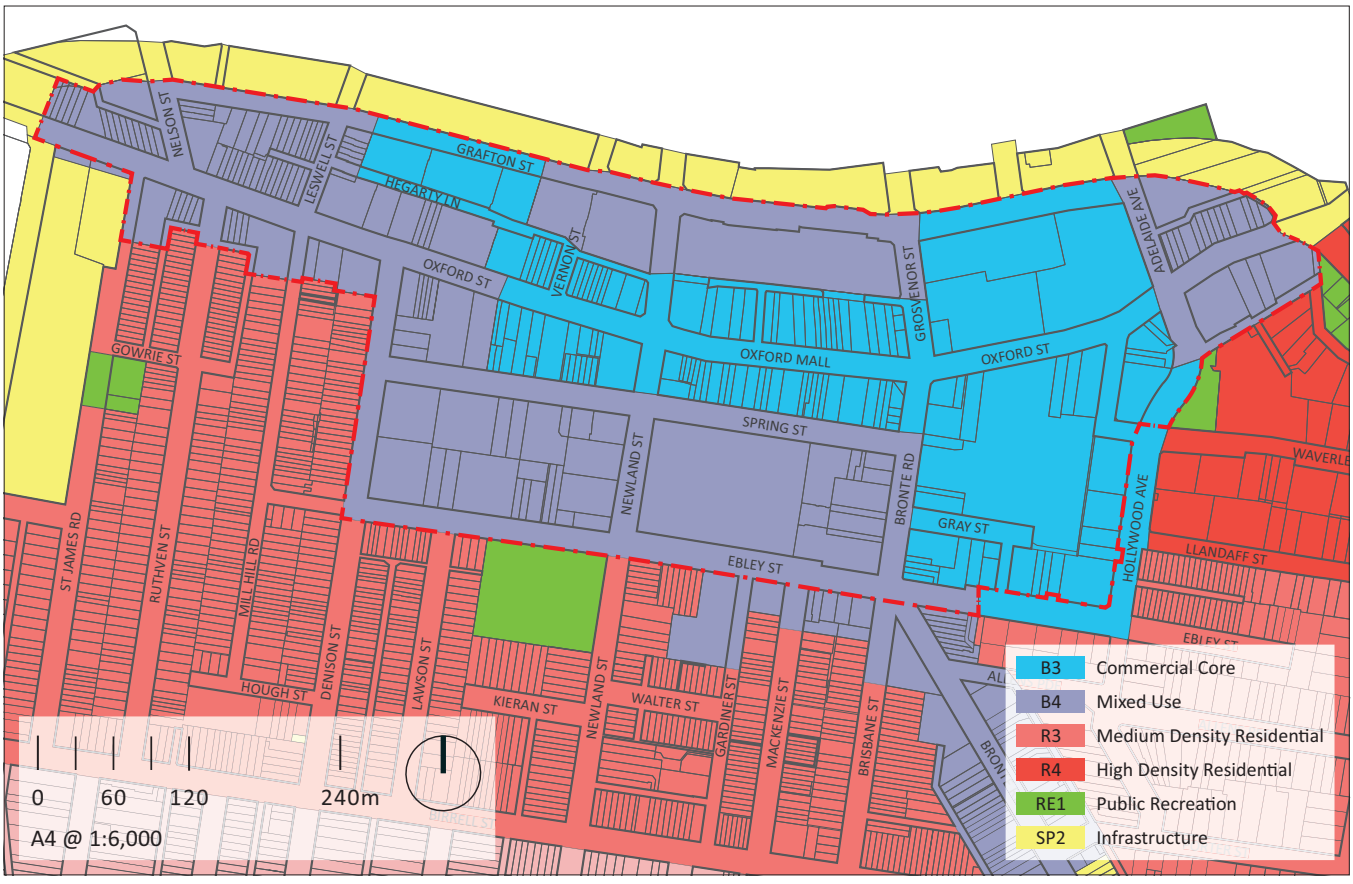



*Figure 5.16 Zoning – Waverley LEP 2012*

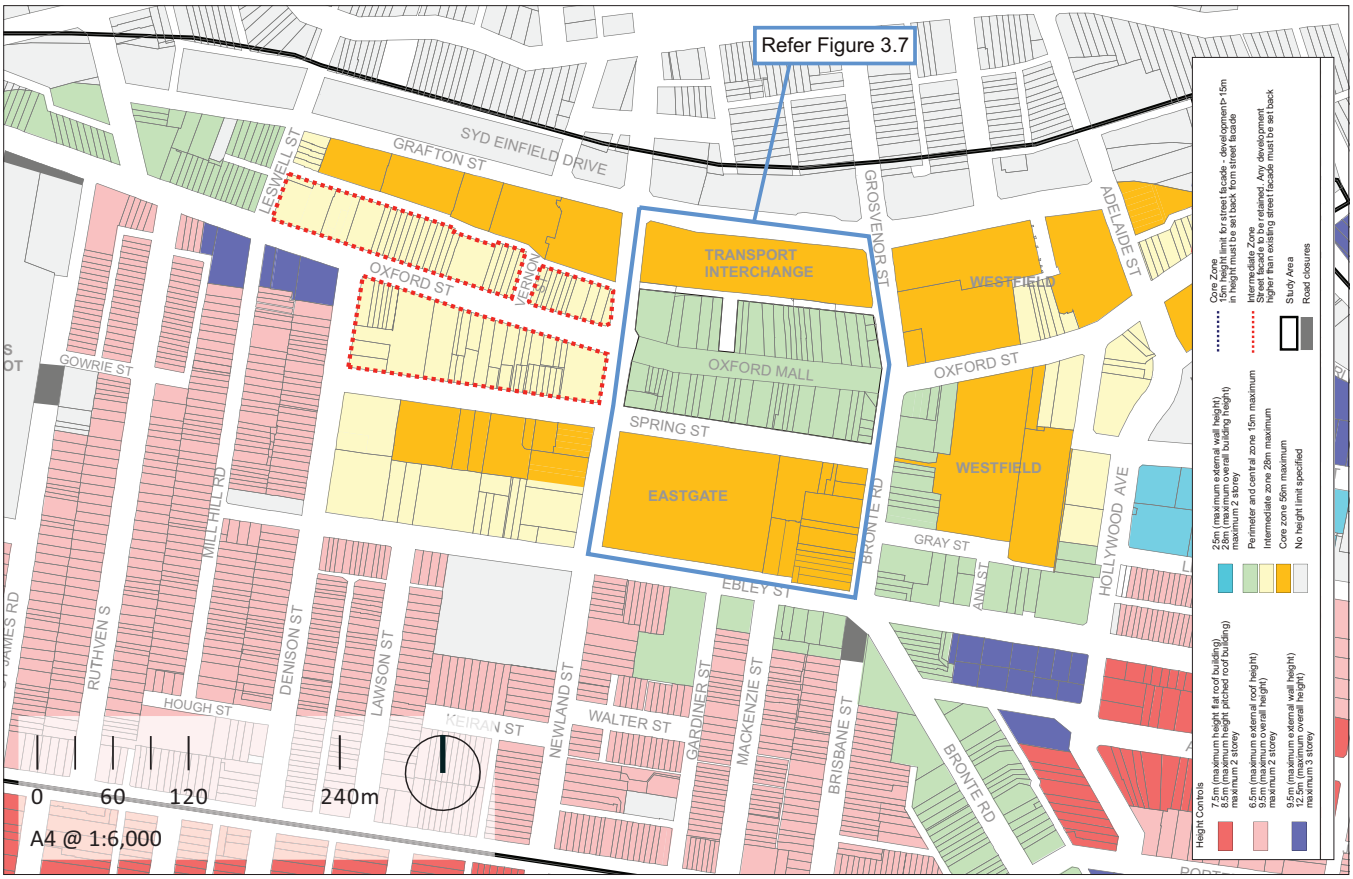



*Figure 5.17 Height of Buildings – Bondi Junction Centre Structure Plan 2006*

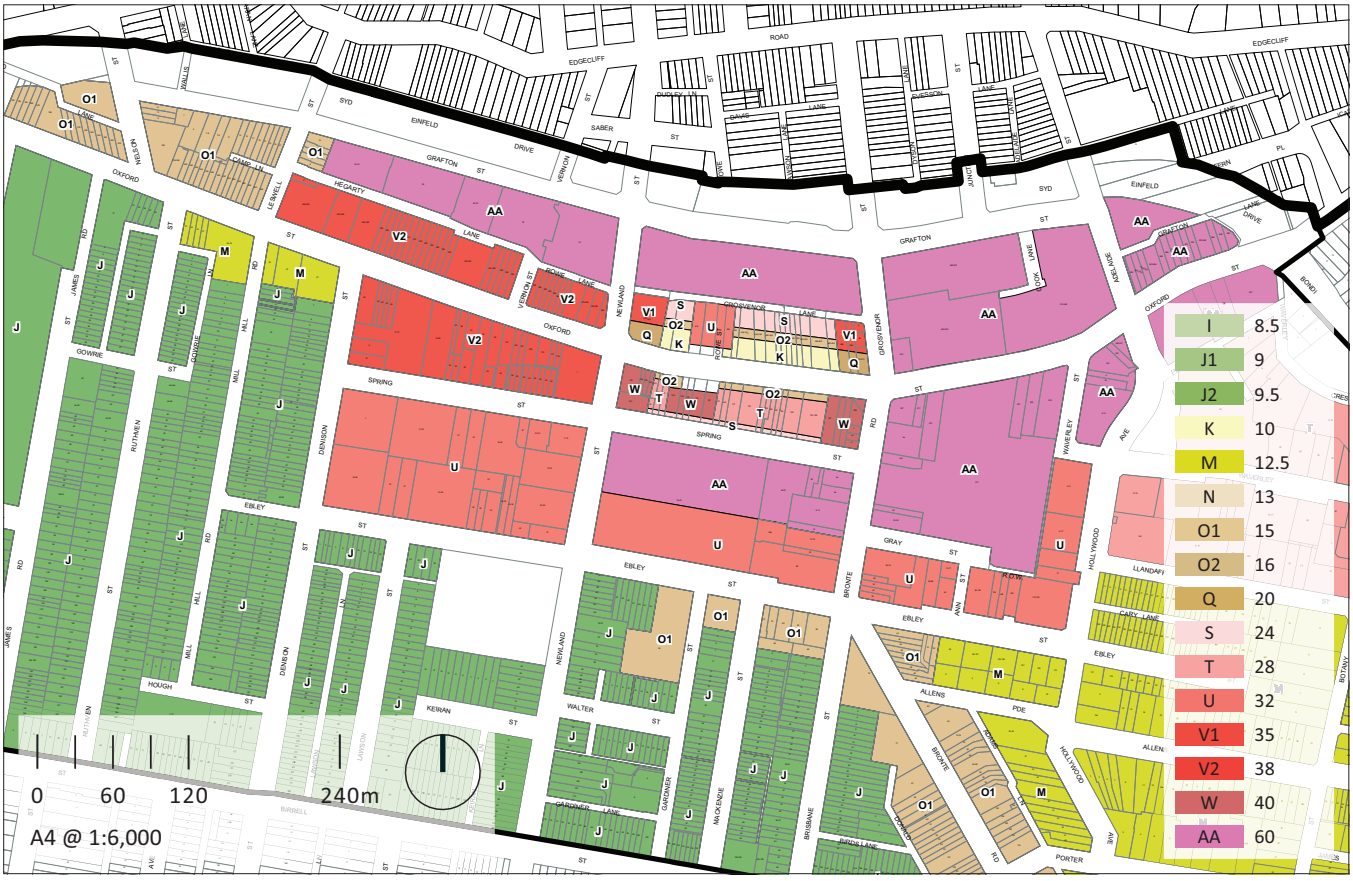



*Figure 5.18 Height of Buildings – Waverley LEP (Bondi Junction Centre) 2010*

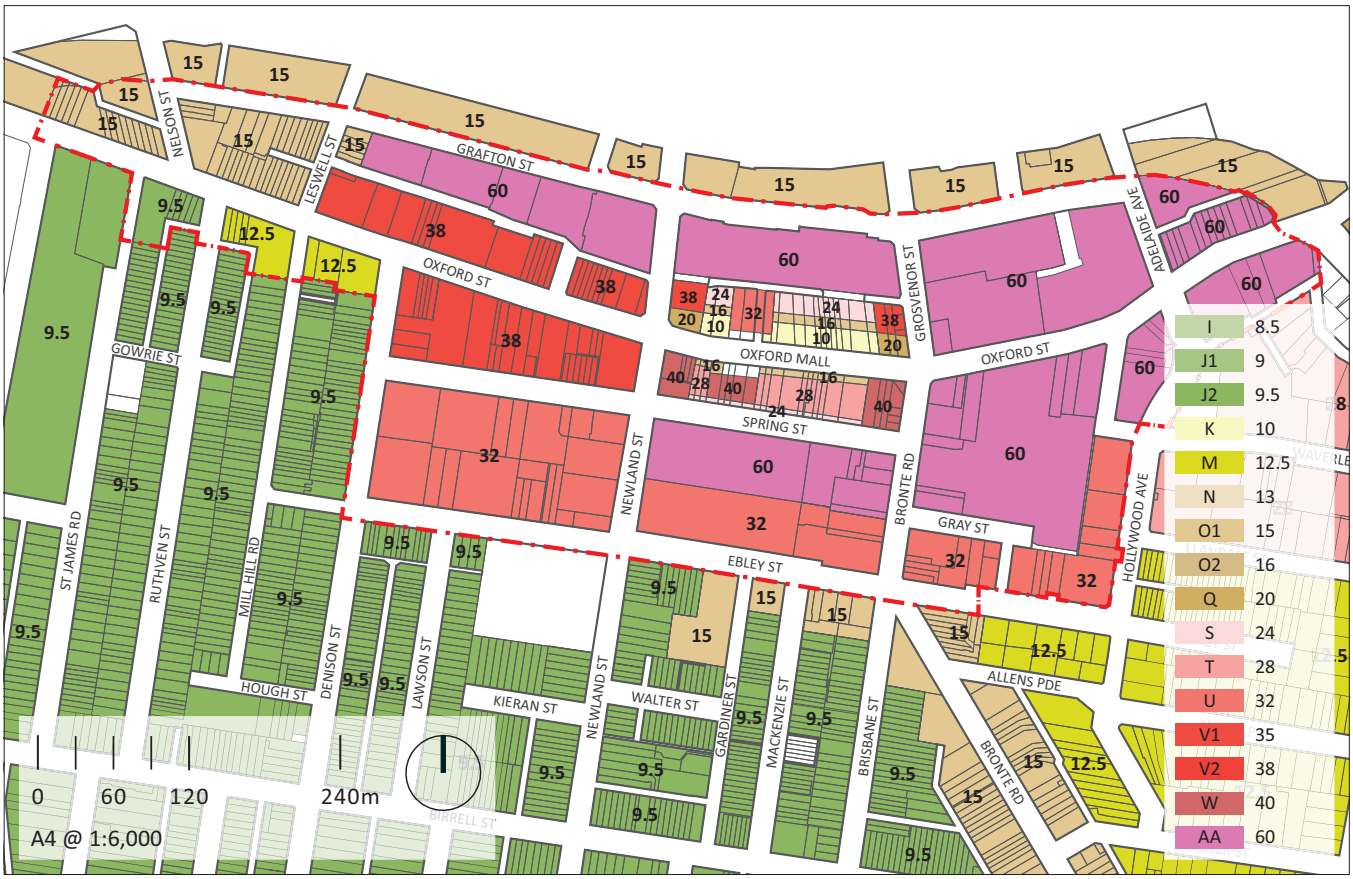



*Figure 5.19 Height of Buildings – Waverley LEP 2012*

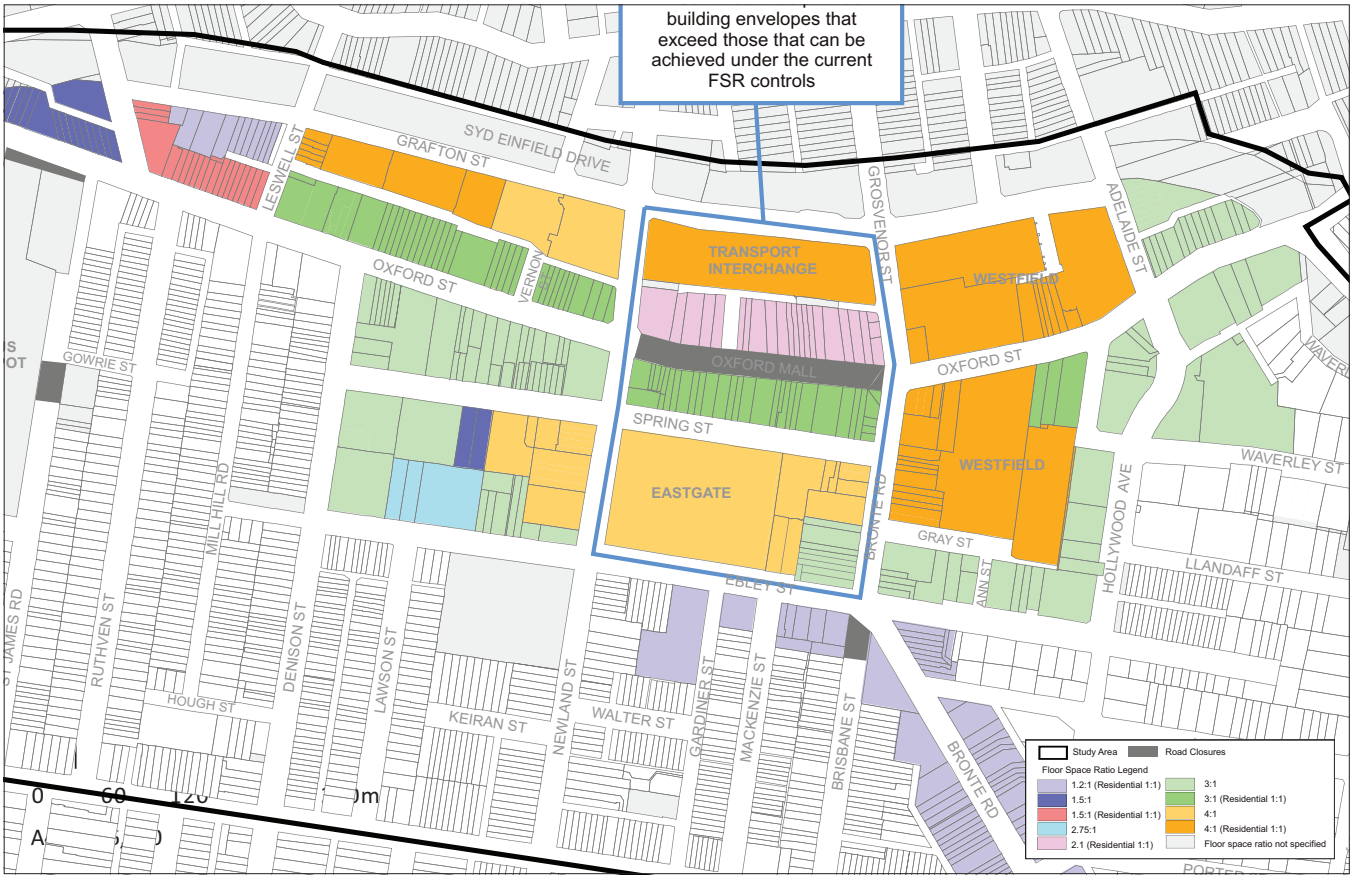



*Figure 5.20 Floor Space Ratio – Bondi Junction Centre Structure Plan 2006*

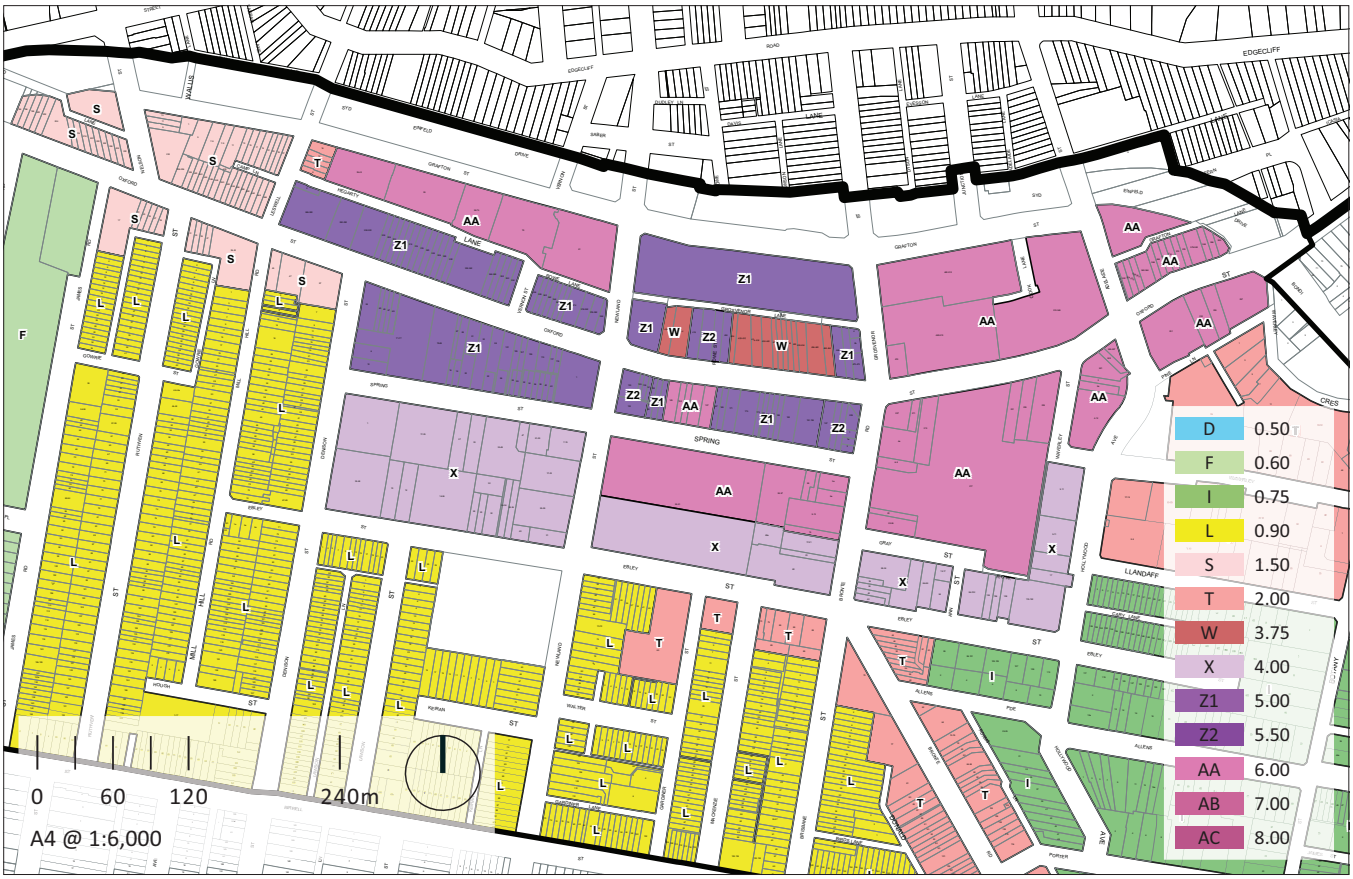



*Figure 5.21 Floor Space Ratio – Waverley LEP (Bondi Junction Centre) 2010*


*Figure 5.22 Floor Space Ratio – Waverley LEP 2012*

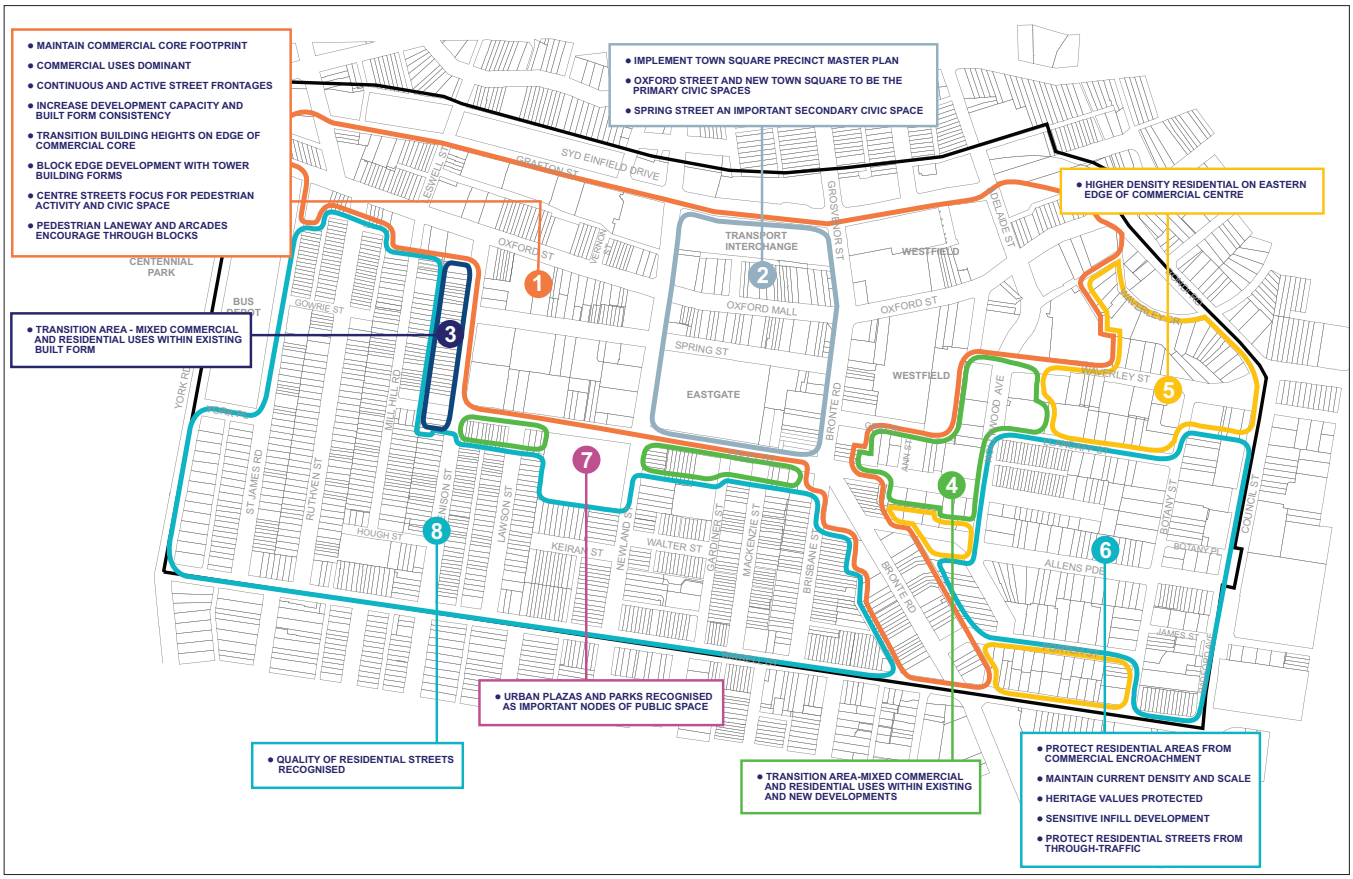



*Figure 5.23 Bondi Junction Centre Structure Plan*

- o An increase from 4.00:1 to 6.00:1 on the Waverley Council Library site.
- o An average (taken from 4.00:1 and 6.00:1) of 5.00:1 on the Eastgate site.

Over time, increases in FSR and HOB controls have led to an increase in development capacity in Bondi Junction and a prohibition of permanent residential uses (i.e. not hotel and serviced apartments) within the B3 Commercial Core zone. The Bondi Junction Centre Structure Plan identifies commercial sites that are constrained or unlikely to redevelop in the near future, such as those that have been recently refurbished, those that are strata title developments with more than 20 owners, and those that have heritage or streetscape value and those that are defined as having been developed to their full potential. The inverse of these sites are identified as potential development opportunities. It is worth noting that since the Structure Plan was completed in 2006, the change in LEP controls and consequent increase in development capacity may have changed the likelihood of development on some sites identified as constrained. Adjacent streets and laneways provide a service role within the centre.

**Bondi Junction Centre Structure Plan**

The Structure Plan provides a conceptual planning framework for Bondi Junction with the following strategies:

- Maintain the commercial core footprint.
- Allow for commercial uses to dominate.
- Encourage continuous and active street frontages.
- Increase the development capacity and built form consistency.
- Transition building heights on the edge of the commercial core.
- Encourage block edge development with tower building forms.
- Encourage centre streets as a focus for pedestrian activity and civic spaces.
- Encourage pedestrian laneways and arcades through blocks.
- Implement a Town Square Precinct Master Plan.
- Allow for Oxford Street and the new town square to function as the primary civic spaces.
- Allow for Spring Street to function as an important secondary civic space.

This conceptual planning framework underpins recommendations for potential control amendments to the Draft Waverley Comprehensive LEP 2011 and Draft Waverley DCP 2011 in aiming to provide controls that ensure improved pedestrian access between Spring Street and the bus and rail interchange as well as deliver sustainable buildings that respond to the topography and local context whilst minimising amenity impacts on the public domain and any neighbouring development (including residential uses) surrounding Bondi Junction.

**Shadow Analysis**

The shadow impact of tall buildings on their surrounding is a particular issue in most centre precincts. In Bondi Junction this issue is even more acute because the longer block orientation in east-west and the tallest buildings are located along its northern edge. Their shadow impact on neighbouring sites as well as the public domain has a significant impact on amenity in the centre. The development potential for residential uses in neighbouring sits is impacted by limited solar access caused by overshadowing of taller buildings. The quality of the public domain depends in particular on solar access, especially in pedestrian zones where visitors tend to spend more time and cafes invite a longer stay.

**Overshadowing of the Public Domain**

An explanation of overshadowing in Oxford Street Mall, Waverley Mall, Clementson Park and other areas is as follows:

*Oxford Street Mall*

The street grid of the Bondi Junction Centre follows a north-south and east-west orientation. This has a particular disadvantage for the east-west oriented streets when it comes to solar access at lunch time. Oxford Street Mall has an east-west orientation and is shaded at lunch time from buildings on its northern side (see Figure 5.24). A large number of visitors and employees are looking to have their break at a sunny spot which makes it particularly important to protect solar access to Oxford Street Mall. The ordinances in the LEP and DCP 2012 are arranged to provide solar access to Oxford Street Mall which is reflected by steps in the allowable development height along the northern block frontage.

However, the existing shadow impact of tall buildings along Grafton Street is significant. The tall tower buildings on top of the rail interchange cause significant shadow impact on Oxford Street Mall, especially during and after lunch time. It is worth noting, that the existing building height of the two tower buildings exceeds the permitted height of 60m as designated in Waverley LEP 2012.

The development potential of lots along the northern side of Oxford Street Mall is restricted by the height steps to secure solar access to Oxford Street Mall. The steps occur at 10m, 16m and 24m. These steps were introduced regardless of the actual shadow impact of the two tall towers to the north. An analysis of the actual shadow impact of the two towers indicates the areas along Oxford Street Mall with solar access on 21 June between 12pm and 2pm (see Figure 5.24). These are the relevant areas to be protected and the height step back should only be applied on buildings with impact on these areas. There is no need to lower the development potential in areas that get shaded by the two towers anyway.

The LEP Height of Buildings should reflect the aim to protect solar access to Oxford Street Mall while considering the actual existing and proposed urban environment. This includes the provisions for new buildings in context with the development of the Town Square. The built form as proposed for the Town Square development in the Waverley LEP 2012 Height of Buildings map on the northern side of Oxford Street Mall does not correspond with the Street Frontage Heights and setbacks as determined in the Waverley Development Control Plan 2012 (DCP) at this location.

Shadowing on Oxford Street Mall requires further rigorous analysis and testing.

*Waverley Street Mall*

The Waverley Street Mall is one of the very few areas in the Bondi Junction Centre where residents, visitors and employees can find a quiet space for a break away from traffic noise. It is important to protect solar access to Waverley Street Mall as it has a north-south orientation with good conditions for lunch time solar access. The mall is located within an area with high densities and building heights. The maximum permitted Height of Buildings on the western and eastern side of Waverley Mall is 60m which will have an impact on solar access in the morning and afternoon hours. The existing built form on the northern side (the Westfield Centre north of Oxford Street) has developed in a number of steps which have no shadow impact on Waverley Street at present (at 12pm, 21 June). Any further development within or on top of the Westfield Centre north of Oxford Street must follow this principle and cannot result in any further shadow impact on Waverley Street Mall at 12pm, 21 June. Any development application in this area should provide evidence that this aim is met. Height increase above the present 60m on the Westfield Centre north of Oxford Street is not recommended.

*Clementson Park*

Clementson Park is located on the south side of Ebley Street. Although located outside the actual boundary of the Bondi Junction Centre, it must be considered in the centre context. The height of development of the southern edge of the centre will determine how much solar access the park receives.

Although Centennial Park with its large open spaces and recreational facilities is within walking/cycling distance to the Bondi Junction Centre, Clementson Park plays a significant role as a local park. There is no other open space of comparable size within the Bondi Junction area and therefore it has a high value as recreation space and for community uses.

The Waverley LEP 2012 Height of Buildings map shows the northern side of Ebley Street between Denison Street and Newland Street with a blanket designation of maximum 32m. This height at the southern side of the block would have a significant shadow impact on Clementson Park. The permitted number of storeys at this location is determined through the Waverley DCP 2012 (Part E 1.26.2 Figure 36, 37, 38) which allows for a maximum of 8 storeys. It is unlikely to reach a height of 32m with 8 storeys, however for the

determination of potential shadow impact the maximum permitted height has to be taken into account.

At present the potential shadow impact on Clementson Park is controlled by the following clause in the Waverley DCP 2012 (Clause 1.11):

*'All public parks, including Clementson Park, are not to be overshadowed using the following standard: Less than 40% of the park should be in shadow between 11:00am and 3:pm, at the winter solstice; less than 70% of the park should be in shadow between the times of 7:00am and 9:am, and 4:00pm and 6:00pm, at the equinox.'*

This rather complex clause leaves room for interpretation and uncertainty. The actual area of Clementson Park needs to be defined and complex shadow impact studies need to be prepared for two different times of the year. It is not clear whether less than 40% should be in shadow at any time or less than 40% accumulated over the stated period of time.

A simpler approach is recommended that will deliver the desired solar access to Clementson Park and provides clear guidance to developers. As Clementson Park and any other public park within and around the centre are of such high value to visitors and residents, it is recommended to avoid any shadow impact at 12pm, 21 June. Therefore the clause should be amended to the following:

*'All public parks, including Clementson Parks, are not to be additionally overshadowed at 12pm on the winter solstice.'*

To support the overall goal of lunch time solar access for Clementson Park it is furthermore recommended amending the Waverley LEP 2012 Height of Buildings map to a 28m designation along the northern side of Ebley Street. It is also recommended to include a Solar Access clause for open spaces in the LEP 2012.

*Other Areas*

The shadow analysis for Bondi Junction Centre considers the shadow impact of existing and proposed building heights. It has shown that locations with lunch time solar access within the centre are few and valuable. It is recommended to protect those areas and increase solar access wherever possible. This is in particular applicable to streets and public domain along streets with a north-south orientation which will have a good solar access around lunch time (Bronte Road, Newland Street and Denison Street).

**Overshadowing of Development Areas**

An explanation of overshadowing in Bondi Junction Centre and residential areas south of the centre is as follows:

*Shadow Impact within the Centre*

The residential development potential of a site can be decreased by shadow impact from tall buildings that limit solar access. The control of solar access is especially important in a dense urban environment with mixed use buildings. The development potential of mixed use lots will be limited by heavy shadow impact of tall buildings in its surrounding. The Bondi Junction Centre has its tallest buildings on the northern side. A general section shows steps from 60m in the north to 38m in the central area and 32m along the southern side (see Figure 5.24 and Figure 5.25). The 60m height maximum encloses the shopping area along Oxford Street and Spring Street on its northern, eastern and southern side.

A general further height increase is not recommended, rather the increase of height at selected locations. One area that has been identified as suitable for height increase is the Westfield Centre between Oxford Street and Gray Street. This site would be available as large site to create A-grade office space and can be accessed and serviced via the ring road around the Bondi Junction. While a height increase in this area would result in limited and manageable shadow impact on areas outside the Bondi Junction Centre, it would result

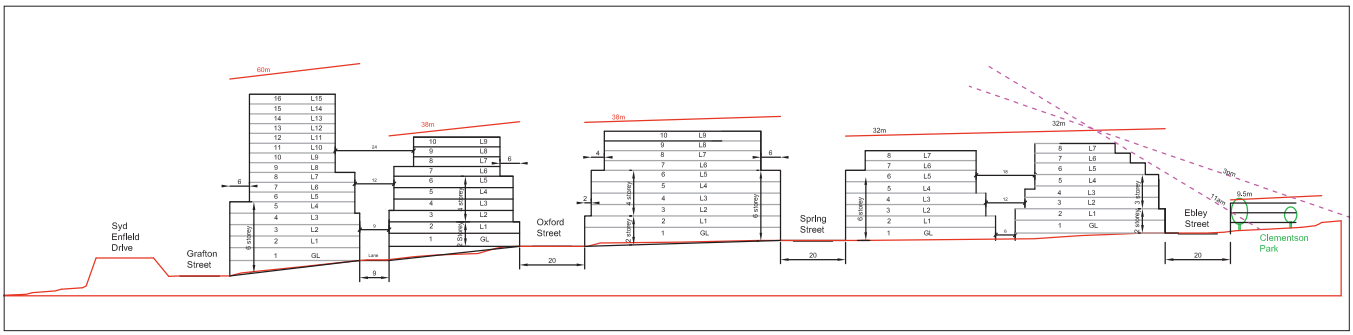



*Figure 5.24 Section according to Waverley DCP and LEP 2012*

0 25 50 100m

A4 @ 1:2,500

**Setbacks and max. Building Height according to Waverley LEP and DCP 2012;**
**Ceiling heights: 4m GL, 3.5m L1 to L5, min. 2.7 L6 and above if residential;**

in additional shadow impact on areas within the centre. Therefore it is not recommended to permit residential uses along the northern side of Ebley Street between Bronte Road and Hollywood Avenue nor on the western side of Hollywood Avenue between Ebley Street and Waverley Street. These areas would already receive shadow impact from any potential development on the Westfield centre even at the 60m designation as it is in the Waverley LEP 2012 Height of Building map.

*Residential Areas South of the Centre*

Particular consideration has been given to the residential areas south of the Bondi Junction Centre. Additional overshadowing of these areas, which also includes Clementson Park, has to be avoided. The Waverley LEP 2012 already considers the impact on this transition zone by permitting the development of offices along the western side of Denison Street and on some areas along the southern side of Ebley Street (Clause 2.5 and Schedule 1). It is recommended to extend this additional permitted use for all residential lots along the southern side of Ebley Street east of Denison Street. This way the transition between commercial and residential uses occurs in the block middle rather than in the street centre. Alternatively designation of Mixed Use zone for all lots currently zoned Residential along the south side of Ebley Street could achieve this objective.

A further height increase on the northern side of Ebley Street is not recommended as that would result in additional shadow impact beyond the first lots on the opposite southern side.

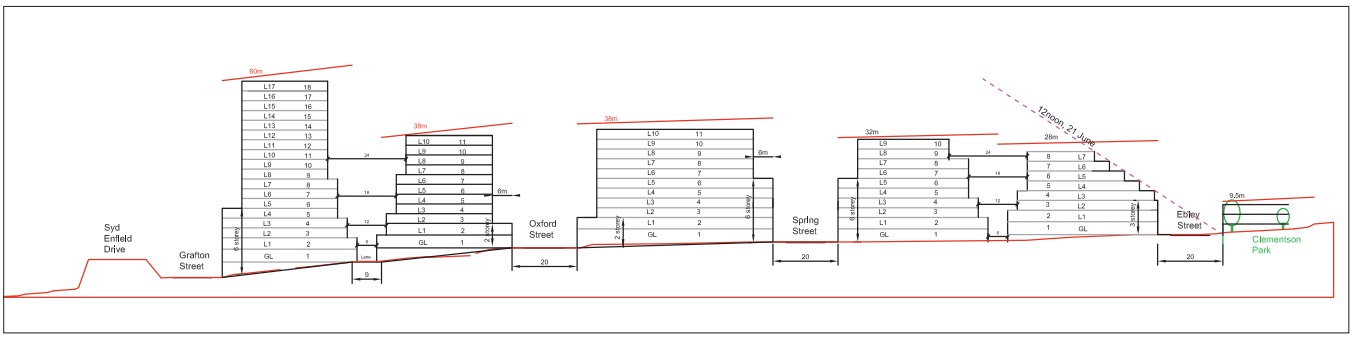



*Figure 5.25 Section considering proposed amendments*

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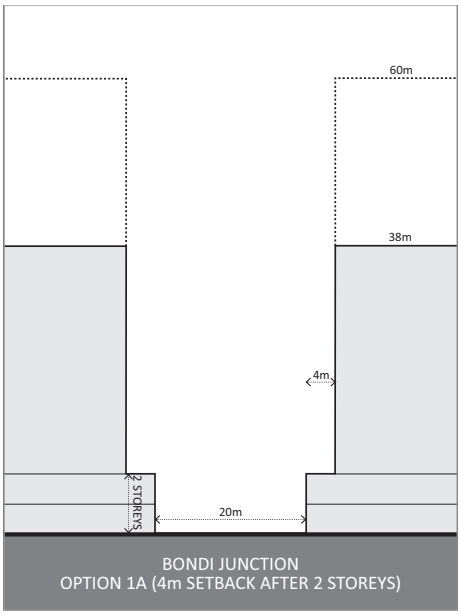
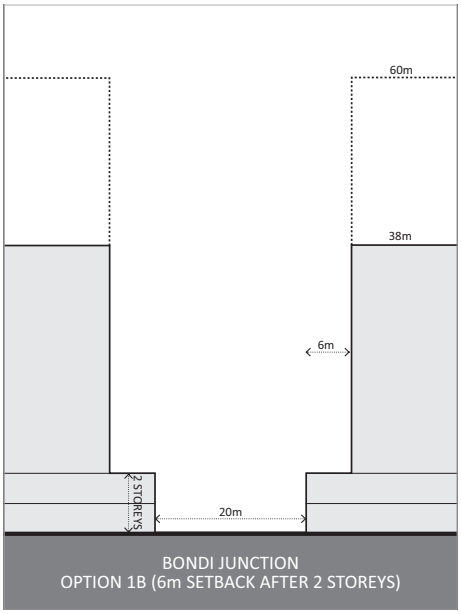
**Amended setbacks and max. Buidling Height;**
**Ceiling heights: 4m GL, 3.5m L1, residential levels above according to NCC and NSW RFDC;**



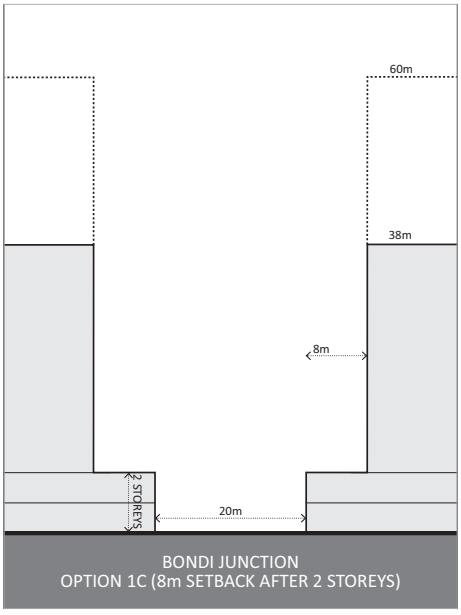




*Figure 5.26 Option 1 - Two (2) Storey Block Edge*

**Street Setbacks**

A street proportion where the street width and the block front result in approximately 1 : 1 would be appropriate for an inner city centre context such as Bondi Junction. The following options demonstrate the street proportion for block edges with a different number of storey within Bondi Junction to determine the appropriate block edge height for the centre.

This review recommends adopting option 1B (see Figure 5.26) for streets with a heritage context and option 3B (see Figure 5.28) for other streets.

Appropriate building setbacks on any site depend significantly on the immediate context. The context in Bondi Junction is highly varied. Therefore generic controls will not provide the optimal outcome in all instances. The DCP provides for relatively conservative (large) setbacks. This is intended to allow the assessors discretion (including the design review panel) to vary setbacks in instances where this variation meets the objectives and represents an improvement over the application of the full setback.

**<u>Option 1</u>**

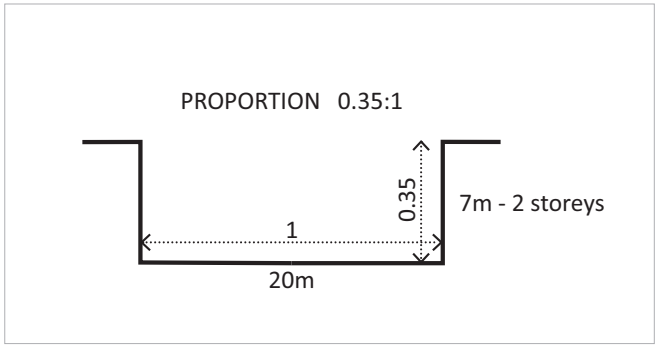
**2 Storey Block Edge**

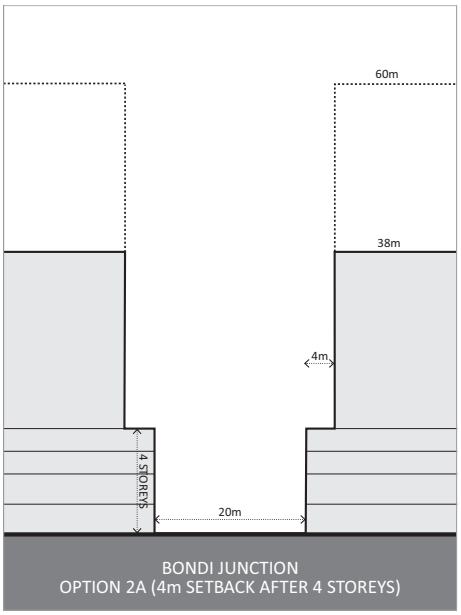
Setback options were researched to demonstrate the result of different setbacks in combination with a proposed block edge height. Particular consideration was given to the impact of downdraft winds from taller parts of the building, to the relation of street width to building height and to the retention of the 'human scale'.

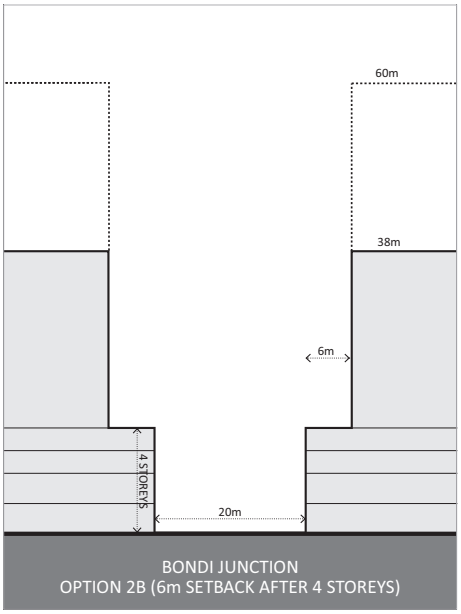
All relevant streets within the Bondi Junction Centre have an approximate width of 20m between lot boundaries. This is a classical 19th century street width with a 2 or 3 storey block edge. A 4 storey block edge still allows views of the sky or development beyond the block edge from the opposite street side while walking; however a 6 storey block edge requires deliberate effort to view beyond the opposite edge.

The setback for a 2 storey block edge is applicable in areas where there are heritage items (according to LEP Heritage Map Sheet HER_001A) or where emphasis on pedestrian amenities is paramount, for example Oxford Street between York Street and Adelaide Street, Bronte Road between Oxford Street and Birrell Street as well as Waverley Mall.

The DCP 2012 requires a double step back for areas with heritage context so as to retain the 2 storey block edge and to differentiate between the existing facades and new development. As such a 2m setback is required after the 2nd storey for the next 4 storeys. Another setback of additional 4m is proposed





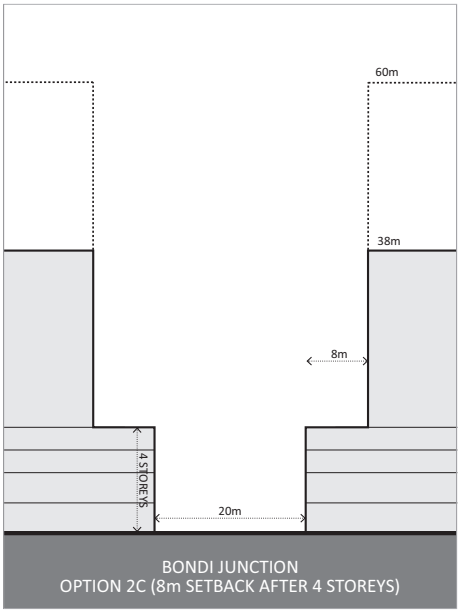




*Figure 5.27 Option 2 - Four (4) Storey Block Edge*

for all storeys above the 6th level. This produced a sub-optimal result in some recent developments. The 2m step back after the 2nd storey is not distinct enough to define the desired separation between old and new building.

The options depicted in Figure 5.26 show setback alternatives to a 2 storey block edge. Rather than applying the subtle set back after the second storey they apply a definite separation between a 2 storey block edge and the development above. To express this separation a minimum setback of 6m is recommended after the 2nd storey. An 8m setback would result in an even clearer distinction; however the loss of developable area would be significantly larger.

**Option 2**
**4 Storey Block Edge**

A 4 storey block edge in combination with a 20m street width allows views of the sky or development beyond the block edge from the opposite side of the street while walking. This is a classical 19th century main street frontage with shops on street level and residential or offices above. A walk up to the fourth storey was still considered to be manageable.

The Bondi Junction Centre context demands questioning whether a 4 storey block edge would be preferable to a 6 storey block edge in combination with a 20m street width. The preferred version of a mixed use building would have 2 to 4 commercial storeys on the lower levels with residential uses above, either in form of a perimeter block edge or as slender tower.

The options depicted in Figure 5.27 show setback alternatives for a 4 storey block edge. A distinct separation between a 4 storey block edge and the development above is required. To express this separation a minimum step back of 6m is recommended after the 4th storey. An 8m setback would result in an even clearer separation; however the loss of developable area would be significantly larger. A setback of less than 6m would result in insufficient separation between the building parts.