

**The Ordinary Meeting of  
Bayside Council**  
will be held by  
Audio Visual Link  
**on Wednesday, 8 April 2020 at 7.00 pm**

**UNDER SEPARATE COVER ATTACHMENTS**

**8 REPORTS**

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## EXECUTIVE SUMMARY

### OVERVIEW

This Revised Planning Justification Report has been prepared by Urbis on behalf of Scentre Group who part own and operate the Westfield Eastgardens Shopping Centre, along with co-owner Terrace Tower Group. The site is located at 152 Bunnerong Road, Eastgardens, NSW 2036.

The Applicant seeks to initiate the preparation of an amendment to the Botany Bay Local Environmental Plan 2013 (BBLEP) as it applies to the Site. This Report is intended to assist Bayside Council (the "Council") in preparing a Planning Proposal to amend the planning controls at the Site in accordance with Section 3.33 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Revised Report seeks to update the scheme detail of the Planning Proposal, which was originally lodged in March 2018 with Bayside Council, and then updated in March 2019.

The March 2019 update responded to comments from Council and their independent advisors on the original proposal, and incorporated associated documentation including an Urban Context Report, revised Retail and Commercial Economic Impact Assessments, Traffic Modelling, an updated Quantitative Risk Assessment and an Aeronautical Report.

This further revision to the Planning Proposal Request seeks to respond to additional comments from Council and their independent advisors, which included a series of items that required further resolution. The key themes of this feedback related to overshadowing impact to the five most impacted dwellings to the south of Wentworth Avenue, improvements to the presentation and pedestrian safety of Westfield Drive, and various comments with respect to the draft DCP to improve the certainty of the outcome. A series of workshops were held between the Proponent and Council staff to resolve these matters and this latest revised Planning Proposal Request incorporates amendments to address the matters raised.

### PROPOSED DEVELOPMENT VISION

The Westfield Eastgardens vision is to transform into a vibrant, mixed use town centre accommodating an improved arrival experience, expanded retail and leisure offer, and new commercial office towers integrated into an active civic plaza, connected to an enhanced bus terminus. There is the opportunity to improve accessibility, connect better with the community, create jobs and strengthen the economic role of the centre, in line with its recognition as a strategic centre under the Eastern City District Plan.

In addition, there is a longer-term aspiration to introduce new uses to the site such as student accommodation or hotel on the Northern Bunnerong Road frontage. This does not form part of the current planning proposal but is illustrated on the Masterplan to show how this part of the site may be developed in the future.

The Masterplan demonstrates a cohesive and integrated approach to the redevelopment of the shopping centre to facilitate a response to consumer trends and the population growth in the trade area by enhancing the retail and commercial offering of the centre. It will also provide an opportunity to improve accessibility, create jobs and strengthen the economic role of the strategic centre.

The following points represent the key elements of the Vision:

Create a *Living Centre* that acts as a community hub from morning through to late evening:

- Meet the objectives of the Maroubra-Eastgardens Strategic Centre by creating employment opportunities, renewing an existing centre and creating new public places and spaces;
- Recognise the changing needs of the market by providing a range of new and improved retail offerings;
- Create a truly mixed-use precinct that provides a range of services and acts as the focal point for the local community;
- Facilitate the fulfillment of a range of community needs, including medical appointments, childcare, evening dining, entertainment and leisure;

- Provide two future commercial buildings to accommodate a range of office uses, which will assist future employment growth and job creation at the centre;
- Creating a new food and leisure precinct with rooftop dining, benefiting from views across the local golf course and towards the Sydney CBD;
- Upgrade the existing bus interchange to add more capacity and improve the passenger experience; and
- Create a space where shoppers, residents, workers and students can relax and socialise.

To improve pedestrian accessibility, amenity, safety and permeability:

- Create a better civic entry from the east by rearranging bus and taxi access, along with enhancing the public domain;
- Improve the external interfaces and quality of the streetscape around the centre; and
- Retain existing car parking provision and provide additional parking appropriate for the expansion of the centre;

To encourage additional job opportunities for the local community:

- Provide large office floor plates that are unique to the Eastgardens-Maroubra Strategic Centre to encourage new businesses to the area without impacting existing local office stock.
- Meet the objectives of the 30-minute city as outlined in the Greater Sydney region Plan
- Provide commercial jobs within a highly accessible location and in proximity to new high-density residential development.

To provide the potential for future land uses on the site:

- Future provision for possible student accommodation or hotel on the north-eastern side of the site to respond to support the investment in the Randwick Health and Education collaboration area.

Given the desire to progress a future stage of the development at Westfield Eastgardens, following this first approval stage of the Masterplan, it is intended that a collaborative process can be undertaken between Council and Scentre Group as part of the Bayside LEP Review. With Bayside identified as a Priority Council for its LEP Review, Scentre Group are eager to be a key stakeholder in discussions and engagement concerning the future identification of the centre within the revised LEP.

## PROPOSED LEP AMENDMENT

To facilitate the vision, it is intended to amend the BBLEP 2013 as follows:

- Floor Space Ratio: Introduce a new maximum allowable floor space ratio (FSR) of **1.8:1**
- Height of Buildings: Introduce a new maximum allowable building height of **Part 34m, Part 40m, Part 59m** (with the remainder of the site no change at 25m).

## PLANNING ASSESSMENT

The Planning Proposal provides a comprehensive justification of the proposed amendment to the BBLEP 2013, with the main points as follows:

- The proposal will allow the future expansion of retail and leisure uses at the site which reflects the importance of Westfield Eastgardens as a major regional shopping centre within a 'Strategic Centre' as identified within the Eastern City District Plan;
- The site is highly accessible, given that it is close to main arterial roads which form part of a Strategic Bus Corridor and the site already accommodates a bus interchange which caters for twelve separate bus services;
- The proposal will facilitate the creation of a mixed-use centre by providing a mix of commercial offices within an established retail precinct;



- The proposal will facilitate the development of commercial buildings, which will accommodate new local employment, provide a greater diversity of uses and strengthen the economic role of the centre;
- The co-location of an enhanced retail offer and new office accommodation, along with the residential development to the north of the site will serve to create a new sense of place at this location where the local community can live, work and spend leisure time;
- A new publicly accessible plaza fronting Bunnerong Road will promote active uses at the ground plane such as externalised retail, access to individual entry lobbies for each of the commercial buildings, and direct vertical connection to the bus interchange below through landscaped voids;
- There is adequate economic capacity within the catchment area to facilitate the development without having an adverse impact upon existing and planned centres within the local region;
- The proposal will allow for the future provision of adequate car parking on site to cater for demand at the site, at a rate that can be accommodated within the capacity of the existing road network;
- The proposal can satisfy the risk guidance for dangerous goods transit from the Botany Industrial Precinct; and
- The Planning Proposal will allow for a building envelope within which the shopping centre and new commercial towers can be developed which will have minimal impact on local environmental conditions.

## SUMMARY

The Planning Proposal has been prepared in accordance with Section 3.33 of the EP&A Act and the relevant guidelines prepared by the NSW Department of Planning and Environment (now Department of Planning, Industry and Environment - DPIE) including "A Guide to Preparing Local Environmental Plans" and "A Guide to Preparing Planning Proposals."

The proposal is consistent with the objectives and actions contained within 'A Plan for Growing Sydney', the Greater Sydney Region Plan, the Eastern City District Plan and Council's Strategic Plan.

It is also consistent with applicable State Environmental Planning Policies and Section 9.1 Directions. The proposed amendment to the BBLEP 2013 has both strategic merit and site-specific merit, and there is a clear public benefit for proceeding with this Planning Proposal.

As such, this Planning Proposal should be favourably considered by Council.

# 1. INTRODUCTION

## 1.1. OVERVIEW

This Revised Planning Justification Report has been prepared by Urbis on behalf of Scentre Group who part own and operate the Westfield Eastgardens Shopping Centre, along with co-owner Terrace Tower Group. The site is located at 152 Bunnerong Road, Eastgardens, NSW 2036.

The Applicant seeks to initiate the preparation of an amendment to the Botany Bay Local Environmental Plan 2013 (BBLEP) as it applies to the Site. This Report is intended to assist Bayside Council (the "Council") in preparing a Planning Proposal to amend the planning controls at the Site in accordance with Section 3.33 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Revised Report seeks to update the scheme detail of the Planning Proposal, which was originally lodged in March 2018 with Bayside Council, and then updated in March 2019.

The March 2019 update responded to comments from Council and their independent advisors on the original proposal, and incorporated associated documentation including an Urban Context Report, revised Retail and Commercial Economic Impact Assessments, Traffic Modelling, an updated Quantitative Risk Assessment and an Aeronautical Report.

This further revision to the Planning Proposal Request seeks to respond to additional comments from Council and their independent advisors, which included a series of items that required further resolution. The key themes of this feedback related to overshadowing impact to the five most impacted dwellings to the south of Wentworth Avenue, improvements to the presentation and pedestrian safety of Westfield Drive, and various comments with respect to the draft DCP to improve the certainty of the outcome. A series of workshops were held between the Proponent and Council staff to resolve these matters and this latest revised Planning Proposal Request incorporates amendments to address the matters raised.

In support of this request the Proponent has provided updated documentation as follows:

- Urban Context Report prepared by Architectus (amended).
- Draft Development Control Plan prepared by Architectus (amended).
- Addendum to Review of Transport Matters prepared by SLR.
- Amended LEP Maps prepared by Architectus.
- The remainder of the existing consultant reports previously lodged continue to be relevant and are appended to this report.

The intended outcome of the Planning Proposal is to amend the BBLEP as follows:

- **Floor Space Ratio:** Introduce a new maximum allowable floor space ratio (FSR) of **1.8:1**
- **Height of Buildings:** Introduce a new maximum allowable building height of **Part 34m, Part 40m, Part 59m** (with the remainder of the site no change at 25m).

These proposed amendments are detailed in **Table 1** below:

Table 1 – Summary of Proposed Development Controls

Development Standard	Present BBLEP Control	Proposed Amended Control
Floor Space Ratio	1:1*	1.8:1
Height of Building	25m	34m / 40m / 59m (remainder of site 25m)
Zone	B3 Commercial Core	B3 Commercial Core (no change)

\* (A previous approval at the site has consented an FSR of up to 1.087:1 [Ref: DA14-123])

The expansion of the Westfield Eastgardens Shopping Centre seeks to respond to a range of factors, these include:

- The densification and gentrification of the trade area;
- Current and forecasted population growth of the Eastgardens-Maroubra Strategic Centre and surrounding area;
- The popularity of the existing fresh food offer, and to meet changing consumer expectations;
- To meet the demand for fashion retail by residents in the trade area that is currently being fulfilled at shopping destinations outside the trade area;
- To leverage off the existing strategic bus route links via the bus interchange at the site;
- A change in the modal shift towards public transport orientated travel to and from the precinct;
- Satisfying the shopping centre renewal cycle, in a situation where there have been no significant upgrades to the centre in over 15 years, whilst the needs of the community have evolved, and other competitors are reinvesting in their retail experience; and
- Providing opportunity for a greater level of commercial floor space, in close proximity to the bus interchange, given the identification of Eastgardens-Maroubra Junction as a 'Strategic Centre' within the Eastern City District Plan.
- The new commercial office space will help to meet demand from other centres, whilst the proposed floorplate sizes offer a point of difference to the local stock, thereby attracting a wider cross-section of future tenants.
- To facilitate a modern precinct which can accommodate future student accommodation or open market residential accommodation, in response to the identification as a Strategic Centre.

The scheme for the site seeks to introduce an increase in floor space at the centre by approximately 64,800sqm (GFA) (51,500sqm GLA) of which approximately 37,500sqm GFA (27,500sqm GLA) would be for retail purposes and 27,300sqm GFA (24,000sqm GLA) would be for a new commercial building.

A commensurate level of car parking will also be provided at the site to support the expanded centre, however benefiting from improvements to public transport and the balancing of peak demand between the multiple uses at the site.

## 1.2. REPORT STRUCTURE

Planning Proposals should be prepared in accordance with NSW Department of Planning and Environment (now DPIE) documents 'A Guide to Preparing Planning Proposals' and 'A Guide to Preparing Local Environmental Plans' published in December 2018.

This stipulates that the following information is required for a Planning Proposal:

1. A statement of the objectives and intended outcomes of the proposed instrument;
2. An explanation of the provisions that are to be included in the proposed instrument;
3. The justification for those objectives, outcomes and the process for their implementation;
4. Identify the intent of the Planning Proposal and the area to which it applies;
5. Details of community consultation that is to be undertaken on the Planning Proposal; and
6. A project timeline to detail the anticipated timeframe for the plan making process.

The level of detail required for a Planning Proposal should also be proportionate to the complexity of the proposed LEP amendment. It is considered that this Planning Justification Report contains sufficient



information relating to the above bullet points to address the relevant environmental, social, economic and other site-specific considerations.

This Planning Justification Report is supported by the following documentation:

- Urban Context Report prepared by Architectus (**Appendix A**) (lodged in November 2019).
- Retail Economic Impact Assessment prepared by Urbis (**Appendix B**) (lodged in March 2019).
- Commercial Office Economic Impact Assessment prepared by Colliers International (**Appendix C**) (lodged in March 2019).
- LEP Maps prepared by Architectus (**Appendix D**) (lodged in November 2019).
- Traffic Assessment and Addendum to Review of Transport Matters prepared by SLR Consulting (**Appendix E**) (lodged in March 2019 and November 2019 respectively).
- Quantitative Risk Assessment Report prepared by Systra (**Appendix F**) (lodged in March 2019).
- Draft Site Specific DCP prepared by Architectus (**Appendix G**) (lodged in November 2019).
- Aeronautical Assessment prepared by Strategic Airspace (**Appendix H**) (lodged in March 2019).

## 2. WESTFIELD EASTGARDENS

### 2.1. REGIONAL CONTEXT

The site is located within the suburb of Eastgardens within the Bayside Council Local Government Area (formerly Botany Bay Council). This is in south eastern Sydney, some 8km south of the Sydney CBD. It is situated between Sydney Airport at Mascot and the coastal areas of South Coogee, Maroubra and Malabar.

Figure 1 below identifies the wider site location and other main shopping locations in the region. The orange dotted line indicates the 5km radius from the Westfield Eastgardens site, whilst the dotted line shows the extent of the light rail network that is being developed in this part of Sydney, from Circular Quay through to both Kingsford and Randwick.

Figure 1 – Nearby Key Centres



Source: Urbis

## 2.2. LOCAL CONTEXT

There are a variety of land uses surrounding the shopping centre, including industrial, residential and open space. Sydney Airport is located a short distance to the southwest of the site while the heavy industrial areas of Port Botany and the Botany Industrial Precinct are located to the south and west of the site. This is shown in greater detail in Figure 2 below, where the site is outlined in red.

In terms of the immediate surroundings, to the north of the site is a former industrial area comprising the former British American Tobacco (BATA) site which has planning consent for new residential apartments. These new apartments are currently under construction by Meriton, with Stage 1 almost complete and Stage 2 now approved through the planning process.

To the south of the site beyond Wentworth Avenue is the Hensley Athletic Field and an area of detached dwelling houses accessed from Denison Street. Bonnie Doon Golf Course is situated to the west of the site, whilst further residential areas are located to the east between the site and Maroubra Junction.

Other uses in the general area include the University of New South Wales and a large hospital precinct, including the Sydney Children's Hospital, the Prince of Wales Hospital and the Royal Hospital for Women, in Randwick.

Figure 2 – Aerial Site Image



Source: Urbis (Site outlined in red)

## 2.3. THE SITE

The shopping centre was officially opened in October 1987 and extended and refurbished in 2001. No significant upgrade works have been undertaken at the centre since 2002.

It is a fully enclosed, multi-level major regional shopping centre. It is anchored by Myer, Big W, Coles, Target, Woolworths, Kmart and over 250 specialty stores. The legal description of the site is Lot 1 DP1058663. The site has a total site area of approximately 9.3ha.

The Westfield Eastgardens shopping centre occupies a site which is bounded by Wentworth Avenue to the south, Bunnerong Road to the east, Westfield Drive to the north and Banks Avenue to the west. The centre



provides some 84,400sqm of Gross Leasable Area (GLA) which accommodates approximately 70,500sqm of retail floor space (excluding cinemas, banks and travel agents etc.), along with some 5,000sqm of office floor space and a 723-seat cinema complex, supported by over 3,100 car parking spaces.

The total consented Gross Floor Area (GFA) for the site is currently 100,926sqm (following DA14/123), although the full extent of this floor space has not yet been developed. A desktop survey of the existing building performed by Scentre Group in 2018 calculates the existing built GFA as 99,440sqm.

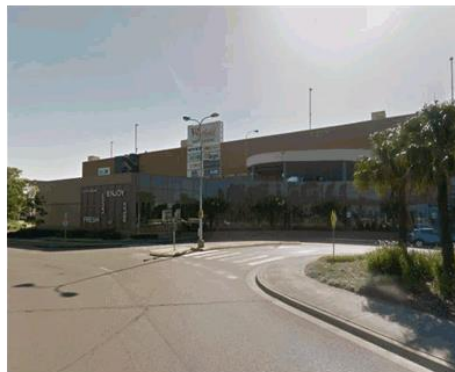
Photographs of the existing shopping centre are provided in Figure 3.

Figure 3 – Existing Site Photographs



Picture 1 – View from Bunnerong Road

Source: Google Earth



Picture 2 – View from Banks Avenue

Source: Google Earth



Picture 3 – View from Westfield Drive

Source: Google Earth



Picture 4 – View from Wentworth Avenue

Source: Google Earth

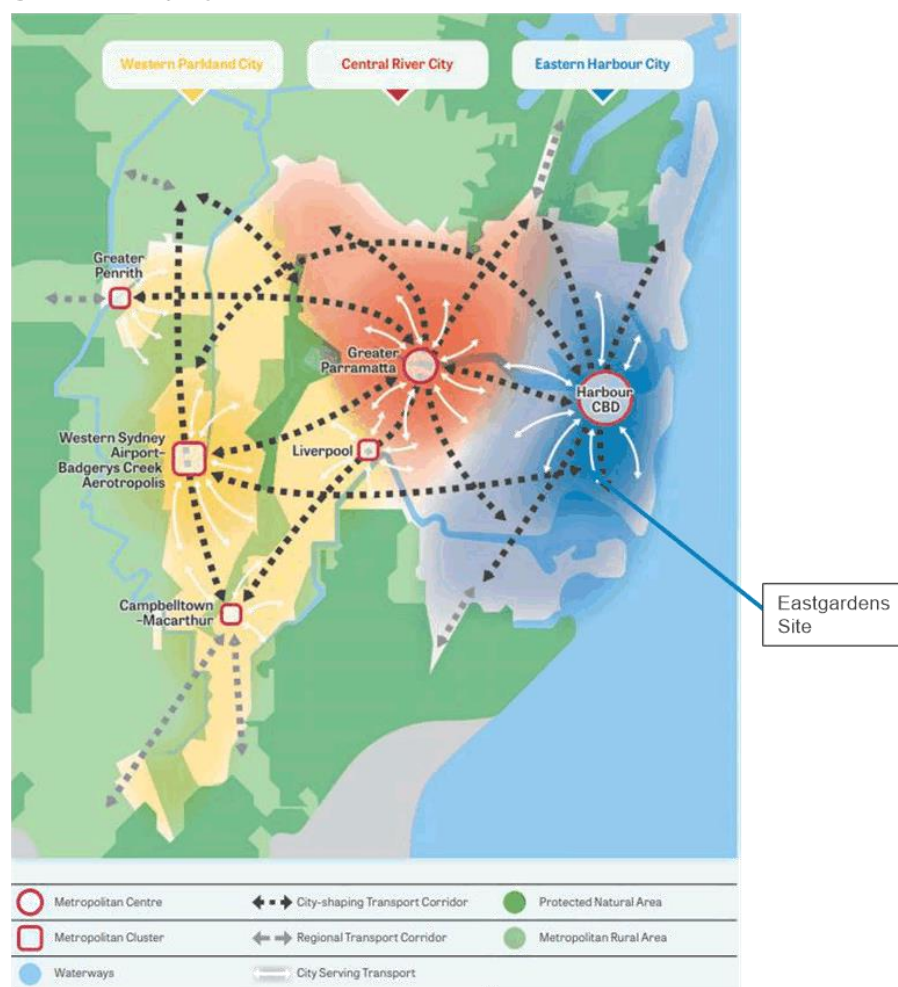
### 3. STRATEGIC PLANNING CONTEXT

#### 3.1. A METROPOLIS OF THREE CITIES – THE GREATER SYDNEY REGION PLAN

Released in March 2018, the final version of the Region Plan ensures land use and transport opportunities develop more equitably across Greater Sydney.

The Region Plan conceptualises Greater Sydney as a metropolis of three '30-minute' cities and is presented with the District Plans to reflect the most contemporary thinking about Greater Sydney's future. The site is located within the broader 'Eastern Harbour City', as shown in Figure 4 below.

Figure 4 – Greater Sydney as Three Cities



Source: Greater Sydney Commission

It sets the vision and strategy for Greater Sydney, to be implemented at a local level through District Plans. For the first time, the Plan has been prepared in conjunction with the *NSW Government's Future Transport 2056 Strategy* and informs Infrastructure NSW's State Infrastructure Strategy providing full integration of land use, transport and infrastructure planning.

The Region Plan is underpinned by four key pillars which outline specific objectives to be achieved. The four pillars include:

- Infrastructure and Collaboration
- Liveability
- Productivity
- Sustainability

An assessment of the Planning Proposal against the relevant objectives of the Region Plan is provided in Section 9.2 of this Report.

### 3.2. EASTERN CITY DISTRICT PLAN

Released in March 2018, the final version of the Eastern City District Plan is a 20-year vision that provides strategic guidance on the economic, social and environmental growth in the Eastern City District of Greater Sydney. The District Plans have been prepared to align the Region Plan and the detailed planning outcomes for local areas.

The District Plan sets out priorities and actions for the development of the Eastern City District, which includes the LGAs of Bayside, Burwood, Canada Bay, Inner West, Randwick, Strathfield, the City of Sydney, Waverley and Woollahra, as shown in The Eastern City District encompasses the areas identified within the red line in Figure 5 overleaf.

This figure indicates that the site is proposed to be within the Eastgardens-Maroubra Junction Strategic Centre.

The priorities for this Eastern City District include:

- Growing investment, business opportunities and jobs in strategic centres;
- Providing services and social infrastructure to meet people's changing needs;
- Fostering healthy, creative culturally rich and socially connected communities;
- Growing investment in health and education precincts and the Innovation Corridor; and
- Providing housing supply, choice and affordability, with access to jobs and services;

As required by the *Environmental Planning and Assessment Act 1979*, the District Plan:

- Provides the basis for strategic planning in the District, having regard to economic, social and environmental matters;
- Establishes planning priorities that are consistent with the objectives, strategies and actions of the Region Plan; and
- Identifies actions required to achieve the planning priorities.

Figure 5 – Eastern City District



Source: Greater Sydney Commission

Figure 5 above is reproduced in the Eastern City District Plan and it identifies Eastgardens-Maroubra Junction as a 'Strategic Centre'. Within Planning Priority E11, it states that the centre has a large retail catchment and opportunities to link the two centres along a corridor of activity should be investigated.

The 'Actions No.48' for the centre are identified as the following:

*"Strengthen Eastgardens-Maroubra Junction through approaches that:*

- a. protect capacity for job targets and a diverse mix of uses to strengthen and reinforce the economic role of the centre*
- b. extend and investigate additional economic activities to connect Eastgardens and Maroubra Junction and complement the existing activities*
- c. leverage future public transport connections in the south east and west of the District*
- d. encourage provision of affordable housing to support the nearby health and education facilities and employment lands*
- e. promote place making initiatives to improve the quality and supply of public spaces, promote walking and cycling connections and integrate with the Green Grid*



*f. improve public transport connections and walking and cycling between Eastgardens-Maroubra Junction and Randwick."*

It is clear from the above actions that significant growth is expected within the centre over the plan period and given its new status as a 'Strategic Centre'. The Plan outlines the jobs targets for the various centres including Eastgardens-Maroubra Junction as illustrated in the Table 2 below:

Table 2 – Eastern City District Job Targets

Centre	2016 Estimate	2036 Baseline Target	2036 Higher Target
Eastgardens Maroubra	6,900	8,000	9,000

These job targets are intended to provide guidance to Councils and government agencies as to the likely scale of employment growth, whilst also helping to inform land use and infrastructure planning. The reason a range is provided is to account for varying economic conditions, and the higher growth scenario would reflect further investment in the centres.

The expansion of Westfield Eastgardens to provide approximately 58,000sqm of Gross Lettable Area (GLA) of which approximately 27,500sqm (GLA) would be for retail purposes and 30,500sqm (GLA) would be for the new commercial buildings.

The Economic Assessments (attached at Appendix B & C) identify that the proposal will generate an estimated additional 1,139 jobs within the retail expansion (full-time and part-time), along with some 1,220 – 1,525 full-time-equivalent jobs as part of the new commercial office buildings. This will significantly contribute to meeting the job targets set out in the District Plan and cement the precinct as a strategic centre.

Allied to the proposed jobs target within the Plan, are the five-year housing targets which are based upon the District's dwelling need and are said to provide an opportunity to deliver supply. This is broken down into Local Government Areas (LGAs). **Table 3** below sets out this housing target:

Table 3 – Five Year Housing Target

Area	2016-2021 Housing Target
Bayside LGA	10,150
Eastern City District Total	46,550

The Bayside Council LGA has the second highest housing target of the LGAs in the Eastern City District after the City of Sydney and represents almost a quarter of the new dwelling target for the District. This demonstrates that the Greater Sydney Commission views Bayside LGA as a location which can accommodate significant population growth, the consequence of which is that other services and facilities would need to be expanded to support this growth. This includes the provision of adequate retail floor space and offer to meet the needs of local residents and new office space to support employment growth.

Furthermore, the former BATA site adjacent to Westfields Eastgardens will contribute to this increase in residential population within the local area. The site is being developed by Meriton and is being marketed as 'Pagewood Green'.

The site extends to approximately 16ha, with the first 10ha already benefitting from consent for some 2,200+ dwellings, which are now being delivered. The completed site is expected to yield approximately 3,800 dwellings. This will create a significant new resident population immediately adjacent to the shopping centre. The whole of the Meriton site is within 500m walking distance to Westfield Eastgardens, and the improved retail offer around dining, entertainment and leisure will be conveniently accessible by foot.

Furthermore, Planning Priority E11 within the Plan has a wider set of Actions for which seek to manage growth and change in strategic and district centres. This sets out 'Actions 38 and 39' which include:

- *Attracting significant investment and business activity in strategic centres to provide jobs growth;*
- *Diversifying the range of activities in all centres;*

- *improving public transport services to all strategic centres;*
- *Co-locate health, education, social and community facilities in strategic centres along the economic corridor.*

Given this, it is clear that there will be a need to grow existing centres to provide job growth, but also to attract health and education activities into centres. To address this, the future commercial building at the site could accommodate a wide range of office and business uses, including the potential for health and education sectors. This co-location of retail and health uses has already been achieved at Bondi Junction, where there are a significant number of medical offerings in the commercial towers above the Westfield Bondi Junction Shopping Centre.

The message from the above 'Priority' and 'Actions' is clear in that retailers situated within centres should be allowed to grow in line with demand and operator requirements, and that Eastgardens centre should be strengthened to support job growth and encourage business activity.

To assist in achieving the above, Planning Priority E10 of the Plan seeks to deliver greater integration of land use and transport planning. It identifies that access to strategic centres and interchanges will be supported by improvements to the transit network. This includes investigating the feasibility of future mass transit corridor to the south of Kingsford, linking to Maroubra Junction. This would benefit significantly benefit the Eastgardens- Maroubra Junction Strategic Centre and could provide a potential location for interconnecting trips with the strategic bus network. As an advance investment, it is proposed to upgrade the bus interchange at Westfield Eastgardens as part of the proposal to add operating capacity, connect with a public plaza above, and improve the passenger experience to encourage great use of public transport to the site.

### 3.3. BOTANY BAY PLANNING STRATEGY 2031

The Botany Bay Planning Strategy (the "Strategy") was published in 2009 and identifies Eastgardens as a standalone shopping centre built in the last 30-40 years, which is designed to be visited by car and does not integrate well with the surrounding residential areas. However, the Strategy goes on to indicate that the Strategic Bus Corridor will use the bus interchange at Westfield Eastgardens. This part of the Strategy has been implemented, with approximately ten bus services visiting the bus interchange. This has significantly improved public transport connections.

The Strategy is clearly dated given the time that has passed since its publication, and it does not envisage an intensification of retailing activities at Eastgardens. However, it indicates that when the BATA site adjacent to the centre is developed, alternate land uses should be the subject of a detailed planning study. The former BATA site is currently being redeveloped and this represents a change in local circumstances, whereupon the future growth of the centre would need to be reconsidered.

### 3.4. NSW STATE PRIORITIES

In September 2015, the NSW Premier unveiled 12 personal priorities and 18 state priorities to grow the economy, deliver infrastructure, protect the vulnerable, and improve health, education and public services across NSW.

These priorities were to set the agenda for the NSW Government Sector over the coming years and included the following:

- Creating jobs;
- Encouraging business investment; and
- Delivering strong budgets.

The proposed expansion of Westfield Eastgardens would assist with the above priorities through the creation of additional jobs within the centre, the increased investment in business by both the centre operators, retailers and office-based businesses, and the overall positive impact on the local economy which would help to promote growth and assist the government in delivering strong budget.

### 3.5. FUTURE TRANSPORT STRATEGY 2056

The Future Transport Strategy 2056 is a vision for how transport can support growth and the economy of NSW over the next 40 years. It was published by Transport for NSW at the same time as the GSC released the Greater Sydney Region Plan in March 2018. The strategy is underpinned by the Regional Services and Infrastructure Plan and Greater Sydney Services and Infrastructure Plan.

It identifies a range of transport objectives for Greater Sydney including:

- Safely, efficiently and reliably moving people and goods;
- Connecting people and places in a growing city;
- Sustaining and enhancing the liveability of our places; and
- Accessibility for all customers, convenient and responsive to customer needs; and makes best use of available resources and assets.

As identified above, the Future Transport Strategy 2056 vision for the Greater Sydney mass transit network identifies a new mass transit corridor to Maroubra Junction, which would significantly enhance the public transport accessibility of the strategic centre and support the growth of the centre in the future.

Scentre Group made a submission on the draft report of Future Transport 2056 in December 2017, which supported the confirmation of Eastgardens as a strategic centre and identified the imperative to provide for greater mass transit services to the centre which would be achieved by an extension of light rail or metro rail connection to Westfield Eastgardens. Eastgardens is the logical location for intermodal transport connections to maximise the future development benefit around new transport infrastructure; whereas Maroubra Junction is essential already developed, and its Local Centre zoning makes it unlikely to achieve a commercial precinct of any substance given permissible residential development will always provide a great return for landowners than office.

Engagement with Transport for NSW is ongoing.

### 3.6. BAYSIDE DRAFT LSPS

Bayside Council released 'Future Bayside – Draft Local Strategic Planning Statement' (draft LSPS) for consultation from August to October 2019. This draft LSPS set out a 20-year vision for land use in Bayside, described the special characteristics and community values of the Bayside area that should be retained and outlined how growth will be managed in the future. This document has yet to be formally adopted by Council or endorsed by DPIE, so at this stage is cannot be considered in the assessment of this Planning Proposal Request.

However, it is noted that the draft LSPS recommends that opportunities are identified to strengthen the economic role of Eastgardens-Maroubra Junction Strategic Centre, which this Planning Proposal Request directly responds upon.





#### 4.1.2. Height of Building

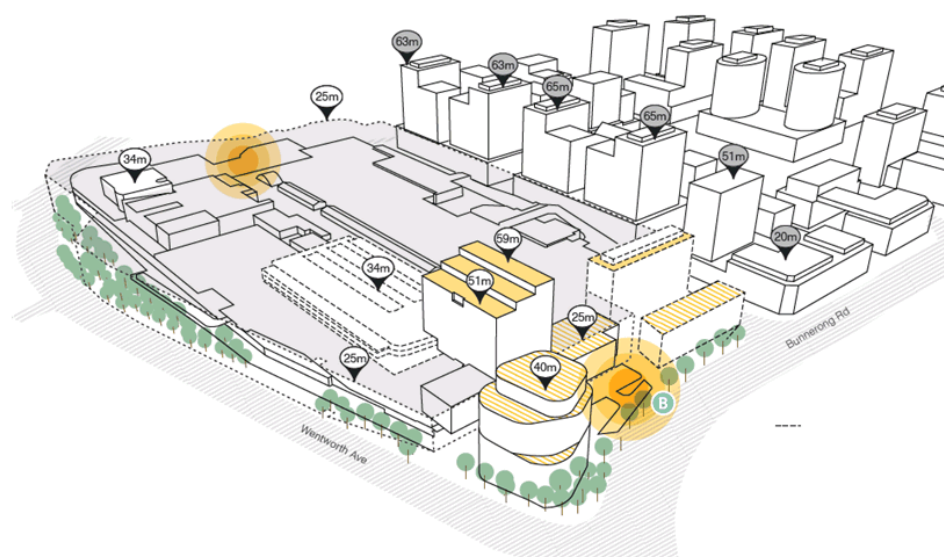
The current maximum height of building shown for the site within the BBLEP 2013 Height of Building Map is 25m. This is proposed to be amended to facilitate a maximum height of building for the site of part 34m / part 40m / part 59m, with the remainder of the site does not change and remains at 25m.

The proposed part 40m and part 59m height controls have been allocated to two specific locations of the site to accommodate the two commercial office towers proposed in the masterplan and to give appropriate certainty on built form outcomes. This has been reduced from the previous proposal which sought a height control amendment to 70m. This change has been made to address Council's concerns in regard to overshadowing of neighbouring properties.

In the other parts of the site, a height control is proposed at 34m to accommodate outlier height elements of the existing and proposed retail centre such as the cinema expansion, additional mezzanine parking decks, and new solar panel shade structures over the car park.

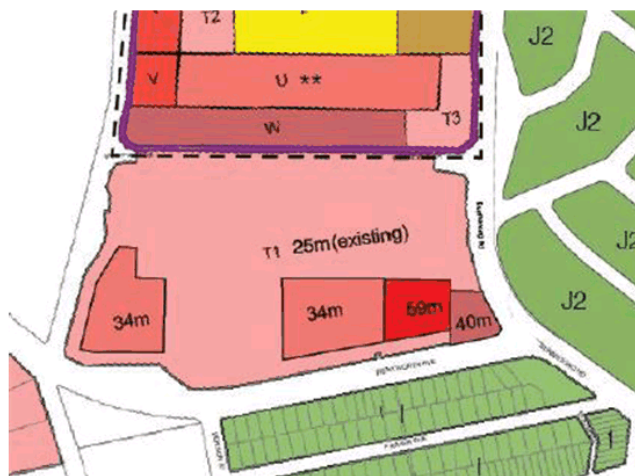
An outline is illustrated below in Figure 7 below of the indicative built form that could be constructed under the proposed height controls. An outline is also shown of potential future built form in the north east corner of the site, which is excluded from this LEP amendment request and would be subject to a separate Planning Proposal in the future.

Figure 7 - Proposed Maximum Height Envelope for the site in metres



Source: Architectus

Figure 8 – Proposed Height of Buildings Map

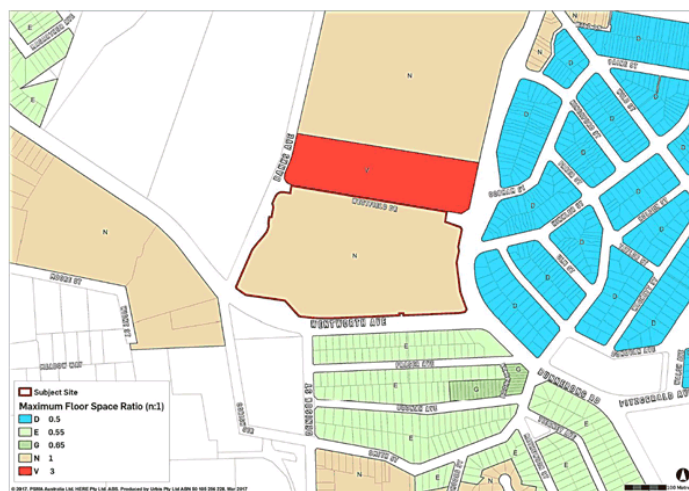


Source: Architectus

#### 4.1.3. Floor Space Ratio

Under the BBLEP 2013, the subject site has a maximum FSR of 1:1, however a current development approval at the site (DA14-123) has consented an FSR of up to 1.087:1.

Figure 9 – Existing FSR control



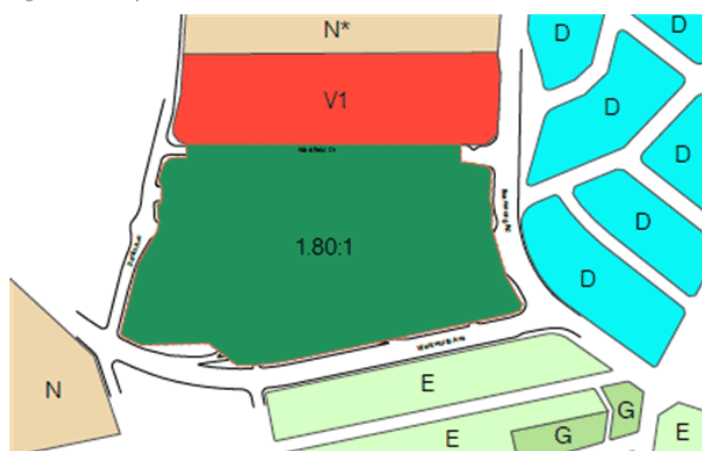
Source: Urbis

It is proposed to amend the FSR control from 1:1 to 1.8:1.

This is a decrease from the previous proposal (March 2019) which sought an FSR of 1.85:1 and has been revised to address feedback from Council.

The additional FSR will accommodate the expansion of the retail centre, the two new commercial office buildings and an enlargement of the floorplates of the existing commercial office building.

Figure 10 – Proposed FSR control



Source: Architectus

There is a market need and demand for the scale and type of retail expansion proposed for the shopping centre given the current leakage of retail spend to locations outside of the trade area, the changing trends in consumer spending towards services and experiences and the growing market population in the catchment area.

The Eastern District Plan sets the priority for delivering jobs around transport facilities within the Eastgardens – Maroubra Junction Strategic Centre, and Eastgardens plays an important strategic role for providing office land use given it is the only site zoned for Commercial Core in the strategic centre. The commercial office proposal will fill a gap in the market for large floorplate (>1,000sqm) layouts with the convenience of public transport and the amenity of a major regional shopping destination.

The amended LEP mapping for both FSR and height of building control is included at Section 10 of this Report.

## 4.2. BOTANY BAY DEVELOPMENT CONTROL PLAN 2013

The Botany Bay Development Control Plan (BBDCP) was originally adopted by the Council in December 2013 and the most recent amendment (Amendment No.8) was adopted in August 2017.

The BBDCP does not recognise Eastgardens as a centre within 'Part 5 – Business Centres', however it is referred to within the 'Part 8 – Character Precincts'. Westfield Eastgardens is identified as the major shopping centre in the region, providing many goods and essential services, along with a major bus change facility with bus routes connecting to a range of locations within Sydney.

The desired future character of the area is to "maintain the shopping centre as the major shopping centre, providing goods and services for the region." and to

*"Maintain & enhance the bus interchange facility at Eastgardens Westfields Shopping Centre to service bus routes connecting Eastgardens with the City, Bondi Junction, Burwood, Rockdale, Little Bay, Port Botany and La Perouse."*

The Proposal is consistent with the desired character and objectives established in the current DCP for the retail centre and enhancement of the bus interchange. Furthermore, the Proposal includes a draft site specific DCP to provide more specific detail for the vision, objectives and controls for the future development of the site in alignment with the Planning Proposal.

### 4.2.1. Car Parking

Additional car parking will be provided in the scheme to compensate for the spaces lost for the Level 2 retail expansion (into the existing car park) and to support the additional retail and office GLA in the proposal.

The final provision of car parking will be resolved at DA stage based on occupancy modelling of the existing car park and the development overlay, considering the interplay of the different uses and their peak parking demand curves and the improved public transport accessibility. Much of the new retail will be experience-based offers (vs goods) that are more viable for non-car transport options.

#### **4.2.2. Draft Site-Specific Development Control Plan**

A draft Site Specific DCP for the subject site has been developed and updated, and is attached at **Appendix G**. The draft DCP outlines the intended character, objectives and proposed controls to guide future development of the site, ensuring the vision can be achieved. The draft controls allow the site to be developed into a mixed-use centre that meets the objectives of a Strategic Centre whilst minimising the impact to neighbouring land uses.



## 5. MASTER PLAN VISION

The Westfield Eastgardens vision is to transform into a vibrant, mixed use town centre accommodating an improved arrival experience, enhanced retail and leisure, and new commercial office towers integrated into an active, civic plaza connected to an enhanced bus terminus. There is the opportunity to improve accessibility, connect better with the community, create jobs and strengthen the economic role of the centre, in line with its recognition as a strategic centre under the Eastern City District Plan.

With the addition of commercial office and future mixed use, the site will transcend its role in the community from a traditional shopping centre to become a *Living Centre* - a morning to evening activity hub where the community can fulfil its daily needs and be inspired by new opportunities and experiences.

Scentre Group uses the description of a *Living Centre* because its retail destinations are transitioning to places where the community come to gather and socialise, be entertained, dine, access services and experiences and shop.

The retail expansion will be a response to the changing customer expectations and lifestyle needs. The growth in consuming experiences versus goods sees the opportunity for new dining, entertainment, leisure, fitness and services retail. Further the leakage of fashion sales to online and the Sydney CBD demonstrates a product gap in the fashion retail offer that can be filled for the growing population in South East Sydney.

Centred above a civic plaza, a commercial employment hub will be a new destination for local businesses and residents to establish a workplace that enjoys the amenity of retail and dining with the accessibility of 12 bus routes and convenient ride share and end-of-trip facilities. Westfield Eastgardens will play a leading role in delivering the Strategic Centre actions in the East District Plan.

To complete the vision two future development buildings have been shown as part of a cohesive plan for the Bunnerong Road street address. It is Scentre Group's intention that these will form part of a future planning scheme that will explore additional land use for the site in the form of student accommodation of hotel development that further diversify the site and support the growth of the Randwick Health and Education precinct.

Figure 11 – Proposed Masterplan CGI Image of Civic Plaza

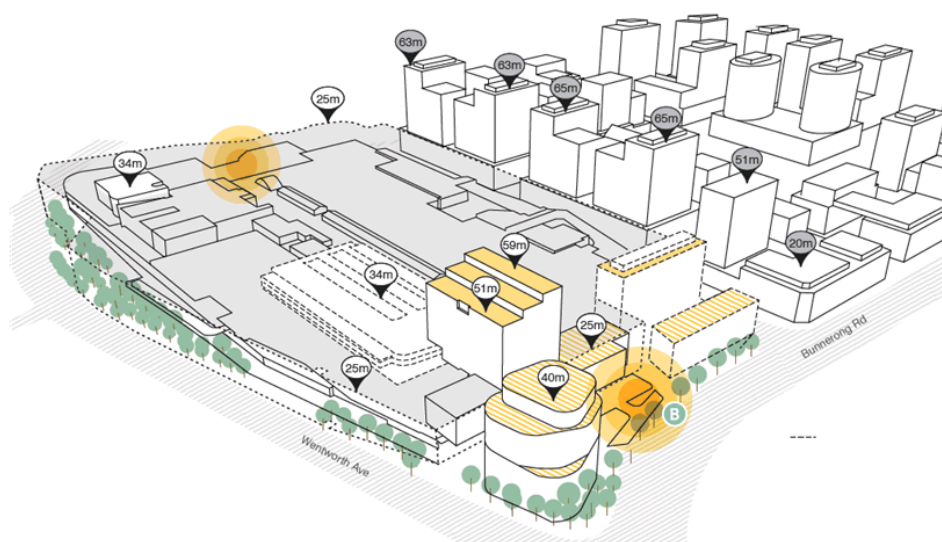


Source: Architectus

## 5.1. CONCEPT SCHEME

An Urban Contest Report illustrating the type of development facilitated by the Planning Proposal has been prepared by Architectus and is provided at **Appendix A**. The proposed masterplan for the site is provided at **Figure 12**. The design has been informed by the vision, opportunities and constraints of the site, and feedback from Bayside Council and its independent review.

Figure 12 – Proposed Master Plan



Source: Architectus

## 5.2. DESIGN PRINCIPLES

The masterplan has been based on the following urban design principles:

- Destination hubs at each of the East and West ends of the existing central mall spine;
- Focus on entries at the ground plane
- Activating the corners of the site
- Defined street functions
- Heights relative to adjacent context
- Strengthening the green vegetation buffer to the site.

Key features of the masterplan include:

- Land use:

The land use zoning remains as commercial core, however in addition to retail new commercial office GFA is introduced to add diversity to the site and contribute to the job capacity targets of the strategic centre.

- Height and built form:

The placement of height has been closely analysed and allocated to two tower envelopes to the South-East of the site in accordance with the urban design principles. A street wall is established along Bunnerong Road, and the higher tower form is set back onto the retail podium to create a transition to



the neighbouring land uses and to minimise overshadowing. It is proposed to have three new height controls, part 59m, part 40m and part 34m, with the control across the remainder of the site remaining unchanged.

- FSR:

To facilitate the masterplan the FSR from the site must increase from 1:1 to 1.8:1. This additional GFA of +64,800sqm is indicatively allocated between retail at +37,500sqm and commercial office at +27,300sqm.

- Enhanced bus terminus:

A key benefit of the proposal is an upgrade to the existing bus interchange which will allow a reconfiguration to add additional operating capacity, and an improvement in the user experience by enclosing the interchange (yet with sky voids for ventilation and visual connection), and connectivity to a public plaza above. The upgrade of this critical transport hub will encourage public transport use for the retail and office uses, reducing the dependency on private vehicle transport.

- New public plaza:

A new publicly accessible plaza fronting Bunnerong Road will be defined by active uses at the ground plane such as externalised retail, access to individual entry lobbies for each of the commercial buildings, and direct vertical connection to the bus interchange below through landscaped voids.

The following points represent the key elements of the Vision:

To Create a *Living Centre* that acts as a community hub from morning through to late evening.

- Recognise the changing needs of the community by providing a range of new and improved retail offerings and services;
- Create a truly mixed-use precinct that provides a range of services and acts as the focal point for the local community;
- Facilitating the fulfillment of a range of community needs, including medical appointments, childcare, evening dining, entertainment and leisure;
- Creating a space where shoppers, residents, workers and students can relax and socialise;
- Meet the objectives of the Maroubra-Eastgardens Strategic Centre by renewing an existing centre and creating new public places and spaces;
- Creating a new rooftop garden to and dining precinct, benefiting from views across the local golf course and towards the Sydney CBD.
- To improve pedestrian accessibility, amenity, safety and permeability;
- To create a better civic entry from the east by rearranging bus and taxi access, along with enhancing the public domain;
- Improve the bus interchange and user experience by reconfiguring underground and increasing bus standing capacity;
- To provide a new A-grade commercial tower to accommodate a range of office uses, which will assist future employment growth and job creation at the centre;
- To provide a new multi-use commercial building containing flexible floorspace to accommodate potential office, health and wellbeing practices, and civic services uses
- To improve the external interfaces and quality of the streetscape around the centre; and
- To retain existing car parking provision and provide additional parking appropriate for the expansion of the centre;
- Encourage additional commercial job opportunities for the local community
  - Provide large office floor plates that are unique to the Eastgardens-Maroubra Strategic Centre to encourage new businesses to the area without impacting existing local office stock.

- Meet the objectives of the 30-minute city as outlined in the Greater Sydney region Plan
- Provide commercial jobs within a highly accessible location and in proximity to new high-density residential development.
- Create the unique opportunity to have individual street addresses for commercial towers within the mixed-use centre.
- To make future provision for possible student accommodation oh hotel buildings on the north-eastern side of the site to respond to the investment in the Randwick Health and Education Collaboration Area;

Importantly, the masterplan concept contains two elements that warrant specific mention:

Outline for future development:

The masterplan also identifies an area of 'future development' where two building forms are indicated for additional uses such as student accommodation, hotel or build-to-rent housing to the North of the Bunnerong Road frontage. This will complete a wholistic development of the Bunnerong Road façade and will add increased diversity to the mixed-use site. These uses and built form are not part of this planning proposal and are shown to demonstrate the ambition of the site how the masterplan has been designed to consider this future development.

Given the desire to progress a future stage of the development at Westfield Eastgardens, following this first approval stage of the Masterplan, it is intended that a collaborative process can be undertaken between Council and Scentre Group as part of the Bayside LEP Review. With Bayside identified as a Priority Council for its LEP Review, Scentre Group are eager to be a key stakeholder in discussions and engagement concerning the future identification of the centre within the revised LEP.

Additional car parking according to RTA 2002 guidelines

Additional car parking will be provided in the scheme to compensate for the spaces lost for the Level 2 retail expansion (into the existing car park) and to support the additional retail and office GLA in the proposal.

The final provision of car parking will be resolved at DA stage based on occupancy modelling of the existing car park and the development overlay. Much of the new retail will be experience-based offers (vs goods) that are more viable for non-car transport options.

An 34m height zone has been included within the proposal for 4 additional mezzanine parking levels if the Applicant is required to provide parking based on the 2002 RTA Guide to Traffic Generating Developments.

The RMS now considers this ratio methodology to be outdated given:

- the progress in car park data collection and modelling,
- the fact that as major retail centres have evolved many additional activities are overlapped in the one trip; and
- additional usages as part of retail expansions often have a peak demand that sits outside the traditional park periods for shopping centres (i.e. dining and cinema peak periods are in the evening).

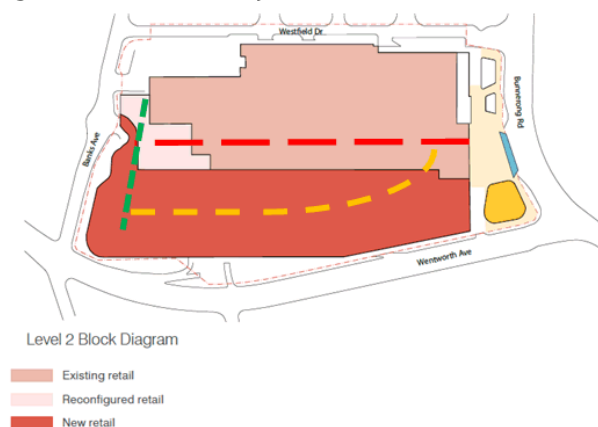
The Applicant expects that the 4 levels of additional mezzanine parking identified in the extra parking envelope will be further justified at the DA stage as not being required for construction, once reliable data is available for modelling following the introduction of ticketless parking data capture at Westfield Eastgardens in December 2018.

### 5.3. RETAIL, COMMERCIAL AND PUBLIC DOMAIN

#### 5.3.1. Retail arrangement

The proposal includes the expansion of the retail centre by approximately 27,500sqm of gross lettable area (approximately 37,500sqm GFA when common mall and services are included). **Figure 13** below provides an illustration of how the additional retail is proposed to be configured, and further detail is described in the Urban Context Report prepared by Architectus attached at **Appendix A**

Figure 13 – Illustrative Retail Layout



Source: Architects

The existing shopping centre is oriented along a distinct East-West mall axis.

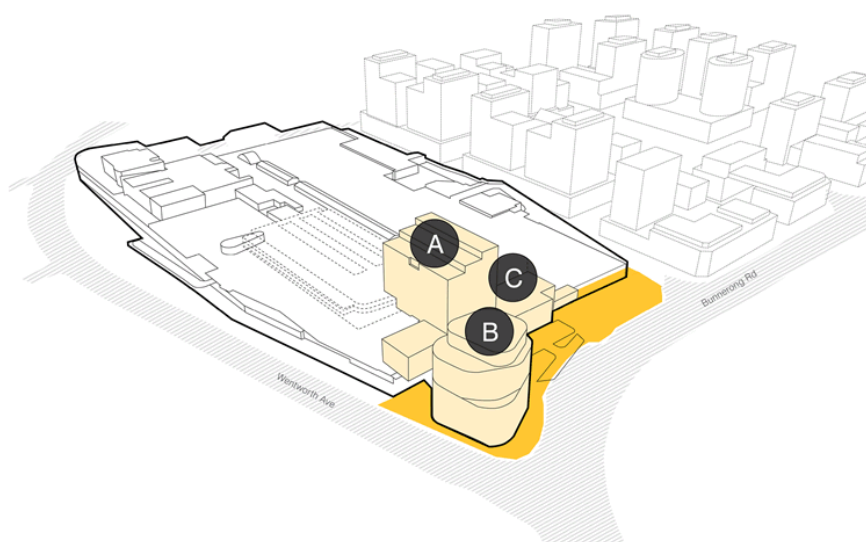
A new parallel fashion, accessories and beauty mall (shown as yellow dashed line) will be built into the existing Level 2 car park. The 'loop' mall layout is a logical and tested model for convenient retailing.

Along the Western edge (green dashed line) an interconnected food, dining and leisure offer will be added over levels 1, 2 and 3, which will reconfigure and re-image the fresh food, food court and cinema into indoor-outdoor destination with views over the golf course and to the Sydney skyline beyond

### 5.3.2. Commercial office arrangement

The proposal includes the addition of approximately 24,000sqm of commercial office GLA (approximately 27,300sqm GFA when lift lobbies, amenities and services are included).

Figure 14 – Commercial Office Arrangement



Source: Architectus

The indicative size and theme of each building is summarised below and described in more detail in the Architectus report.

- **Tower Building A:** A new A-grade commercial tower of 9 full storeys and 1 partial storey above the retail podium which will target traditional large floor plate office occupiers by providing plates of approximately 1,250sqm NLA. This tower will provide a total NLA of approximately 11,600sqm; and
- **Tower Building B:** A new corner tower of 8 full storeys and 2 partial storeys that will be geared at commercial usages around services and health. This tower will have floorplates of approximately 1,000sqm net lettable area (NLA), equating to a total NLA of approximately 9,500sqm;
- **Tower Building C:** Modifications to the existing 4 storey office tower to improve the core location and enlarge the floorplate to approximately 1,600m<sup>2</sup>. This arrangement should be appealing to innovative workplace arrangements such as co-working and serviced offices.

### 5.3.3. Bunnerong Road Public Plaza and bus terminus

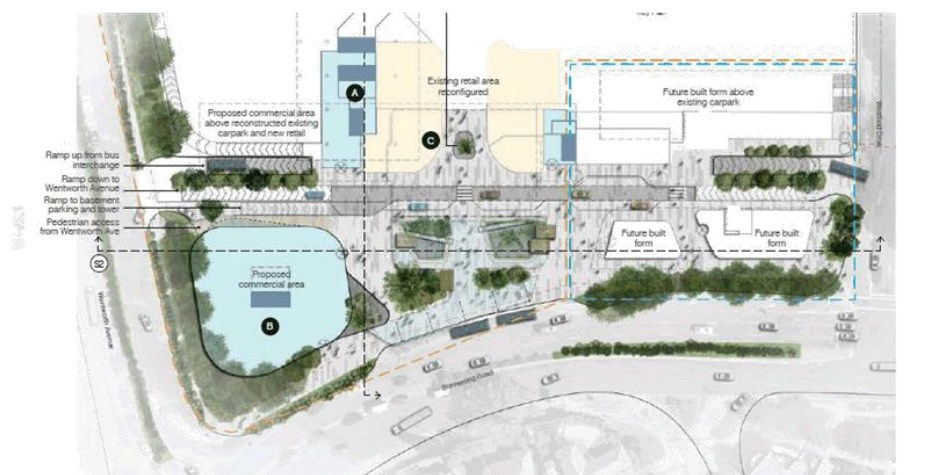
As part of the rearrangement of the Bunnerong Road façade and upgrade to the existing bus interchange, a new public plaza will be created at ground level on top of the bus terminus. The public plaza will be activated by:

- Landscaped open voids and travelators to connect to the bus interchange below.
- A reconfigured entrance to the shopping centre with externalised retail such as cafes and outdoor seating, stimulating life into the area.
- A laneway with drop-off / pick-up bays to encourage new modes of ride-share transport.
- New commercial towers which will provide an injection of workers during the weekdays, with each tower having its own building lobby which opens to the public plaza.

- The opportunity to connect future uses to the plaza, such as student accommodation or hotel, which will further activate the plaza during the night and weekends, creating a constant buzz.

Figure 15 below shows the proposed Bunnerong Road Public Plaza which interfaces with the bus terminus (sunken below), retail entry and individual office lobbies for each building.

Figure 15 – Proposed Bunnerong Road Public Plaza



Source: Architectus



## 5.4. RESPONSES TO PEER REVIEW OF PREVIOUS SCHEME

Following the lodgement of the original and the revised planning proposal scheme, several peer reviews were commissioned by Council into the technical studies provided with the proposal. This led to a range of feedback and comments which have now been addressed as part of this revised proposal. Given the November 2019 amendments to the scheme, the further comments raised by Council as identified in **Section 1.1** are also addressed in this latest update.

**Table 4** below outlines the mains comments highlighted and how this proposal has responded to this as a result.

Table 4 – Peer Reviews and responses

Peer Review comment	Response
<b>Transport and Traffic report</b>	
The peer review by Cardo requested a full study be undertaken assessing potential impacts to the surrounding road network and intersections, incorporating the traffic generation from the neighbouring Meriton development in conjunction with the subject proposal.	<p>An updated Traffic and Transport Assessment was undertaken by SLR along with revised traffic modelling in response to the peer review. The updated assessment demonstrates that the identified intersection upgrades are sufficient to accommodate the expected traffic increase resulting from the proposal along with the development proposed on the adjacent Meriton site (Stages 1 and 2).</p> <p><i>The updated modelling and findings were presented to Council for review in late 2018 and considered acceptable.</i></p> <p>The assessment has been not been updated for this revised Planning Proposal Request. However, the previous (March 2019) request updated the traffic modelling and reported accordingly. Given the commercial GLA has been reduced as part of this proposal, it can therefore be reasonably assumed that the nominated road capacity improvements will continue to be sufficient in mitigating traffic impact associated with this revised proposal.</p>
<b>Retail Economic Impact Assessment</b>	
RPS conducted a peer review of the original Retail EIA, noting several comments regarding the proposed retail component. This includes the following:	<p>A response letter prepared by Urbis answered the concerns raised by the RPS review.</p> <p><i>The letter was submitted to Council for review in late 2018 and understood to have been accepted.</i></p> <p>The letter provided the responses below to the comments raised by RPS.</p>
A quantitative market need assessment	<p>Overall, the response to this maintains that the proposed increase in retail floor space is warranted given the current population growth and expenditure in the trade area, including the adjacent high-density development.</p> <p>The report presents new analysis including that 76% of expenditure by trade area residents on apparel,</p>

	<p>homewares and leisure goods (discretionary items) is undertaken at centres/locations outside the trade area. This loss of local sales is referred to as 'leakage', and Eastgardens has the highest percentage of discretionary expenditure leakage among Westfield centres. This can be explained by the lack of range in fashion, homewares and leisure retailers, and the result is that residents are forced to drive to other locations and local jobs and economic activity is lost.</p>
A retail sustainability assessment showing impacts of the proposed expansion.	<p>The updated report contains a detailed impact assessment which specifies the estimated turnover and impacts of all strategic, district and local centres within the retail catchment for Eastgardens.</p> <p>The analysis shows that the forecast impact of the retail expansion to other centres is marginal, in the range of 1% to 3.1% depending on the centre. The report assesses that this level of impact is well below the threshold of 10% where impacts are generally considered to be a concern.</p> <p>It concludes that there is more than sufficient market demand in support of the expansion and that the trading impacts are well within the bounds of a normal and healthy competitive environment.</p>
An updated economic impacts and benefit section	<p>The report assesses that the marginal negative trading impacts described above are far outweighed by the positive impacts including the generation of 1,139 direct operational jobs per annum once the retail expansion opens (many of which will be local jobs), 223 construction jobs per annum during the two year construction period, and gross value added to the NSW economy of +\$258m during construction and +\$190m per annum during the operational phase.</p>
<b>Commercial Office Economic Impact Assessment</b>	
The peer review conducted by RPS identified that further explanation was needed regarding the demand and impact on other centres of the proposed commercial component, and justification on the methodology used to identify this.	<p>In response to the peer review feedback a new commercial office EIA was prepared by the consultancy team of office real estate experts <i>Colliers International</i>.</p> <p>The report provides an in-depth analysis of the existing office markets in the region, what factors drive business occupancy decisions, and the points of difference of the Eastgardens office proposal that will make it unique and attractive as a new workplace precinct.</p> <p>The EIA comments that the proposed office component is consistent with the B3 Commercial core zoning of the centre along with being identified as a strategic centre, and therefore is suitable for the site.</p>

	<p>In contrast, the majority of sites in Maroubra Junction along Anzac Parade are zoned B2 Local Centre, which permits (with consent) shop-top housing. This zoning setting reduces the likelihood of a standalone office development from eventuating given that housing typically renders the highest development return. Moreover, the majority of sites in Maroubra Junction are already developed or are relatively small, which will require some form of amalgamation, which is costly and time-consuming.</p> <p>The proposed floor plates of &gt;1,000sqm are much larger than currently available in the area and would appeal to a different sector in the market. Given this, the proposal is not considered to be in competition with the existing stock. Therefore, impacts are considered minimal.</p> <p>The revised Planning Proposal Request results in a reduction in incremental commercial gross lettable area of 6,500sqm compared to when the report was issued to Council. The proposal retains the commercial office component, albeit in a reduced quantity, and therefore the assessment and conclusions contained in the commercial office EIA remain applicable.</p>
<b>Quantitative Risk Assessment</b>	
<p>The primary recommendation was to update the report to include the commercial office proposal, as the previous modelling and conclusions were based on the retail scheme only.</p> <p>The specific comments and responses are outline below.</p>	<p>An updated Quantitative Risk Assessment has been provided to address the recommendations raised. The report demonstrates that the proposal is capable of addressing the risk requirements for proximity to the Botany Industrial Precinct and the hazardous goods route along Wentworth Avenue.</p> <p>The updated report (March 2019) includes the commercial scheme (previously only modelled on the retail scheme) which is positioned away from the Denison Street / Wentworth Avenue intersection, which results in limited incremental risk, and the proposal in totality is with the acceptable risk range.</p> <p>However, this revised Planning Proposal Request results in a reduction in incremental commercial gross lettable area of 6,500sqm compared to when the report was issued to Council, meaning the risk that was previously assessed as manageable is now reduced further.</p>
<p>Refer to Department of Planning and Environment (DPE) for interpretation of 'incremental risk' in societal risk assessment for new developments</p>	<p>Systra Scott Lister attempted to engage with DPE but they did not wish to do so until the post-Gateway referral and exhibition period.</p> <p>Regardless, the report has considered both interpretations, and the more conservative interpretation</p>

	of comparing the proposal against the cumulative risk of other developments in the area has been used when presenting the results.
Update for the inclusion of the commercial office scheme, including consequence results of incidents.	The commercial scheme as presented in this Planning Proposal was included in the updated modelling.
The existing cumulative F-N curve must be compared with an updated F-N curve including the population from the proposed future development	This is included in the updated report.
Update the report to address <ul style="list-style-type: none"> <li>a) risk contributors to the incremental risk and rank them</li> <li>b) assumed population distribution of the 1640 persons</li> <li>c) whether the risk was assessed for persons inside and outside the building, and at different levels in the building, and</li> <li>d) how the risk mitigation in design suggested in Ref.1 have been addressed in the incremental risk assessment.</li> </ul>	<p>The risk contributors (incident types) have been identified in the model outputs chart. The modelling assumptions used for population distribution, inside/outside population, and risk mitigations have all been outlined in the updated report.</p> <p>The recommended risk mitigations have not been included in the modelling, hence the results as presented do not enjoy any benefit from these mitigations.</p>
If the updated F-N curve for the area still falls within the ALARP and the incremental risk is deemed marginal, the development cannot be precluded.	This was a statement only, however the updated results do fall into the ALARP range.
The emergency response plan for the Westfield Eastgardens complex must include response to a dangerous goods transport accident near the intersection of Denison Street and Wentworth Avenue.	This is a management recommendation that can be incorporated at DA stage.
There must be a public address system in the Eastgardens complex to notify shoppers of the actions to take in the event of a dangerous goods transport accident that may affect the car park on Wentworth Avenue.	This is a management recommendation that can be incorporated at DA stage.
<b>Overshadowing</b>	
Overshadowing impact to the five most impacted dwellings to the south of Wentworth Avenue was deemed not supportable. It was clarified that there were no plans to change to the zoning or density of these properties in the foreseeable future as part of the Local Strategic Planning Strategy process and LEP updates.	The massing of the largest commercial office tower was remodelled, and it now gives rise to an acceptable level of additional overshadowing the residential properties located on the southern side of Wentworth Avenue on June 21. The impacts to the existing dwellings (apart from 5 existing dwellings) are minor and do not impact on the ability of these properties to comply with the solar access requirements specified under existing DCP controls.

	<p>More detailed overshadowing analysis was carried out to ascertain the impact to the 5 most affected residential dwellings on June 21. Analysis of this revised scheme confirms that:</p> <ul style="list-style-type: none"> <li>• There is no additional overshadowing to the primary open space (otherwise known as rear yards) of the subject properties.</li> <li>• The living areas of the dwellings are concentrated toward the rear/ southern end of the dwelling and is not overshadowed by the proposed massing.</li> <li>• The proposal ensures a minimum of 1 hour of solar access is provided to the front building facades and 1 hour of solar access is achieved to at least 50% of the front yards despite there being no requirement to demonstrate this.</li> </ul> <p>During the equinox period (21st September to 21st March) the proposed massing does not create any additional overshadowing impact to adjacent properties.</p> <p>Beyond the equinox period (3rd August to 10th May) all properties achieve a minimum of 2 hours solar access to 100% of the front yards and northern facade of the 5 properties in question.</p>
<b>Pedestrian Safety and Public Domain</b>	
Improvements to the presentation and pedestrian safety of Westfield Drive were requested to be addressed.	<p>The revised Planning Proposal Request now includes the following updated elements:</p> <ul style="list-style-type: none"> <li>• <b>Prioritising pedestrians and traffic calming</b> – raised crossings are proposed near the intersection of the new Meriton site streets. These are intended to provide clear points of pedestrian crossing at desire lines, as well as to slow traffic and deter vehicles using Westfield Drive as a 'rat-run'.</li> <li>• <b>Separating pedestrians from loading areas</b> – limit pedestrian movement in the footpath immediately outside the loading docks. Improvement works will encourage pedestrians to use the north side of Westfield Drive to move along the centre of the street block, and to cross to the southern side on newly proposed raised pedestrian crossings once they are beyond the dock areas located towards the middle of Westfield Drive.</li> <li>• <b>Improved amenity</b> – landscaping, widening footpath at points, lighting, wayfinding, and public art opportunities are proposed to improve the</li> </ul>



	amenity of the street and provide a buffer to the facade of the existing back-of-house areas.
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## 6. PLANNING PROPOSAL OVERVIEW

This Planning Justification Report is intended to inform the preparation of a Planning Proposal which can be prepared in accordance with Section 3.33 of the *Environmental Planning and Assessment Act 1979*, for consideration by the Department of Planning and Environment.

Accordingly, this Report addresses in the following parts:

- Part 1: A statement of the objectives or intended outcomes of the proposed amendment;
- Part 2: An explanation of the provisions that are to be included in the proposed amendment;
- Part 3: The justification for those objectives, outcomes and the process for their implementation;
- Part 4: The supporting maps which identify the aspects of the Planning Proposal;
- Part 5: Details of community consultation that is to be undertaken for the Planning Proposal; and
- Part 6: The prospective timeline.

Discussion for each of the above parts is outlined in the following sections which are structured in accordance with the document 'A Guide to Preparing Planning Proposals' (December 2018), published by DPE (now DPIE).

## **7. PART 1 – OBJECTIVES AND INTENDED OUTCOMES**

### **7.1. OBJECTIVE**

The primary objective of the Planning Proposal is to amend the planning controls for Westfield Eastgardens to facilitate its expansion, in order to deliver an upgraded, high quality retail centre, along with new commercial buildings to assist in the creation of jobs and strengthening the economic role of the centre to meet the 'Strategic Centre' status. This is in accordance with the Eastern City District Plan objectives and the 'Vision' outlined in Section 5 above.

This will ensure that Westfield Eastgardens can evolve its important role in the community and transform from a traditional everyday needs shopping centre to a mixed-use community hub for dining, entertainment, leisure, services and employment. It ensures the centre maintains its market position in the face of competition from other centres, in a situation where the centre has not been upgraded for fifteen years. It will also provide sufficient offer to keep pace with the increasing residential densities and population growth within the trade area.

The enhanced shopping centre and new commercial buildings will further strengthen and reinforce the economic role of the centre, and benefit from the existing and future public transport links to the site.

### **7.2. INTENDED OUTCOME**

The Planning Proposal is intended to have the following outcomes:

- Amendment to the BBLEP to amend FSR and height of building controls to the site. This includes amendments to the LEP maps, which are contained in Section 10 of this Report;
- It seeks to increase the FSR to 1.8:1; and
- It seeks to increase maximum height of building to part 34m, part 40m and part 59m, whilst the reminder of the site is unchanged.

## 8. PART 2 – EXPLANATION OF PROVISIONS

### 8.1. OVERVIEW

The objectives and intended outcome of this Planning Proposal can be achieved by:

- Amending the BBLEP 2013 Height of Buildings Map for the site from a maximum of 25m to allow for areas to have maximum of part 34m, part 40m and part 59m.
- Amending the BBLEP 2013 FSR Map for the site from 1:1 to 1.8:1.
- Introduce a DCP specific for the site.

The proposed changes to the maximum height of building and maximum FSR maps are illustrated in the figures provided at **Section 10**.

These amendments will support the development of the site as a mixed-use community hub and is consistent with the concept plan and achieves the key objective and intent of this Planning Proposal request.

It is considered that the proposed amendments to the BBLEP 2013 are the best, most efficient and time effective approach to delivering the intended outcome of the proposal.

The purpose of the Planning Proposal is to amend the BBLEP 2013 to allow the expansion of the shopping centre at the site to provide a greater level of retail, commercial and leisure floor space, along with additional car parking provision on the same site footprint. The existing height of building control is a blanket approach across the site, however within this there are existing varying building heights across the site.

Accordingly, the proposal seeks amendments to the BBLEP provisions as they pertain to the site as follows:

- Floor Space Ratio: Introduce a new maximum allowable floor space ratio (FSR) of 1.8:1
- Height of Buildings: Introduce a new maximum allowable building height of part 34m, part 40m and part 59m (whilst retaining a maximum 25m height on the remainder of the site).

It is considered that the proposed amendments to the BBLEP 2013 are the best, most efficient and time effective approach to delivering the intended outcome of the proposal.

### 8.2. AMENDMENT TO FLOOR SPACE RATIO

The existing BBLEP Floor Space Ratio Map specifies the maximum FSR for the site as 1:1. However, a previous development consent (DA reference 14/123) at the site varied this FSR such that the approved FSR is slightly above this level. This DA was determined by the Council on 11<sup>th</sup> March 2015, following its consideration by the Sydney East Joint Regional Planning Panel (JRPP).

Condition 83 on this consent states that:

*"Prior to the issue of the Occupation Certificate, a Certificate of Survey from a Registered Surveyor shall be submitted to the Principal Certifying Authority and the Council to the effect that:*

*...b) A Floor Space Ratio (FSR) of 1.087:1 and height of 39.5m AHD (top of parapet) and 44.1 m AHD (for tower along eastern elevation) as approved under this Development Consent No. 14/123 have been strictly adhered to and any departures are to be rectified in order to issue the Occupation Certificate"*

The JRPP concluded on this point that:

*"The proposed development provides a high-quality commercial development that facilitates the orderly and economic development of land in a manner that is appropriate for the site. Additional commercial services will be provided in an appropriate location and will provide increased employment and investment opportunities for the area. The impacts from the proposed development on the amenity of surrounding properties resulting from the departing FSR are considered minimal and the built form is considered compatible with the existing development on the site. Council officers agree that the proposal will result in a public benefit.*

As such, the current consented FSR for the site should be assessed as being 1.087:1.

It should also be noted that the height of buildings referenced in the condition above are measured to a Reduced Level linked to an Australian Height Datum (AHD) point, rather than indicating the actual height of the building from ground level to the top of the building, which forms the LEP control.

The objectives of the FSR clause (Clause 4.4) in the BBLEP are as follows:

- (a) *to establish standards for the maximum development density and intensity of land use,*
- (b) *to ensure that buildings are compatible with the bulk and scale of the existing and desired future character of the locality,*
- (c) *to maintain an appropriate visual relationship between new development and the existing character of areas or locations that are not undergoing, and are not likely to undergo, a substantial transformation,*
- (d) *to ensure that buildings do not adversely affect the streetscape, skyline or landscape when viewed from adjoining roads and other public places such as parks, and community facilities,*
- (e) *to minimise adverse environmental effects on the use or enjoyment of adjoining properties and the public domain,*
- (f) *to provide an appropriate correlation between the size of a site and the extent of any development on that site,*
- (g) *to facilitate development that contributes to the economic growth of Botany Bay.*

It is considered that the above objectives can be satisfied whilst facilitating the expanded shopping centre.

The proposed outcome will be achieved by amending the BBLEP Floor Space Ratio Map in accordance with the proposed FSR Map contained in Section 10 and Appendix D of this Report.

### 8.3. AMENDMENT TO BUILDING HEIGHT

The existing BBLEP Height of Buildings Map specifies that the maximum building height of Westfield Eastgardens site is 25m.

It is proposed to amend the development standard to permit a maximum height of building of part 34m, part 40m and part 59m (with the remainder of the site unchanged at 25m), meaning that the Planning Proposal will seek up to an additional 9m in maximum height for parts of the retail element of the centre and an additional maximum of 15m and 34m for the future commercial building envelopes.

The indicative building height map (Figure 7 earlier in this report) has clearly identified zones where the additional height can be placed, giving certainty to Council, whilst maintaining sufficient flexibility for building articulation as part of the detailed design and future DA process.

It is clear that the approach set out within this Planning Proposal will facilitate the realisation of the Priorities and Actions in the Eastern City District Plan to encourage growth, meet jobs targets for the centre and provide a diverse mix of uses.

The additional height for the shopping centre element will principally be utilised to provide for an expansion to the cinema and additional car parking that may be required for the development, along with solar panel shade structures above the top level of the car park. The proposed height limit of 34m would therefore allow the development of any structures associated with this use.

The 40m and 59m maximum height for the two commercial towers proposed consists of up to 27,300sqm (GFA) of new office floor space.

It should also be noted that the adjacent Pagewood Green development comprises residential towers of a greater height to the proposed commercial buildings, meaning that the proposal cannot be out of character with what has been consented on the neighbouring site.

The objectives of the height of buildings clause (Clause 4.3) within the BBLEP are as follows:

- (a) *To ensure that the built form of Botany Bay develops in a coordinated and cohesive manner;*
- (b) *To ensure that taller buildings are appropriately located;*
- (c) *To ensure that building height is consistent with the desired future character of an area;*



- (d) *To minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development; and*
- (e) *To ensure that buildings do not adversely affect the streetscape, skyline or landscape when viewed from adjoining roads and other public places such as parks, and community facilities.*

It is considered that the objectives of this clause can be satisfied following the grant of an additional maximum height level at the site, where a considered design response is proposed, given its location, surroundings and current built form.

The proposed outcome will be achieved by amending the BBLEP Height of Buildings Map in accordance with the proposed Height of Building Map contained in Section 10 and Appendix D of this Report.

## 9. PART 3 – JUSTIFICATION OF THE PLANNING PROPOSAL

### 9.1. NEED FOR THE PLANNING PROPOSAL

***Q1. Is the planning proposal a result of any strategic study or report?***

No - it is not the direct result of a strategic study or report. However, this proposal follows extensive engagement with Council over the course of the past three years and is strongly aligned with Eastern City District Plan which set targets for jobs growth in the Eastgardens-Maroubra Junction Strategic Centre and set an action to achieve a diverse mix of uses to strengthen and reinforce the economic role of the centre.

***Q2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?***

The Planning Proposal is the best means for achieving the objective and intended outcomes identified in Section 7 of this Report. The amendments to the BBLEP will ensure the orderly and economic expansion of the Westfield Eastgardens.

Without an amendment to the planning controls, the opportunity for additional office floorspace and to expand the retail offer to reinforce the position economic role of the 'Strategic' Centre will be lost.

The site is a logical and appropriately placed to concentrate future economic growth within the Bayside LGA given it is already the main shopping centre for the immediate area, is the only Commercial Core zoned site in the Strategic Centre, and it benefits from well-established public transport links with the potential for future mass transit to connect at the site. It is also adjacent to a large new residential development constructed by Meriton immediately to the north, which can give rise to the benefits of co-location where future residents will be able to live, work and shop in the immediate surroundings.

### 9.2. SECTION B - RELATIONSHIP TO STRATEGIC PLANNING FRAMEWORK

DPE's Planning Circular (PS 16-004) notes that a key factor in determining whether a proposal should proceed to Gateway determination should be its strategic merit and site-specific merit. It is considered that the Planning Proposal meets these tests as outlined in the following sections.

***Q3. Will the planning proposal give effect to the objectives and actions of the applicable regional, sub-regional or district plans of strategy (including any exhibited draft plans or strategies)?***

The 'Guide' published by DPE advises of the assessment criteria for this stage of the Planning Proposal process. This is split into Stage A and Stage B (Page 12 & 13 of the Guide) as outlined below.

- a) It refers to how proposals can demonstrate strategic and site-specific merit, which is outlined below.

*"Does the proposal have strategic merit? Is it:*

- *Give effect to the relevant regional plan outside of the Greater Sydney Region, the relevant district plan within the Greater Sydney Region, or corridor/precinct plans applying to the site, including any draft regional, district or corridor/precinct plans released for public comment; or*
- *Give effect to a relevant local strategic planning statement or strategy that has been endorsed by the Department or required as part of a regional or district plan or local strategic planning statement; or*
- *Responding to change in circumstances, such as the investment in new infrastructure or changing demographic trends that have not been recognised within existing planning controls'.*

It goes on to indicate that there will be a presumption against a Rezoning Review request that seeks to amend LEP controls that are less than 5 years old, unless the proposal can clearly justify that it meets the Strategic Merit Test. The Botany Bay Local Environmental Plan is now almost 7 years old.

b) To demonstrate site-specific merit, the Guide advises the following:

*"Does the proposal have site-specific merit, having regard to the following:*

- *The natural environment (including known significant environmental values, resources or hazards); and*
- *The existing uses, approved uses, and likely future uses of land in the vicinity; and*
- *The services and infrastructure that are available to meet the demand arising from the proposal and any proposed financial arrangement for infrastructure provision."*

The following sections below assess the proposal against these criteria.

### 9.2.1. Greater Sydney Region Plan

The Greater Sydney Region Plan 'Our Greater Sydney 2056 – A Metropolis of Three Cities' was published by the Greater Sydney Commission (GSC) in March 2018. The Plan outlines how Greater Sydney will manage growth and change and guide infrastructure delivery.

An assessment of the Planning Proposal against the objectives of this plan is set out in Table 5 below.

Table 5 – Assessment Against Greater Sydney Region Plan

GREATER SYDNEY REGION PLAN		
Planning Objective	Description	Comment
<i>Infrastructure and collaboration:</i>		
<i>A city supported by infrastructure</i>		
Objective 4	Infrastructure use is optimised	The site contains a bus interchange and sits along the strategic bus corridor. It is therefore well located in terms of being easily accessible through existing public transport routes and infrastructure. the proposed upgrade to the operational capacity of the bus interchange and the integration with a public plaza above will provide a superior user experience and will encourage greater public transport use for visitors to the centre and the office buildings.
<i>Liveability:</i>		
<i>A city for people</i>		
Objective 6	Services and infrastructure meet communities' changing needs	<p>The expansion of Westfield Eastgardens will enhance the retail, services, dining and leisure facilities which are available to local residents. This is a response to changes in consumer preferences towards experience-based retail, yet also provides important amenity for the significant new residential community that will occupy the adjacent Meriton development.</p> <p>The proposed new commercial buildings will also provide the opportunity to accommodate new employment space which could take the form of 'A' Grade offices, flexible co-working and serviced</p>

GREATER SYDNEY REGION PLAN		
		offices, as well as services such as a gym, childcare and medical centre which are permissible within the B3 Zone.
Objective 7	Communities are healthy, resilient and socially connected	<p>Loneliness and social isolation are being recognised as significant contributors to mental illness in the community. As shopping centres transform, they are prioritising their important role as town centres and places for the community to socialise and connect with others.</p> <p>The proposal achieves this through the new civic plaza as a public meeting place; the focus of the western end for additional dining, leisure and entertainment retail; and the introduction of innovative workplace arrangements such as co-working. The Bayside Library will remain as an important part of the community services on the site.</p> <p>The large number of new high-density residential dwellings adjacent to the site will generate demand for a 'third place' where these residents can spend their leisure time. Designing comfortable spaces for this is a key pillar of the masterplan vision.</p> <p>A focus on more medical services within the office development, a larger gym, and the improved site accessibility and public transport experience helps promote an active and healthy lifestyle.</p>
Objective 9	Greater Sydney celebrates the arts and supports creative industries and innovation	<p>Towers B and C of the proposal are intended to provide flexible and innovative working space in the form of shared workspace (co-working) and serviced office arrangements. These environments are supportive of creative industries and innovation as they allow flexible leasing arrangements and the ability for businesses to grow within the same location.</p> <p>These office arrangements are currently missing in the Eastgardens-Maroubra Junction Strategic Centre, yet Westfield Eastgardens provides the required mix of amenity and accessibility to attract these flexible workspace operators.</p>
<i>Liveability:</i>		
Objective 12	Great places that bring people together	The reconfiguration of the bus interchange and frontage to Bunnerong Road allows for the creation of a new public plaza at street level, consisting of external facing shops and cafes, and providing an

GREATER SYDNEY REGION PLAN		
		<p>individual address point to the outdoors for each of the three commercial buildings and the shopping centre.</p> <p>The activation of commercial office, retail and transport will deliver an outdoor place that brings people together around a high quality of landscaped amenity.</p> <p>The future student accommodation land use proposed in the masterplan (but which does not form part of this Planning Proposed) will be located adjacent to the public plaza, adding vibrancy from the social nature of student interactions.</p>
<i>Productivity:</i>		
<i>A well-connected city</i>		
Objective 14	A metropolis of three cities - integrated land use and transport creates walkable and 30-minute cities	<p>As identified in Objective 4 above, the site is ideally located in terms of public transport accessibility, being the location of the key transport terminus for the South East suburbs. The bus terminus is accessed by 12 bus routes that connect to the City, Bondi Junction, Burwood, Sydney Airport, Sydney Port and surrounding suburbs.</p> <p>The 'Future Transport 2056 Vision' identifies a new mass transit corridor to extend to the Eastgardens - Maroubra Junction Strategic Centre, and the Applicant has positioned to Transport for NSW that Eastgardens is the logical location for intermodal transport connections, and to maximise the future development benefit around new transport infrastructure.</p> <p>Furthermore, the extensive high-density residential development by Meriton to the immediate north of the site will provide an eventual proximate new community of circa 7,000 residents who will benefit from being in walking distance of the expanded shopping facilities and work opportunities that are proposed.</p>
<i>Jobs and skills for the city</i>		
Objective 21	Internationally competitive health, education, research and innovation precincts	The adjacent centre of Randwick has been prioritised as the Health and Education Collaboration Area for the region, and the Eastgardens proposal will play an important



GREATER SYDNEY REGION PLAN		
		<p>supporting role for employment space for complementary businesses and services.</p> <p>The constraints on Randwick's ability to expand could be relieved by locating administrative and back-office functions within office space at Eastgardens. The two locations and easily connection by a direct 3km bus trip, making Eastgardens a viable overflow workspace.</p> <p>The health and education precinct also requires lifestyle amenity for its residents, workers and students, and the this will be provided as part of the Eastgardens retail expansion.</p> <p>The future student accommodation land use proposed in the masterplan (but separate to this Planning Proposed) will provide affordable and transport-connected accommodation for students to relieve the pressure on housing around Randwick.</p>
Objective 22	Investment and business activity in centres	<p>Westfield Eastgardens has been the largest commercial investment in the locality since 1987. Now recognised as part of the Eastgardens – Maroubra Junction Strategic Centre, and as the only Commercial Core zoned property, Westfield Eastgardens plays a strategically important role in the future investment in jobs generation capacity and business activity.</p> <p>This proposal will deliver on that role by enabling a large investment in a strategic centre by an experienced and well-capitalised commercial landowner.</p> <p>The retail expansion and new commercial precinct is forecast to deliver 900-1000 retail jobs and a workplace for 950 to 1,200 commercial jobs. This investment will deliver the capacity to meet the District Plan job targets.</p> <p>The retail expansion will correct the leakage of retail sales that is currently being spent by residents of the trade area at locations outside of the trade area (i.e. online or at Bondi Junction or the City).</p> <p>Currently 76% of all spending on apparel, homewares and leisure goods (i.e. discretionary items) by residents of the Eastgardens trade area is spent at locations that are outside the trade area.</p>

GREATER SYDNEY REGION PLAN		
		(refer to the Retail Economic Impact Assessment at Appendix B).
		This is the highest leakage from a trade area of all Westfield centres, and it means that local businesses and jobs are missing out on resident spending. The expansion of the retail centre will capture more resident spend by local businesses and generate more local jobs.

### 9.2.2. Eastern City District Plan

The site is covered by the Eastern City District Plan which was published in March 2018. The Planning Proposal's consistency with the Plan is set out in Table 6 below:

Table 6 – Consistency with Eastern City District Plan

EASTERN CITY DISTRICT		
Planning Priority	Description	Comment
<i>Infrastructure and collaboration:</i>		
E1	Planning for a city supported by infrastructure	<p>The proposal is aligned with this priority by upgrading the bus terminus and delivering two new office buildings above the bus terminus.</p> <p>There are 12 bus routes that service the site, providing connections to other Strategic Centres such as the Sydney CBD, Bondi Junction, Randwick, Maroubra Junction, Burwood and the international trade infrastructure of Sydney Airport and Port Botany.</p> <p>The improvements to the bus terminus will increase operating capacity and make it more appealing for customers to use public transport when visiting the centre.</p> <p>The site is also well serviced by major arterial roads. The traffic study recommends some intersections upgrades to be undertaken by the Applicant in order to maximise the efficiency of this road network.</p> <p>The existing shopping centre is in itself a large piece of infrastructure, and expansion of the retail centre benefits from the existing loading docks, car parking and services infrastructures such as high voltage power feeders running to the site.</p>

<b>EASTERN CITY DISTRICT</b>		
<i>Liveability:</i>		
E3	Providing services and social infrastructure to meet people's changing needs	<p>The community composition around Eastgardens is changing, as developments such as Meriton's Pagewood Green add premium high-density residential units to a neighbourhood that has historically composed modest low-density housing and light industrial activity.</p> <p>This change is resulting in shifting demographics regarding employment types, disposable income and spending habits, and the need for additional public space for leisure and socialising.</p> <p>The proposal is aligned to this priority of meeting people's changing needs as it facilitates an evolution of the Westfield Eastgardens shopping centre from everyday needs retailing to a contemporary environment with additional categories such as dining, entertainment, leisure, health and wellness, medical services and a greater depth of contemporary fashion. These categories focus around experience-based retail offers, which is a changing need of consumers, especially where disposable income and discretionary spend is higher.</p> <p>The retail categories proposed for the centre expansion are also well aligned to indoor/outdoor environments and evening activation, which are both attributes desired by people in high density residential who have less private space in their apartments to socialise, and who often seek night time convenience options to balance with their daytime working commitments.</p>
E4	Fostering healthy, creative, culturally rich and socially connected communities	<p>As mentioned above, loneliness and social isolation are being recognised as significant contributors to mental illness in the community. As shopping centres transform, they are prioritising their important role as town centres and places for the community to socialise and connect with others.</p> <p>The proposal is aligned to this priority through creating the new civic plaza as a public meeting place; the focus of the western end for additional dining, leisure and entertainment retail; and the introduction of innovative workplace arrangements such as co-working, The Bayside Library will remain</p>

EASTERN CITY DISTRICT		
		<p>as an important part of the community services on the site.</p> <p>The large number of new high-density residential dwellings adjacent to the site will generate demand for a 'third place' where these residents can spend their leisure time. Designing comfortable spaces for this is a key pillar of the masterplan vision.</p> <p>A focus on more medical services within the office development, a larger gym, and the improved site accessibility and public transport experience helps promote an active and healthy lifestyle.</p>
E6	Creating and Renewing Great Places and local centres, and respecting the Districts heritage	<p>The proposal is aligned to this priority by allowing for the renewal of a site which high importance to the community for fresh food, retailing and convenience needs, and providing the opportunity for it to develop into a mixed-use centre that caters to the changing needs of the community.</p> <p>The proposal improves the interface of the shopping centre with the public domain by creating a new open plaza with voids to a subterranean bus terminus below. New address points are established at the Eastern and Western ends that are legible place-makers and easily accessible by foot. The proposal improves the pedestrian experience, for customers and local residents, whilst also enhancing transport connectivity. This will be a significant improvement on the existing arrangements whereby the centre is predominantly accessible by private vehicles.</p> <p>A design principle that has informed the masterplan is the retention and strengthening of the green buffer of vegetation and established trees around the edges of the site. This will be retained to respect the heritage of the streetscape and to continuing the softening effect that the trees have for the transitional environment from Commercial Core to Low Density Residential land use.</p>
<i>Productivity:</i>		
E8	Growing and investing in health and education precincts and the Innovation Corridor	<p>The adjacent centre of Randwick has been prioritised as the Health and Education Collaboration Area for the region, and the Westfield Eastgardens proposal will play an important supporting role for employment space for complementary businesses and services.</p>

EASTERN CITY DISTRICT		
		<p>The constraints on Randwick's ability to expand could be relieved by locating administrative and back-office functions within office space at Eastgardens. The two locations and easily connection by a direct 3km bus trip, making Eastgardens a viable overflow workspace.</p> <p>The health and education precinct also requires lifestyle amenity for its residents, workers and students, and the this will be provided as part of the Eastgardens retail expansion.</p> <p>The future student accommodation land use proposed in the masterplan (but separate to this Planning Proposed) will provide affordable and transport-connected accommodation for students to relieve the pressure on housing around Randwick.</p>
E10	Delivering integrated land use and transport planning and a 30-minute city	<p>The site is ideally located in terms of public transport accessibility, being the location of the key transport terminus for the South East suburbs. The bus terminus is accessed by 12 bus routes that connect to the City, Bondi Junction, Burwood, Sydney Airport, Sydney Port and surrounding suburbs.</p> <p>The new commercial office buildings included in the proposal will provide a viable new workplace precinct for residents in the South East of Sydney, delivering on the ambition of a 30-minute city. The large floorplate provision and views available at Tower A will be appealing to medium to large sized businesses, and the large and flexible floorplate arrangement available in Towers B and C will be appealing to small office suites and operators of co-working and serviced offices.</p> <p>This is important because data from Census 2016 shows that 77.5% of working residents who resided in the Botany LGA were engaged in workplaces outside the LGA, meaning that just 22.5% were employed locally. This outcome is low relative to most LGAs in Sydney, with Botany achieving only the 22nd highest rate of containment (of 32 LGAs), as well as being significantly below the weighted average outcome for LGAs in Greater Sydney (40.7%). The most popular working destinations for residents of the Botany LGA were Sydney (33%) and Randwick (14%).</p> <p>Further to this, Census 2016 data showed that the lowest rates of self-containment in the Botany LGA</p>



EASTERN CITY DISTRICT		
		<p>were for residents working in Financial &amp; Insurance Services (6.9%), Public Administration &amp; Safety (9.4%) and Education and Training (10.5%). These are all categories that would be viable tenants in proposed office buildings at Eastgardens, providing an alternative for these residents to work in closer proximity to their homes. (Refer commercial office Economic Impact Assessment at Appendix C for more details).</p> <p>The 'Future Transport 2056 Vision' identifies a new mass transit corridor to extend to the Eastgardens - Maroubra Junction Strategic Centre, and the Applicant has positioned to Transport for NSW that Eastgardens is the logical location for intermodal transport connections, and to maximise the future development benefit around new transport infrastructure.</p> <p>Lastly, the extensive high-density residential development by Meriton to the immediate north of the site will provide a proximate new community of circa 7,000 residents who will benefit from being in walking distance of the expanded shopping facilities and work opportunities that are proposed.</p>
E11	Growing investment, business opportunities and jobs in strategic centres	<p>Westfield Eastgardens has been the largest commercial investment in the locality since 1987. Now recognised as part of the Eastgardens – Maroubra Junction Strategic Centre, and as the only Commercial Core zoned property, Westfield Eastgardens plays a strategically important role in the future investment in jobs generation capacity and business opportunities.</p> <p>The proposal is aligned to this priority by enabling a large investment in a strategic centre by an experienced and well-capitalised commercial landowner.</p> <p>The retail expansion and new commercial precinct is forecast to deliver 900-1000 retail jobs and a workplace for 950 to 1,200 commercial jobs. This investment will deliver the capacity to meet the District Plan job targets.</p> <p>The retail expansion will correct the leakage of retail sales that is currently being spent by residents of the trade area at locations outside of the trade area (i.e. online or at Bondi Junction or the City).</p>

EASTERN CITY DISTRICT		
		<p>Currently 76% of all spending on apparel, homewares and leisure goods (i.e. discretionary items) by residents of the Eastgardens trade area is spent at locations that are outside the trade area. (refer to the Retail Economic Impact Assessment at Appendix B).</p> <p>This is the highest leakage from a trade area of all Westfield centres, and it means that local businesses and jobs are missing out on resident spending. The expansion of the retail centre will capture more resident spend by local businesses and generate more local jobs.</p> <p>Eastgardens – Maroubra Junction is identified as a Strategic Centre in the Plan. The expansion of shopping centre will strengthen the retail provision in the centre, which is in response to a range of factors including the nearby residential growth.</p> <p>The investment in the centre will ensure its future vibrancy and ability to meet increasing retail demand.</p> <p>The proposed new commercial floor space will help to enhance business capacity, meet the job targets, whilst offering an opportunity to promote a diverse mix of jobs. This will strengthen and reinforce the economic role of the centre.</p>

With regard to demonstrating the strategic merit for the Planning Proposal, Table 7 contains an assessment of the proposal against the relevant points set out in Part A of the Assessment Criteria in the Guide.

Table 7 – Strategic Merit Assessment

Assessment Criteria	Response
Give effect to:	The site is located within Greater Sydney.
Regional Plan outside of Greater Sydney	There is no corridor or precinct plan relating to the site.
Relevant District Plan in Greater Sydney	The proposal is consistent with the aims of the Eastern City District Plan in terms of managing growth, innovation, and evolution of Strategic Centres, by attracting investment and diversifying the range of activity in centres.
Corridor or Precinct Plan applying to the site	
Regional, District or Corridor Plan released for public comment.	
(or)	The provision of new commercial office space within the B3 Commercial Core will enhance the provision of employment opportunities locally whilst also strengthening the economic role of the centre.

Assessment Criteria	Response
	<p>Furthermore, the additional retail floor space will serve to meet the changing retail and services requirements of the community through a contemporary and expanded offer.</p> <p>The proposal is consistent with the aims of the Region Plan given it seeks to provide additional facilities and land uses within an existing retail centre, it seeks to utilise and improve existing public transport connections and it will provide investment in business activity in a Strategic Centre.</p>
Give effect to a relevant local strategic planning statement that has been endorsed by the Department or required as part of a regional or district plan or local strategic planning statement (or)	<p>The Botany Bay Planning Strategy 2031 is a dated document and the Bayside LSPS has yet to be endorsed by DPIE, so there is no relevant, up to date, local strategic statement to refer to.</p> <p>However, it is noted that the draft LSPS recommends that opportunities are identified to strengthen the economic role of Eastgardens-Maroubra Junction Strategic Centre, which this Planning Proposal Request directly responds upon.</p>
Responding to a change in circumstances, such as investment in new infrastructure or changing demographic trends not recognised by existing planning controls.	<p>The proposal responds to a change in circumstances locally. As a result of the significant and continuing investment in the former BATA site adjacent (Meriton Pagewood Green), the site is positioned immediately adjacent to one of Sydney's largest urban renewal sites. The consequence is that the land use relationships and strategic planning context has changed significantly, from light industrial sheds to high-density residential of 2,200 approved dwellings, and a further 1,600 in planning assessment. The co-location of retail, office, transport and adjacent residential uses in close proximity will create a new mixed-use town centre at Eastgardens which is aligned with the actions of the District Plan.</p> <p>The proposal facilitates the response of the shopping centre to this imminent and significant increase in local population, through the provision of additional retail and service categories in an improved and contemporary environment.</p> <p>Additionally, the expansion of the centre is also appropriate forward planning to the likely new mass transit which is under investigation to be extended to the Eastgardens - Maroubra Junction strategic centre. This would represent investment in new infrastructure</p>

Assessment Criteria	Response
	locally which is a change in circumstances and should be appropriately leveraged.

Furthermore, the Botany Bay LEP (2013) is now almost 7 years old and as indicated above, there is a clear case which demonstrate strategic merit with for proposal.

Accordingly, strategic merit is demonstrated on two counts, given the consistency with the District Plan and the change in circumstances at the site, meaning that the Planning Proposal to increase the height and FSR at Westfield Eastgardens meet this part of the test as set out in the Guide.

**Table 8** below contains an assessment of the proposal against the relevant points set out in Part B of the Assessment Criteria in the Guide relating to the site-specific merit of the proposal.

Table 8 – Site Specific Merit Assessment

Assessment Criteria	Response
Regard to the natural environment (including any known significant environmental values, resources or hazards); and	<p>The site is already developed as a shopping centre and car park meaning there is limited natural environment at the site. The only natural environment of note is the vegetation and established trees to the South and South East corner of the site which for a green buffer to soften the visual appearance of the existing centre and multi-deck parking. The retention of this green buffer was one of the design principles guiding the masterplan, and it is retained and strengthened through additional landscaping as part of the proposal.</p> <p>There are no known significant environmental values, resources or hazards which would be affected or encountered through the new development works to expand the centre.</p> <p>Any risk from the RMS dangerous goods route along Wentworth Avenue and Denison Street can be minimised during the detailed design phase for the scheme, and this is discussed in more detail in <b>Section 9.3.3</b> of this Report.</p>
The existing uses, approved uses and likely future uses of land in the vicinity of the proposal; and	<p>The existing use is as a major regional shopping centre and the increase in height and FSR at the site will facilitate its expansion, which will help to maintain its relevance and offer within the region. The proposed office buildings are permissible within and appropriate for the Commercial Core zoning of the</p> <p>The proposal is entirely appropriate for the site given that it will evolve the existing retail and services provision for the local residential community. It will provide for the generation of new local jobs, is situated in a highly accessible location and it responds to the</p>

Assessment Criteria	Response
	<p>growth in population locally by providing an increased offer.</p> <p>The proposal seeks to minimise any adverse environmental effects on neighbouring residents by retaining the green buffer of screening trees and by orienting and tower forms to minimise overshadowing impacts to an acceptable level.</p> <p>The proposal can also act as a catalyst for reviewing and potentially up-zoning existing low density residential in the vicinity of the site given the increased amenity, upgraded transport infrastructure, and evolving character of the location as a Strategic Centre.</p>
The services and infrastructure that are or will be available to meet the demands arising from the proposal and any proposed financial arrangements for infrastructure provision.	There is sufficient infrastructure to accommodate the increased floor space with adequate public transport, the ability to provide sufficient car parking on site, and capacity within the local road network to accommodate the increased demand, assisted by a limited recommendation of intersection improvements to be undertaken by the Applicant.

It is therefore evident from the above, that the Planning Proposal has demonstrated site-specific merit.

***Q4. Will the Planning Proposal give effect to a Council's endorsed local strategic planning statement, or another endorsed local strategy or strategic plan?***

### 9.2.3. Botany Bay Planning Strategy

The Botany Bay Planning Strategy is clearly an aging document given the time that has passed since its publication. However, it indicates that when the adjacent former BATA site is developed, alternate land uses at the shopping centre should be the subject of a detailed planning study.

This Planning Proposal seeks land uses which are appropriate in the B3 Commercial Core, including expanding the existing retail and commercial uses. The proposal also foreshadows a potential future development stage, which would align with the Botany Bay Planning Strategy, as it envisages future growth at the centre through additional land uses at the time when the former BATA site is redeveloped.

Given that construction is currently underway at the BATA site for a principally residential development, this presents a suitable opportunity to improve the retail and commercial offering at the centre, as a significant new resident population will soon be occupying the adjacent site. The proposal would therefore help to create a new mixed-use precinct where people can live, work and play.

***Q5. Is the planning proposal consistent with applicable State Environmental Planning Policies?***

An assessment of the Planning Proposal against the relevant applicable State Environmental Planning Policies (SEPP) is provided in **Table 9** below.

Table 9 – State Environmental Planning Policy Assessment

SEPP Title	Consistent	Comment
SEPP 55 – Remediation of Land	Yes	Any future development application will be accompanied by a relevant contamination assessment where necessary.



SEPP Title	Consistent	Comment
SEPP 64 – Advertising and Signage	N/A	SEPP 64 is not relevant to the Planning Proposal but may be a consideration for the future development application.
SEPP – (Exempt and Complying Development Codes) 2008	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP.
SEPP – (Infrastructure) 2007	Yes	<p>Whilst engagement with RMS has already occurred, a referral to NSW Roads and Maritime Services for traffic generating development will be required at the development application stage.</p> <p>The Transport Review Addendum is included at Appendix E demonstrates that the proposed development will not create adverse traffic impacts on the local road network.</p>

In view of the above, it is demonstrated that the Planning Proposal is consistent with applicable State Environmental Planning Policies.

**Q6. Is the planning proposal consistent with applicable Ministerial Directions (s.9.1 Directions)?**

There are various Ministerial Directions under Section 9.1 of the EP&A Act that provide guidance in the assessment of Planning Proposals and making LEPs that pertain to the land and/or type of development contemplated on the subject site. The applicable Section 9.1 directions and relevant objectives are discussed in **Table 10** below.

Table 10 – Section 9.1 Directions

Direction	Comment
1.1 Business and Industrial Zones	The Planning Proposal will both serve to encourage employment generation at the site through the provision of an increased retail offer and new commercial buildings accommodating a range of office space arrangements, whilst also supporting the viability of an identified strategic centre.
3.4 Integrating Land Use and Transport	<p>The Planning Proposal will both serve to encourage employment generation at the site through the provision of an increased retail offer and new commercial buildings accommodating a range of office space formats, whilst also supporting the viability of an identified strategic centre.</p> <p>The site is well located in terms of being accessible through a variety of modes of transport, including public transport. The site contains a bus interchange and forms part of a strategic bus corridor.</p> <p>The Planning Proposal will also assist in reducing travel demand, as the enhanced retail offer proposed will mean that local residents and people living to the south of the site, will no longer need to travel past Westfield Eastgardens to visit other centres, (such as Bondi Junction</p>

Direction	Comment
	or the Sydney CBD) to be able to access the variety of fashion and beauty retailers that meet their needs.
7.1 Implementation of A Plan for Growing Sydney	A Plan for Growing Sydney has been superseded by the Greater Sydney Region Plan. This Planning Justification Report demonstrates that the Planning Proposal is consistent with the Greater Sydney Region Plan.

In view of the above, it is demonstrated that the Planning Proposal is consistent with applicable Ministerial Directions under Section 9.1 of the EP&A Act.

#### 9.2.4. Future Transport Strategy 2056

As identified above, the Future Transport Strategy 2056 vision for the Greater Sydney mass transit network identifies a new mass transit corridor to the Eastgardens - Maroubra Junction strategic centre, which would significantly enhance the public transport accessibility of the strategic centre and support the growth of the centre in the future.

Scentre Group made submissions to draft Future Transport 2056 in December 2017, which supported the confirmation of Eastgardens as a strategic centre and identified the imperative to provide for greater mass transit services to the centre which would be achieved by an extension of light rail or metro rail connection to Eastgardens.

The integration of land use and transport is referred to in Section 9.1 Direction '3.4' above. To support this, the Future Transport Strategy 2056 is the key NSW integrated transport strategy which brings together land use planning with transport planning. Table 11 below outlines the Planning Proposal's consistency with the 'Objectives' within the Strategy.

Table 11 – Future Transport Strategy 2056 Strategy objectives

Actions	Response
<ul style="list-style-type: none"> <li>Safely, efficiently and reliably moving people and goods</li> </ul>	The Proposal includes the upgrade of the existing bus interchange to in capacity, improve accessibility and improve customer experience, as well as improve customer safety in and around the interchange.
<ul style="list-style-type: none"> <li>Connecting people and places in a growing city</li> </ul>	As part of the proposed upgrades to the bus interchange, an increase in bus standing areas will provide the opportunity for greater bus services to and from the centre, increasing the sites accessibility.
<ul style="list-style-type: none"> <li>Sustaining and enhancing the liveability of our places</li> </ul>	The proposed commercial towers will provide increased employment opportunities for the strategic centre and will be supported by an upgraded bus interchange along with a new public plaza and pedestrian access.
<ul style="list-style-type: none"> <li>Accessibility for all customers, convenient and responsive to customer needs; and makes best use of available resources and assets.</li> </ul>	The proposal responds to the changing modal needs of customers by improving the user experience of the bus interchange by reconfiguring the underground terminus and providing connectivity to a new active public plaza above with improvements to passenger experience.

The proponent will also seek to encourage visitors to travel to the site through modes of transport other than private motor vehicle. To achieve this, it is proposed to adopt a travel demand management approach through a travel access guide to meet the specific needs of the site, future employees and visitors.

The site is well served by public transport, meaning that employees and visitors can be encouraged to use this mode through the provision of information, maps and timetable as part of the travel access guide. The detail of the travel access guide can be developed at the development application stage, such that it can respond to the transport circumstances and guidelines at that stage.

### 9.3. ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACT

***Q7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?***

The site is situated within an urban context and is currently used for commercial purposes. The site is previously developed and therefore the Planning Proposal will not affect any critical habitat or threatened species, populations or ecological communities.

***Q8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?***

Given the proposed uplift in building height and density, the potential environmental effects that are relevant to the Planning Proposal are addressed below, along with the pertinent parts of the DCP.

#### 9.3.1. Bulk, Scale and Massing

The planning proposal will increase the permissible heights and floor space ratio across the site. As such, the proposal will allow for an increased scale of built form beyond that which currently exists. This is demonstrated in the Urban Context Report prepared by Architectus attached at **Appendix A**. The Report illustrates the proposed building envelopes and how the centre could be developed to accommodate the new retail and commercial floor space.

The location of future height and density uplift has been based on a detailed review of the opportunities and constraints for the site and guided by the design principles established in the Architectus study. The key considerations include:

- The constraints provided by the existing location of major retail tenants of the shopping centre who have rights under long term leases;
- The location of existing loading facilities at the centre which are a critical to the continuing operation of the centre;
- The requirement to minimise the impacts from the built form on surrounding residential land uses, including overshadowing on properties to the south;
- The desire to locate the bulk of the new built form away from the Wentworth Avenue / Denison Street intersections which is on a hazardous goods route;
- The desire to locate commercial office development adjacent to existing transport infrastructure (the bus terminus); and
- The location of towers along Bunnerong Road to allow for separate street addresses, improving legibility for commercial tenant operations and contributing to the public domain.

#### Height for Commercial Office Towers (part 59m, part 40m)

The Revised Urban Context Report (Appendix A) includes a height strategy which reviews alternative options for providing height on the site. The selected option was successful in minimising overshadowing impacts whilst achieving the requirement for successful commercial developments.

The indicative design illustrates how the commercial and multi-use towers could be designed to create a unique and welcoming precinct that is tailored to the needs of the community and cements the centre as a mixed-use strategic centre.

Land on the corner of Wentworth Avenue and Bunnerong Road is proposed to have a 40m height limit to accommodate a future multi use commercial tower containing flexible floorspace to accommodate potential

office, health and wellbeing practices, and civic services uses, to meet the needs of the local community. The site, which contains an existing single storey commercial building, occupied by a gym, is envisaged to accommodate an 'iconic' building to form the gateway to the Eastgardens precinct. It will be designed with setbacks to retain the established vegetation buffer, and the height has been established to minimise overshadowing impacts to surrounding residential land uses whilst bookending the street wall along Bunnerong Road.

The part 59m envelope has been redesigned as part of the latest update to the Planning Proposal Request. It is now positioned with an increased (35m) setback from the Wentworth Avenue site boundary, above a podium of retail and car parking. Whilst being set back, the location still allows for an address point from the public plaza and connectivity to the bus terminus. The East-West orientation and slender configuration of the tower has been designed to achieve the DCP objectives and minimise the overshadowing impacts on the surrounding low-density residential land uses.

The final design of the towers will be subject to further design development after the Planning Proposal stage. However, the part 59m and part 40 height limit provides flexibility for future tower designs to achieve the objectives of the District Plans, meet the needs of future tenants, and minimise the impact on the surrounding land uses adjacent to the Commercial Core.

### Height Zone for Retail (part 34m)

The other amended height control is proposed at 34m to accommodate outlier height elements of the existing and proposed retail centre such as the cinema expansion, additional mezzanine parking decks, and new solar panel shade structures over the car park.

The remainder of the site will retain the existing height control.

The proposed amendment to the controls will facilitate suitable building envelopes and future development concept, which will ensure an appropriate design whilst accommodating the requisite additional floor space and additional levels of development across the site. The site is well positioned to accommodate additional height and density, and the proposal will also serve to bring the maximum height of development on the eastern part of the site in relative alignment with the current redevelopment of the site to the north.

The Meriton site opposite Westfield Drive, is currently being redeveloped into a high-density mixed-use precinct consisting of several residential flat building of between 16 and 20 storeys in height. This provides a reference point for the future extent of development within this part of the strategic centre.

### Adherence to Aeronautical Height Requirements

The Meriton site has established a height datum that has been tested and approved by the relevant authorities to be compliant with aeronautical movements in proximity to Sydney Airport.

That aside, the applicant has engaged a study specifically for this proposal which has confirmed that the proposed buildings heights (and clearance for cranes to construct the buildings) have no technical issues that would prevent them from being approved at the time when such an application is lodged (recommended to be at Development Approval stage)

Specifically, the Aeronautical Assessment contained at **Appendix H** demonstrates that although the proposal penetrates the OLS, the proposal is considered acceptable given the tallest tower at RL 83 has sufficient clearance below the lowest relevant PANS-OPS height datum of RL 126.4m. It should be noted that the previously lodged Aeronautical Assessment (in March 2019) was based on the previous scheme of up to RL94.4m. As this is now reduced by 11m to RL83m, the revised proposal is more compliant and the submitted report does not need updating to reflect these changes.

In summary, the location of the proposed maximum height envelopes at the site is demonstrated to have been carefully selected as a result of site constraints and opportunities and the guiding urban design principles. Whilst the final design will include design features to break up the facade including articulation, modulation, softening and permeability, which can all be addressed in more detail at the development application stage.

### 9.3.2. Traffic Generation and Parking

#### Traffic

An amended transport modelling and traffic engineering assessment was undertaken by SLR and is attached at **Appendix E**. The previous Traffic Report was prepared based on an increase of 27,500sqm retail GLA and 25,000sqm commercial office GLA, and confirmed that the proposed external intersection upgrade works detailed in the original report were acceptable to cater for development traffic.

This revised planning proposal scheme has some 1,000sqm less office GLA. Furthermore, the adjacent Meriton proposal was reduced to an FSR of 2:1 (from 2.35:1 assumed at the time of traffic modelling) meaning that the local modelled traffic levels would be further reduced. As such, the proposed external intersection upgrade works detailed in the original report also remain valid.

#### Car Parking

The existing centre provides over 3,100 car parking spaces in an arrangement of covered multi-deck and rooftop parking.

A controlled car parking and parking guidance system has recently been installed across Westfield Eastgardens and has significantly improved the availability of car parking spaces to retail customers through the removal of non-retail car parking (e.g. commuter car parking for the bus interchange, employees of adjacent sites, and even airport parking), and through the relocation of staff car parking (i.e. through the provision of 'nested' staff parking areas) to previously underutilised rooftop car parking areas;

Additional car parking will be provided in the scheme to compensate for the spaces lost for the Level 2 retail expansion (into the existing car park) and to support the additional retail and office GLA in the proposal.

The final provision of car parking will be resolved at DA stage based on occupancy modelling of the existing car park and the development overlay. Much of the new retail will be experience-based offers (vs goods) that are more viable for non-car transport options.

An envelope has been included in the proposal for 4 additional mezzanine parking levels if the Applicant is required to provide parking based on the 2002 RTA Guide to Traffic Generating Developments.

The RMS now considers this ratio methodology to be outdated given:

- the progress in car park data collection and modelling,
- the fact that as major retail centres have evolved many additional activities are overlapped in the one trip; and
- additional uses as part of retail expansions often have a peak demand that sits outside the traditional peak periods for shopping centres (i.e. dining and cinema peak periods are in the evening; and commercial offices are not occupied on the weekends when retail centres are at their busiest). This can allow effective sharing of car parking spaces across the development.

The Applicant expects that the 4 levels of additional mezzanine parking identified in the extra parking envelope will be justified at the DA stage, as not being required for construction, once reliable data is available for modelling, following the introduction of ticketless parking data capture at Westfield Eastgardens since December 2018.

#### Public Transport

The Planning Proposal presents a significant opportunity to improve travel by sustainable transport modes to Westfield Eastgardens and the surrounding area.

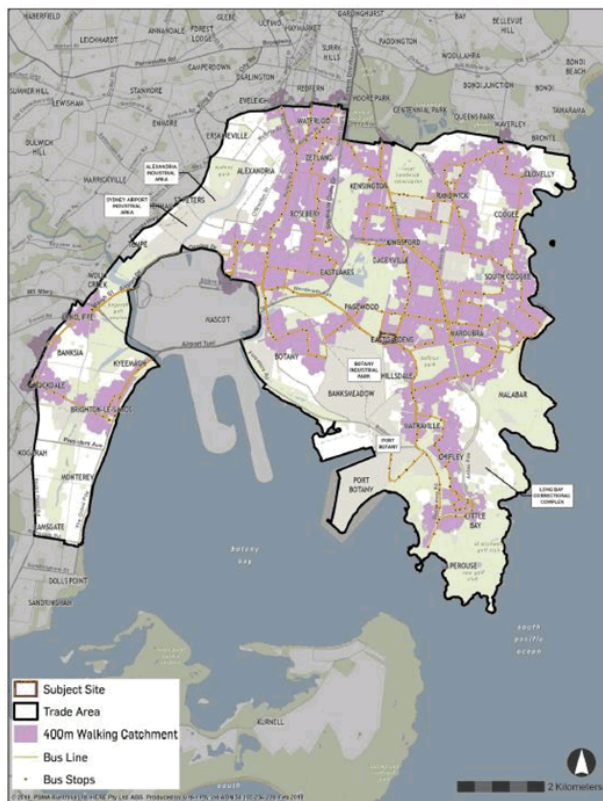
Due primarily to the bus interchange located within the site, Westfield Eastgardens has excellent existing access to public transport with 12 existing bus routes servicing the site. Extracted below is a figure from the report at Appendix E (Figure 16) which demonstrates the high proportion of the Westfield Eastgardens trade area catchment located within 400m walking distance of an existing bus route that services Westfield Eastgardens. Generally, the gaps in coverage only exist for golf course and bushland, or the large industrial estates.

The proposed upgrades to the existing bus interchange are intended to improve the customer experience as well as provide additional operating capacity for increased buses stopping at the centre as patronage numbers continue to grow. The overall upgrade is intended to encourage more travel to and from the centre



by public transport, and to make the bus interchange a feature of the public plaza and arrival experience to the centre.

Figure 16 – Bus Stops 400m Walking Catchment Area



Source: Urbis

### Active Transport

The Meriton development to the immediate North of the site will provide a resident population of approximately 7,000 people who are all within a 500m walk of Westfield Eastgardens. The proposal responds to this opportunity by improving the arrival experience for pedestrians by clear placemaking of the East and West entrance points and improving the public domain at these locations. In addition, it is anticipated that there will be an increase in linked trips at the site where workers in the office buildings undertake shopping trips before or after the working day.

The scheme will also accommodate new end of trip facilities which will serve to promote both cycling and walking to the site for both the retail and office workers.

#### 9.3.3. Quantitative Risk Assessment

An updated Quantified Risk Assessment Report was undertaken by Systra Scott Lister and is included at **Appendix F**. The report assessed the proposed amendments to the original proposal, being the increased population generated by the commercial office development, and the weighting of population distribution towards the East of the site which is the location of the commercial development. The assessment notes that the increased population results in an increase in the societal risk for the dangerous goods route along Wentworth Avenue, but that this increased risk sits within the ALARP (as low as reasonable practical) range based on the modelling assumptions for the site; and based on DPE guidance a development that sits within the ALARP cannot be precluded.



The report notes three design mitigations that have not been modelled in the results and will have the effect of reducing the risk if implemented in the modelling. It should be noted that since this report was published, the proposed scheme has been reduced by 6,500sqm GLA and therefore the incremental risk will further reduce.

**Q9. Has the planning proposal adequately addressed any social and economic effects?**

**9.3.4. Economic Impact**

Two Economic Impact Assessments have been prepared to assess the proposal, one for retail expansion and another for the commercial office development.

The analysis of market need, demand and economic impacts of the proposed results in the following key conclusions:

- The proposal is aligned to the priorities of the Region Plan and Eastern City District Plan.
- There is a market need and demand for the scale and type of retail expansion proposed for Westfield Eastgardens given the forecast growth in population and expenditure in the trade area.
- The impacts to surrounding retail centres are well within the bounds of a normal and healthy competitive environment.
- The expansion will generate circa 1,139 direct operational jobs and +\$190m Gross Value Added per annum to the NSW economy during the operational phase.
- The expansion of Westfield Eastgardens is complementary to the objectives of the *Eastern City District Plan*, underpinning Westfield Eastgardens' position and place in the hierarchy as a Strategic Centre, as well as providing employment opportunities to target the Bayside Council area.
- The Eastgardens precinct is the only area within the Eastgardens-Maroubra strategic centre that is zoned B3 Commercial core and therefore provides the opportunity to develop a truly mixed-use centre.
- The proposed floor size of the commercial tower (up to 1,000sqm) is unique within the Eastgardens-Maroubra centre which typically provides smaller floorplates (50-200sqm) and therefore, would attract specific tenants that would otherwise not consider this strategic centre. Further the predicated impact on existing commercial tenancies is therefore considered negligible.
- The proposal would attract new companies to the local area, providing significant jobs growth in an area that is currently experiencing high population growth due to neighbouring high-density developments as well as a regional trend towards more medium density development. There is the ability to accommodate between 900 – 1,200 new commercial office-based jobs.
- The expansion supports the objective of a 30-minute city by providing additional employment opportunities within an established centre.

**Retail**

The retail economic impact assessment at Appendix B is an addendum to the previous report by Urbis to respond to the comments received from the peer review undertaken by RPS.

The addendum provides extensive support for the expansion of the Eastgardens Shopping Centre, given the current size of the centre's trade area and the expected growth of the market, which is forecast to continue to grow strongly and increase by \$1.1 billion or 24% in constant dollar terms from 2017 to 2023.

The analysis demonstrates:

- The expansion of the centre would result in Westfield Eastgardens capturing an additional \$149 million or 13% of the forecast growth in trade area retail expenditure. The trade area market share would increase by 2.6 percentage points, with a resulting market share of 10.4%.
- The assessed market shares are within the typical range achieved by higher order centres of a similar scale and role to that of Westfield Eastgardens. The centre would be capturing a share of the market consistent with the role of regional scale shopping centres and not be taking an unreasonable proportion of market demand.

- The report presents new analysis including that 76% of expenditure by trade area residents on apparel, homewares and leisure goods (discretionary items) is undertaken at centres/locations outside the trade area. This loss of local sales is referred to as 'leakage', and Eastgardens has the highest percentage of discretionary expenditure leakage among Westfield centres. This can be explained by the lack of range in fashion, homewares and leisure retailers, and the result is that residents are forced to drive to other locations and local jobs and economic activity is lost.
- There is strong demand for food catering offerings within the centre, with the proposal to address the shortfall and contain expenditure within the local community.
- The assessed impact on other retail centres is marginal, calculated at between 1.0% and 3.1% depending on which centre, and is far below the threshold of 10% impact that is considered to raise concern.
- The expansion can deliver 1,139 operational jobs per annum, and a Gross Value Added of \$190m per annum to the NSW economy, once completed.
- The shopping centre has not been redeveloped in over 15 years and is at serious risk of failing to respond to changing consumer expectation and losing relevance and market share in an environment where other retail centres are investing in their product.

Overall, the proposal is considered to address large retail demand shortfalls and provide greater opportunities for retail and food and beverage to be located within the trade area, enabling the local community the opportunity to stay within the parameters of the trade area.

### Commercial

A commercial office EIA has been prepared by *Colliers International* (Appendix C) which provides an in-depth analysis of the existing office markets in the region, what factors drive business occupancy decisions, and the points of difference of the Eastgardens office proposal that will make it attractive as a new workplace precinct.

The report demonstrates that:

- There is strong demand for commercial office space within the Greater Sydney Area.
- Demand is not confined to Sydney CBD, with many tenants looking at precincts within close proximity, particularly where close to public transport, such as the bus interchange at Eastgardens.
- The proposed floor size of the commercial tower (up to 1,000sqm) is unique within the Eastgardens-Maroubra centre which typically provides smaller floorplates (50-200sqm) and therefore, would attract specific tenants that would otherwise look outside of the centre.
- The predicated impact on existing commercial tenancies within the trade area is therefore considered negligible as they fulfil the needs of a different occupier type.
- The mix of large floor plates, transport accessibility and retail/dining/leisure amenity will be an appealing point of difference for establishing a workplace precinct.
- The proposal would attract new companies to the local area, providing significant jobs growth in an area that is currently experiencing high population growth due to neighbouring high-density developments as well as a regional trend towards more medium density development.

The proposal enables the centre to meet the objectives of a strategic centre by providing additional commercial employment opportunities within an accessible and established precinct. The report demonstrates that there is high demand for commercial floor space within the centre, especially the large floor plates proposed as part of future office towers. The report notes that the ability to achieve such large floor plates provides a great opportunity to attract new tenants to the area, diversifying the local economy and provide additional employment within the area.

Ultimately, the proposed expansion of Westfield Eastgardens will result in a net community benefit. The range of choice available to residents will be enhanced, with existing and planned centres still continuing to serve their role in the retail hierarchy.

The proposed office development will make an important contribution to the realisation of the strategic goals for the Eastgardens Strategic Centre, including:

- Diversification of its role into a multi-functional activity centre.
- The proposal will also address a need for the provision of new office development to provide employment opportunities locally for the large and growing white collar workforce in the region, which provides economic, social and environmental benefits.
- The economic benefits are significant including the ability to provide for 900 to 1,200 full time equivalent jobs once constructed.

### 9.3.5. Social Impact

The proposal will have positive social impacts on the local community and wider LGA:

- The proposal provides additional retail floor space in an existing shopping centre which is close to transport infrastructure and is highly accessible;
- Upgrading of this retail shopping centre will provide an improved retail experience and offer, commensurate with the expectation of its customers. These expectations are changing along with society habits around shopping and socialising change. These expectations are becoming greater following the gentrification and densification of the surrounding suburbs.
- These improved retail services along with the introduction of additional commercial building including a range of office space will enhance the business activity within Eastgardens and support its future growth as a Strategic Centre;
- The proposal will assist in meeting job targets set by the State Government and Greater Sydney Commission, with jobs created in both the construction and operational phase of the development; and
- The development is likely to result in a reduction in the number of vehicular trips made by customers within the trade area which pass the site to visit competing centres due to a wider available offer.

The proposal will generate positive social and economic effects that will be beneficial to Eastgardens and the broader region.

### 9.3.6. Overshadowing

The characteristics of the surrounding area is predominantly low density residential and therefore presents a challenge when adding additional height at the site. The proposed increase in height and density results in some overshadowing to adjacent residential dwellings.

Following the March 2019 submission, Council, informed by independent consultant assessment, provided feedback on the proposal, with the key matter being overshadowing. This centred on the overshadowing impact to the five most impacted dwellings to the south of Wentworth Avenue, which was deemed not supportable.

It was clarified that there were no plans to change to the zoning or density of these properties in the foreseeable future as part of the Local Strategic Planning Strategy process and LEP updates. As such further justification and analysis for the location of the height was requested.

A series of workshops were held between the Proponent and Council staff where proposed solutions were presented and this submission (and specifically the Urban Context Report by Architectus) represents the adoption of these amendments as the revised Planning Proposal Request.

Detailed shadow diagrams are included in the Urban Context Report attached at **Appendix A**.

The study analyses existing shadows, including self-shadowing of primary private open space and living area windows at the rear of the dwellings, and compares these with shadows cast by the proposal, to assess additional overshadowing to primary private open space on dwellings in the vicinity of the proposal.

To limit the impacts of overshadowing and maintain residential amenity, the height strategy for the proposal was amended to be outcomes based, to achieve the following at the Winter Solstice:

- Maintain approximately 2 hours of solar access between 9am and 3pm to 50% of the primary private open space areas located at the rear of the single residential dwelling houses to the south of Wentworth Avenue;

- Where the primary private open space of the adjoining development currently receives less than the required amount of sunlight (50% coverage for a minimum of 2 hours), which is the case due to the self-shadowing under existing conditions, then development is to not create additional overshadowing to the primary private open space of the adjoining development;
- In addition, where the primary private open space of the adjoining development currently receives less than the required amount of sunlight (50% coverage for a minimum of 2 hours), development is to ensure that 50% of each front yard receives approximately 1 hour of solar access between 9am and 3pm.

The study indicates that during the winter solstice the proposed towers cast long shadows that are relatively fast moving and affect the surrounding residential areas for relatively short periods of time. The greatest impact on residential dwellings is seen in the area immediately to the south of Wentworth Avenue. There are 5 houses on Wentworth Avenue (Numbers 244, 246, 248, 250, 252). More detailed analysis of these 5 dwellings found that:

- There is no additional overshadowing to primary private open space at the rear of the 5 properties. (per DCP Section 4A.4.3, Clause C3.)
- A desktop study revealed that it can be reasonably assumed that the living areas of the 5 houses in question are located at the rear/ southern side of each property and so do not require the minimum 2 hours of solar access on 21 June to their front façades. (per DCP 4A, 4.3, clause C1)
- Notwithstanding the location of living areas for the 5 dwellings, the proposal ensures a minimum of 1-hour solar access to at least 50% of the front-yards in mid-winter between the times of 9am to 3pm.
- The proposal also ensures a minimum of 1-hour solar access to the front building façades.
- Between the equinox times (from the 21st September to 21st March), the proposed development does not create any additional overshadowing impact
- Before and after the equinox, from approximately the 3rd August to the 10th May, all 5 properties achieve a minimum of 2 hours solar access to 100% of the front yards and northern facade.

Given the strategic importance of the site in the context of developing the Eastgardens-Maroubra Junction Strategic Centre, the potential overshadowing impacts of the proposal on existing dwellings is considered to be reasonable and acceptable.

## 9.4. STATE AND COMMONWEALTH INTERESTS

### *Q10. Is there adequate public infrastructure for the planning proposal?*

It is understood that the existing infrastructure at and surrounding the site has the capacity to accommodate further development on the site, subject to any necessary expansion and augmentation at the detailed application stage. The adequacy of the road network is identified in Section 9.3.2 and will be further evidenced in the updated Traffic Report Addendum at Appendix E.

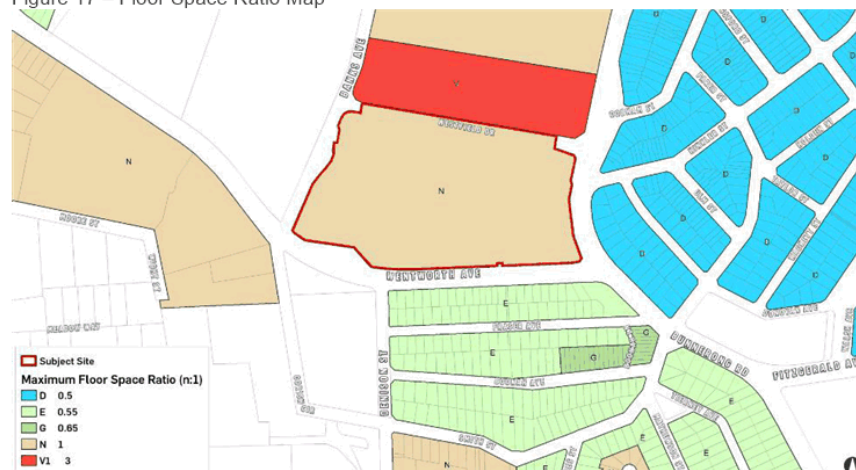
### *Q11. What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?*

The Planning Proposal is still in a preliminary stage. All relevant State and Commonwealth public authorities will be consulted as required following the Gateway Determination

## 10. PART 4 – MAPPING

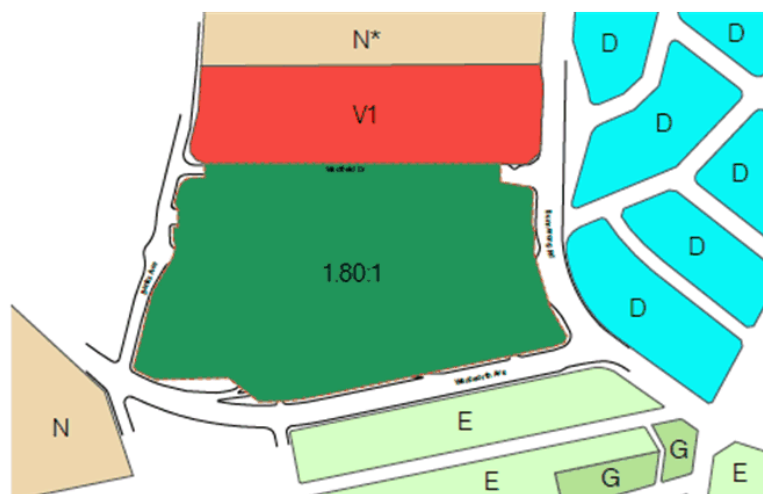
THE BBLEP incorporates the FSR and Height of Building Maps which will need to be altered through the Planning Proposal process. Figure 17 below illustrate the proposed LEP Map amendments. The below maps are also attached individually at Appendix D.

Figure 17 – Floor Space Ratio Map



Picture 5 – Existing FSR Map

Source: Urbis



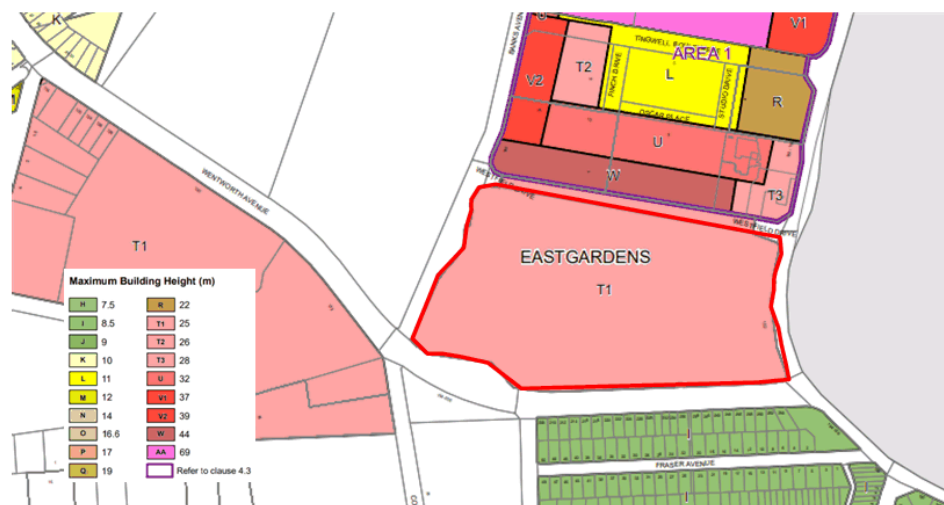
Picture 6 – Proposed FSR Map

Source: Architectus

The above illustrates the increase in FSR at the site on the LEP FSR Map from the existing 1:1 (Picture 5) to the proposed 1.8:1 (Picture 6).

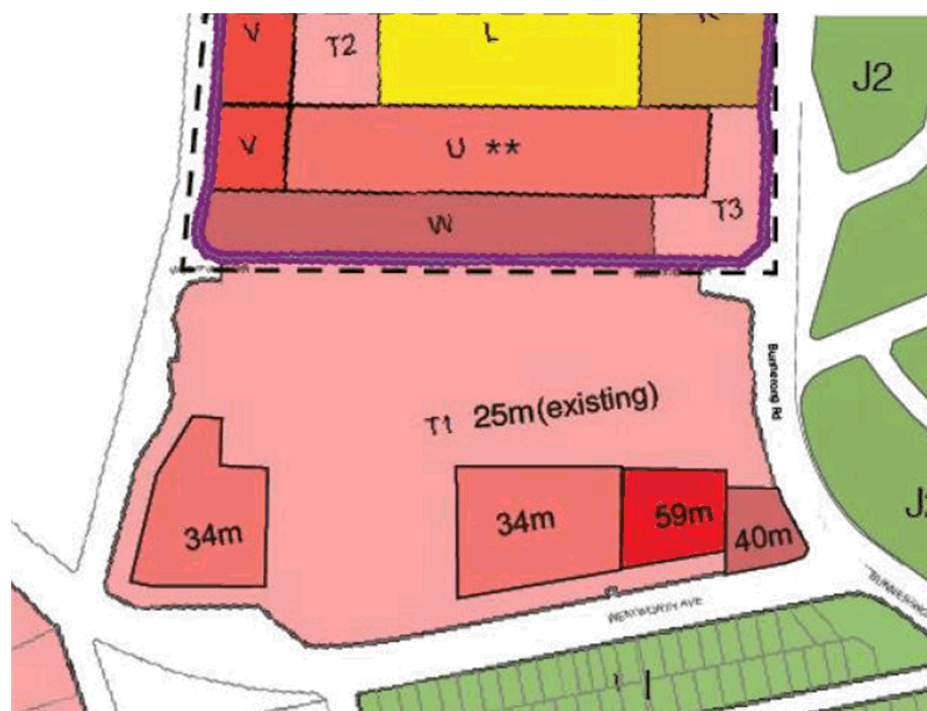


Figure 18 – Height of Building Maps



Picture 7 – Existing Height of Building Map

Source: Urbis



Picture 8 – Proposed Height of Building Map

Source: Architectus



The above Figure 18 illustrates the increase in the maximum height of building at the site on the LEP Height of Building Map from 25m (Picture 7), to part 34m / part 40 / part 59m with the remainder of the site unchanged (Picture 8).

To confirm the intended outcome of the Planning Proposal, the above maps illustrate the following amendments to the LEP controls:

Floor Space Ratio: Introduce a new maximum allowable FSR of **1.8:1** (from existing 1:1 on LEP Map)

Height of Buildings: Introduce a new maximum allowable building height of part **34m**, part **40m** and part **59m** (with the remainder at 25m as per existing controls).

## 11. PART 5 – COMMUNITY CONSULTATION

The proponent has had continuing engagement with Bayside Council since March 2017. During this time feedback has been received from council, either directly from officers or through the peer review reports prepared by advisers to Council. This feedback has been well considered, and elements of the proposal have evolved considerably as a response.

This revised proposal represents a consolidated submission to support the revised Planning Proposal Request that was originally presented to Council officers in December 2018 and again in March 2019.

The proponent has also had continuing engagement with Meriton as owner and developer of the adjacent Pagewood Green masterplan.

Clause 57 of the EP&A Act requires the relevant planning authority to consult with the community in accordance with the Gateway determination.

It is noted that the Council have a policy relating to community consultations, which include proposals for major re-zonings. However, in this instance, it is anticipated that the Planning Proposal will be required to be publicly exhibited for 28 days in accordance with the requirements of the DPE guidelines *A Guide to Preparing Local Environmental Plans* and dependent on the outcome of the Gateway determination.

It is anticipated that the public exhibition would be notified by way of:

- A public notice in the local newspaper(s).
- A notice on the Council website.
- Written correspondence to adjoining and surrounding landowners.

The Planning Proposal would be publicly exhibited at Council's offices and any other locations considered appropriate to provide interested parties with the opportunity to view the submitted documentation.

In light of the above, the direction as to the nature and extent of the necessary public consultation will be decided after receiving Gateway determination to ensure the State Government supports the merit of the proposal before opening wider community feedback.

## 12. PART 6 – PROJECT TIMELINE

The 'Guide to Preparing Planning Proposals' published in December 2018 indicates that the following details should be provided, with our estimated dates for each stage in Table 12 below.

Table 12 – Project Timeline

Stage	Timeframe and/or Date
Consideration by Bayside Council	Q1 2020
Planning Proposal referred to DPE for Gateway Determination	Q1 2020
Gateway Determination by DPE	Q2 2020
Commencement and completion of public exhibition period	Q3 2020 Anticipated timeframe for public exhibition is 28 days.
Consideration of submissions	Q3 2020
Consideration of the Planning Proposal post-exhibition	Q3 2020
Submission to DPE to finalise the LEP	Q4 2020
Gazettal of LEP Amendment	Q4 2020

The above information will be crystallised by the RPA following the issue of the Gateway determination and through the production of the formal Planning Proposal. However, it is considered that this would be a straightforward Planning Proposal and based upon other similar proposals which are compliant with strategic policy, it is expected that the process can be finalised within 12 months and the consequential LEP amendments gazetted within this timeframe.

## 13. CONCLUSION

This Revised Planning Justification Report supports a Planning Proposal which seeks amendments to Botany Bay LEP 2013 to facilitate an expansion of the shopping centre at Westfield Eastgardens.

The Planning Proposal has been prepared in accordance with Section 3.33 of the Environmental Planning and Assessment Act 1979 (the EP&A Act) and the relevant guidelines prepared by the NSW Department of Planning and Environment (now DPIE) including "A Guide to Preparing Local Environmental Plans" and "A Guide to Preparing Planning Proposals."

The Planning Proposal seeks to introduce a new maximum allowable FSR of 1.8:1 a new maximum allowable building height of part 34m, part 40m and part 59m at the site (and the remainder unchanged at 25m), which is the only B3 zoned Commercial Core within the Eastgardens-Maroubra Strategic Centre.

The Vision for the site is to develop a vibrant, mixed use centre accommodating an enhanced retail and leisure offer, as well as commercial buildings containing 'A' grade offices. This proposal will also accommodate a new multi-use commercial tower containing flexible floorspace to accommodate potential office, health and wellbeing practices, and civic services, along with an improved arrival experience for visitors travelling on foot, by car or public transport.

The amended Planning Proposal provides a comprehensive justification of the proposed amendment to the BBLEP 2013. The proposal is consistent with the objectives and actions contained within 'Greater Sydney Region Plan, Eastern City District Plan and Council's Strategic Plan. It is also consistent with applicable State Environmental Planning Policies and Section 9.1 Directions.

The proposal will allow the future expansion of a mixed-use precinct at the site which reflects the importance of Westfield Eastgardens as a major regional shopping centre within a key strategic centre as identified within the Eastern City District Plan. The market need and demand for this expansion is supported by the gentrification and densification of the trade area, along with the relative shortfall in retail floor space when compared to available expenditure.

The proposal will improve the arrival experience and connections to transport modes including bus, taxi and car. This will ensure the centre is more accessible to all demographics as well as encourage alternative modes to and from the centre other than the car. The proposal will create an external experience, currently not seen at the centre by creating a new public plaza, with cafes and restaurants as well as improvements to pedestrian access.

The proposal includes an upgrade to the existing bus interchange to meet growing demand and modal shifts towards public transport, by increasing bus standing capacity and improving customer experience within an enclosed interchange.

The proposal is consistent and responds to the current large-scale redevelopment of the adjacent site, by providing additional employment opportunities and services within a high accessible area.

The site is highly accessible, given that it is close to main arterial roads which form part of a Strategic Bus Corridor and the site already accommodates a bus interchange which caters for twelve separate bus services. Furthermore, the potential for future mass transit to the site (rapid bus, light rail extension or metro train) is being investigated and would also serve to enhance the accessibility of the site.

The proposal will facilitate a future redevelopment of Westfield Eastgardens that will improve the interface between the internal and external elements of the centre and provides clear public benefits including an upgraded bus terminus, a new publicly accessible plaza fronting Bunnerong Road and enhanced pedestrian linkages.

The introduction of a new commercial buildings at the site will facilitate the co-location of a variety of uses at the site and immediate vicinity, which also benefit from the proximity of the bus interchange. The enhanced retail offer and new office accommodation, along with the residential development to the north will serve to create a new sense of place at this location where the local community can live, work and spend leisure time.

The proposed vision includes the possible future development of student accommodation of hotel which would add activation to the new public plaza and be supported by the upgraded interchange and employment opportunities.

This additional investment in the centre will serve to improve business activity and create approximately 2,339 jobs at this location, which will help to grow and evolve the Eastgardens- Maroubra Junction Strategic Centre.

It has been demonstrated that the proposed amendment to the BBLEP 2013 has strategic merit because:

- The scheme would be consistent with the aims of the Greater Sydney Region Plan and the Eastern City District Plan, which means that the proposal accords with the range of strategic policies which cover the site,
- The proposal is consistent with the objectives of the Greater Sydney Region Plan by providing additional employment opportunities outside of the Sydney CBD to meet the objectives of a 30-minute city.
- The proposal also responds to a change in circumstances locally, with the significant investment in the adjacent former BATA site and resulting in an increase in local population requiring modern retail facilities and additional commercial employment opportunities.

It has been demonstrated that the proposed amendment to the BBLEP 2013 has site specific merit because:

- The existing centre is recognised as a major shopping centre and the increase in height and FSR at the site will facilitate its expansion, which will help maintain its relevance and offer within the region;
- The proposal will allow for a building envelope which can accommodate the expansion of the shopping centre and provides the benefits of co-location with the proposed new commercial buildings;
- The development has been designed to minimise any adverse environmental effects on the neighbouring residents;
- The proposal is entirely appropriate for the site given that it will augment the existing retail, commercial and leisure provision, and provide new local job opportunities, at a location which is highly accessible location, and which responds to the growth in population locally; and
- There is sufficient infrastructure to accommodate the increased floor space with adequate public transport, sufficient car parking provided on site and capacity within the local road network to accommodate the increased demand.

Overall, the revised Planning Proposal Request and revised Urban Context Report presents a reimagined scheme that directly responds to the comments from consultation with Bayside Council and Council's independent advisors.

As such, there is a clear public benefit for proceeding with this Planning Proposal and it should be favourably considered by Council, and that Council resolve to forward it to the Department of Planning and Environment; to allow the Department to consider the Planning Proposal for Gateway Determination, under Section 3.34 of the *Environmental Planning and Assessment Act 1979*.





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## **APPENDIX A URBAN CONTEXT REPORT**

## **APPENDIX B ECONOMIC IMPACT ASSESSMENT (RETAIL)**

## **APPENDIX C ECONOMIC IMPACT ASSESSMENT (COMMERCIAL)**

## **APPENDIX D      LEP MAPPING**



## **APPENDIX E      UPDATED TRAFFIC MODELLING**

## **APPENDIX F    UPDATED QUANTITATIVE RISK ASSESSMENT**

## **APPENDIX G      SITE SPECIFIC DCP**

## **APPENDIX H      AERONAUTICAL ASSESSMENT**

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## WESTFIELD EASTGARDENS

20/02/2019

### QUANTIFIED RISK ASSESSMENT







## WESTFIELDS EASTGARDENS

### QUANTIFIED RISK ASSESSMENT

IDENTIFICATION TABLE	
Client/Project owner	SCENTRE Group
Project	Westfields Eastgardens Redevelopment Masterplan
Study	Quantified Risk Assessment
Type of document	Report
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File name	
Framework	
Reference number	SM20190213
Confidentiality	
Language	English
Number of pages	

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Version	Name		Position	Date	Signature	Modifications
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	Simon Meiers			25/05/2016		
	Howard Lister			25/05/2016		
2	Simon Meiers			13/02/2019		
	Leonard Gawecki			13/02/2019		
	Howard Lister			13/02/2019		
3	Simon Meiers			20/02/2019		
	Leonard Gawecki			20/02/2019		
	Howard Lister			20/02/2019		

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4	Simon Meiers			27/02/2019		
	Leonard Gawecki			27/02/2019		
	Howard Lister			27/02/2019		

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## 1. INTRODUCTION AND SCOPE OF REPORT

### 1.1 Background

Scentre Group operate, manage and co-own the Westfield Eastgardens Shopping Centre with co-owners Terrace Tower Group. Westfield Eastgardens Shopping Centre (the site) is located at 152 Bunnerong Road, Eastgardens, NSW 2036.

Scentre Group seeks to initiate the preparation of an amendment to the Botany Bay Local Environmental Plan 2013 (BBLEP) as it applies to the Site. In order to do so Bayside Council (the "Council") need to prepare a Planning Proposal to amend the planning controls at the Site in accordance with Section 3.33 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

#### *Proposed Development Vision*

The 'Vision' for the Westfield Eastgardens redevelopment is to create a mixed use town centre through introducing new land use such as commercial office, and extending the depth of the retail offer into new categories including casual dining, restaurants, entertainment, gym, beauty and wellness, and additional services such as childcare and medical. The existing bus interchange will be upgraded through additional capacity and an improved customer experience. The proposed scheme responds to the evolving needs and behaviours of the community, and will assist in the creation of jobs and strengthening the economic role of the centre.

#### *Proposed LEP Amendment*

To Facilitate this vision, it is intended to amend the BBLEP 2013 as follows:

- Floor Space Ratio: Introduce a new maximum allowable floor space ratio (FSR) of 1.85:1
- Height of Buildings: Introduce a new maximum allowable building height of Part 34m / Part 40m / Part 70m.

Scentre Group had originally proposed to redevelop the site to increase the floor area (GFA) from 95,500 sqm to 155,500 sqm, with associated increases in patronage. They are now proposing increasing the GFA from 99,400 sqm to 171,700 sqm. The current land use zoning of Commercial Core remains unchanged.

The revised scheme for the site seeks to introduce an increase in floor space at the centre by approximately 72,300 sqm of Gross Floor Area (GFA) of which approximately 37,500 sqm (GFA) would be for retail purposes and 34,800 sqm (GFA) would be for a new commercial building. An increase in car parking will also be provided at the site to support the expanded centre.

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	GFA	
	Previous Systra report	Feb 2019 re-submission
Existing	95,500 sqm	99,400 sqm
Incremental Retail	+60,000 sqm	+37,500 sqm
Incremental Office	-	+34,800 sqm
Sub-total incremental	+60,000 sqm	+72,300 sqm
<b>Total GFA on completion</b>	<b>155,500 sqm</b>	<b>171,700 sqm</b>
Land size	92,900 sqm	92,900 sqm
FSR	1.67x (1.70x rounded)	1.85x

Table 1 Planned Floor Area Increases

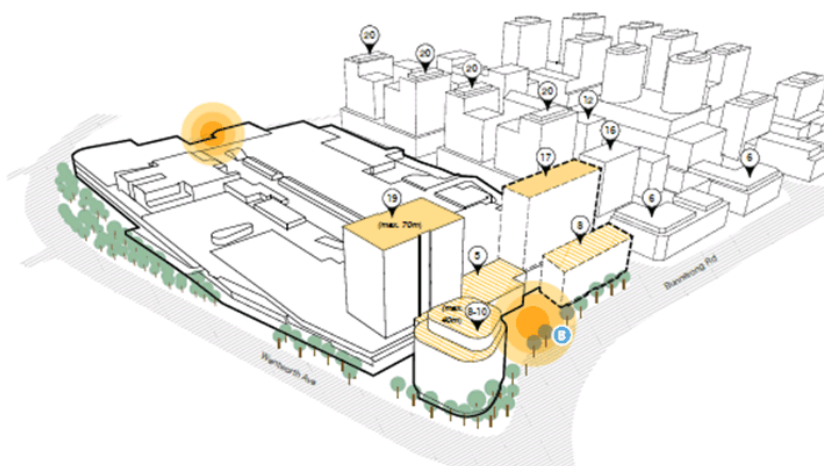


Figure 1: Westfield Eastgardens – Proposed masterplan concept

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### ***Dangerous Goods Risks***

The Eastgardens site is exposed to risk from the Dangerous Goods route running along Denison St, Wentworth St and Bunnerong Road. These risks have been analysed by the initial report by Systra Scott Lister.

The area of Port Botany is undergoing substantial change, with many industries in decline or ceasing operations. This offers opportunities for re-development but can identify conflicts with incumbent industries and port operators desire to remain unconstrained by further residential or commercial development.

The suitability of sensitive developments such as residential in proximity to major industrial hazards such as the Botany Industrial Precinct (BIP) and Port Botany is determined by planning authorities such as Bayside Council and the DPE. Such authorities follow policy of the State Environmental Planning Policy (SEPP) which refers to risk based criteria for the suitability of sensitive developments near major hazards (expressed in documents such as HIPAP 4).

A review of the re-development plans has been performed by council which included the original Systra Scott Lister report on risks to the development from Dangerous Goods traffic coming from Denison St. Council engaged Arriscar Pty Ltd to perform the review. Arriscar are very familiar with the Dangerous Goods model developed by Systra Scott Lister as they have previously performed work with the model under contract from Systra Scott Lister. Additionally in 2016, Arriscar undertook a review of land use safety planning controls due to the proximity of the Botany Industrial Park (BIP) and the transport of Dangerous Goods (DGs) along Denison Street, for Bayside Council. This review drew heavily on the Systra Scott Lister assessments for Bunnings and other developments around Denison St.

In their review Arriscar has raised a number of recommendations to the original report for the Eastgardens re-development. These mainly regard documentation of assumptions, the presentation of results with regard to DPE risk criteria and contributors to fatality risks at the Eastgardens site.

The report makes a number of recommendations, which are reproduced below:

1. Refer to the Department of Planning for an interpretation of 'incremental risk' in societal risk assessment for new developments near major hazard facilities. This will assist in risk criteria compliance with HIPAP No.4.
2. The risk assessment must be updated to account for an increase in building height up to 70m, taking into account the building wake effects in the dispersion calculations. The report must also provide consequence results of incidents at the corner of Wentworth Avenue and Denison Street. Currently Ref.2 does not have consequence calculation results.
3. The existing cumulative F-N curve must be compared with an updated F-N curve including the population from the proposed future development at East Gardens to assess the impact of incremental risk. If the overall F-N curve including the proposed development exceeds the upper limit, the development clearly exceeds acceptable land use safety for the location.

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4. The Planning Safety Report must be updated to address (a) risk contributors to the incremental risk and rank them (b) assumed population distribution of the 1640 persons (c) whether the risk was assessed for persons inside and outside the building, and at different levels in the building, and (d) how the risk mitigation in design suggested in Ref.1 have been addressed in the incremental risk assessment.
5. If the updated F-N curve for the area still falls within the ALARP and the incremental risk is deemed marginal, the development cannot be precluded.
6. The emergency response plan for the Westfield East Gardens complex must include response to a dangerous goods transport accident near the intersection of Denison Street and Wentworth Avenue.
7. There must be a public address system in the East Gardens Complex to notify shoppers of the actions to take in the event of a dangerous goods transport accident that may affect the car park on Wentworth Avenue.

Recommendation 5 is just a restatement of the HIPAP 4 and HIPAP 10 criteria. Recommendations 6 and 7 are sensible emergency management provisions that can be integrated in the centre's future emergency management plans. As such recommendations 5, 6 and 7 are not discussed further.

Scentre Group has asked Systra Scott Lister to update the original report to reflect the updated re-development scheme and to address the applicable comments from the Arriscar report. This study addresses those two requests.

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## 1.2 Scope

The scope of this report is to use models available to Systra Scott Lister on risks presented by the BIP and DG transport on Wentworth Avenue and how they impact on the proposed redevelopment on the site. This involves the following tasks;

- Update the societal risk model with the new concept for the development,
- Add the risk increment to the cumulative societal risk for all populations in the study area. Compare the resulting FN curve with the upper limit of the DPE societal risk criteria,
- Present societal risk contributors to the incremental risk of the development,
- Document the assumed population distribution of the additional populations on site (was previously 1,640),
- Document how populations were located on different levels of the building and if they were indoors or outdoors,
- Document how the risk mitigation in design suggested in the original study have been addressed in the incremental risk assessment
- Update the report conclusions.

## 1.3 Assumptions and Limitations

The concept scheme and design drawings relied upon by SSL have been supplied by Scentre Group. This data is presented in Appendix A – Master Plan. Calculations of expected populations and where they are located are presented in Appendix B.

The following parameters apply to the assessment:-

1. Generally the assessment follows a Level 3 Risk methodology laid done in the NSW DP&E Multi-Level Risk Assessment (Ref 1)
2. Risk Inputs are taken from the SHERPA 2012 BIP QRA study (Ref 2), and models developed by Scott Lister for Dangerous Goods transport along Denison St.
3. The Risk review does not consider natural hazards, or chronic health risk issues, and only covers acute risks as a result of an industrial incident (e.g. tank release at the BIP) as defined in item 2 above.

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## 2. OVERVIEW OF THE SITE MASTERPLAN

The redevelopment of the Eastgardens site will lift the GFA from 99,400 sqm to 171,700 sqm and will realise an average population increase from around 3,200 to around 5,800 when fully developed. (See Appendix B for details).

### 2.1 Site Location, Zoning and Surrounding Land Uses

The Westfield Eastgardens site sits within the B3 Commercial Core (coloured light blue) under the *Botany Bay Local Environmental Plan 2013* (Botany LEP).

This area lies outside of the Pert SEPP zone IN1 - General Industrial under SEPP (3 Ports) 2013 (coloured Purple) as shown in Figure 2. (Taken from Local Environmental Plan Land Zoning Map LZN 005 9<sup>th</sup> October 2015 (current version)).

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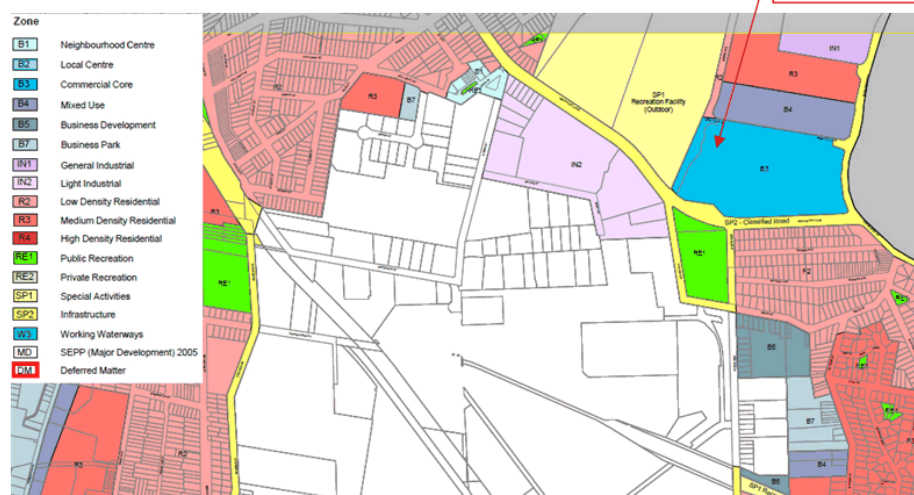


Figure 2 Zoning Map

The site is situated along Wentworth Ave, adjacent to the Hensley Athletic Field to the South, and, Bonnie Doon Golf Club and Much Park to the West

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### 3. PROPOSAL DESCRIPTION

Scentre Group propose a mix of commercial and retail development as summarised Table 2, with an existing average population of around 3,200 persons, that will increase to around 5,800 persons when fully developed. The concept scheme proposes new retail within the existing footprint of the Level 2 car park, a new vertical fresh food, casual dining and restaurant precinct on the Western edge of the site, and two new commercial buildings on the Bunnerong Road edge, above a redeveloped bus interchange and new public plaza.

It should be noted that for the existing retail areas it is not the same 3,200 people each hour, and neither is it the same 3,200 each day. A shopping centre has a complete spread of visitation, from weekly shoppers to those who only attend for one-off Christmas shopping. This stands in contrast to say a residential area, where it is largely the same group of people day to day. Hence considerations of individual risk should take into account this low exposure per person.

Area	GFA (m2)	Population assumption
Existing	99,400	3,200
Incremental Retail	37,500	1,207
Incremental office	34,800	1,373
Total on completion	171,700	5,780 (say 5,800 rounded)

**Table 2 Site Development Areas and Estimated Populations**

Further details on how these have been determined are provided in Appendix B.

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## 4. RISK ASSESSMENT FRAMEWORK

### 4.1 NSW Risk Criteria for Hazardous Industries

To keep communities and hazardous industry sufficiently separated the NSW Department of Planning & Environment (NSW DP&E) has developed planning controls based on an assessment of hazards and risks. The NSW DP&E has formulated and implemented risk assessment and land use safety planning processes that account for both the technical and the broader locational safety aspects of potentially hazardous industry. These processes are implemented as part of the environmental impact assessment procedures under the Environmental Planning and Assessment Act 1979 and include the following planning guidelines;

- State Environmental Planning Policy (SEPP) 33 - provides an approach to determine whether industries are to be considered hazardous or offensive, and the level of information required to be submitted to planning authorities to allow a suitable determination to accept or reject the proposal
- HIPAP Series of documents (1 through 10) – In particular HIPAP 4 sets out the Individual and Societal risk criteria relevant to hazardous industries and surrounding land uses.
- Multilevel risk assessment – sets out the appropriate level of detail for a risk assessment study

### 4.2 Individual Risk

HIPAP 4 sets out the Individual and Societal risk criteria relevant to hazardous industries and surrounding land uses. 'Individual fatality risk' is the risk of death to a person at a particular point if they were to remain there for a year. Table 2 indicates a range of various risks to which people are exposed as the result of various activities.

Consideration of such risks led the department to conclude that if a risk from a potentially hazardous installation is below most risks being experienced by the community, then that risk may be tolerated. This is consistent with the basis of criteria setting used in HIPAP 4 (ref 4), as well as those adopted by most authorities nationally and internationally.

The department has adopted a fatality risk level of one in a million per year (1 x 10.6 per year) as the limit for risk acceptability for residential area exposure. This risk criteria has been adopted by the department when assessing the safety implications of industrial development proposals and when advising on land use proposals in the vicinity of a hazardous industry.

Experience with implementation indicates that the criteria is practical and appropriate, and as such should be maintained. It is necessary, however, to account for variations in the duration of exposure to that risk at any particular point by any one individual. It is also necessary to account for variations in people's vulnerability to the hazard and their ability to take evasive action when exposed to the hazard.

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The one in a million criterion assumes that residents will be at their place of residence and exposed to the risk 24 hours a day and continuously day after day for the whole year. In practice this is not the case and this criterion is therefore conservative.

People in hospitals, children at school or old-aged people are more vulnerable to hazards and less able to take evasive action, if need be, relative to the average residential population. A lower risk than the one in a million criterion (applicable for residential areas) may be more appropriate for such cases. On the other hand, land uses such as commercial and open space do not involve continuous occupancy by the same people. The individual's occupancy of these areas is on an intermittent basis and the people present are generally mobile. As such, a higher level of risk (relative to the permanent housing occupancy exposure) may be tolerated. A higher level of risk still is generally considered acceptable in industrial areas.

Accordingly, the following risk assessment criteria are used by the NSW DP&E and planning authorities for the assessment of the safety of location of a proposed development of a potentially hazardous nature, or the land use planning in the vicinity of existing hazardous installations (such as the BIP) :

- (a) Hospitals, schools, child-care facilities and old age housing development should not be exposed to individual fatality risk levels in excess of half in one million per year ( $0.5 \times 10^{-6}$  per year).
- (b) Residential developments and places of continuous occupancy, such as hotels and tourist resorts, should not be exposed to individual fatality risk levels in excess of one in a million per year ( $1 \times 10^{-6}$  per year).
- (c) Commercial developments, including offices, retail centres, warehouses with showrooms, restaurants and entertainment centres, should not be exposed to individual fatality risk levels in excess of five in a million per year ( $5 \times 10^{-6}$  per year).
- (d) Sporting complexes and active open space areas should not be exposed to individual fatality risk levels in excess of ten in a million per year ( $10 \times 10^{-6}$  per year).
- (e) individual fatality risk levels for industrial sites at levels of 50 in a million per year ( $50 \times 10^{-6}$  per year) should, as a target, be contained within the boundaries of the site where applicable.

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Table 3 summarises the preceding criteria for the various categories of land use.

Land Use	Suggested Criteria (risk in a million per year)
Hospitals, school, child-care facilities, old age housing	0.5
Residential, hotels, motels, tourist resorts	1
Commercial developments including retail centres, offices and entertainment centres	5
Sporting complexes and active open space	10
Industrial	50

**Table 3** Individual Risk Criteria

### 4.3 Injury & Irritation Criteria

Relying entirely upon fatality risk criteria may not account for the following factors:

- Society is concerned about risk of injury as well as risk of death.
- Fatality risk levels may not entirely reflect variations in people's vulnerability to risk.

Some people may be affected at a lower level of hazard exposure than others. It is therefore appropriate that risk criteria also be set in terms of injury, i.e. in terms of levels of effects that may cause injury to people but will not necessarily cause fatality.

The suggested injury risk criteria from HIPAP 10 of the NSW DP&E are:

- Incident heat flux radiation at residential and sensitive use areas should not exceed 4.7 kW/m<sup>2</sup> at a frequency of more than 50 chances in a million per year.
- Incident explosion overpressure at residential and sensitive use areas should not exceed 7 kPa at frequencies of more than 50 chances in a million per year.
- Toxic concentrations in residential and sensitive use areas should not exceed a level which would be seriously injurious to sensitive members of the community following a relatively short period of exposure at a maximum frequency of 10 in a million per year.
- Toxic concentrations in residential and sensitive use areas should not cause irritation to eyes or throat, coughing or other acute physiological responses in sensitive members of the community over a maximum frequency of 50 in a million per year.

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#### 4.4 Societal Risk

Developing criteria on tolerability of risks for hazards giving rise to societal concerns is difficult. Hazards giving rise to such concerns often involve a wide range of events with a range of possible outcomes. The summing or integration of such risks, or their mutual comparison, may call for the attribution of weighting factors for which, at present, no generally agreed values exist as, for example, the death of a child as opposed to an elderly person, dying from a dreaded cause, e.g., cancer, or the fear of affecting future generations in an irreversible way.

Nevertheless, the Department has provisionally adopted indicative criteria as shown in Figure 3 for addressing societal concerns arising when there is a risk of multiple fatalities occurring in one event. These were developed through the use of so-called FN-curves (obtained by plotting the frequency at which such events might kill N or more people, against N). The technique provides a useful means of comparing the impact profiles of man-made accidents with the equivalent profiles for natural disasters with which society has to live. The suggested criteria take into account the fact that society is particularly intolerant of accidents, which though infrequent, have a potential to create multiple fatalities. The indicative societal risk criteria reflect these regions as three societal risk bands: negligible, ALARP and intolerable.

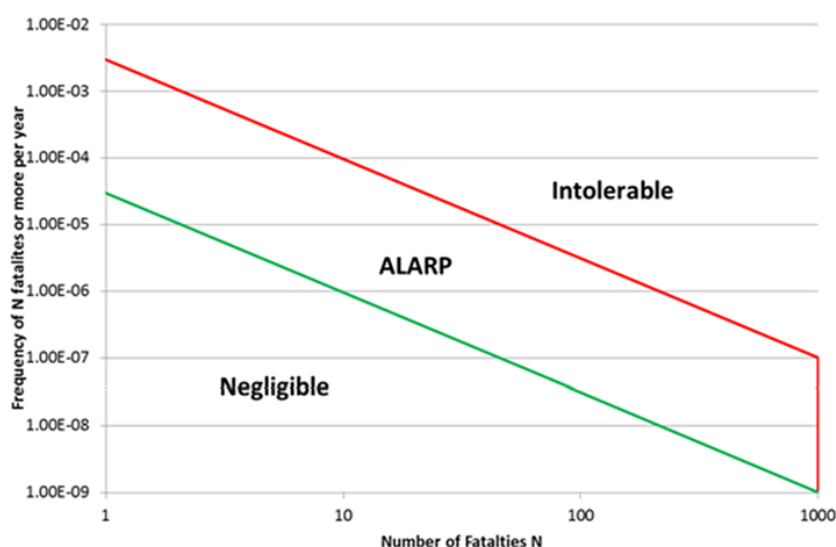


Figure 3 DPE Interim Societal Risk Criteria

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Below the negligible line, provided other individual criteria are met, societal risk is not considered significant. Above the intolerable level, an activity is considered undesirable, even if individual risk criteria are met. Within the ALARP region, the emphasis is on reducing risks as far as possible towards the negligible line. Provided other quantitative and qualitative criteria of HIPAP 4 are met, the risks from the activity would be considered tolerable in the ALARP region.

#### 4.5 Risk Criteria for Development in the Vicinity of Potentially Hazardous Facilities

##### 4.5.1 Individual risk

The suggested risk assessment criteria outlined in section 4 apply when assessing the land use safety implications of industrial development of a potentially hazardous nature. There are also similar criteria for land use planning and development in the vicinity of existing potentially hazardous facilities.

While existing industry should ideally meet the same residential and sensitive land use criteria as new proposals, it is recognised that this may not be possible in practice. The following principles apply to residential and sensitive use development in the vicinity of existing industry:

- the half in a million per year individual fatality risk level is an appropriate criterion above which no intensification of sensitive use development should take place;
- the one in a million per year individual fatality risk level is an appropriate criterion above which no intensification of residential development should take place;
- residential intensification may be appropriate where mitigating measures can be implemented to reduce risk exposure to less than the one in a million per year individual fatality risk level, provided the pre-mitigation residual risk levels are below the 10 in a million per year individual fatality risk level; and
- no residential intensification should take place where pre-mitigation residual risk levels are in excess of the 10 in a million per year individual fatality risk level.

The injury and irritation individual risk criteria from Section 4 also apply for developments in vicinity of existing industrial hazards.

##### 4.5.2 Societal Risk

In accordance with HIPAP 4, when there is a significant intensification of population around an existing hazardous facility the incremental societal risk must be assessed.

HIPAP 4 suggests that for a new development in proximity to a major hazard that

*"... where a development proposal involves a significant intensification of population in the vicinity of such a facility, the change in societal risk needs to be taken into account, even if individual risk criteria are met.*

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*Examples of such situations would include medium to high density residential development (although this would not normally be considered to be appropriate in such a location), sporting facilities where large numbers of spectators are likely to be present and shopping complexes.*

*In such instances, the incremental societal risk should be compared against the indicative criteria of Figure 3. Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas. If, after taking this step, there is still a significant portion of the societal risk plot within the ALARP region, the proposed development should only be approved if benefits clearly outweigh the risks."*

This suggested criteria is ambiguous on whether the incremental societal risk is for the development on its own, or the total societal risk with the additional population.

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#### 4.6 Botany Industrial Park (BIP) Risk Assessment

The Botany Industrial Park (BIP) is a large integrated petrochemical and chemical manufacturing complex located at Matraville, NSW (formerly ICI Australia). Multiple companies own and operate plants at the site. Facilities include Chloralkali, operated by Orica, an Olefines plant and plastics manufacturing plants operated by Qenos, and a Surfactants Facility operated by Huntsman. Utilities and other services support these plants. There are also a number of remediation processes occurring at the site to clean up land portions known to be contaminated. However, The Botany Industrial Park (BIP) is undergoing substantial change, with many industries in decline or ceasing operations as chemical manufacturing moves offshore.

The BIP has a residential area immediately to the east along Denison St, and in all other directions adjoins industrial or commercial land uses. A cumulative Quantitative Risk Assessment (QRA) drawing on detailed design information and the results from previous risk studies has been prepared at the request of the NSW DP&E by SHERPA Engineering (Ref 6) for the operating facilities at the BIP. This study currently forms the land use safety study used to make decisions on the suitability of development proposals in the area.

The QRA focused on the effects of potential major accident scenarios and atypical events with the potential to have impacts outside the BIP site boundary. It does not cover long-term or chronic impacts or continuous small emissions. These are addressed via other mechanisms such as environmental protection licences, site remediation action plans and occupational health and safety management regulations.

SHERPA used TNO Riskcurves version 7.0 a to generate the individual fatality risk, injury and irritation risk, property damage risks and societal risk results as required by the condition of consent.

In broad terms, risk was estimated quantitatively by:

- identifying hazardous incident / release scenarios.
- estimating the physical consequences, i.e. the extent of fire, explosion or toxic release, and the associated impact on people for the defined release scenarios due to heat radiation from fire events, explosion overpressure or acute toxic exposure.
- combining the consequence and impact results with incident frequency information, plant grid information and population data to determine risk.

For this QRA, the results of the risk calculations have been presented in four forms:

- **Individual Fatality Risk:** the likelihood of fatality to notional individuals at locations around the site, as a result of the defined fire / explosion and toxic gas release scenarios. This is shown as contours on a map of the area. The units for individual risk are probability (of fatality) per million per year. By convention it is assumed that people are located outdoors, are always present and take no evasive action if an incident occurs. The results are presented cumulatively for all fire/explosion and toxic gas impacts in Figure 4.1

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- **Injury and Irritation Risk:** is the likelihood of injury or irritation to individuals at locations around the site as a result of the same scenarios used to calculate individual fatality risk. As for individual risk, evasive action is not allowed for. Results are presented as contours and are shown separately for fire/explosion injury at  $50 \times 10^{-6}$  per year (Figure 4.2 & 4.3), and toxic injury and irritation impacts, as there are different criteria for flammable and toxic gas exposures.

- **Escalation / Property Damage:** is the likelihood of property damage occurring to surrounding facilities as a result of exceeding threshold levels of heat radiation or overpressure. Results are presented as risk contours.

- **Societal Risk:** takes into account the number of people exposed to risk. Whereas individual risk is concerned with the risk of fatality to a (notional) person at a particular location (person 'most at risk'), societal risk considers the likelihood of actual fatalities among people exposed to the hazard and allows mitigating effects such as probability of presence, whether they are located inside or outside etc., to be accounted for, hence requires population data as an input. Societal Risk results are presented in Figure 4.6.

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## 5. BIP RISK ASSESSMENT FINDINGS

The concept risk assessment results are presented in this section for the Eastgardens Redevelopment.

### 5.1 BIP Individual Risk

The individual risk contours arising from the BIP development to the south of the Eastgardens site are presented as Figure 4.



**Figure 4** BIP Individual Fatality Risk 2012

The results show that the subject site is exposed to risks below 0.5 in a million per year (as the site is outside the green line, site not shown in the image). Therefore there are no individual risk concerns from the BIP that would prevent development on the site, including more sensitive land uses such as medical or residential development.

The individual risk of injury from 4.7kW/m<sup>2</sup> of radiation is shown in Figure 5. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.

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**Figure 5 INJURY RISK – HEAT RADIATION 4.7KW/M2 at 50 chances in a million per year BIP 2012**

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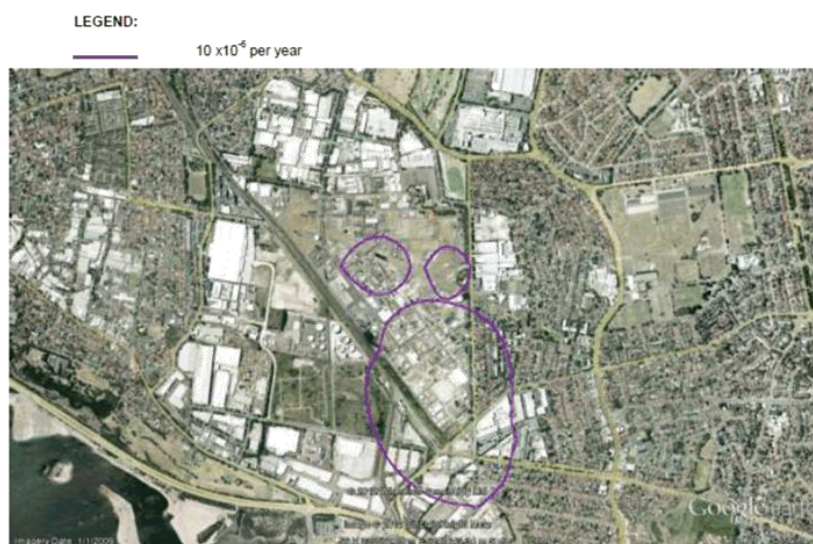
The individual risk of injury from overpressure of 7kPa is shown in Figure 6. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.



**Figure 6 INJURY RISK – OVERPRESSURE 7KPA at 50 chances in a million per year BIP 2012**

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The individual risk of injury from toxics is shown in Figure 7. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.



**Figure 7** INJURY RISK – TOXIC GAS (ERPG3) 50 chances in a million per year BIP 2012

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The individual risk of irritation from toxics is shown in Figure 8. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.

LEGEND:



**Figure 8** IRRITATION RISK – TOXIC GAS (ERPG2) at 50 million chances per year BIP 2012

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## 5.2 BIP Societal Risk

The 2012 societal risk result for the BIP on all surrounding populations is presented as Figure 9. The result shows the FN curve is towards the middle of the ALARP zone. This means that there is some “risk budget” available for an increase of populations around the BIP.

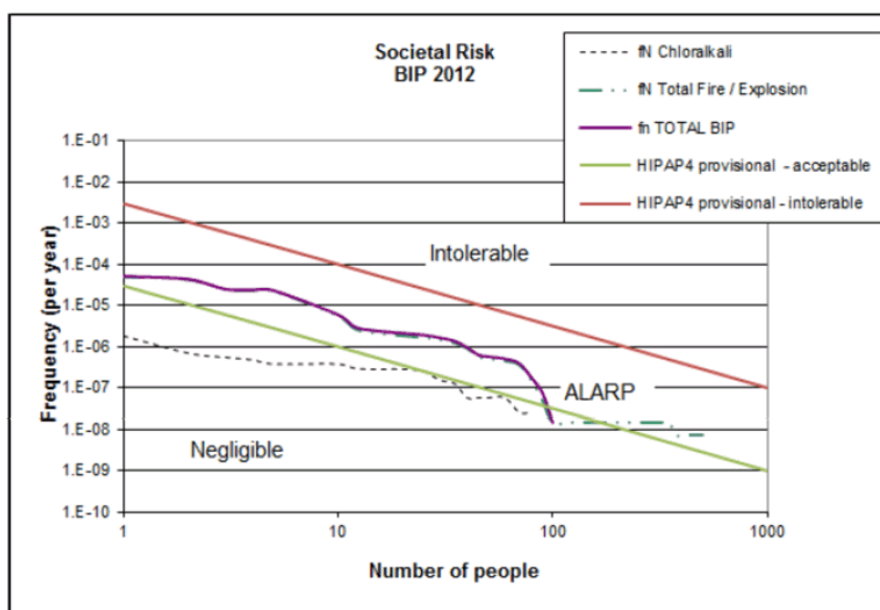


Figure 9 Societal Risk BIP 2012

To determine the increment in societal risk for the expanded Eastgardens development access to the Sherpa risk model is required. Systra Scott Lister does not have such access. Regardless, considering how Eastgardens is a long distance from the BIP, and how the site is also very distant from the individual risk contours of fatality, injury and irritation, we do not expect the societal risk to increase markedly as a consequence of the proposed development.

For BIP risks it has become common practice to calculate the “Scaled Risk Integral” (SRI) as described in HIPAP 10, but since values of individual risk at the site are not available from the BIP QRA results (contours fall well short of the site) this calculation cannot be performed either. Because the individual risk contours of the lowest level of interest of 0.5 in a million fall well short of the facility, the SRI would be small. An example is provided below to demonstrate this.

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Area (ha)	n (number of people)	T (portion of time)	c (Land use category)	IFR (Individual Fatality Risk)	P = (N+N^2)/2	SRI (Scaled Risk Integral)
7.36	3000	0.33	1	0.005	4501500.0	1009

This calculation shows individual risks would need to be greater than  $5 \times 10^{-9}$  before the SRI nears the criteria value of 1100. Looking at our own models the  $5 \times 10^{-6}$  contour drops to  $5 \times 10^{-9}$  in 200m which if the same drop off is experienced for BIP risks, the level of individual risk will be  $< 5 \times 10^{-9}$  at Westfield Eastgardens.

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## 6. DANGEROUS GOODS TRANSPORT RISK STUDY

The Dangerous Goods Transport QRA, Denison St, Hillsdale was finalised by Systra Scott Lister in 2015 on the request of the NSW Department of Planning and Environment and Botany Bay Council (now Bayside Council) to assist in the assessment of a development application for a new Bunnings Warehouse store at Denison Street, Hillsdale. This report calculated the individual and societal risk results for dangerous goods truck movements along Denison Street.

In broad terms, risk was estimated quantitatively by:

- identifying hazardous incident / release scenarios as a results of dangerous goods truck accidents
- estimating the physical consequences, i.e. the extent of fire, explosion or toxic release, and the associated impact on people for the defined release scenarios due to heat radiation from fire events, explosion overpressure or acute toxic exposure.
- combining the consequence and impact results with truck accident frequency information, and population data to determine risk.

Consistent with the 2015 Denison St study, the risk acceptability criteria used for this study are those detailed in the DPE's Hazardous Industry Planning Advisory Paper No.4, Risk Criteria for Land Use Safety Planning [HIPAP4 - Ref 003]. The DP&E does not have any formal published criteria for transport risk but for the 2015 Denison St report, the HIPAP4 criteria for fixed installations was accepted by the Department as providing a reasonable basis to inform planning decisions. (Note: This infers a risk/ km basis for societal risk for transport movements).

For this Dangerous Goods QRA, the results of the risk calculations have been presented as individual and societal risk.

**Individual Risk** - the likelihood of fatality to notional individuals at locations alongside Denison Street, as a result of the defined fire / explosion and toxic gas release scenarios. This is shown as contours on a map of the area. The units for individual risk are probability (of fatality) per million per year. By convention it is assumed that people are located outdoors, are always present and take no evasive action if an incident occurs. The results are presented cumulatively for all fire/explosion and toxic gas impacts in Figure 10.

**Societal Risk** - takes into account the number of people exposed to risk. Whereas individual risk is concerned with the risk of fatality to a (notional) person at a particular location (person 'most at risk'), societal risk considers the likelihood of actual fatalities among people exposed to the hazard and allows mitigating effects such as probability of presence, whether they are located inside or outside etc., to be accounted for, hence requires population data as an input.

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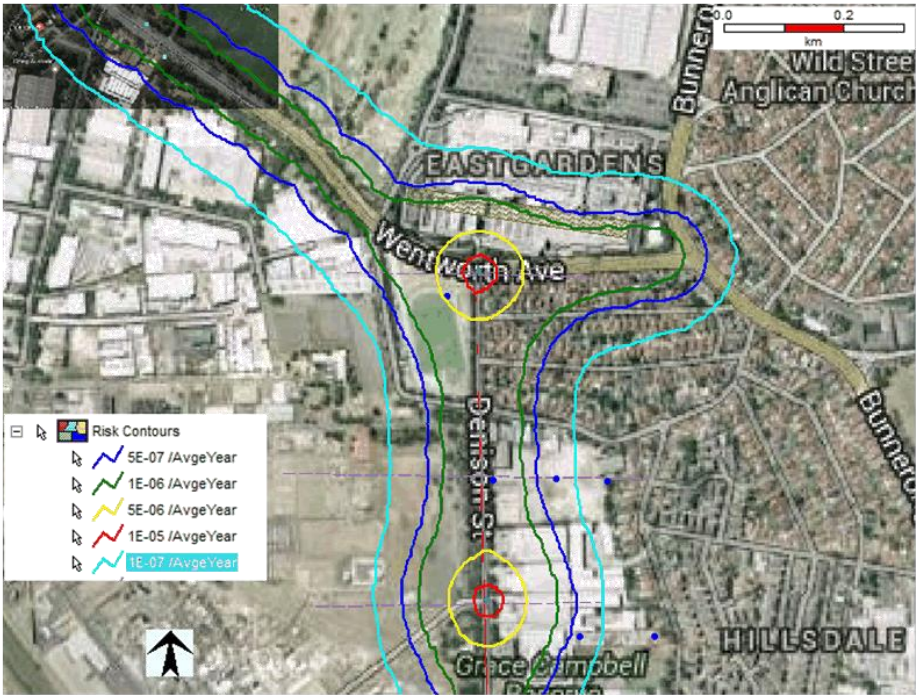


Figure 10 Individual Risk Results for Dangerous Goods Transport on Denison Street & Wentworth Ave

The Dangerous Goods routes have been extended east and west along Wentworth Ave. The working assumption is an even split of traffic east and west.

Note that the individual risk shown in Figure 11 has a small excursion of the 5 in a million contour (yellow line) into the existing parking area of the Eastgardens development, opposite the intersection between Denison St and Wentworth Ave. As this is part of the proposed development area, risk mitigations can be incorporated into the design to ensure an acceptable level of individual risk is achieved. Possible mitigations are discussed in Section 7.

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Previous studies for dangerous goods on Denison St have modelled DG traffic running from Wentworth St to Beauchamp Rd, the original area of focus for the Dangerous Goods Transport study. For this assessment a 1km section of road has been shifted north up along Wentworth St so that the hazard is opposite the area of interest. This produces a difference societal risk curve to that presented in previous studies.

#### 6.1.1 Incremental Societal Risk from Dangerous Goods

The incremental societal risk from Dangerous Goods has been assessed, in accordance with HIPAP 4 and 10. This has been done by calculating the societal risk FN curve for the population of the new development with an increased population of around 2,600 additional persons during the day and 10% estimated during the night.

HIPAP 4 suggests that for a new development in proximity to a major hazard that

*“... where a development proposal involves a significant intensification of population in the vicinity of such a facility, the change in societal risk needs to be taken into account, even if individual risk criteria are met.*

*Examples of such situations would include medium to high density residential development (although this would not normally be considered to be appropriate in such a location), sporting facilities where large numbers of spectators are likely to be present and shopping complexes.*

*In such instances, the incremental societal risk should be compared against the indicative criteria of Figure 3. Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas. If, after taking this step, there is still a significant portion of the societal risk plot within the ALARP region, the proposed development should only be approved if benefits clearly outweigh the risks.”*

This suggested criteria is ambiguous on whether the incremental societal risk is for the development on its own, or the total societal risk with the additional population. We have assumed it is the total societal risk with all populations in the area, plus the additional developments population (the additional Westfield Eastgardens proposal plus other recent developments that have been added to our model).

The incremental risk result is presented as Figure 11, where the total societal risk for all surrounding areas plus the expanded Westfield Eastgardens is presented. It shows the total societal risk result does not exceed the upper criteria line, but does exceed the maximum fatality limit of 1000 people.

Possible protective measures to reduce the risk to populations in the expanded area of Westfield Eastgardens are:

1. The Level 2 conversion of the existing parking areas into retail can be sealed with solid walls to the south, and east and west corners. The internal area will be pressurised from roof mounted HVAC units and have auto sliding doors at entry points to the internal retail mall. Such arrangements are expected to protect occupants from the effects of toxic gases arising from accidents on Denison St or Wentworth Ave.

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2. That the new Level 2 retail area built into the existing car park will be oriented such that back-of-house and storage functions are towards the southern façade wall, with the bulk of customers and staff to the North of the façade wall.
3. Construction of new retail areas will have solid steel reinforced concrete walls to the Southern building façade facing Wentworth Avenue. Such walls are to have no glazing and no ventilation ports. Walls will be fire rated to withstand LPG fire radiation of 37kW/m<sup>2</sup> for 15 minutes. Solid steel reinforced concrete walls on the southern sides of the expanded retail areas are recommended to protect customers from the impacts of flash fires, jet fires and fireballs

It is noted that the previous version of this report suggested the ground level carpark could be walled-in to the south, east and west to prevent the accumulation of flammable gases in the area. Current modelling does not use the 3D explosion module in Safeti v8 and assumes strong explosions for all vapour cloud explosions. Therefore given an acceptable incremental societal risk result has been achieved with these conservative assumptions, such a mitigation should not be necessary.

The incremental risk result presented as Figure 11 does not include the effect of the mitigations recommended above. With the building protected from flashfires, explosions and fireballs from accidental releases of pressure liquefied flammable gases, it is expected that the maximum fatality levels will drop to the toxics curve and therefore avoid of the breach of the maximum number of fatalities.

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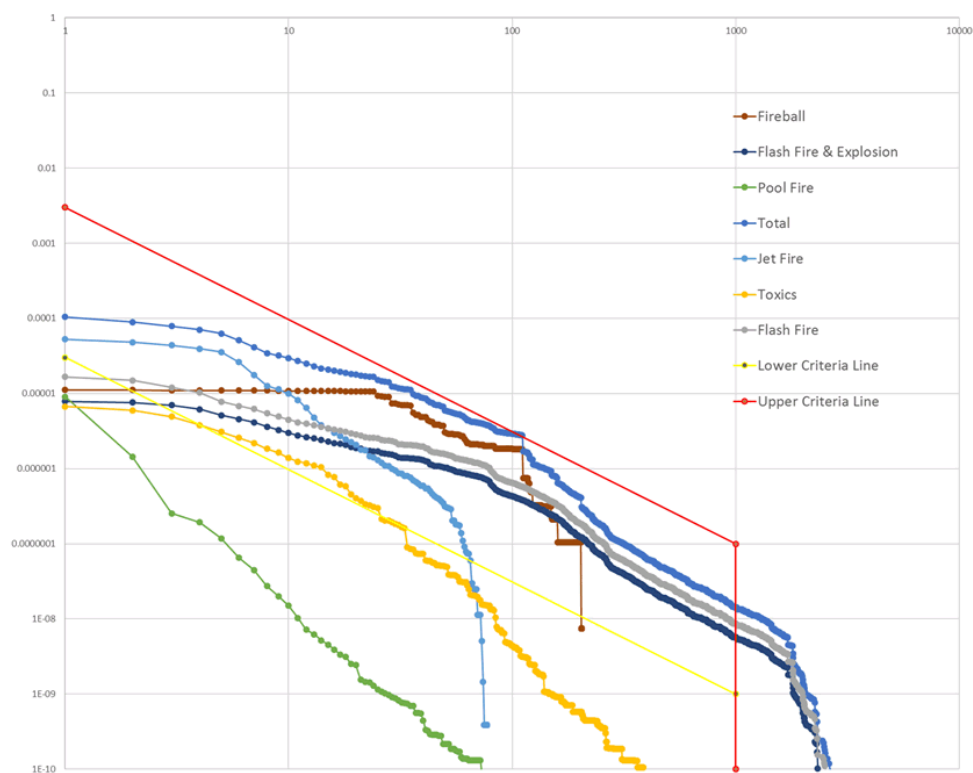


Figure 11 Societal Risk from DGs on Denison St and Wentworth Avenue

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## 7. CONCLUSIONS

Scentre Group are proposing a redevelopment of the Westfield Eastgardens site at Wentworth Avenue in Bankstown and have engaged Systra Scott Lister to undertake a quantified risk assessment of the proposed redevelopment scheme.

The risk review uses QRA models available to Systra Scott Lister for DGs transport, and included the Botany Industrial Park (BIP) Risk assessment undertaken by SHERPA Engineering.

Risks from the BIP do not appear to exceed the DPEs criteria for development in the vicinity of hazardous installations, although without access to the BIP QRA model the acceptability of the increment in societal risk cannot be confirmed.

Individual risk from Dangerous Goods has a small excursion of the 5 in a million contour into the existing parking area of the subject site, opposite the intersection between Denison St and Wentworth Ave. This area forms part of the redevelopment proposal and through design engineering appropriate mitigations can be included to reduce this risk to an acceptable level.

In order to meet the incremental societal risk criteria for dangerous goods, it is recommended that the development meets a number of design requirements. These are as follows:

1. The Level 2 conversion of the existing parking areas into retail can be sealed with solid walls to the south, and east and west corners. The internal area will be pressurised from roof mounted HVAC units and have auto sliding doors at entry points to the internal retail mall. Such arrangements are expected to protect occupants from the effects of toxic gases arising from accidents on Denison St or Wentworth Ave.
2. That the new Level 2 retail area built into the existing car park will be oriented such that back-of-house and storage functions are towards the southern façade wall, with the bulk of customers and staff to the North of the façade wall.
3. Construction of new retail areas will have solid steel reinforced concrete walls to the Southern building façade facing Wentworth Avenue. Such walls are to have no glazing and no ventilation ports. Walls will be fire rated to withstand LPG fire radiation of 37kW/m<sup>2</sup> for 15 minutes. Solid steel reinforced concrete walls on the southern sides of the expanded retail areas are recommended to protect customers from the impacts of flash fires, jet fires and fireballs

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## 8. REFERENCES

1. Hazardous Industry Planning Advisory Paper No.6 – Guidelines for Hazard Analysis, Department of Planning, NSW, 2011.
2. State Environmental Planning Policy No.33 – Hazardous and Offensive Development Application Guidelines (2011), “Applying SEPP 33”, Department of Planning NSW.
3. Multi-Level Risk Assessment, Department of Infrastructure, Planning and Natural Resources – May 2011.
4. Hazardous Industry Planning Advisory paper No.4, “Risk Criteria for Land Use Safety Planning”, NSW Department of Infrastructure, Planning and Natural Resources (2011)
5. Botany Industrial Park– QRA, SHERPA Engineering - 2012
6. Dangerous Goods Transport Study – Denison Street, Botany, Scott Lister ( 2015 ) (to support planning approval for the Bunnings site at Denison St)

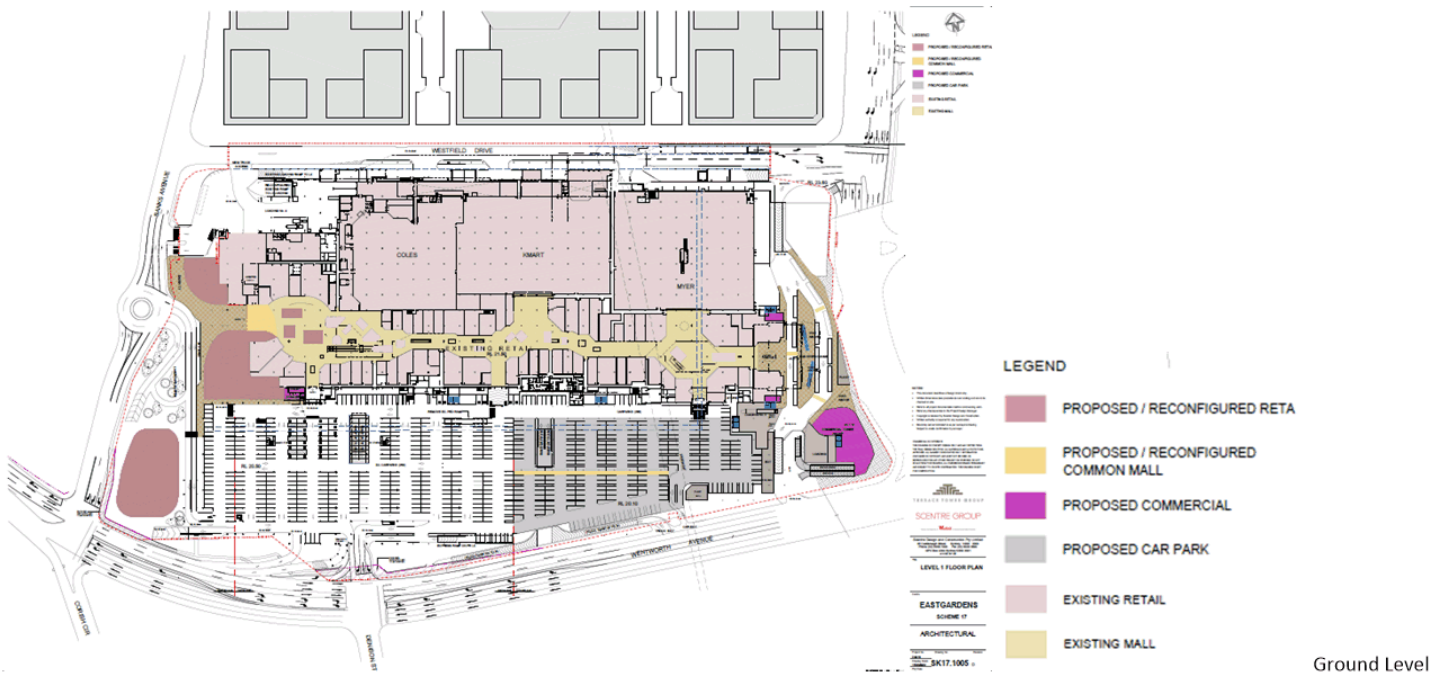
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## APPENDIX A - CLIENT INPUT DATA – CONCEPT SCHEME

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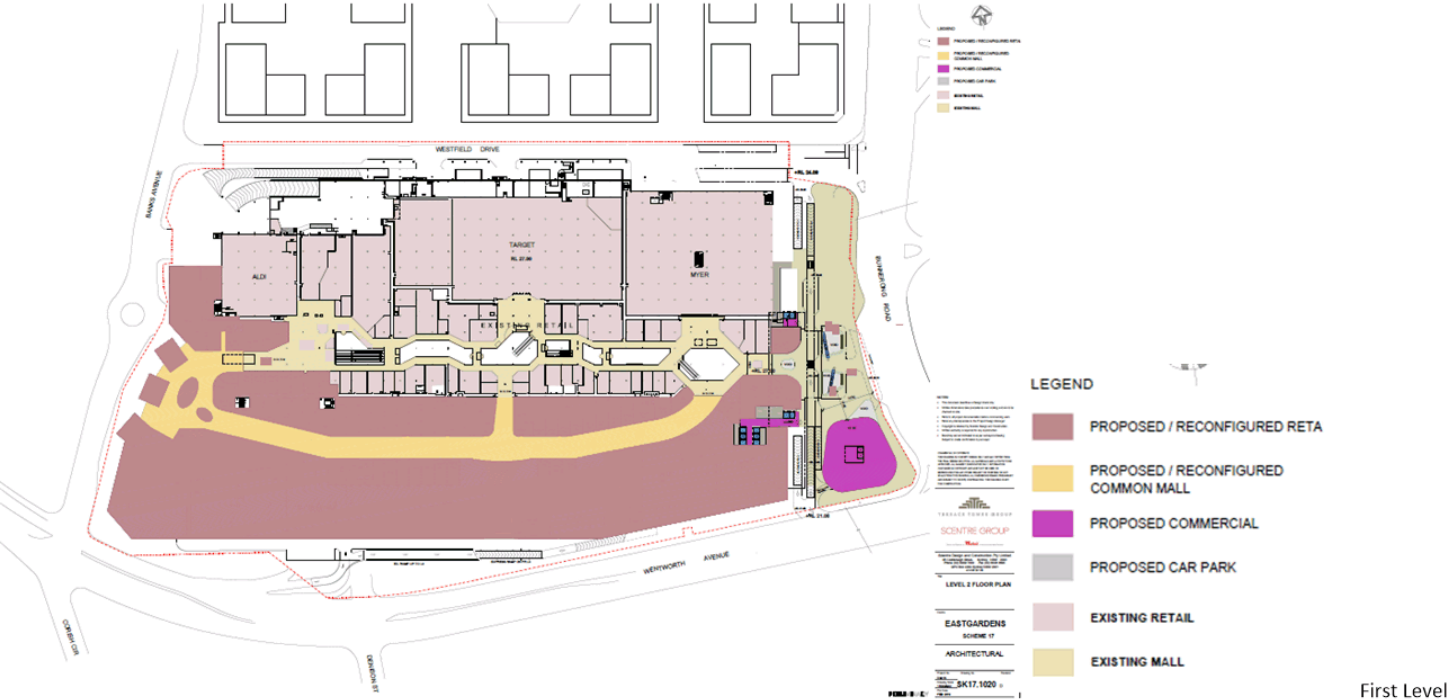
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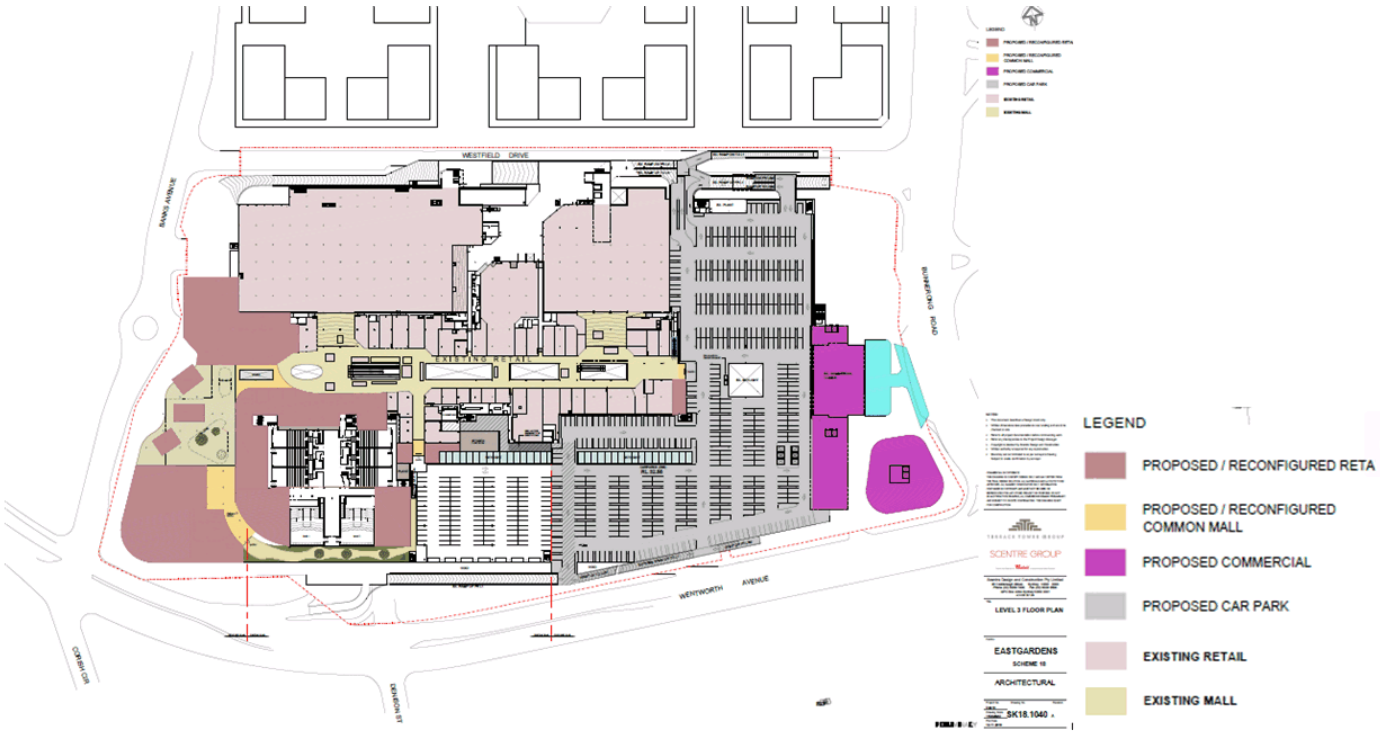


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## APPENDIX B - CLIENT INPUT DATA – POPULTAION DATA

Retail populations are estimated using Westfield Eastgardens total actual visits for 2018.

Office populations are estimated using the worker density estimates included in the Colliers Economic Impact Assessment.

Annual visits	11,454,000	Based on door counters at entries, 2018		Assumed average visit time:		1 hours		
Weeks per year	52			Casual car park dwell time for Feb 2019 is 64.8mins				
Visits per week	220,269							
<u>Distribution of an average week</u>				<u>Straight-line</u>				
		Trading hours	Add 15% for after hours	Total hours	People per hour	GFA Sqm	Person per GFA sqm	
Monday	0.13	27,681	8.5	1.3	9.8	2,832	99,400	0.028
Tuesday	0.13	27,956	8.5	1.3	9.8	2,860	99,400	0.029
Wednesday	0.13	27,966	8.5	1.3	9.8	2,861	99,400	0.029
Thursday	0.16	35,666	12.0	1.8	13.8	2,585	99,400	0.026
Friday	0.15	32,254	8.5	1.3	9.8	3,300	99,400	0.033
Saturday	0.17	37,211	8.0	1.2	9.2	4,045	99,400	0.041
Sunday	0.14	31,535	7.0	1.1	8.1	3,917	99,400	0.039
Total	1.00			Average:		3,200		0.032
<b>Existing centre:</b>				<b>Retail development proposal:</b>				
Lettable area	84,400			Additional retail area (GFA):		37,500		
Common mall	15,000			Additional retail population:		1,207		
Total GFA	99,400							
<b>Commercial population calculations:</b>								
Proposed incremental GFA		34,800						
Efficiency factor		88%						
Proposed incremental GLA		30,500						
Assumed worker density per sqm of GLA		1 worker per 20-25sqm of GLA						
Low worker estimate		1,220						
High worker estimate		1,525						
<b>Mid worker estimate</b>		<b>1,373</b>						
Worker density per sqm of GFA		0.039						
Commercial GFA located <10m above ground level		3,248	Assumed to be GFA for basement, Level 1 and Level 2					
Worker population located <10m above ground level		128						

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Based on an existing floor area of 99,400m<sup>2</sup> and an average 1 hour visit per customer, this produces an average density of 0.032 people per square meter and an average daytime population of 3,200 people. For an additional 37,500m<sup>2</sup> of retail this introduces an additional 1,207 people.

For commercial office areas a density of 22.5sqm of GLA per person is assumed. Which for 34,800sqm of commercial GFA this produces 30,500sqm of gross lettable space and 1,373 people during the day. Given the vertical arrangement of the office buildings, and the fact that two buildings site above the retail podium, only 128 of this population are expected to be less than 10m above ground level.

The location of populations is shown with the following figure. The risk model used, Safeti v8, cannot distinguish vertical separation of populations. Hence all populations are modelled as being on the same level, including the full 1,373 office population.

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## APPENDIX C – RESPONSE TO RECOMMENDATIONS

ARRISCAR recommendations from Planning Risk Assessment Review S17/75 Planning Proposal by Scentre Group for Westfield East Gardens For Bayside Council 2 July 2018 Doc. No.: J-000315-BC-01 Revision: 1.

### Recommendation 1

*Refer to the Department of Planning for an interpretation of 'incremental risk' in societal risk assessment for new developments near major hazard facilities. This will assist in risk criteria compliance with HIPAP No.4.*

#### Response:

Incremental societal risk is described in HIPAP 4 and HIPAP 10 . HIPAP 4 suggests that for a new development in proximity to a major hazard that:

*"... where a development proposal involves a significant intensification of population in the vicinity of such a facility, the change in societal risk needs to be taken into account, even if individual risk criteria are met.*

*Examples of such situations would include medium to high density residential development (although this would not normally be considered to be appropriate in such a location), sporting facilities where large numbers of spectators are likely to be present, and shopping complexes.*

*In such instances, the incremental societal risk should be compared against the indicative criteria of Figure 3. Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas. If, after taking this step, there is still a significant portion of the societal risk plot within the ALARP region, the proposed development should only be approved if benefits clearly outweigh the risks."*

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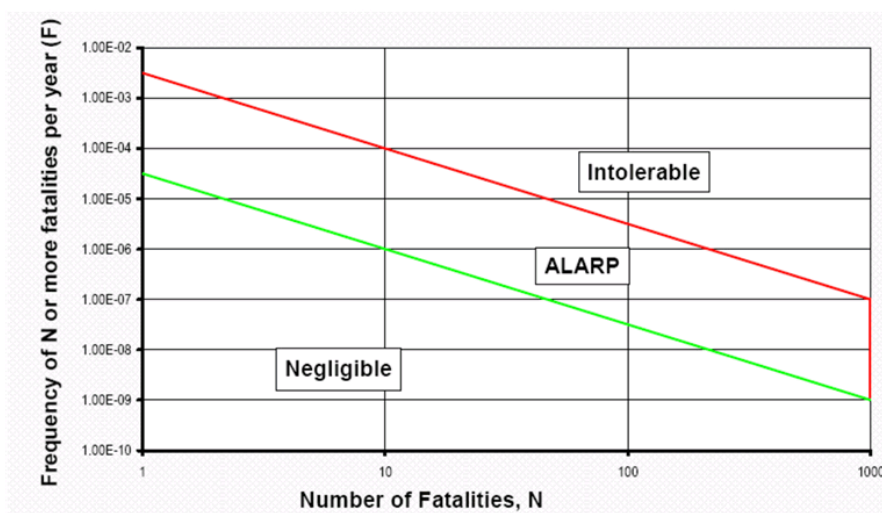


Figure 3 Indicative Societal Risk Criteria for risks from fixed installations

This description of the societal risk increment is ambiguous. It can be interpreted either as:

- (a) the societal risk from the population of the new development alone in proximity of a major hazard is assessed against the criteria.

Equally it can be assessed as

- (b) being the incremental risk of the developments population on top of the existing populations in the area, assessed against the criteria.

Following interpretation (a), an increment of societal risk that falls below negligible line would make a very small difference to the total societal risk if the total were to be positioned in the upper ALARP region, as the criteria lines are two orders of magnitude apart.

Following interpretation (b) If the total societal risk is in the ALARP area, then:

...options should be considered to relocate people away from the affected areas [HIPAP No. 10 Section 5.5.4]. If, after taking this step, there is still a significant portion of the societal risk plot within the 'Tolerable if ALARP' region, the proposed development should only be approved if benefits clearly outweigh the risks [HIPAP No. 10 Section 5.5.4].

This means once the overall populations in the area put the societal risk into the ALARP zone, any further development may be rejected if the benefits clearly don't outweigh the risks. This judgement of benefits and risks is subjective and ambiguous as well and does not provide clear guidance to developers.

In addition for dangerous goods risks in the ALARP zone, it is also incumbent on the transporter of dangerous goods to reduce risks as low as reasonably practicable. Hence those transporting dangerous goods (following the chain of responsibility) should be exploring if safer options that are reasonable and practicable are available, and adopting them if so. This may involve alternative routes.

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To address this ambiguity, both interpretations of the societal risk increment have been considered. The risk of the new development on top of all existing populations being assessed against the criteria has been chosen the proposed interpretation (ie interpretation (b) above). This is considered to be the more conservative interpretation of the policy.

Further to this, Systra Scott Lister have tried to engage with the representative from the Department of Planning and Environment who is responsible for assessments in this region, however they do not wish to engage until after the proposal is referred to them during the post Gateway consultation phase.

The methodology applied in this report is consistent with other submissions we have made, where both the total populations plus the additional has been considered as well as the new population on its own. Such submissions have been assessed and approved by DPE, and therefore it is considered appropriate for the purposes of this report.

## Recommendation 2

*The risk assessment must be updated to account for an increase in building height up to 70m, taking into account the building wake effects in the dispersion calculations. The report must also provide consequence results of incidents at the corner of Wentworth Avenue and Denison Street. Currently Ref.2 does not have consequence calculation results.*

### Response:

Such modelling capabilities are only just becoming available. For example DNV GL's Phast v8 made the following release statement in October 2018:

#### Update on addition of 3D Visualization to Phast

The work to include 3D visualization capability to Phast is well advanced. A development version showcased at the Phast/Safeti user conference in London in early October was well received by users.

Key features include:

- Ability to import 3D geometry
- Ability to build your own geometry (currently limited to a few object types)
- View dispersion results in 3D
- View heat flux/radiation shielding results in 3D

Development is ongoing with a view to releasing it in a future version of Phast. Current emphasis is on optimization, improving the feature set and robustness testing.

As such capabilities mature, such modelling can be performed.

It is our view that the hazards most likely to reach the proposed commercial buildings are dense gas releases which stay at lower levels due to the density of gas vs air. Hence the fact that the office buildings are generally raised above the retail podium (apart from the corner building) significantly reduces the potential impact for this commercial office worker population set. It is estimated that only 128 persons would be accommodated below 10m above ground level in the commercial development.

Some representative consequence modelling results are provided with the following figures.

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Figure 1. LPG tanker rupture – Flash Fire Envelope – all wind directions

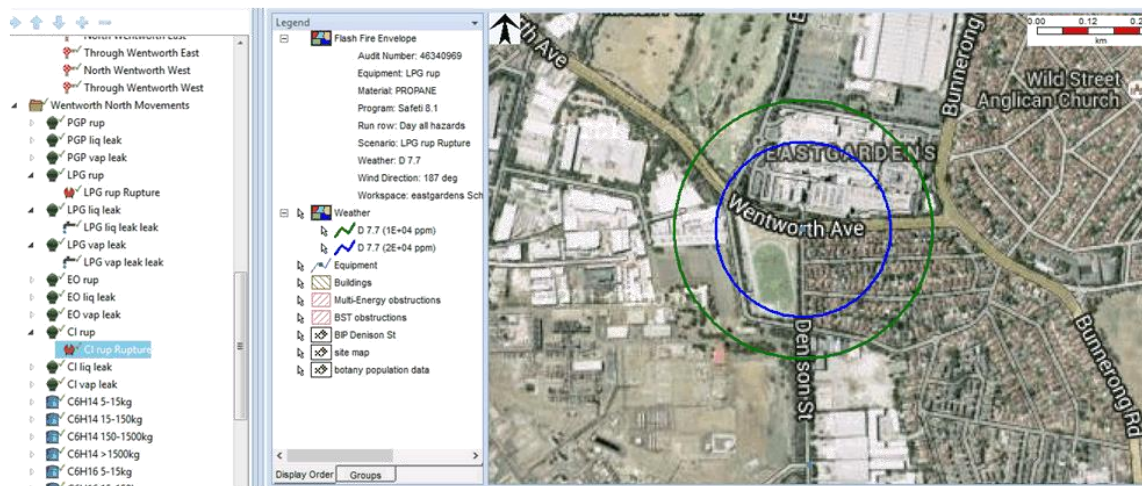
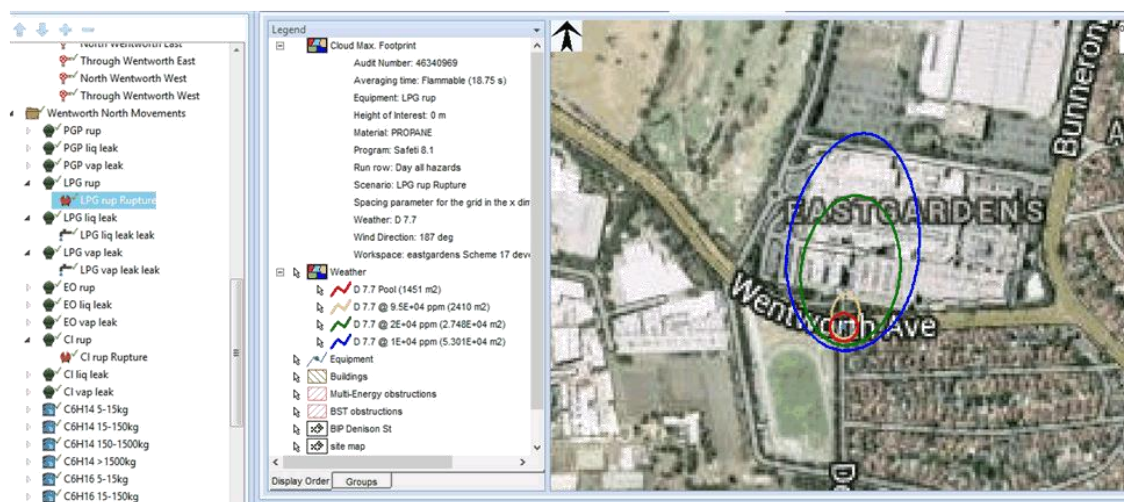


Figure 2. LPG Road Tkr Rupture – Max cloud footprint – wind from the south



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Figure 3. LPG – large leak – Flash fire envelope

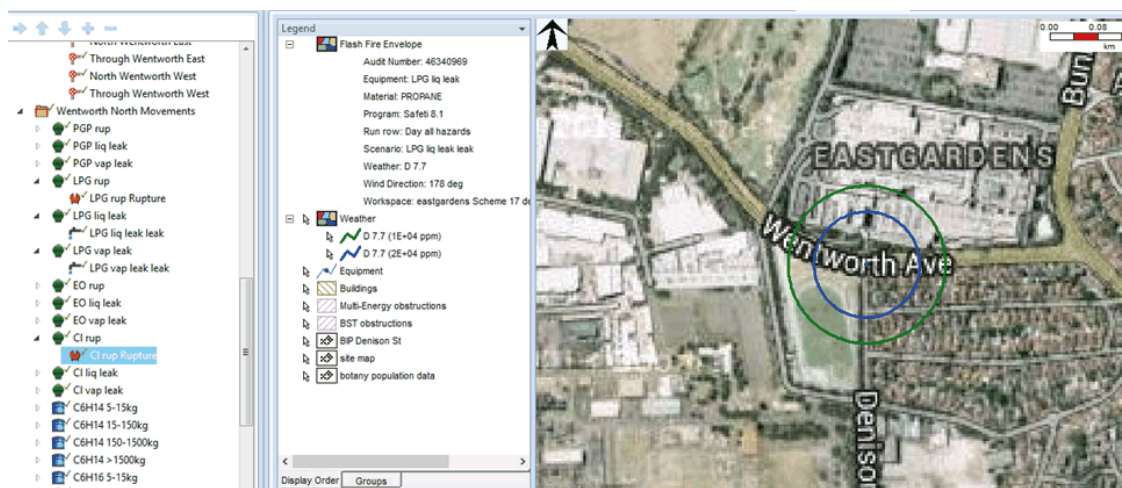
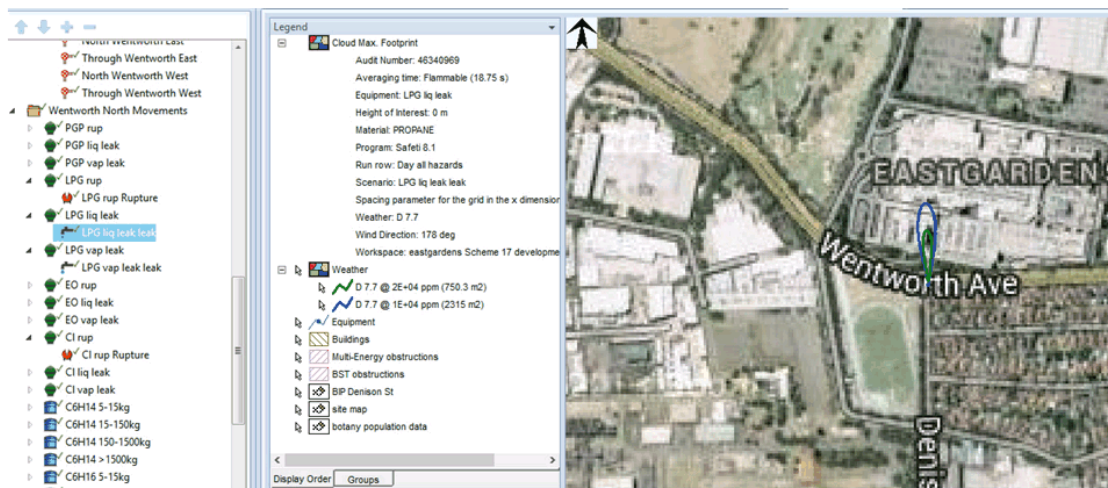


Figure 4. LPG – large leak – Flash fire cloud shape – wind from the south



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Figure 5. Chlorine Tkr – Rupture – Toxic indoor fatality envelope

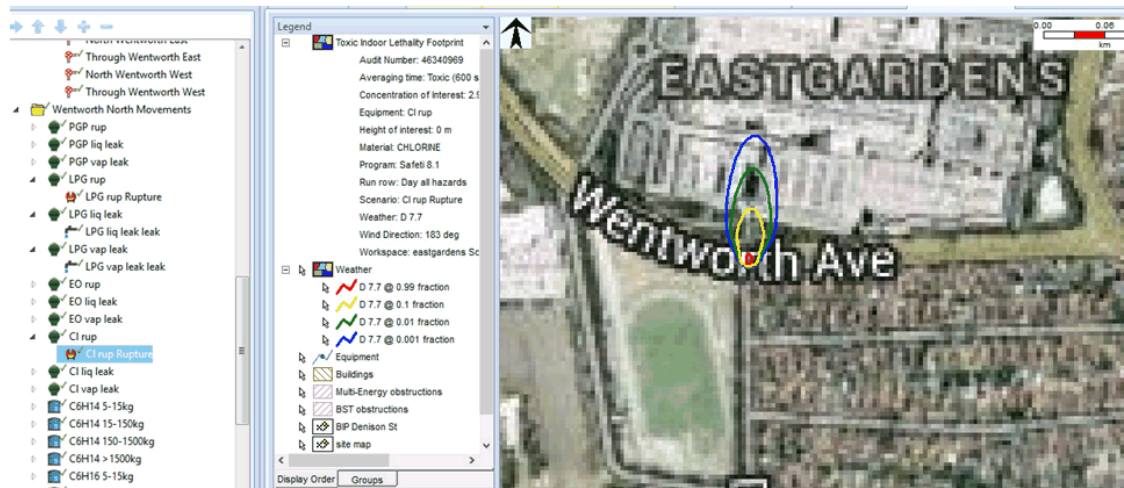
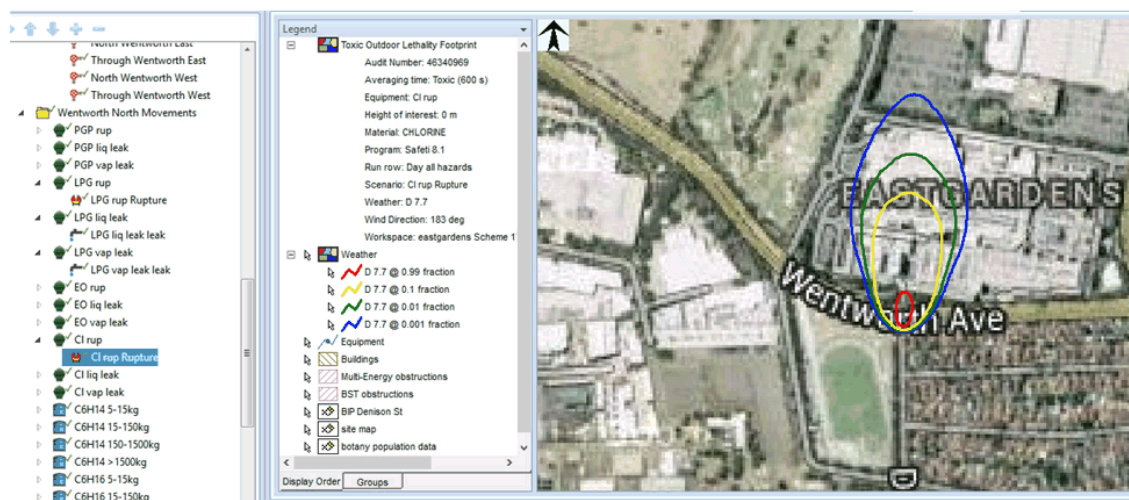


Figure 6. Chlorine Tkr – Rupture – Toxic outdoor fatality envelope



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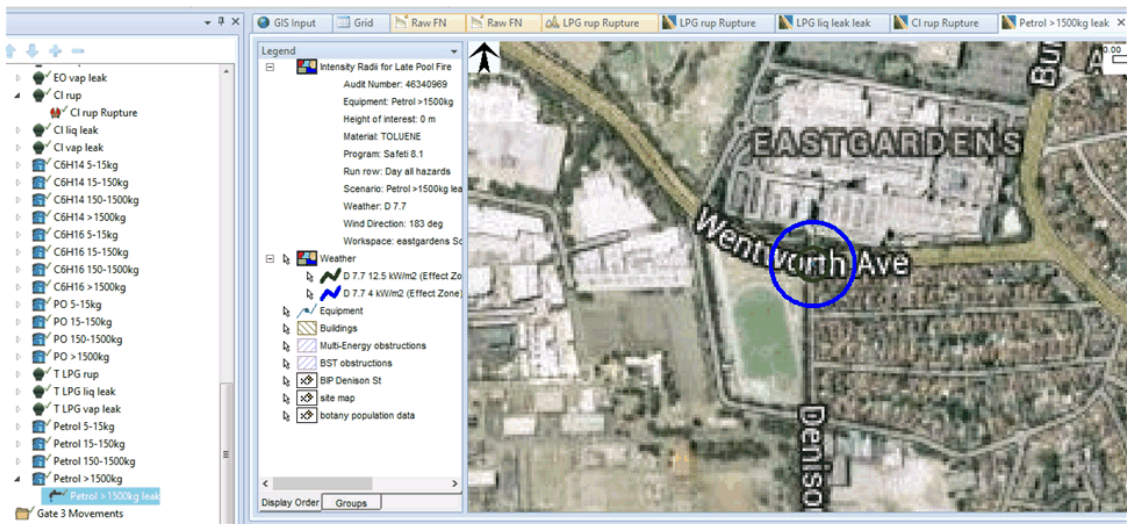
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Figure 7. Petrol Tanker – Large release – 1500kg – pool fire



**Recommendation 3**  
*The existing cumulative F-N curve must be compared with an updated F-N curve including the population from the proposed future development at East Gardens to assess the impact of incremental risk. If the overall F-N curve including the proposed development exceeds the upper limit, the development clearly exceeds acceptable land use safety for the location.*

**Response:**  
This has been compared in Figure 11 of the main report, the proposed development does not exceed the upper limit.

**Recommendation 4**  
*The Planning Safety Report must be updated to address*

- (a) risk contributors to the incremental risk and rank them*
- (b) assumed population distribution of the 1640 persons*
- (c) whether the risk was assessed for persons inside and outside the building, and at different levels in the building, and*

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*(d) how the risk mitigation in design suggested in Ref.1 have been addressed in the incremental risk assessment.*

**Response:**

- (a) risk contributors to societal risk are shown in Figure 11 of the main report.
- (b) Diagrams showing the assumed distribution of populations have been provided in Appendix B.
- (c) Diagrams showing the assumed distribution of populations have been provided in Appendix B. These indicate if persons are outside or inside.
- (d) Mitigations are suggested, but the modelling does not include them. Hence the presented risk results overstate the risk.

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	Issue E (Final to client ) - 19/12/19	Approved by: Greg Burgon
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This report is considered a draft unless signed by a Director or Principal	Approved by: 	

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# Executive Summary

The Westfield Eastgardens vision is to transform into a vibrant, mixed use town centre accommodating an improved arrival experience, enhanced retail, leisure, and new commercial office towers integrated into an active civic plaza, and connected to an enhanced bus terminus. There is the opportunity to improve accessibility, connect better with the community, create jobs and strengthen the economic role of the centre, in line with its recognition as a strategic centre.





Prepared on behalf of Scentre Group who operate, manage and co-own the Westfield Eastgardens Shopping Centre with Terrace Tower Group, this Urban Context Report seeks to update the Planning Proposal which was initially lodged with Bayside Council in March 2018, and amended in March 2019. It responds to the comments made by the independent consultants whom the Council commissioned to review the Planning Proposal.

This document identifies the opportunities and constraints of the site, outlines the project vision and urban design principles, presents a merit based and cohesive master plan and describes and assesses the revised master plan for visual impact and overshadowing impacts.

The revised master plan proposes a number of key amendments from the initial lodgement in March 2018

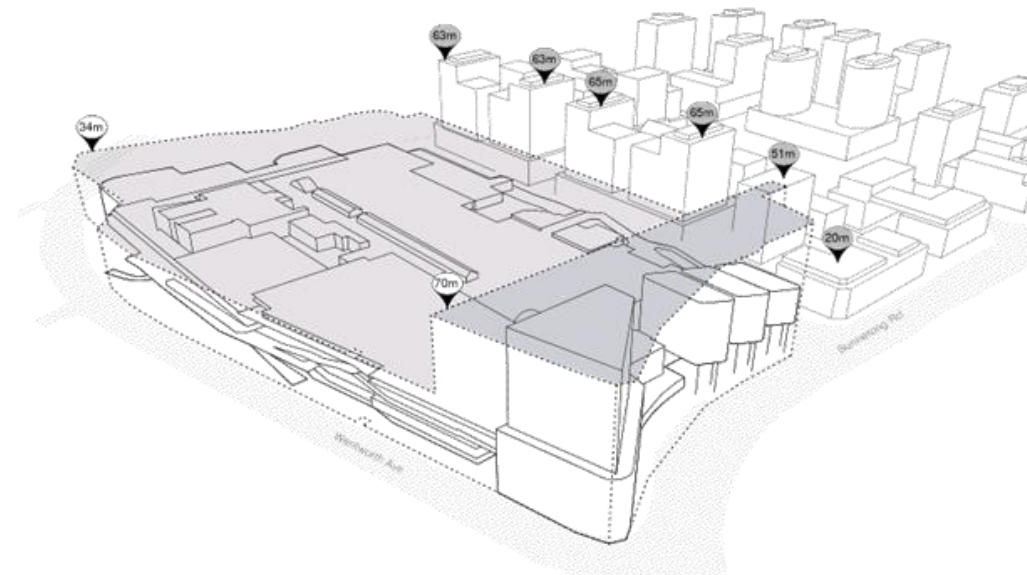
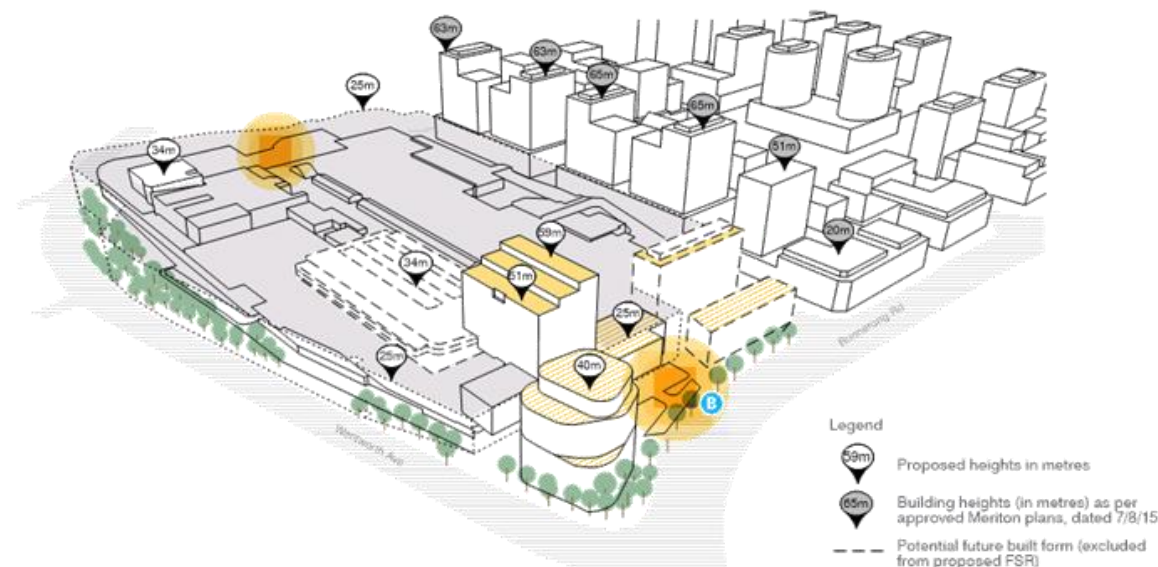


Diagram above adapted from Previous Planning Proposal by Terrace Tower Group, Scentre Group and Woods Bagot

### Proposed amendments to the original Master Plan

- Retain the landscape buffer around the centre;
- Lower the height of the proposed commercial tower and move it away from the street, onto the retail podium to reduce its visual and overshadowing impacts and improve the transition to the neighbourhood;
- Make a focal point to the entry with a new public plaza integrated with the bus terminus;
- Continue the street wall established by the Meriton site to the north with an appropriate building height transition to the proposed commercial buildings;
- Establish a datum for higher buildings that relates to heights on the Meriton site;
- Reconsider the orientation of the future stage development along Bunnerong Road to fit within the established street wall and podium tower typology and to improve the amenity of the future buildings.



Proposed amendment to Planning Proposal

Amendments sought in previous Planning Proposal lodged March 2018:

FSR - 1.7:1

Height - Part 34m / Part 70m

Zoning - no change

Amendments sought in the revised Planning Proposal:

FSR - 1.8:1

Height - Part 34m / Part 40m / Part 59m / Remainder: no change at 25m

Zoning - no change

### Key features of the revised Master Plan

- A new commercial building up to a height of 59 metres, relocated and modified to reduce the visual impact and bulk;
- A new publicly accessible plaza fronting Bunnerong Road which is defined by active ground floor uses and provides direct vertical connections to a bus interchange split over two levels;
- The previously proposed 20 storey (70 metre) building on the corner of Wentworth Avenue and Bunnerong Road is replaced with an iconic lower 8-10 storey commercial building (40 metre maximum height);
- Provides for future mixed use development in the north-eastern corner of the site, as part of a master plan for future development;
- Retains the previous proposal for the expansion of the retail area and new rooftop garden within the level 2 carpark footprint and western end of the centre fronting Banks Avenue.
- Provides a strategy for improving pedestrian connectivity from the neighbouring Pagewood Green development by Meriton.









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# 1 Introduction

This section establishes the background, purpose and objectives of the Urban Context Report as it supports the Planning Proposal



## 1.1 Project Background

### Overview

Prepared on behalf of Scentre Group who operate, manage and co-own the Westfield Eastgardens Shopping Centre with Terrace Tower Group, this Urban Context Report seeks to update the Planning Proposal which was lodged with Bayside Council in March 2018, and amended in March 2019. It presents a cohesive and integrated scheme that responds to the comments made by the independent consultants whom the Council commissioned to review the March 2018 and March 2019 submissions. Scentre Group has worked collaboratively with Council in amending and updating the planning proposal to ensure that the proposal responds to the previous comments, and that the master plan is aligned with Council's vision for the site and expectations of the community.

The site is located at 152 Bunnerong Road, Eastgardens, NSW 2036, approximately 8km south of the Sydney CBD. It is situated between Sydney Airport at Mascot, and the coastal areas of South Coogee, Maroubra and Malabar.

The legal description of the site is Lot 1 DP1058663 and the site has a total site area of approximately 9.3ha. The shopping centre was officially opened in October 1987 and extended and refurbished in 2002. It is a fully enclosed, multi-level major regional shopping centre anchored by Myer, Big W, Coles, Target, Woolworths, Kmart and features over 250 specialty stores.

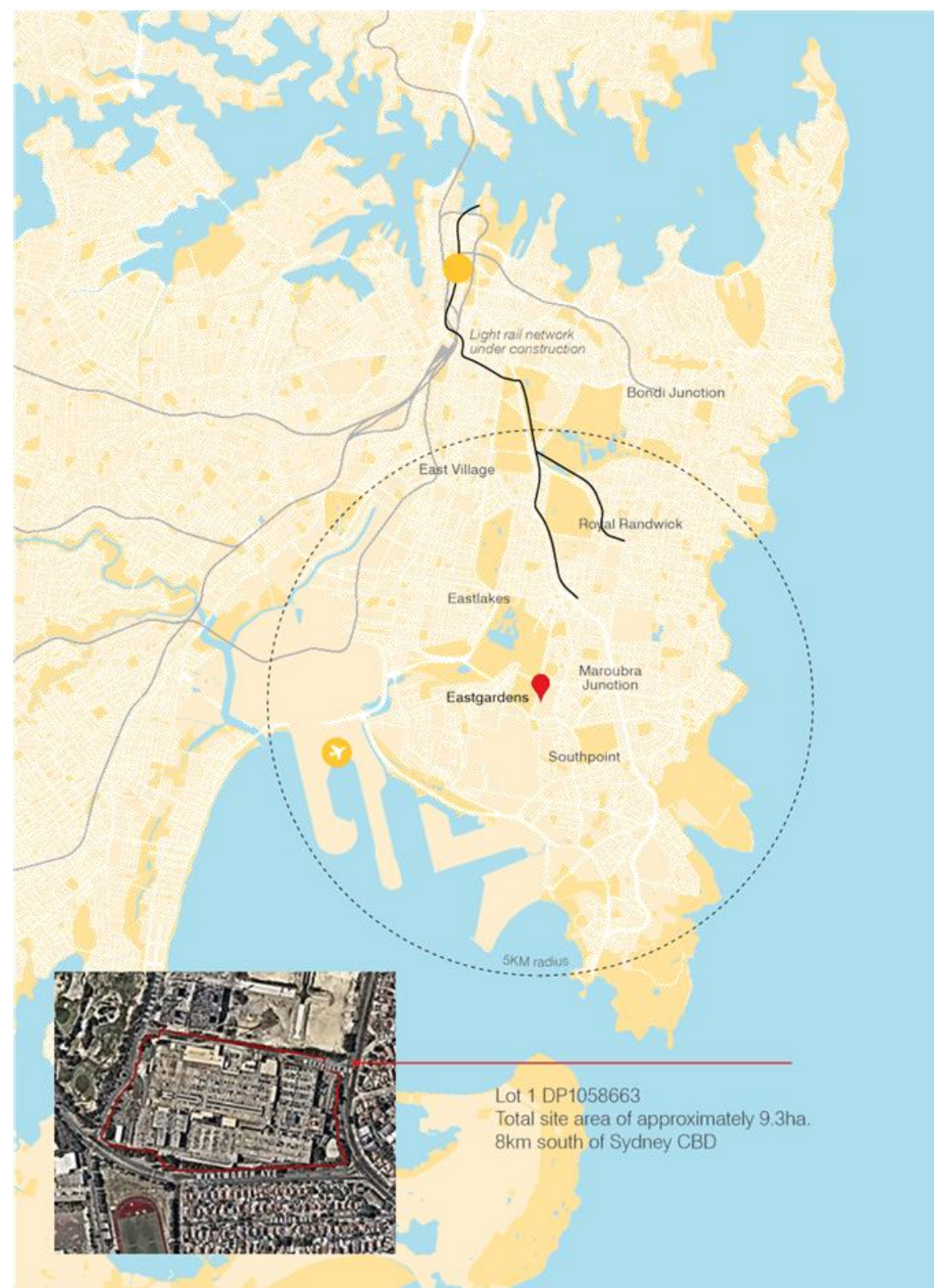
No significant upgrade works have been undertaken at the centre since 2002 which is well outside the typical 10 year redevelopment cycle of shopping centres to remain relevant to their communities. In 2018 Scentre Group became a co-owner of the centre by purchasing 50% from Terrace Tower Group.

The Applicant seeks to initiate the preparation of an amendment to the Botany Bay Local Environmental Plan 2013 (BBLEP) as it applies to the Site. This Report is intended to assist Bayside Council (the "Council") in preparing a Planning Proposal to amend the planning controls at the Site in accordance with Section 3.33 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

This Planning Proposal focuses on improving the arrival experience and public offer at each end of the existing centre. It proposes new mixed-use commercial development at the eastern end of the centre, and a food, beverage and entertainment precinct at the western end. An expansion to the retail floorspace and car parking numbers is also proposed.

The proposal also sets out a strategy for improving the pedestrian flow along Westfield Drive between the site and the neighbouring Pagewood Green development being constructed by Meriton.

In addition, this Planning Proposal illustrates an indicative built form response to the north-eastern corner at the Bunnerong Road frontage to help guide Council's LEP review process. It is proposed that this development will be fully developed within a future stage of works, allowing additional land uses to add vibrancy to the centre such as student accommodation.





## 1.2 Key Objectives

### Proposed Vision and Objectives

The Westfield Eastgardens vision is to transform into a vibrant, mixed use town centre accommodating an improved arrival experience, enhanced retail and leisure, and new commercial office towers integrated into an active, civic plaza connected to an enhanced bus terminus.

There is the opportunity to improve accessibility, connect better with the community, create jobs and strengthen the economic role of the centre, in line with its recognition as a strategic centre under the Eastern City District Plan.

With the addition of commercial office and future mixed use, the site will transcend its role in the community from a traditional shopping centre to a become a 'Living Centre' - a morning to evening activity hub where the community can fulfil its daily needs and be inspired by new opportunities and experiences.

Scentre Group uses the description of a Living Centre because its retail destinations are transitioning to places where the community come to gather and socialise, be entertained, dine, access services and experiences and shop.

The retail expansion will be a response to the changing customer expectations and lifestyle needs. The growth in consuming experiences versus goods sees the opportunity for new dining, entertainment, leisure, fitness and services retail. Further, the leakage of fashion sales to online and the Sydney CBD demonstrates an existing product gap in the fashion retail offer that can be filled for the growing population in South East Sydney.

Centred above a civic plaza, a commercial employment hub will be a new destination for local businesses and residents to establish a workplace that enjoys the amenity of retail and dining with the accessibility of 12 bus routes, convenient ride share and end-of-trip facilities. Westfield Eastgardens will play a leading role in delivering the Strategic Centre actions in the East District Plan.

To complete the vision, two future development buildings have been shown as part of a cohesive plan for the Bunnerong Road street address. It is Scentre Group's intention that these will form part of a future planning scheme that will explore additional land use for the site in the form of student accommodation or hotel development that further diversify the site and support the growth of the Randwick Health and Education precinct.

### Key elements of the Vision include:

- To expand and modernise the retail offer, including:
  - Create a next generation fresh food market;
  - Reconfigure the existing food court to an external orientation with views to the golf course;
  - Develop a new rooftop dining, entertainment, and leisure precinct;
  - Expand the existing cinema;
  - Develop a new international mini-major fashion mall;
  - Retain the existing mall axis; and
  - Provide new uses to meet the needs of the local community such as a gym, childcare and potential medical services.
- To provide a new A-grade commercial building to accommodate a range of office uses, which will assist future employment growth and job creation at the centre;
- To provide a new multi-use commercial building containing flexible floorspace to accommodate potential office, health and wellbeing practices, and civic service uses;
- To enhance the bus terminus and passenger experience;
- To improve pedestrian accessibility, amenity, safety and permeability;
- To create a better civic entry from the east by rearranging bus and taxi access, along with enhancing the public domain;
- To improve the external interfaces and quality of the streetscape around the centre including accessibility to the centre from the neighbouring Pagewood Green development by Meriton; and
- To retain existing car parking provision and provide additional parking appropriate for the expansion of the centre.

This proposed expansion of the centre responds to a range of factors, which include:

- The densification and gentrification of the trade area;
- The popularity of the existing fresh food offer;
- The demand for fashion retail by residents in the trade area that is currently being fulfilled at shopping destinations outside the trade area;
- To leverage off the existing strategic bus route links via the bus interchange and terminus at the site;
- To satisfy the shopping centre renewal cycle, in a situation where there have been no upgrades to the centre in over fifteen years, whilst other competitors are reinvesting in their shopping centres;
- To provide opportunity for a greater level of commercial floor space in close proximity to the bus interchange, given the identification of Eastgardens-Maroubra Junction as a 'Strategic Centre' within the draft Eastern City District Plan.
- To facilitate a modern precinct which can accommodate future growth, including the potential for student accommodation or a hotel to support the investment in the Randwick Health and Education collaboration area.

### 1.3 Options Tested

#### Master plan testing

A number of options were tested before arriving at the preferred option. The model images below illustrate the various options tested and a summary of the key opportunities and constraints they present.



#### Previously submitted option

##### Key Features

- Maximum height: 70m.
- Incremental commercial GFA: 34,800sqm.
- Setback from street boundary (varies 13-20m).

##### Opportunities

- Proposed commercial floorspace is viable and meets market desire for ~1,200 sqm regular floorplates.
- The commercial precinct has good street presence and good view prospects.

##### Constraints

- Overshadowing impacts to 5 dwellings on the southern side of Wentworth Avenue (244-252) was considered to be unacceptable, and as such the scheme was redesigned to improve overshadowing impacts to the 5 dwellings in focus.



#### Reduced option 1

##### Key Features

- Tower location retained, height reduced.
- Maximum height: 51m.
- Incremental commercial GFA: 25,000sqm.
- Setback from street boundary (varies 13-20m).

##### Opportunities

- No additional overshadowing to primary private open space of rear yards of the 5 houses on Wentworth Avenue in focus (i.e., DCP compliant).
- Overshadowing to the frontyards of the 5 houses in focus on Wentworth Avenue is substantially reduced.

##### Constraints

- Tiered floorplates are inefficient and present a challenge for location of lift core to subdivide a floor into multiple tenancies.
- Loss of 9,800sqm GFA (-28%) makes this option not viable.
- Does not visually signal the commercial precinct.





## Options Tested



## Reduced option 2

## Key Features

- Tower location rotated 90 degrees, height reduced
- Maximum height: 33m.
- Incremental commercial GFA: 12,500sqm.
- Setback from street boundary (varies - minimum 35m).

## Opportunities

- Zero overshadowing to front yards of the 5 houses on Wentworth Avenue in focus.
- Greater setback off street reduces visual impact.



## Constraints

- Loss of 22,300sqm GFA (-64%) makes this option not viable.
- Wasted opportunity to deliver the objectives of the District Plan for a key commercial zoned site.



## Preferred Option

## Key Features

- Tower location rotated 90 degrees, height reduced
- Maximum height: 59m.
- Incremental commercial GFA: 27,300sqm.
- Setback from street boundary (varies - minimum 35m).

## Opportunities

- Overshadowing to the frontyards of the 5 houses in question on Wentworth Avenue is substantially reduced.
- Loss of 7,500sqm GFA (-22%) impacts feasibility but is considered reasonable in order to achieve no additional overshadowing to the rear yards of the 5 buildings in focus on Wentworth Avenue.
- Sufficient height to create variety of form on the corner and visually signal the commercial precinct.
- Greater setback off street reduces visual impact.
- Generally maintains target floorplate of 1,200sqm and ability to subdivide floors.











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## 2 Planning Context

This section outlines the strategic context and aspirations for the site within the Greater Sydney Region Plan and as part of the Eastgardens-Maroubra Junction Strategic Centre under the Eastern City District Plan.



## 2.1 Strategic Context

### A Metropolis of Three Cities - The Greater Sydney Region Plan

Released in March 2018, the final version of the Region Plan ensures land use and transport opportunities develop more equitably across Greater Sydney.

The Region Plan conceptualises Greater Sydney as a metropolis of three '30-minute' cities and is presented with the District Plans to reflect the most contemporary thinking about Greater Sydney's future. The site is located within the broader 'Eastern Harbour City', as identified in 'The Greater Sydney Region Plan' to the right.

The Region Plan sets the vision and strategy for Greater Sydney, to be implemented at a local level through District Plans. For the first time, the Plan has been prepared in conjunction with the NSW Government's Future Transport 2056 Strategy and informs Infrastructure NSW's State Infrastructure Strategy providing full integration of land use, transport and infrastructure planning.

The Region Plan is underpinned by four key pillars which outline specific objectives to be achieved. The four pillars include:

- Infrastructure and Collaboration
- Liveability
- Productivity
- Sustainability

An assessment of the Planning Proposal against the relevant objectives of the Region Plan is provided within the Planning Report prepared by Urbis.



A Metropolis of Three Cities - The Greater Sydney Region Plan



Eastern City District Plan

### Eastern City District Plan

Released in March 2018, the final version of the District Plan is a 20-year vision that provides strategic guidance on the economic, social and environmental growth in the Eastern City District of Greater Sydney. The District Plans have been prepared to align the Region Plan and the detailed planning controls for local areas.

The District Plan sets out priorities and actions for the development of the Eastern City District, which includes the LGAs of Bayside, Burwood, Canada Bay, Inner West, Randwick, Strathfield, the City of Sydney, Waverley and Woollahra.

This plan indicates that the site is proposed to be within the Eastgardens-Maroubra Junction Strategic Centre. Within Planning Priority E11, it states that the

centre has a large retail catchment and opportunities to link the two centres along a corridor of activity should be investigated.

#### Priorities for the Eastern City District

- Growing investment, business opportunities and jobs in strategic centres;
- Providing services and social infrastructure to meet people's changing needs;
- Fostering healthy, creative culturally rich and socially connected communities;
- Growing investment in health and education precincts and the Innovation Corridor; and
- Providing housing supply, choice and affordability, with access to jobs and services.

As required by the EP&A Act, the District Plan:

- Provides the basis for strategic planning in the District, having regard to economic, social and environmental matters;
- Establishes planning priorities that are consistent with the objectives, strategies and actions of the Region Plan; and
- Identifies actions required to achieve the planning priorities.

The 'Actions No.48' for the centre are identified as the following:

- "Strengthen Eastgardens-Maroubra Junction through approaches that:
  - a. protect capacity for job targets and a diverse mix of uses to strengthen and reinforce the economic role of the centre
  - b. extend and investigate additional economic activities to connect Eastgardens and Maroubra Junction and complement the existing activities
  - c. leverage future public transport connections in the south east and west of the District
  - d. encourage provision of affordable housing to support the nearby health and education facilities and employment lands
  - e. promote place making initiatives to improve the quality and supply of public spaces, promote walking and cycling connections and integrate with the Green Grid
  - f. improve public transport connections, and walking and cycling between Eastgardens-Maroubra Junction and Randwick."

It is clear from the above actions that significant growth is expected within the centre over the plan period and given its new status as a 'Strategic Centre'.

The Plan outlines the jobs targets for the various centres including Eastgardens-Maroubra Junction as illustrated in the table to the right titled 'Central District Job Target.'

Central District Job Target

Centre	2016 Estimate	2036 Baseline Target	2036 Higher Target
Eastgardens Maroubra	6,900	8,000	9,000

These job targets are intended to provide guidance to Councils and government agencies as to the likely scale of employment growth, whilst also helping to inform land use and infrastructure planning. The reason a range is provided is to account for varying economic conditions, and the higher growth scenario would reflect further investment in the centres.

The expansion of Westfield Eastgardens is proposed to provide approximately 64,800 sqm additional GFA (total 164,200 sqm GFA) and will assist in meeting these higher growth scenario job targets identified by GSC.

The Economic Impact Assessments that accompany this Planning Proposal identify that the proposal will generate an estimated additional 900 - 1,100 jobs (full-time and part-time) within the retail expansion and some 950 - 1,200 jobs as part of the new commercial buildings. This will significantly contribute to meeting the job targets set out in the District Plan.

Allied to the proposed jobs target within the Eastern City District Plan, are the five-year housing targets which are based upon the District's dwelling need and are said to provide an opportunity to deliver supply. This is broken down into Local Government Areas (LGAs). The table below sets out this housing target:

Five Year Housing Target

Area	2016-2021 Housing Target
Bayside LGA	10,150
Eastern City District Total	46,550

- The Bayside Council LGA has the second highest housing target of the LGAs in the Eastern City District after the City of Sydney, and represents almost a quarter of the new dwelling target for the District. This demonstrates that the Greater Sydney Commission views Bayside LGA as a location which can accommodate significant population growth, the consequence of which is that other services and facilities would need to be expanded to support this growth. This includes the provision of adequate retail floor space and offer to meet the needs of local residents and new office space to support employment growth.
- Furthermore, the former BATA site adjacent to Westfield Eastgardens will contribute to this increase in residential population within the local area. The site is being developed by Meriton and is being marketed as 'Pagewood Green'. The site extends to approximately 16ha, with the first 10ha already benefiting from consent for some 2,200+ dwellings, which are now being delivered. The completed site is expected to yield approximately 3,800 dwellings. This will create a new resident population immediately adjacent to the shopping centre.

#### Other Land Uses

The master plan proposes future stage development that will add additional uses to the centre to enhance vibrancy and diversity. Two of these potential land uses that are appropriate for the site include:

#### Student Accommodation

There is an absence of a specific direction for Student Accommodation in the strategic plans, however, Action 48 of the District Plan encourages provisions of affordable housing in strategic centres to support the nearby health and education facilities and employment lands. Although not explicit, affordable housing could allude to "student housing" as student housing is defined as a boarding house under SEPP (Affordable Rental Housing) 2009. The District Plan also highlights the need for a diversity of housing supply.

- About 9% of the Hillsdale-Eastgardens population are tertiary students
- About 9.4% of the Bayside LGA population are tertiary students
- The site is in close proximity to UNSW with frequent bus connections.

#### Hotel Accommodation

There is an aspiration to double the overnight visitor expenditure to NSW by 2020 (Visitor Economy Taskforce, 2012) to be located close to tourist destinations, business facilities and transport gateways.

For Eastgardens, the proximity to hospital, University, port and airport present multiple sources of demand for overnight accommodation. Also, a business case is currently being prepared for a new cruise ship terminal that would be in close proximity to any future hotel accommodation at Eastgardens.

#### Future Public Transport Improvements

A key basis of development intensification for strategic centres are to leverage existing and proposed transport infrastructure.

- Westfield Eastgardens benefits from accommodating an existing major bus terminus which provides over 12 different bus routes that connect with Sydney Airport and other metropolitan/strategic centres including Sydney CBD, Randwick, Green Square, Mascot, Bondi Junction and Burwood. A cornerstone of the proposal is locating new commercial office development with an enhanced bus terminus.
- Eastgardens and Maroubra Junction are located along a future "city shaping corridor" – a high capacity, high frequency public transport route providing access to Sydney CBD by 2056.
- Rapid bus has been earmarked for investigation in the 0-10 year time period, while light rail extension to Maroubra Junction / Metro train link to the south east is set for a 10-20 year time period.
- It is noted that as Maroubra Junction is largely already developed, there is greater potential for Eastgardens to capitalise on this south-east transport corridor and provide higher densities as part of transport-oriented urban renewal.









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### 3 Analysis & Findings

This section provides a succinct analysis of the site conditions and outlines the opportunities and constraints that the site presents.

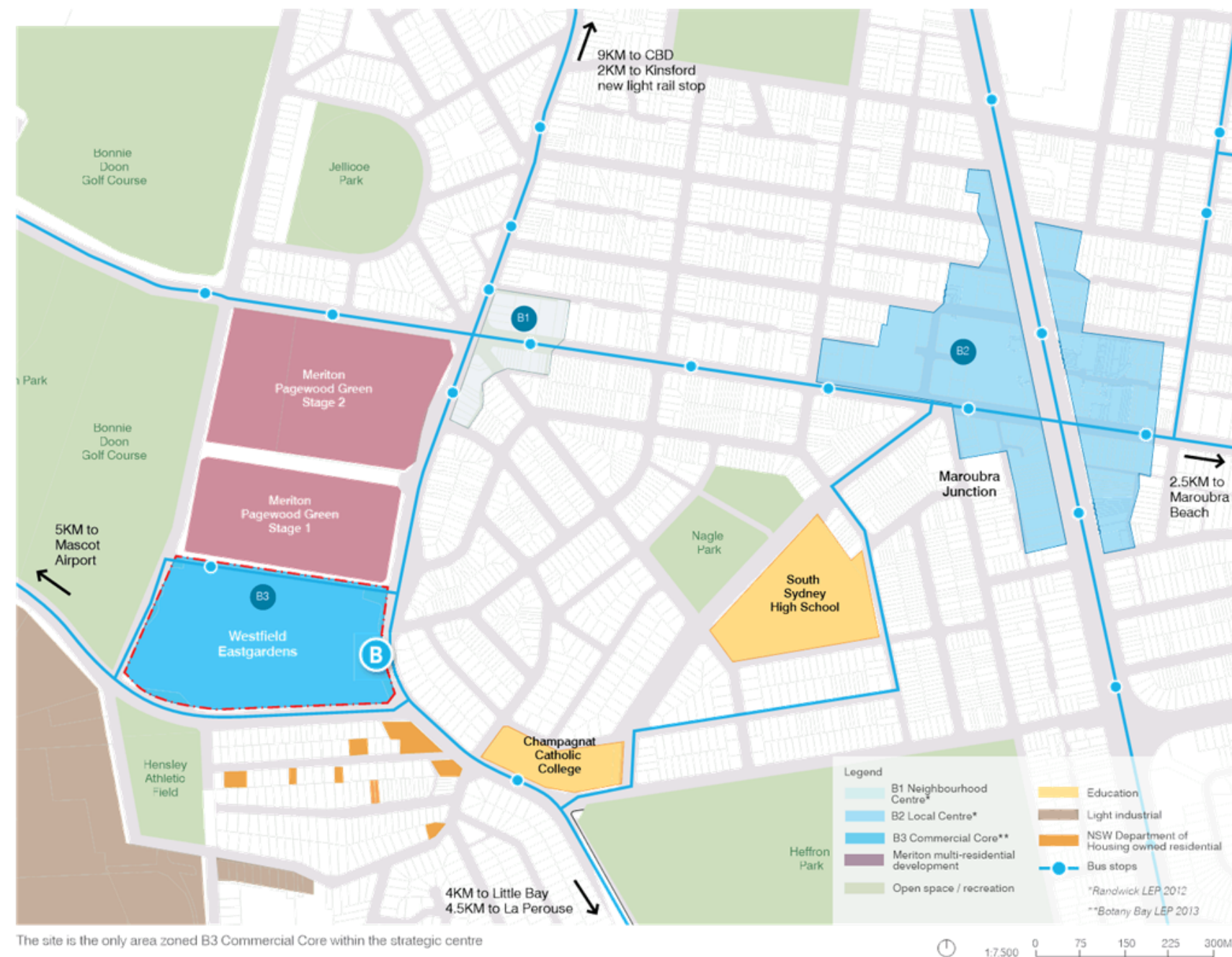
### 3.1 Site Analysis

Westfield Eastgardens is dedicated as the commercial core within the local planning context. The site has an important role to play in meeting the objectives of this land use, ensuring a wide range of retail, business, office, entertainment, community and other suitable land uses are provided to meet the needs of the local community.

The site is bound by busy roads to the south and east and well served by public transport with an existing bus terminus and lay-over area on site. Bus routes run along Bunnerong Road to the east and Westfield Drive to the north and connect with Maroubra Junction, Bondi Junction, UNSW and the City.

There are a variety of land uses surrounding the shopping centre, including industrial, residential and open space. Sydney airport is located only a short distance to the south-west of the site while the heavy industrial areas of Port Botany and the Botany Industrial Precinct are located to the south and west of the site.

In terms of the immediate surroundings, to the north of the site is a former industrial area comprising the former British American Tobacco (BATA) site which is now owned by Meriton who has planning consent for new high density residential apartments. These new apartments are currently under construction with Stage 1 well underway and Stage 2 having received Gateway approval and recently exhibited. To the south of the site beyond Wentworth Avenue is the Hensley Athletic Field and an area of 1-2 storey detached dwelling houses accessed from Denison Street. Bonnie Doon Golf Course is situated to the west of the site, whilst further low density residential areas are located to the east between the site and Maroubra Junction. Other uses in the general area include the University of New South Wales and a large hospital precinct, including the Sydney Children's Hospital, the Prince of Wales Hospital and the Royal Hospital for Women, in Randwick.





## Site Analysis

While the external interfaces of the shopping centre are largely inactive with little pedestrian amenity, opportunities exist at each end of the east-west mall axis to enhance the arrival experience and provide hubs of activity, while improving the amenity and safety along the other edges.

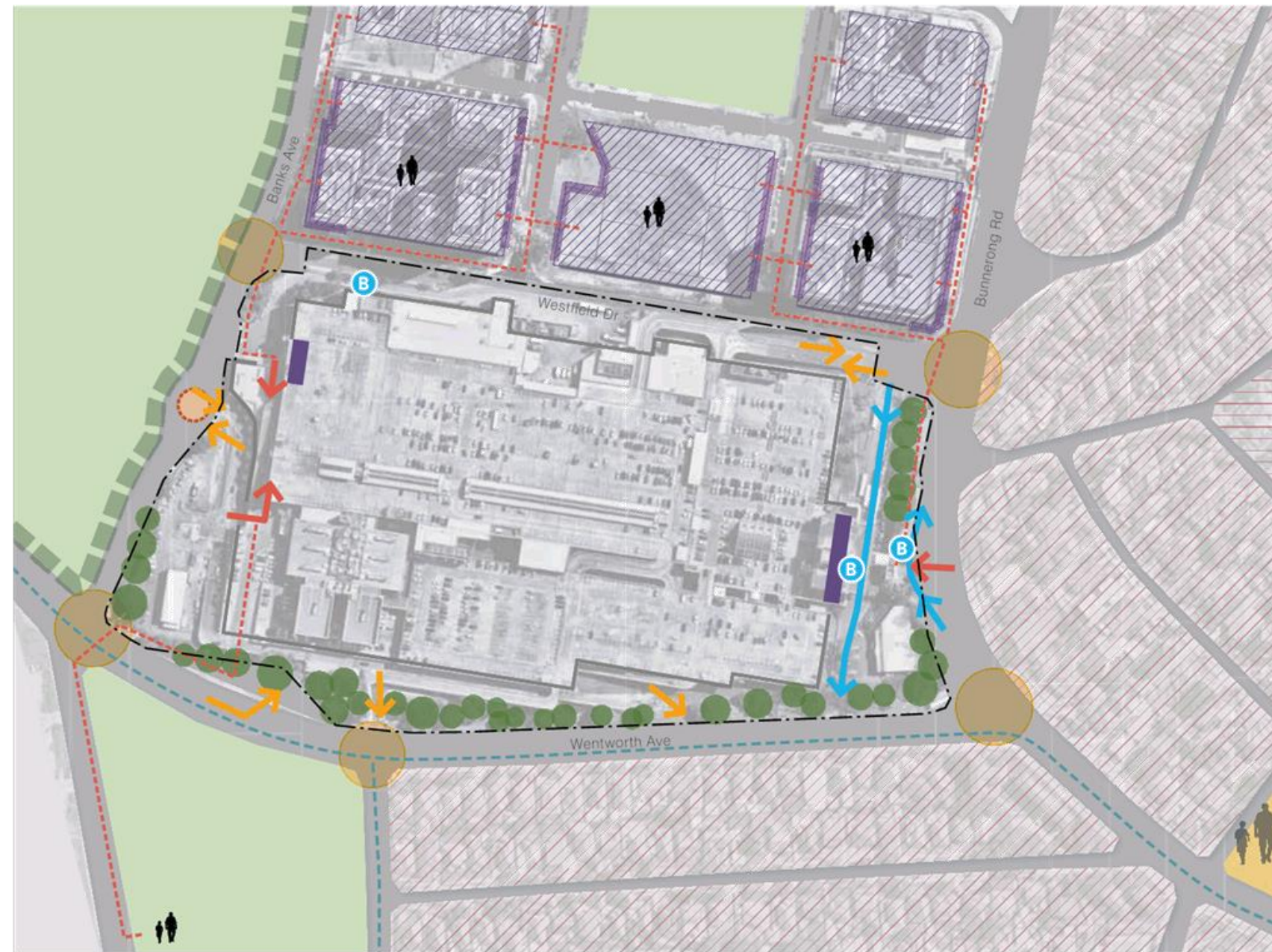
The Westfield Eastgardens shopping centre occupies a site which is bounded by Wentworth Avenue to the south, Bunnerong Road to the east, Westfield Drive to the north and Banks Avenue to the west. The centre provides some 84,400sqm of Gross Leasable Area (GLA) which accommodates approximately 70,500sqm of retail floor space (excluding cinemas, banks and travel agents etc.), along with some 5,000sqm of office floor space and a 723-seat cinema complex, supported by over 3,100 car parking spaces.

The total consented Gross Floor Area (GFA) for the site is currently 100,926sqm (following DA14/123), although the full extent of this floor space has not yet been developed.

The adjacent diagram highlights existing vehicular and pedestrian movement into and around the site, as well as the character of streetscapes and significant building entries which contribute to pedestrian amenity and access.

### Legend

	Roundabout		Active frontage
	Signalised intersection		Passive frontage
	Vegetation buffer		Inactive frontage
	Bus stop		Low density residential
	Bus movement		High density residential
	Car access		Education
	Pedestrian access		Open space / recreation
	Pedestrian movement		Embankment
	RMS dangerous goods route		Site boundary



The typology of the centre generates distinct pedestrian entries at either end, while north and south elevations are dominated by vehicles

1:2,500 0 25 50 75 100M



## Site Analysis



## Bunnerong Road

## Primary role -

- Major arterial road connecting Anzac Pde at Kingsford to La Perouse in the south with bus stop and pedestrian entry to shopping centre

## Key characteristics -

- 3 lanes of traffic in both directions
- 1-2 storey detached residential on eastern side opposite shopping centre, high density residential on western side, north of the site.
- Bus stop for routes 391 to Railway Square, 392, and X92 to City, and 400 to Bondi Junction
- Primary pedestrian entry to shopping centre at bus stop



## Wentworth Avenue

## Primary role -

- Major arterial road including heavy vehicle route (RMS dangerous goods transit route) and car park access to shopping centre

## Key characteristics -

- 3 lanes of traffic in both directions
- Planted median strip and vegetated verges makes significant contribution to streetscape quality.
- Existing vegetation buffer provides visual screening and mitigates scale of shopping centre
- 1-2 storey detached residential on southern side, multi-level car-park on northern side
- Narrow footpaths and conflict with car-park and bus driveways impacts on pedestrian amenity



## Site Analysis



Banks Avenue

## Primary role -

- Local road running parallel to Bunnerong Road on western side of shopping centre with popular car-park access point at roundabout due to convenient access to ground level fresh food retail.

## Key characteristics -

- Secondary pedestrian entry to shopping centre
- Edged by golf course on west
- Major vehicle entry point facilitated by heavily used roundabout
- Loading dock entry point



Westfield Drive

## Primary role -

- Service road / loading for shopping centre.
- Connecting pedestrians to the centre from the new Meriton multi-residential development.

## Key characteristics -

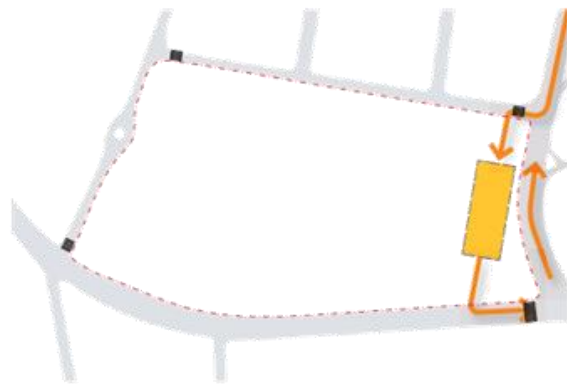
- Interfaces with new Meriton multi-residential development to the north
- Loading docks and inactive façades along northern edge of shopping centre, and screened podium car-parking of Meriton development
- Bus stop for routes 301-310
- Some pedestrian use, particularly at the eastern and western ends, away from the loading area in the centre.
- Low private vehicle use, some cycle use.
- Issues with some private vehicles using road as 'rat-run'
- Limited solar access due to Meriton towers to the north.



### 3.2 Opportunities and Constraints

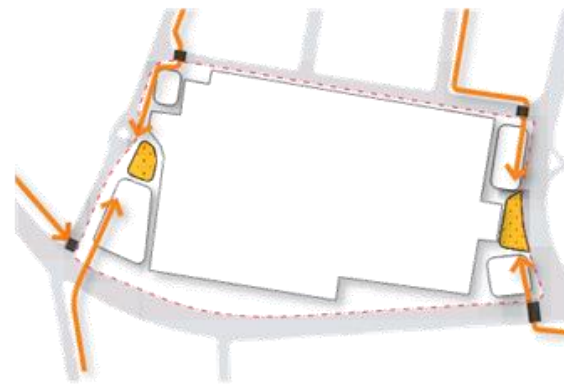
#### Opportunities and Constraints

In understanding the site characteristics and issues, the following opportunities and constraints were identified for the site.



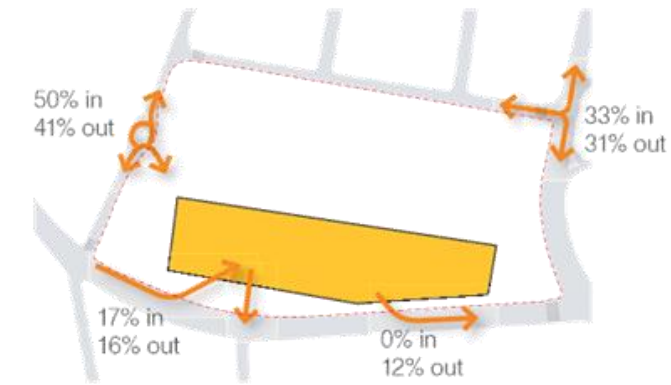
##### Public transport

- Opportunity to upgrade bus terminus experience and promote public transport usage.
- There is a logical node for future public transport connections at the eastern end of the site (potential rapid bus, light rail, or Metro).



##### Pedestrian movement

- Opportunity to introduce an active pedestrian focused plaza at the eastern entry integrated with bus terminus.
- Opportunity to improve the pedestrian experience at the western end of the site.
- Opportunity to improve the amenity of footpaths leading to entry points to the centre.

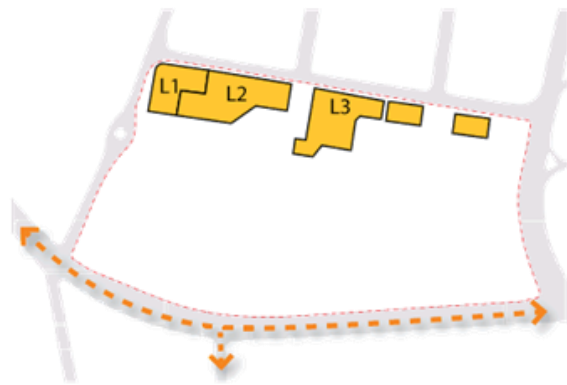


##### Vehicle access and parking

- Ramps to existing above ground parking are required to be maintained, particularly on the north side, where they serve the predominately north-east catchment to the centre.
- However, there is improvement to traffic flow with the introduction of controlled parking to improve efficiency of traffic flow at entries and exits and to better manage legibility of car space vacancies (introduced December 2018).
- Improve car-park circulation and use dynamic signage of available spaces to prioritise entries that are located away from pedestrian areas.
- Opportunity to screen new vehicular ramping.
- It is essential that appropriate ramp access to the carpark on levels 3 and 4 of the centre is maintained as this area provides 45% of current car parking spaces and this percentage will increase as the proposed roof mezzanine levels are added.
- The design will include improvements to facilities and accessibility with a view to minimising dependence on private vehicles and car parking. Whilst car parking will be increased, the final provision will be resolved at DA stage based on occupancy modelling of the existing car park and a development overlay.

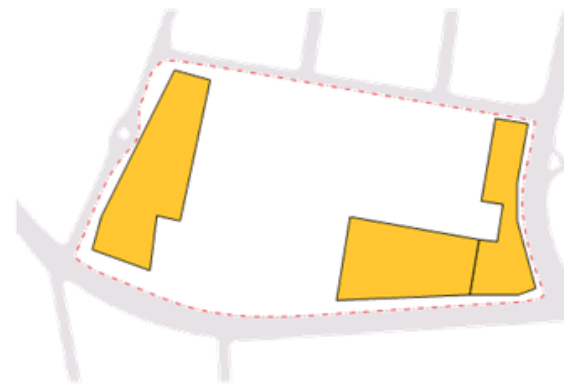


## Opportunities and Constraints



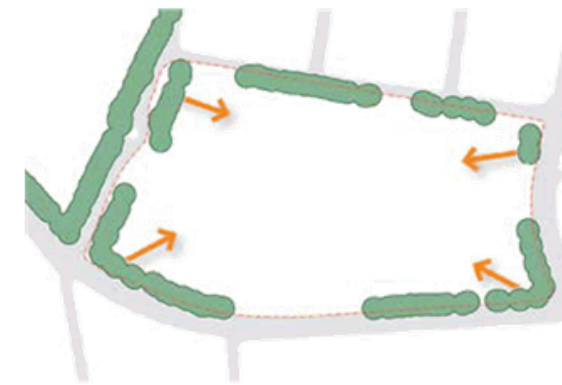
### Loading and RMS dangerous goods route

- Established loading docks are consolidated along Westfield Drive. These support the supermarkets and department stores located on the northern side of the centre, and specialty shop loading throughout the centre, and cannot be removed or relocated.
- The RMS dangerous goods transit route runs along Wentworth Avenue and down Denison Street to the Botany Industrial Precinct. The facade to the Wentworth and Denison intersection is recommended to be solid core to protect from a dangerous goods incident.



### Developable land

- There is an opportunity to utilise land around the perimeter of the existing centre for new development and activation. Areas without development or parking areas that can be demolished are opportunity sites for new podiums and towers.
- Portions of the site occupied by existing development are constrained from accommodating new development as they do not have structural or logistical potential to accommodate new built form on top of existing structures.
- There is the opportunity for new built form to interface with the street and create an improved address and pedestrian experience.



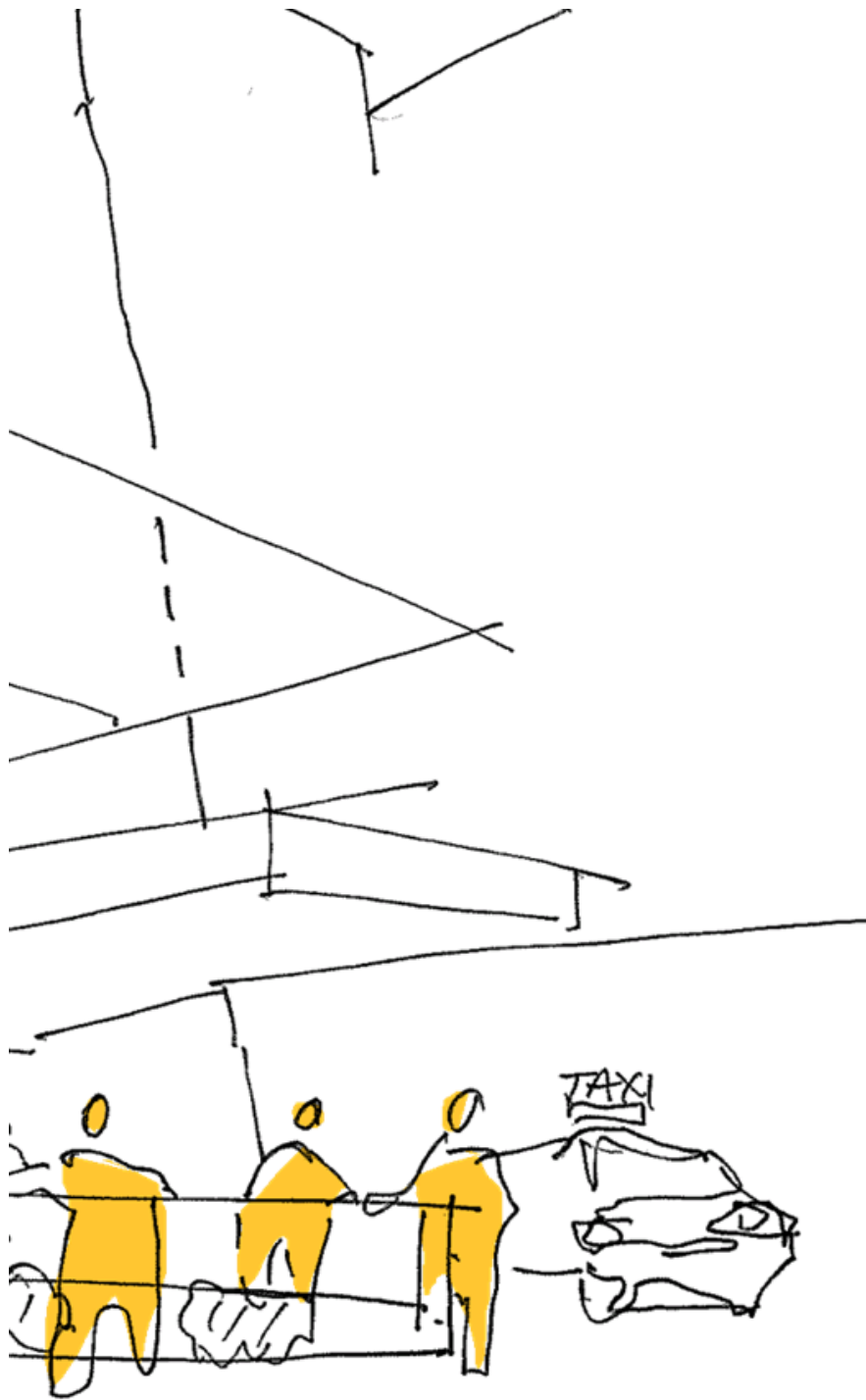
### Green Buffer

- The existing green buffer provides significant visual and ecological amenity to the site.
- There is an opportunity to extend and enhance the landscape experience in and around the centre, building on the original vision of Eastgardens as a garden-focused place.





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## 4 Developing the Master Plan

In developing the master plan, we established a specific set of principles and a project vision which have guided the development of a robust master plan approach



#### 4.1 Master Plan Vision

## Creating a *Living Centre*

Eastgardens is thinking beyond retail. With the addition of commercial and future mixed use, it will transcend its role as a traditional shopping centre and become a living centre – a morning to evening community hub where people can fulfil more of their daily needs. And with over 12 different bus routes and convenient ride share facilities, Eastgardens is accessible to the local community.



## Master Plan Vision



## An Arrival

A reimagined front door at both the eastern and western ends of the centre will reconnect the centre with its local context and growing community.



## A Place to Connect

A 'third place' between work and home with day and night activation. A town-centre providing opportunities for impromptu meeting and socialising as well as a setting for special occasions against the backdrop of a landscaped urban oasis with district views.



## A Place to Work

A new workplace offer will provide A-grade commercial office and innovative co-working start-up space, located above the upgraded bus terminus and civic plaza. The precinct will create jobs close to homes and strengthen the diversity and economic role of the centre.



## Convenient, Walkable and Connected

Located on a highly connected transport hub, the centre presents a renewed accessible and walkable focus for Eastgardens-Maroubra Junction.

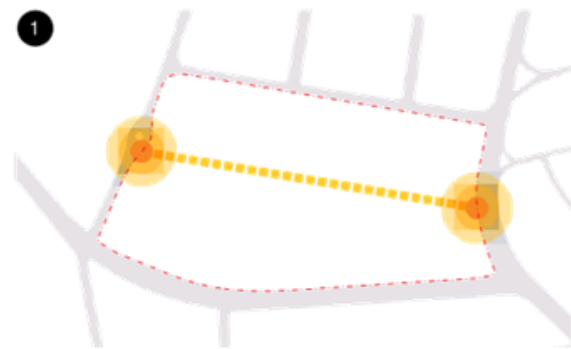


## A Place to Live and Learn

As part of the mixed use vision, a future education and accommodation component will support the evolving Randwick Health and Education Super Precinct, and enrich the community around Eastgardens. Services catering to the everyday needs of students will add depth to the retail and entertainment offer.

## 4.2 Urban Design Principles

A number of urban design principles have been developed which respond to the key issues and concerns raised through engagement with Bayside Council and those identified within the independent review of the previous planning proposal.



1. Destination hubs at each end linked by a central spine
  - Street facing buildings and active frontages to create a new presence for the centre.
  - New address points to enhance the arrival experience and outward presence of the centre.
  - A new plaza at the eastern end of the existing spine to create an attractive focal point connecting lobbies, shop-fronts and community uses with a strengthened transport node.
  - A fresh food retail, dining and entertainment hub at the western end which enjoys views out over adjacent green space and city skyline beyond.



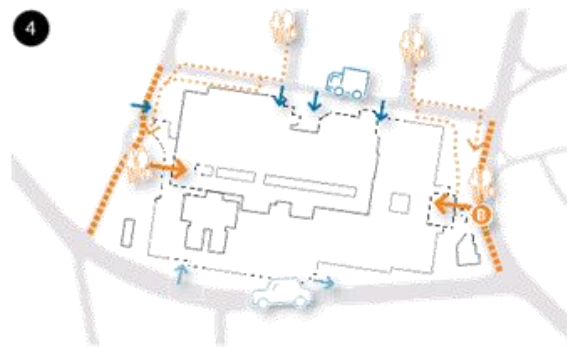
2. Entries
  - Ensure that all new buildings have entries at ground level from the public domain.
  - Ensure that building lobbies are clearly visible and accessible from the public domain.



3. Activate corners
  - Improve the centre presence with externalised functions and a greater public interface with the street on the corners of the site.
  - Engage with the neighbouring context through improved interfaces and pedestrian access.
  - Conceal new servicing, blank walls, car-parking etc. with active corners.

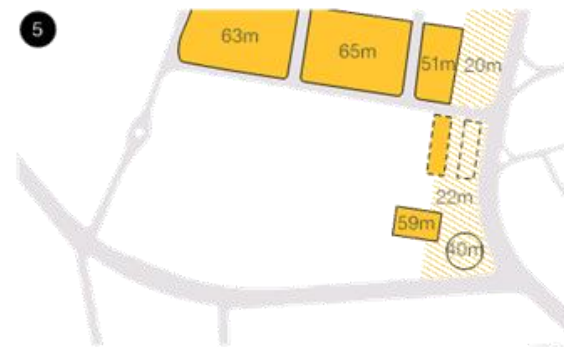


## Urban Design Principles



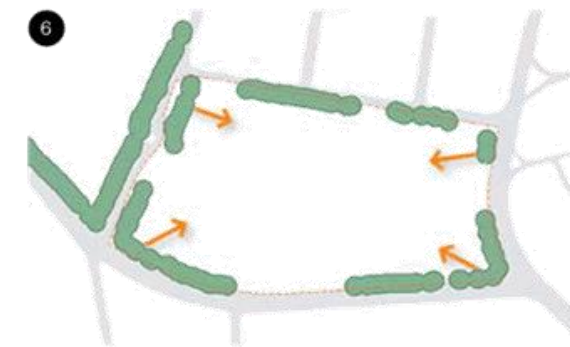
### 4. Defined street functions

- Westfield Drive to continue essential loading function. Direct pedestrians to the eastern and western corners of the site.
- Wentworth Avenue to have a focus on parking access and egress: maintain vehicular entries, exits and external ramping and landscape buffer.
- Bunnerong Road to be the main public transport and pedestrian interface with a sunken bus interchange for south-bound buses, a pull-in bay for northbound buses, and a shared-way for shared mobility drop-off (Uber, taxi, kiss&ride) focused around a pedestrian plaza.
- Banks Avenue to have a pedestrian and landscape focus, de-prioritise car park movements in favour of pedestrian access and shared mobility drop-off, with a visual connection to the golf-course.



### 5. Heights to relate to adjacent context

- Low level street wall fronting Bunnerong Road to make an appropriate transition to the adjacent residential neighbourhood.
- Taller built form (up to 59 metres) set back behind the street wall.
- Iconic commercial building (up to 40 metres) marking the corner of Bunnerong Road with Wentworth Avenue.



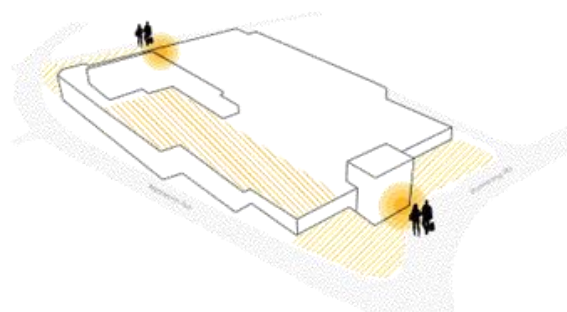
### 6. Strengthen green buffer

- The existing green buffer aligns with the original vision for Westfield Eastgardens.
- Retain and strengthen green buffer along Wentworth Avenue, Bunnerong Road corner and Westfield Drive.
- Extend the landscape experience inside the centre.

### 4.3 Evolution of Design

Key Design moves developed following engagement with Bayside Council

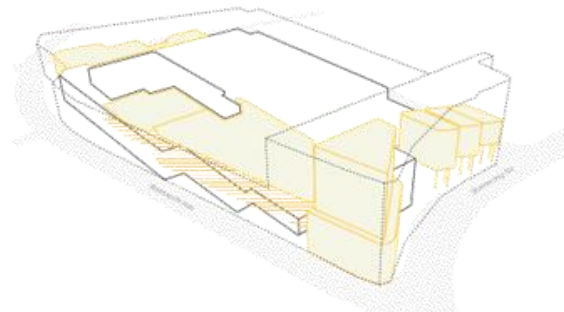
1



#### Revitalise Each End

Expand the centre at the eastern and western ends and within the southern car park where the external interface with the surrounding context can be improved and impact to existing retail tenancies can be avoided.

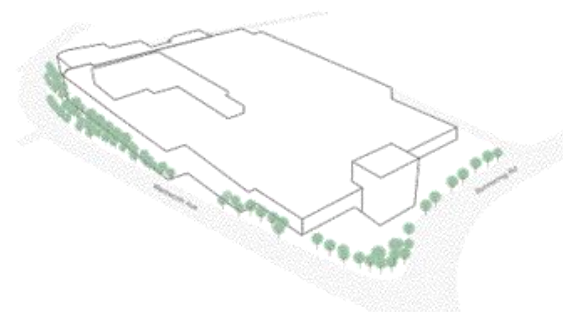
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#### Reconsider Previous Planning Proposal

The previous planning proposal lodged in March 2018 sought approval for new development up to 70m for the full frontage of Bunnerong Road, and new development fronting Banks Avenue and along Wentworth Avenue with a 34m maximum height provision.

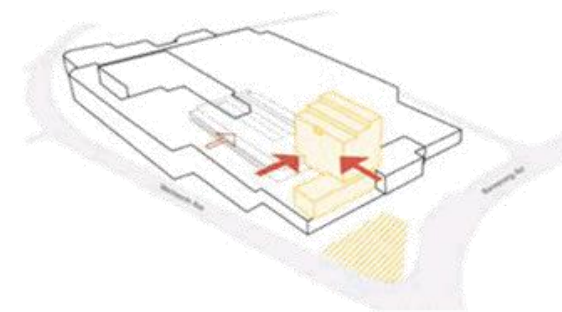
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#### Retain Vegetation Buffer

Ensure that new development implements appropriate front and side setbacks to retain the existing green vegetation buffer which is highly significant in providing visual and ecological amenity to the site.

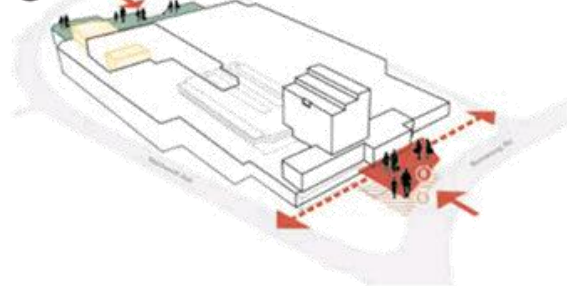
4



#### Minimise Impact of Tower and Car Park

Push the proposed commercial tower further back onto podium with greater setbacks and a slimmer east-west footprint to minimise its visual and overshadowing impacts. Provide provision for potential future multi-level car parking on top of the existing car parking, setback from the existing building edge.

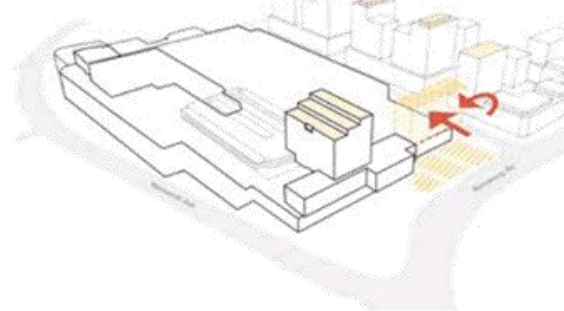
5



#### Create Active Arrival Hubs

Revitalise the eastern front door entry with externalised retail, an active new plaza, and improved integration with the bus terminus and taxis over two levels. The western front door is also proposed to be revitalised with an expanded entertainment and leisure precinct complete with an accessible rooftop.

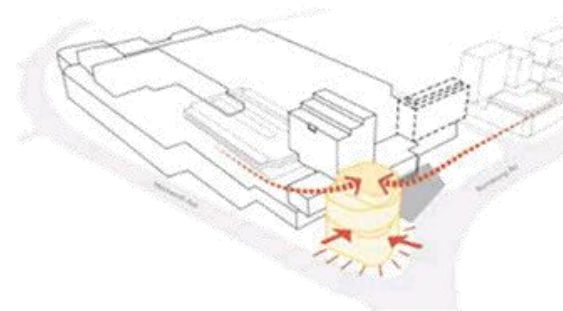
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#### A Defined Front Edge

Rotate proposed built form (future stage) and push further back onto the podium to complete the urban block and create a more viable east-west oriented footprint. Align heights to relate in context to the strategy adopted by the adjacent Meriton development.

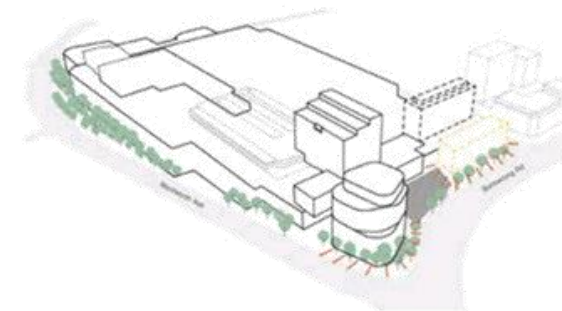
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#### Activate the Corner

Define the street with an iconic new corner building that transitions in height from the adjacent Meriton residential neighbourhood and supports commercial and/or medical and civic uses and active ground floor uses fronting the public space.

8



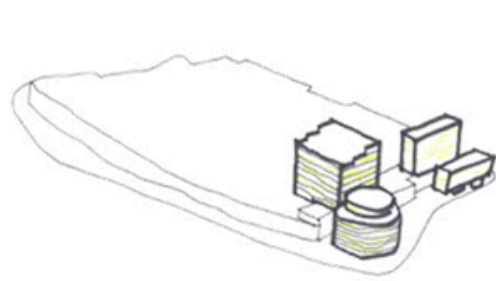
#### Complete the Street Wall Condition

Future development at the north-eastern corner of the site (future stage) would complete the street block, relate in height to the adjacent Meriton residential neighbourhood and provide further activation and definition of the public space.



## Evolution of Design

### Built form justification\_ Why height is proposed for Westfield Eastgardens

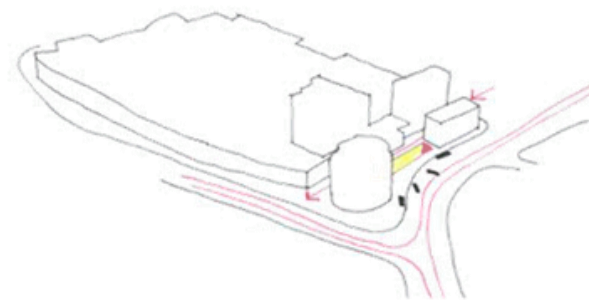


#### 1 A strategic centre should maximise employment and services for a growing population in appropriate locations

- A variety of employment opportunities ensure jobs growth for the centre, particularly in office jobs.
- The role of the Eastgardens-Maroubra Junction as outlined within the Eastern City District Plan is to protect capacity for job targets and a diverse mix of uses to strengthen and reinforce the economic role of the centre; leverage future public transport connections; and promote place making initiatives.
- Job targets for the Eastgardens-Maroubra Junction strategic centre = 1,100 to 2,100 additional new jobs by 2036.
- Limited opportunity for commercial office redevelopment within the Maroubra Junction local centre under the current controls and block sizes, and given previous residential development that makes redevelopment not feasible.
- If approved, this planning proposal has the potential to generate an additional 900-1,100 new retail jobs (full-time and part-time) and 950-1,200 new commercial office jobs.

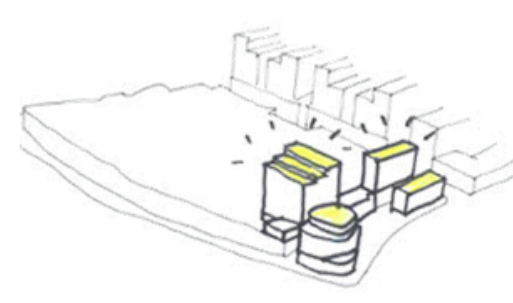
#### Central District Job Target

Centre	2016 Estimate	2036 Baseline Target	2036 Higher Target
Eastgardens-Maroubra	6,900	8,000	9,000



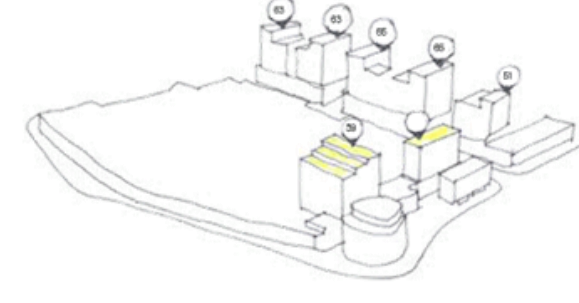
#### 2 Height is focused around a transport interchange

- The cluster of height at the eastern end is served by multiple bus routes, and an interchange accommodated within the proposal.
- Bus routes run along Bunnerong Road to the east and Westfield Drive to the north and connect with Maroubra Junction, Bondi Junction, UNSW and the City.
- Discussion and preliminary feasibility studies have been undertaken for the CBD to South-East light rail route to be extended with a stop at Bunnerong Road, although nothing has been confirmed. Any future extension will have the potential to provide further transport options at this interchange.
- Within the Strategic Plans, the Eastgardens and Maroubra Junction are located along a future "city shaping corridor" – a high capacity, high frequency public transport route providing access to Sydney CBD by 2056. Rapid bus has been earmarked for investigation in the 0-10 year time period, while light rail extension to Maroubra Junction and a Metro train link to the south east is identified for a 10-20 year time period.



#### 3 The site will read as distinct from the Meriton Pagewood Green development

- A variety of building types, uses and scales will distinguish the proposal at Westfield Eastgardens as a clear mixed use town centre, distinct from the Meriton residential precinct.
- The area is changing. The Meriton high density residential precinct (currently under construction) is developing new residential towers up to 20 storeys in height (about 68 metres above ground level). The proposed development on the Westfield site will relate in scale to the adjacent development, and sit below the taller Meriton towers (the proposal for Westfield Eastgardens has a maximum height of 59 metres above ground level).
- A clear focal point for the town centre is created on the Bunnerong Road frontage of the Westfield site by the variety of proposed land uses and active pedestrian plaza above the improved bus interchange.



#### 4 The proposed height looks acceptable

- Proposed building heights are in context with those approved on the Meriton site, and look acceptable in the context of the strategic centre.
- The maximum tower height proposed at Westfield Eastgardens (59 metres) is below the maximum height being delivered at the Meriton site (68 metres).
- The proposed tower is setback a minimum 35 metres from the street boundary which mitigates the visual impact from the edges.
- The edge buildings proposed along Bunnerong Road step down in height to relate to the mid-scale street wall height being delivered at the neighbouring Meriton development. The proposed buildings along the Bunnerong Road and Wentworth Avenue frontage step up in height to 40 metres to mark the prominent corner.
- The wide road reserve dimensions of Bunnerong Road and Wentworth Avenue creates an appropriate buffer / separation to the low scale residential neighbourhood across the road.
- The upper levels of the proposed tower step down to the south to ensure overshadowing impacts to adjacent dwellings is reasonable.

## Evolution of Design

### Built form justification\_ Why height is in the locations proposed

#### 1 To mark the corner and create a prominent street address

- Highest form located on top of the existing centre on the corner but set back above the podium to minimise impact to its neighbours. Proposed for commercial offices, this prime location will create an appropriate commercial address with good exposure and a dedicated address / entrance at ground level.
- Lower scale iconic circular building proposed to further mark this important corner. The proposed building transitions in height from the adjacent Meriton site and supports commercial and/or medical and civic uses and active ground floor uses fronting the public space.



Proposed view from south-east

#### 3 To integrate with retail planning

- The proposed tower is difficult to accommodate above the existing retail majors, or along the primary circulation spine around which the centre has evolved and which its whole movement network is structured along.



Proposed Level 1 plan (bus interchange below plaza)

- The proposed location of the 59 metre tall commercial tower is also positioned to allow the base of it to be sleeved by specialty retail with lobby access off the publicly accessible plaza.



Proposed Level 2 plan (plaza level at Bunnerong Road)

#### 2 To activate the plaza with retail and lobbies addressing the public domain

- Retail and lobbies will form a cluster of activity along the proposed new plaza and internal street.
- The proposed new buildings have all been positioned to allow their lobbies to have a clear and legible street address off the internal street.
- Any further tower setback from the podium facing the plaza (than what is currently proposed) would have no address point and pose issues for wayfinding within the precinct with its access landing in the retail shops or car park.
- The entrance to the shopping centre sits at the midpoint of this new street.
- In between each of these entry points, fine grain retail and specialty retail is proposed to further activate the internal street and new plaza area.
- Proposed new non-retail uses to Westfield Eastgardens are to be accessible outside of centre opening hours. Locating the non-retail uses at the edges of the site ensures that this is possible and creates out-of-hours activation.

#### 4 To ensure generous setbacks to mitigate visual and overshadowing impacts

- The proposed taller commercial tower will be set back a minimum of 35 metres from the southern boundary. This is to reduce visual impacts and ensure that existing residential properties along Wentworth Avenue still achieve a minimum of 1 hour solar access to at least 50% of their frontyards in mid winter between the times of 9am to 3pm. This is in excess of current DCP requirements.
- The circular corner building is proposed to have upper level setbacks to also reduce the overshadowing impact.
- The proposed building setbacks are effective in ensuring that any visual impacts from the surrounding streets are mitigated.



## Evolution of Design

### Key changes to planning proposal

In developing the revised Master Plan proposal, key attention was given to:

- the quality of the public domain at ground level and opportunities to provide street level activation;
- opportunities to externalise some of the retail functions and improve the interface with the surroundings;
- investigation of appropriate locations for commercial floorspace in tower form;
- creation of an active street wall condition along Bunnerong Road;
- ensuring appropriate built form setbacks to maintain a comfortable relationship to the adjacent context and an adequate vegetation buffer;
- improved pedestrian entry points integrated with a safer and more legible connection to the bus and taxi drop-off/pick-up;
- future development potential at the north-eastern corner of the site.

#### The revised Master Plan:

- retains the proposal for the expansion of retail area and new rooftop garden at the western end of the centre fronting Banks Avenue;
- retains the proposal for the future provision of adequate car parking on site and expansion of retail area along the southern half of the centre;
- retains the proposal for a new commercial building up to a reduced height of 59 metres, and modifies the proposed massing to reduce the perception of building bulk and relocates it to a more suitable location deeper into the site;
- proposes a new publicly accessible plaza fronting Bunnerong Road which is defined by active ground floor uses and provides direct vertical connections to the bus interchange split over two levels;
- replaces the previously proposed 20 storey (70 metre) building on the corner of Wentworth Avenue and Bunnerong Road with a new lower iconic 8-10 storey commercial building (40 metre) marking the corner;
- retains provision for future development in the north-eastern corner of the site, but rotates the previously proposed massing to a more viable east-west facing orientation (this forms part of a future stage of development).

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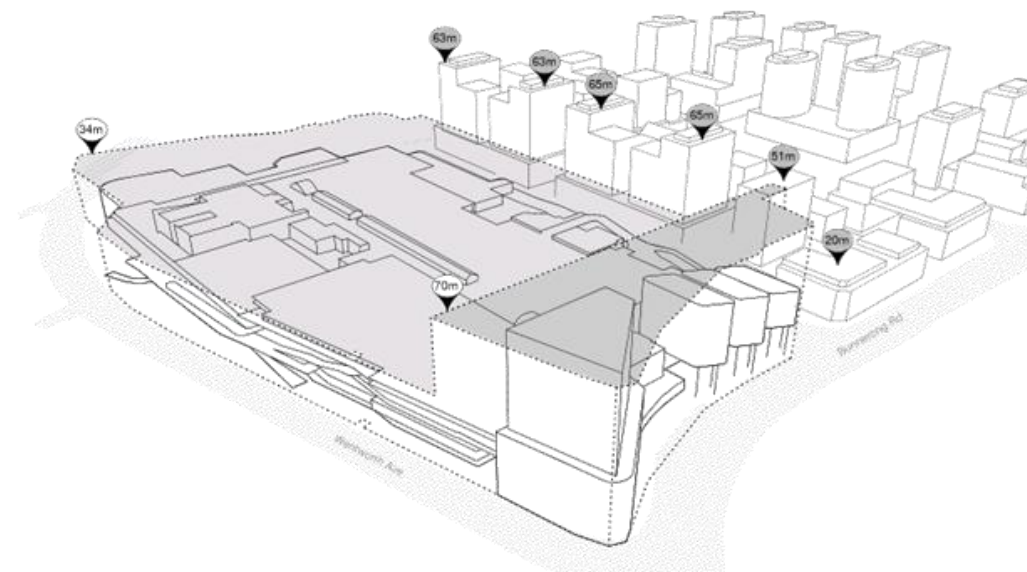
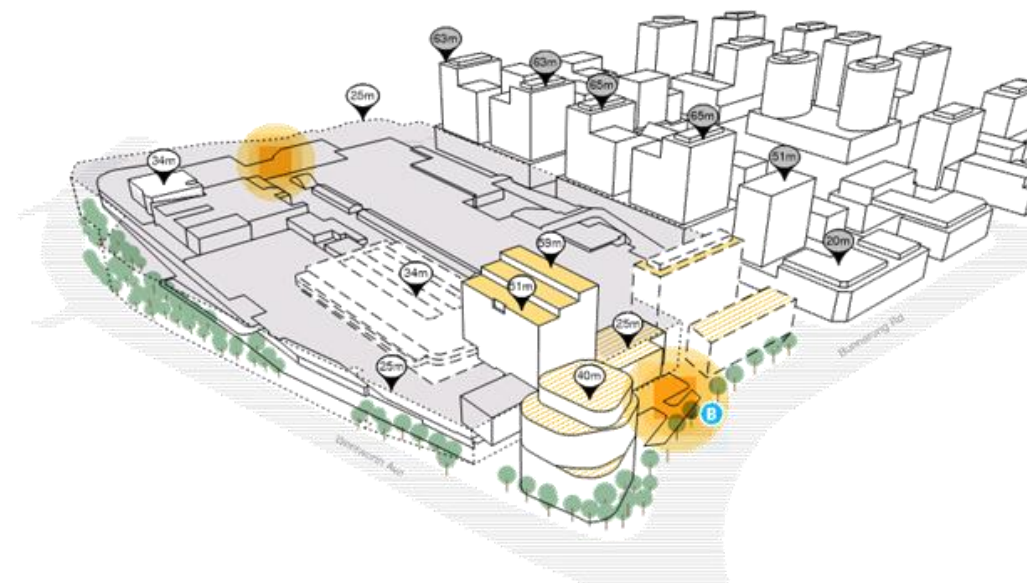


Diagram adapted from Previous Planning Proposal by Terrace Tower Group, Scentre Group and Woods Bagot



Proposed amendment to Planning Proposal

Amendments sought in previous Planning Proposal lodged March 2018

FSR - 1.7:1

Height - Part 34m / Part 70m

Zoning - no change

Amendments sought in the revised Planning Proposal

FSR - 1.8:1

Height - Part 34m / Part 40m / Part 59m / Remainder: no change at 25m

Zoning - no change

#### Legend

- Proposed heights in metres
- Building heights (in metres) as per approved Meriton plans, dated 7/8/15
- Potential future built form (excluded from proposed FSR)









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## 5 Proposed Master Plan

Based on the vision and principles established for the site, we have developed a staged master plan, with a focus on the renewal of the eastern end of the centre and the interface with the Bunnerong Road address.



## 5.1 The Master Plan

# A new front door to Westfield Eastgardens

The master plan delivers:



+64,800sqm of new commercial core GFA including retail, A-grade office, innovative co-working space, gym, childcare, & medical services.



Expanded retail and an upgraded entertainment and lifestyle offer with a rooftop garden.



A new front door to Bunnerong Road and Banks Avenue, each with their own purpose and character.



Externalised retail interfaces to a new civic plaza and evolving neighbourhood.



An upgraded bus terminus with additional capacity and improved experience for the 12 bus routes servicing the site.



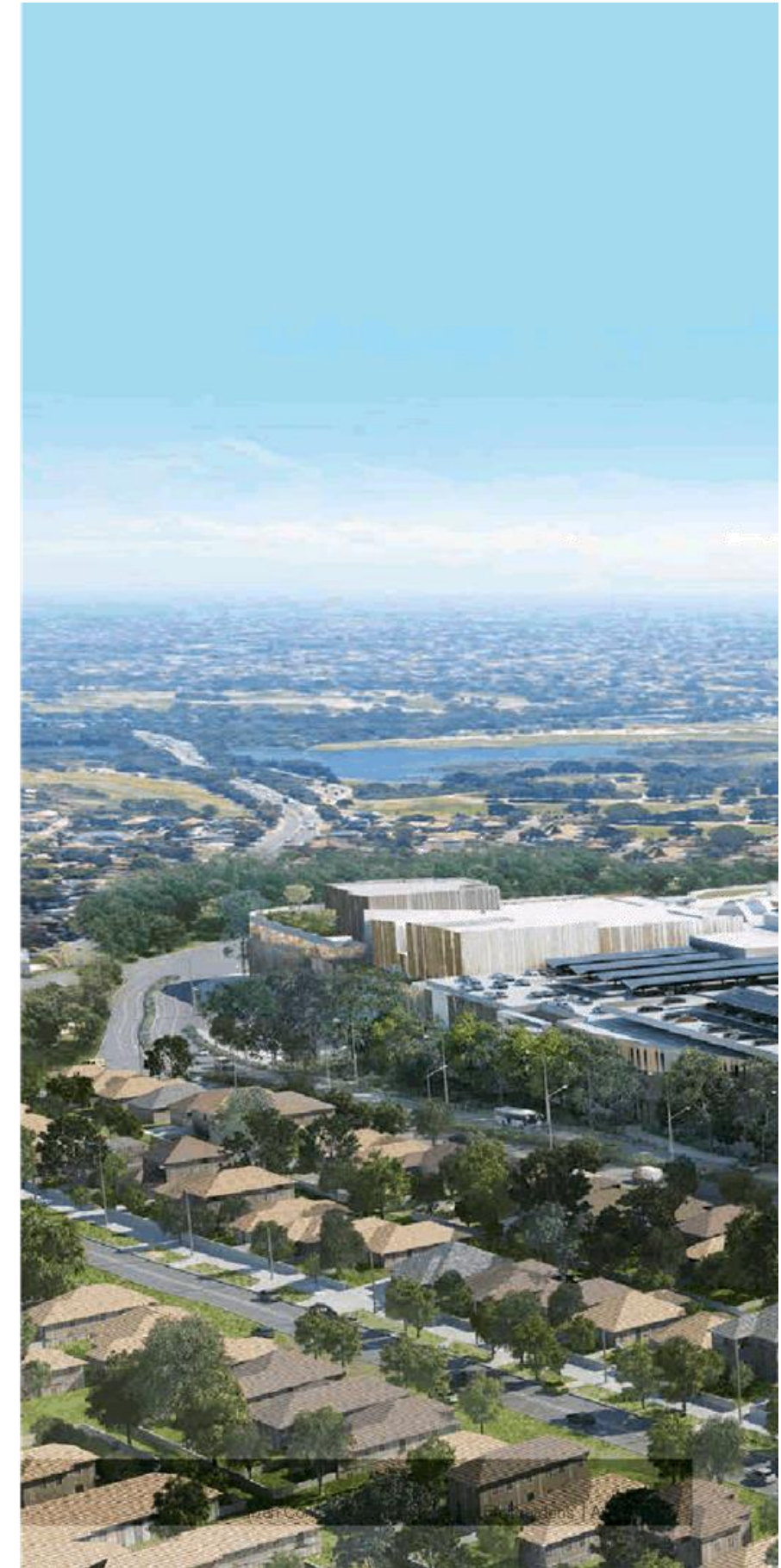
950 – 1,200 commercial jobs  
900 – 1,100 retail jobs.



A response to the wide range of mixed use amenities and services desired by the growing community beyond the 9-5 workday.



Future development opportunity for student accommodation and services to promote vibrancy, innovation and support the Randwick collaboration area.









## The Master Plan

### An urban oasis

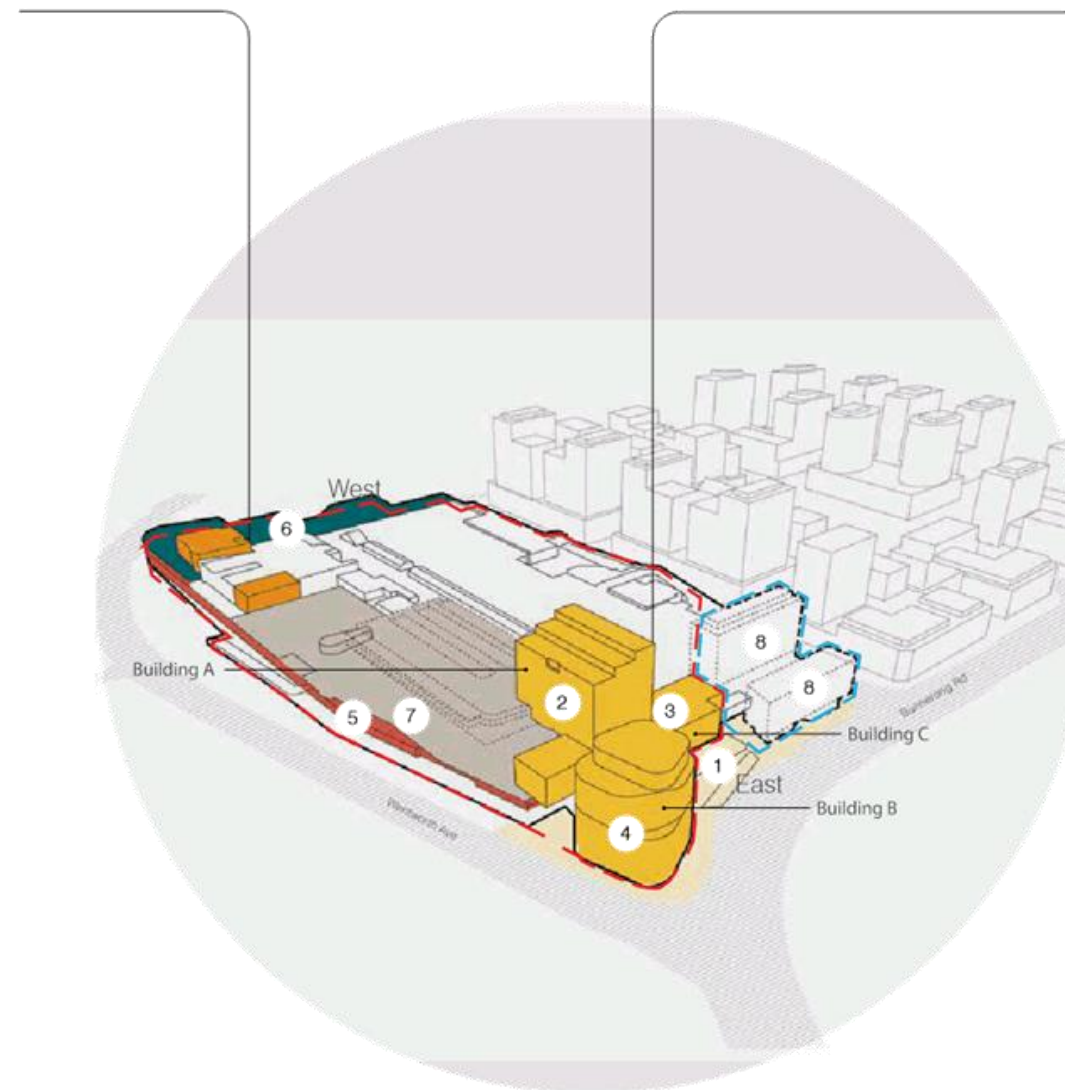
#### Western address

The western end will be a retail, dining and entertainment destination.

- The existing fresh food offer will be recreated as a vibrant marketplace
- A series of vertically landscaped terraces will offer new restaurants and eateries rising up through the building to an expanded cinema complex that will anchor additional entertainment options. Stairs and escalators from street level will promote a vibrant destination that can trade into the evening for the local community.
- Landscape will be a focus of the precinct, visually connecting with the golf course and providing a variety of interactive green spaces from ground to roof-top for shoppers, diners and movie goers to enjoy.
- The applicant has held an international expression of interest for experienced operators to run an urban farm on the rooftop, and this will be explored in more detail as the design and planning progresses.

#### Legend

- Current Planning Proposal
- Future Planning Proposal Stage
- New retail
- New carpark
- New commercial
- Proposed civic plaza
- Proposed rooftop garden, restaurants and entertainment, potential urban form
- Proposed cinema expansion
- Future built form



### Live, work & play

#### Eastern address

The focus of the eastern end of the centre is a new commercial office precinct with active streetscape and public domain interfacing with the public transport interchange on Bunnerong Road.

- Fine grain frontages including retail and food and beverage tenancies and building lobbies will transform the centre's address from internalised to an active street frontage which continues the street wall established on the Meriton Pagewood Green development.
- A publicly accessible plaza will be the focus of the eastern entry. Landscaping will provide a buffer from Bunnerong Road traffic, and trees will provide amenity and shade to the space. It will be a vibrant space activated on the edges by food and beverage tenancies, outdoor seating and kiosks which will provide an improved public transport experience.
- The bus interchange is arranged over two levels. North-bound buses will be accessed via a kerb-side stop on Bunnerong Road, while south-bound buses are located below the plaza on L1. Escalators located in landscaped lightwells will provide a visual and physical connection between levels and drop daylight down to the lower level.
- In addition to ground level retail, building uses proposed in this precinct include mixed use commercial, community, health and wellness, and future stage buildings with potential for education, student accommodation or hotel use.



## The Master Plan

**Civic Plaza & Bus Interchange**

The new plaza at the eastern entry will be an active landscaped space with externalised retail and seating areas. Landscaped lightwells provide access down to the level 1 bus concourse.

**Commercial- A-grade office**

A new commercial tower is set back from the street above the retail podium and will provide approximately 11,630sqm of large floorplate commercial space (GLA), and an employment focus for the centre.

**Commercial- Flexible workspace**

Flexible shared workspace/serviced offices will be accommodated in the refurbished and expanded existing commercial tower. The enlarged floorplates of approximately 1,600sqm (GLA) will add 2,840sqm to this building (GLA).

**Commercial and Civic**

An iconic building will be located on the corner of Bunnerong Road and Wentworth Avenue and will provide approximately 9,530sqm (GLA) of mixed commercial, medical and civic floorspace that provides services to the local community.

**Retail Expansion**

By expanding into the L2 car park, a new 'loop' mall will be anchored by international fast fashion brands and new fashion, beauty and accessories specialty retail that is currently missing in the trade area.

**Entertainment and Lifestyle Food Precinct**

A series of landscaped platforms accessible from the ground plane will deliver a vertically connected edge for fresh food, casual dining, restaurants and entertainment. The focus will be on the connections with the outdoors and rooftop dining that overlooks the golf course and enjoys sight lines to the Sydney CBD skyline.

**New Carpark Deck**

New parking will be provided for the increased GLA developed on the site in the form of new mezzanine parking levels. Photovoltaic cells are proposed on car parking shelters to provide shade and to offset part of the site's energy requirements.

**Future Development Stage**

Future buildings will complete the Eastern end master plan with an active edge along Bunnerong Road continuing the street wall established on the Meriton site and a new building above the retail podium activating the new internal shared way along the eastern frontage. Target uses are student accommodation, build-to-rent and hotel.



## The Master Plan

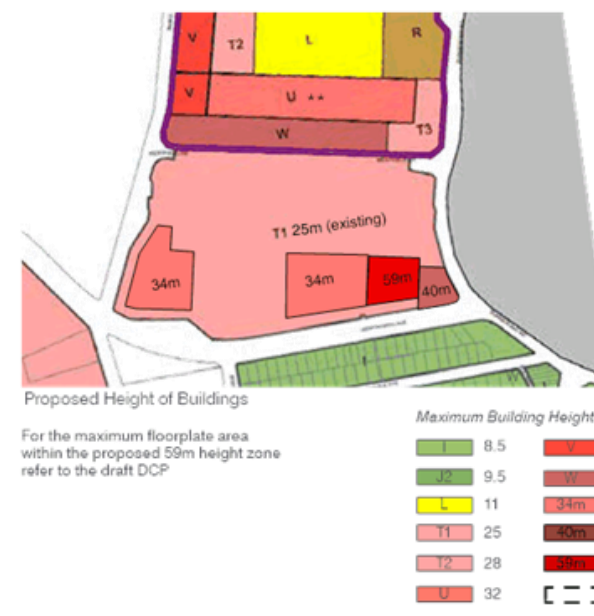
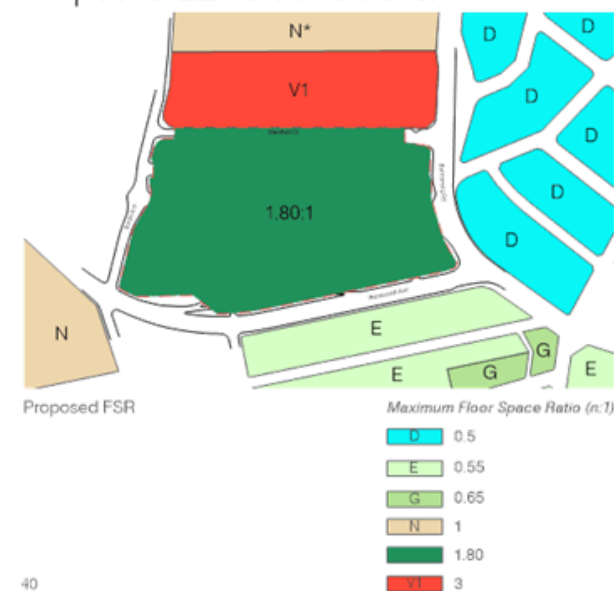
## Indicative Area Schedule

Description	Tower	Floorplate (GLA)	Incremental GFA (sqm)	Efficiency	Incremental GLA (sqm)
<b>Retail</b>					
Incremental retail	n/a	n/a	37,500	n/a	27,500
<b>Commercial</b>					
9 + 1 x part commercial storeys above retail mall (+ 1 x plant storey)	Tower A	~1,220sqm	13,000	89%	11,630
8 + 2 x part commercial storeys above basement	Tower B	~1,000sqm	11,000	87%	9,530
Enlarged floorplate of existing 4 commercial storeys above retail mall	Tower C	~1,600sqm	3,300	86%	2,840
Sub-total incremental commercial			27,300		24,000
Total incremental reference scheme			64,800		51,500

## FSR calculation

Existing GFA	99,400
Incremental GFA	64,800
Completion GFA	164,200
Site area	92,900
Completion reference scheme FSR	1.77:1
Requested FSR	1.80:1

## Proposed LEP amendments

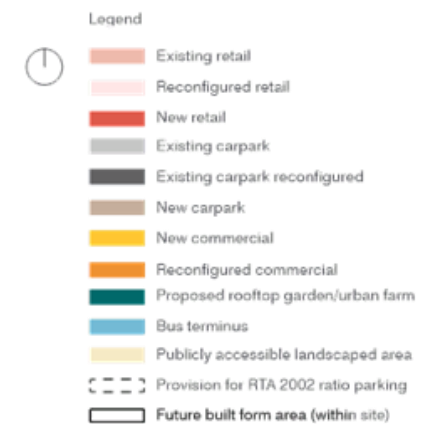
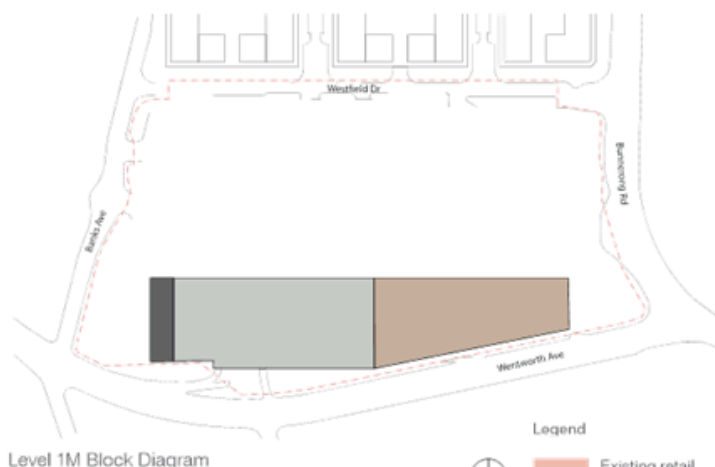
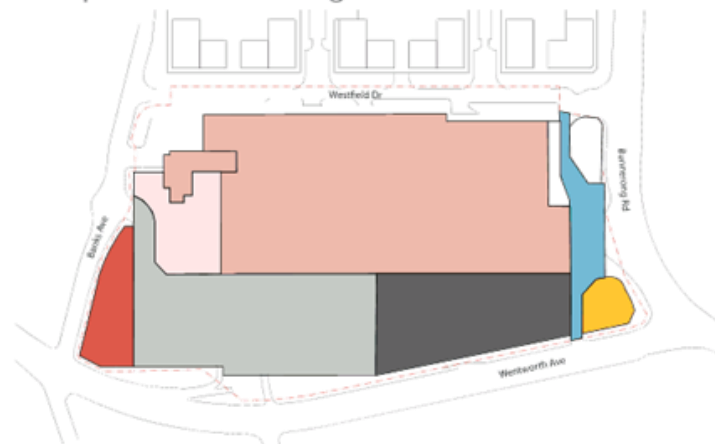


## Note:

\*FSR for Stage 2 Meriton site redevelopment has now been approved through Council to be 2:1 (awaiting gazettal)

\*\*LEP maximum building heights for the Stage 1 Meriton site are less than the approved building heights as per the NSW Land and Environment Court Proceedings No. 20730/14, Dated 7/8/15 (refer to Appendix B)

## Proposed Block Diagrams





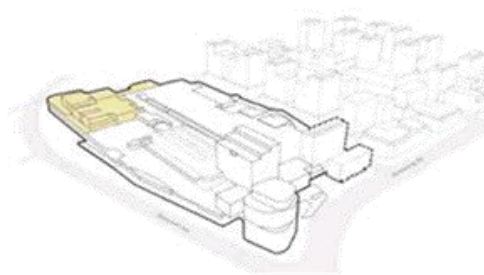
The Master Plan



## 5.2 The Master Plan - West Precinct

### Western end

The master plan envisages a new fresh food, dining and entertainment precinct along the western edge. With views over the golf course and to the city beyond, this series of landscaped indoor-outdoor spaces will become a place for the community to gather and enjoy.



**Terraced Landscaping**  
The dining and entertainment precinct will be connected to the ground plane via a series of landscaped terraces linked by vertical circulation, and with opportunities for indoor-outdoor spaces overlooking the golf course.



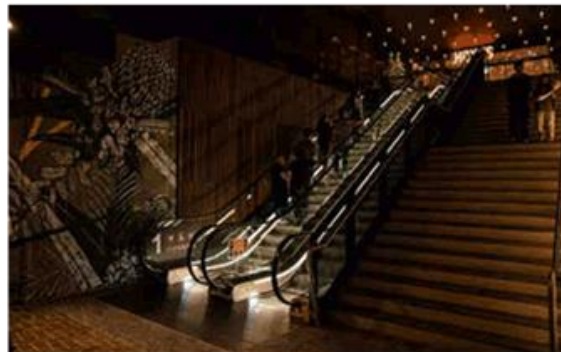
**Dining and Entertainment Precinct**  
Casual and formal dining will be the focus of the western end of the centre. The precinct will be a major attractor for the community offering a wide variety of dining options at a variety of price-points. Restaurants and food courts will capitalise on the landscaped terraces to provide a relaxed, green, recreational space.



**Terrace and Roof-top Restaurants**  
A mix of indoor & outdoor space creates a viable destination for casual meals or special occasions contributing to evening activation for the centre, and provides an opportunity for the community to enjoy vistas of the golf course and city skyline beyond.



## The Master Plan - West Precinct



## Cinema Expansion

The existing cinema is an activity hub of the centre and an expansion will allow for a new offering such as Lux premium seats and tailored kids seating. Cinemas remain important anchors for night time vibrancy and additional entertainment options.



## Urban Farm

The roof-top provides the opportunity for an urban farm operator to produce food locally for a farm-table experience within the centre. It also has the opportunity to provide educational and recreational farming activities for the local community and schools.

## Car Parking

Additional parking is proposed at levels 3M and 4, at the south and east of the site. Future car parking in addition to this- the extent of which will be determined through consultation at DA stage- could be located above this and set back from the podium edge to reduce visual impact.

- Additional car parking will be provided to compensate for the spaces lost for the Level 2 retail expansion and to support the additional retail and office GLA. The final provision will be resolved at DA stage based on occupancy modelling of the existing car park and a development overlay. Much of the new retail will be experience-based offers (verse goods) that are more viable for non-car transport options.
- An extra envelope has been included for four additional mezzanine parking levels if the Applicant is required to provide parking based on the 2002 RTA guidelines. The RMS now consider these ratios out-of-date given the progress in car park data collection and modelling. The Applicant expects that this additional parking will not be required once reliable data is available for modelling since the introduction of ticketless parking (launched December 2018).



## Future car parking

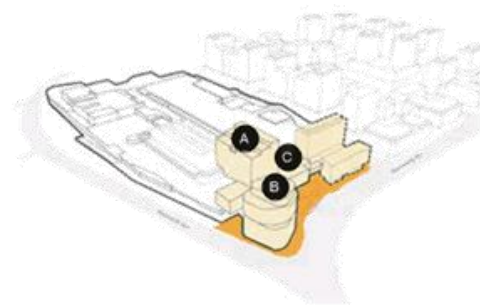
Car park walls will be naturally ventilated and clad in high quality materials such as timber battens, or painted with large-scale public art murals



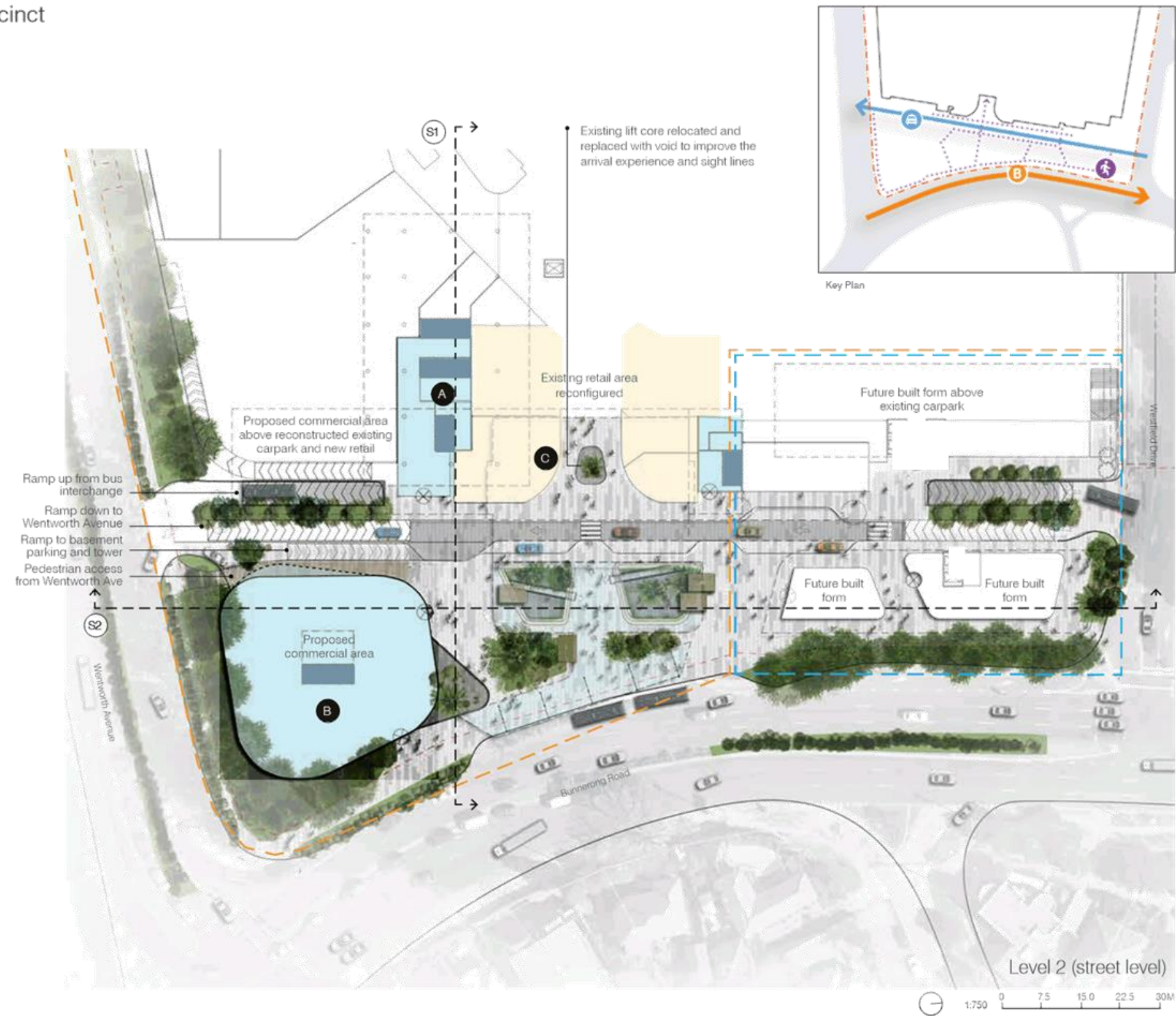
### 5.3 The Master Plan - East Precinct

#### Eastern end

The master plan provides a re-imagined address fronting Bunnerong Road, centred on an active publicly accessible civic plaza. This plaza will be open to the sky with high quality landscaping, and be integrated with a new shared street and upgraded bus terminus providing improved access to the centre.



- Legend
- Current Planning Proposal
  - Future Planning Stage
  - Existing trees retained
  - Proposed feature tree planting
  - Shrub and ground cover
  - Feature plaza paving
  - Shared zone / vehicle drop off / pick up



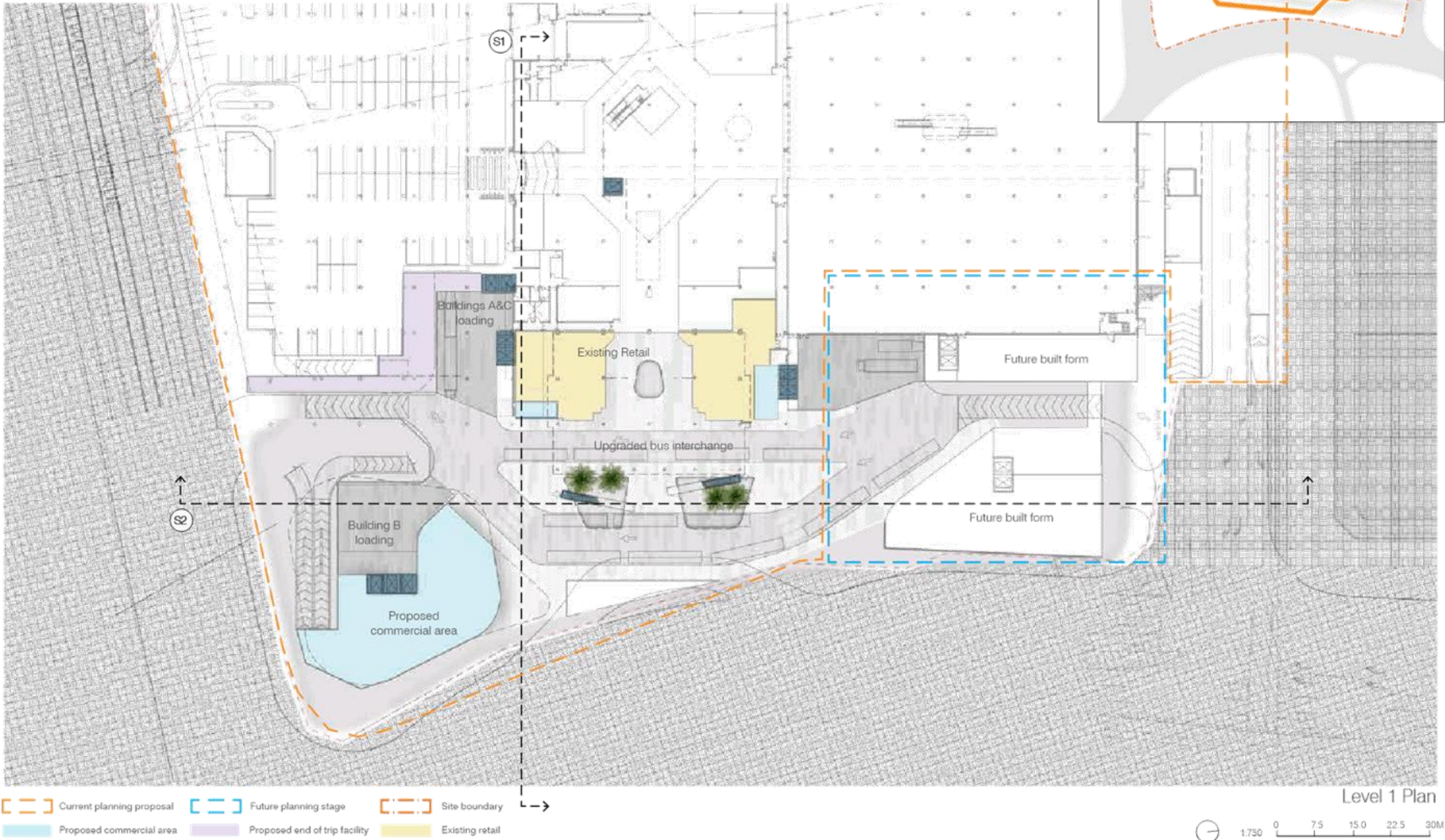






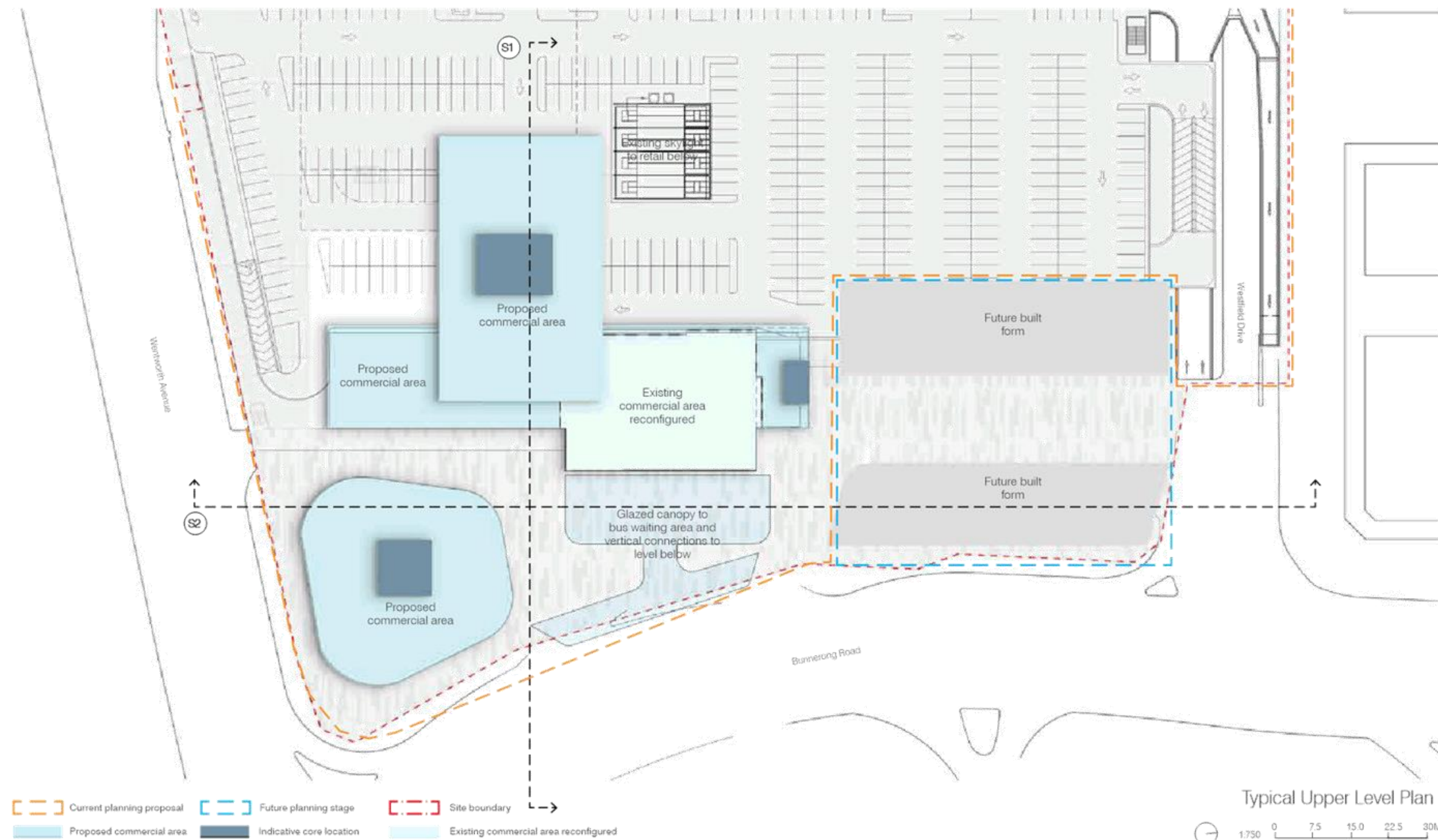
The Master Plan - East Precinct

Indicative Floorplans





## The Master Plan - East Precinct



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## The Master Plan - East Precinct

## Indicative Sections

## Section 1



Vertical transportation provided between Levels 1 and 2 will link the two levels of the bus terminus, and retains operating efficiency for both north and south bound buses. Landscaped light-wells drop daylight into the lower level.





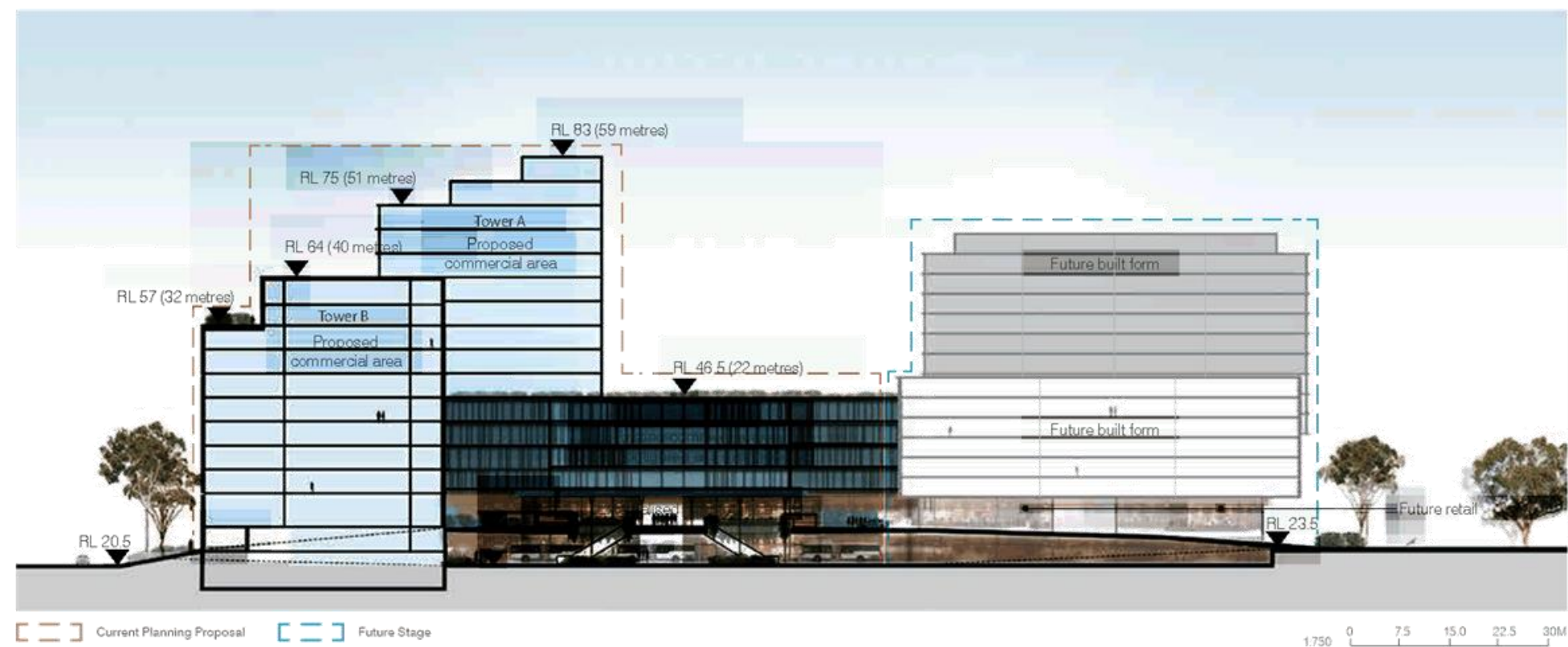
## The Master Plan - East Precinct

## Indicative Sections

## Section 2



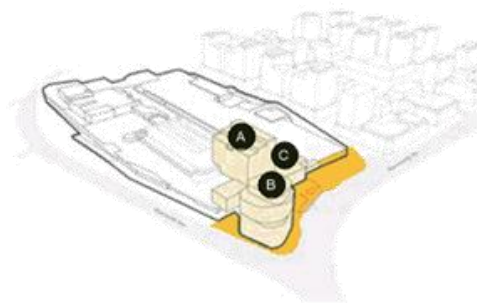
Vertical transportation provided between Levels 1 and 2 link the two levels of the bus terminus and plaza



## The Master Plan - East Precinct

## Current Planning Proposal

The master plan provides flexibility to allow the current planning proposal to be realised prior to the future planning stage. The existing driveway access off Westfield Drive for buses and taxis can be retained at Level 1, with new escalators and lifts providing direct pedestrian access up to the proposed publicly accessible civic plaza at Bunnerong Road.



- Legend
- Current Planning Proposal
  - Zone of future planning stage - existing condition retained in Stage 1
  - Existing trees retained
  - Proposed feature tree planting
  - Shrub and ground cover
  - Feature plaza paving
  - Shared zone / vehicle drop off / pick up

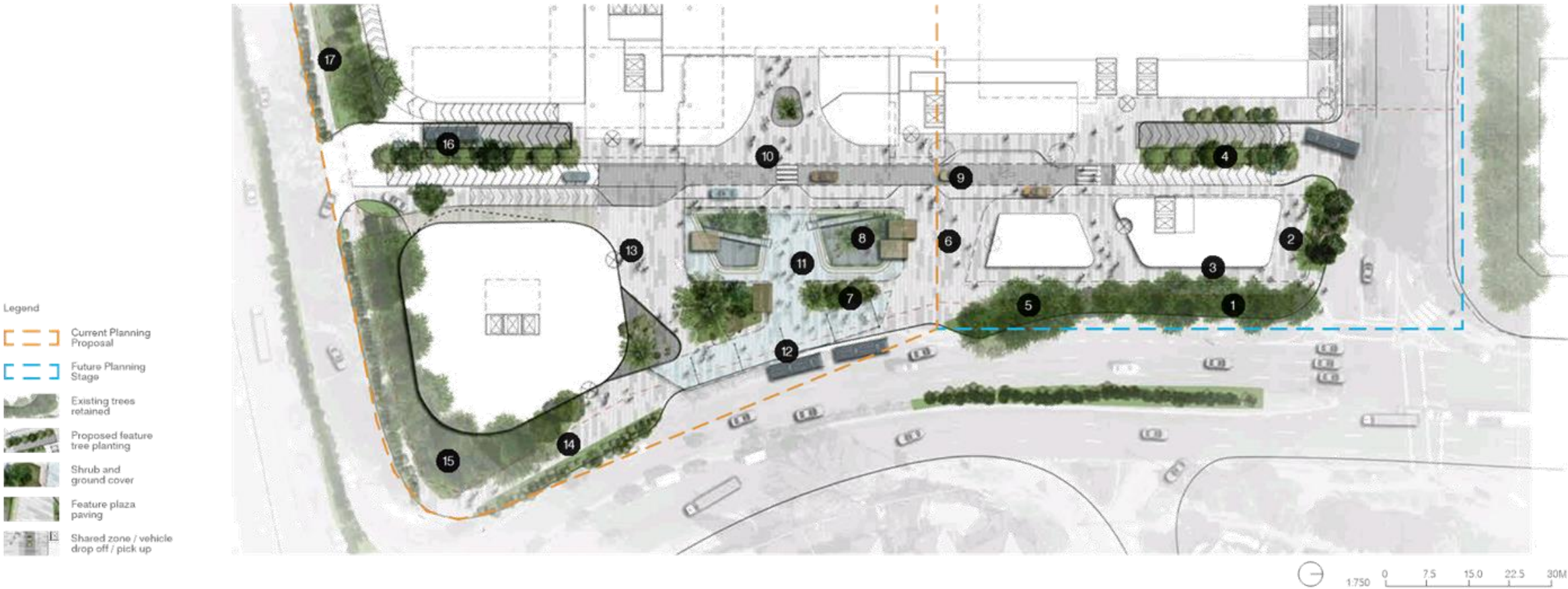








5.4 Landscape Strategy



Landscape Design Statement

The proposed plaza and bus terminus at the Bunnerong Road frontage of Westfield Eastgardens will provide a new high quality street address for the centre. By re-organising the existing bus terminus and eastern end of the shopping mall the proposal creates a significant pedestrian focussed space set back from the busy road.

High quality paving, planting, street furniture, lighting and public art will combine to create an attractive and green environment for people to arrive, depart, meet, shop and dine. A key aspect of the proposal will be the retention of existing mature trees along Bunnerong Road and Wentworth Avenue within generous landscaped verges that offer visual amenity, protection and separation for pedestrians.

Key Features:

- 1 Existing mature trees along Bunnerong Road retained with new planting to provide an attractive landscape buffer between pedestrians and traffic.
- 2 Ground floor retail with space for outdoor seating to activate the corner of Westfield Drive and Bunnerong Road.
- 3 Pedestrian footpath set back from Bunnerong Road behind landscape buffer (minimum 2 metres) with weather protection from above.
- 4 Tree planting in raised planters to soften basement and vehicle ramp access.
- 5 Feature native tree and shrub planting along Bunnerong Road frontage.
- 6 Paved plaza space with ground floor retail and cafe spill-out spaces.
- 7 Raised planter beds with sculptural seat edges and native feature tree and shrub planting.
- 8 Voids to lower level bus terminus to be landscaped with hanging ground-covers/climbers and lower level shade tolerant gardens.
- 9 Shared zone paving emphasises pedestrian priority whilst allowing for taxi/ride-share pick-up/drop-off.
- 10 Pedestrian crossing on key desire line into the shopping centre.
- 11 Feature glazed canopy provides shelter, lighting and an opportunity for public art.
- 12 Northbound bus bay.
- 13 Plaza area with ground floor activation and spill-out from lobby cafe.
- 14 Improved pedestrian footpath and verge planting.
- 15 Existing mature trees to the boundary of Bunnerong Road and Wentworth Avenue retained with additional native tree and shrub planting.
- 16 Tree planting in raised planters to soften basement and vehicle ramp access.
- 17 Existing mature tree planting retained along Wentworth Avenue to maintain landscape buffer



## Landscape Strategy



### Materials and Furniture

High quality hard landscape materials will be selected to create a tactile and pedestrian focussed plaza space. Unit paving will extend over vehicle surfaces to indicate a slow speed environment for drop-off and pick-up movements.

Multiple seating opportunities will be created using sculptural benches and seat walls along planter beds as well as flexible furniture that can accommodate cafe spill out and 'alfresco' dining.

Street furniture such as bins, bollards, signage and lighting will be designed to minimise clutter and leave spaces free for pedestrian movement and activity.

### Planting Strategy

The soft landscape has been designed to make the most of existing mature vegetation supplementing this to create a lush green space that provides sanctuary from the busy surrounding road environments.

3 planting typologies are proposed including:

#### 1. Native Coastal Landscape Buffers

These include the existing mature trees along Bunnerong Road and Wentworth Avenue. The trees will be retained within generous verges that will be planted with hardy native tree and shrub species.

#### 2. Feature Raised Planters

Sitting within the plaza the planters serve to break up the space with attractive, dense and green textured layers of foliage and flowering plants. The raised edges allow for sculptural seat walls where people can rest, meet or wait for transport.

#### 3. Temperate Rainforest Light Wells

These spaces allow light and pedestrian access to the bus terminus and south bound buses below. Ground covers will fall down from planter boxes at the plaza level while lush gardens will spring from the level below reaching back up towards the light.



## 5.5 Architectural Character, Materials and Finishes

### Proposed Materials

High quality materials and finishes will be selected for buildings and structures surrounding the eastern entry plaza.



**Tower A: A-grade commercial building**  
A high quality A-grade office tower with floor plates of approximately 1,220 sqm (GLA) and a curtain glass facade. The building is setback a minimum 35 metres from the southern boundary to minimise shadow impacts.



**Tower B: Mixed use cultural, community and commercial building**  
Occupying a significant position on the corner of Wentworth Avenue and Bunnerong Road, the mixed use building will be an iconic statement that marks the corner. The ground floor will have a reverse level setback to increase the public domain around the entrance and civic plaza, and to increase pedestrian permeability around the whole perimeter. It will be constructed of a palette of high quality materials including a curtain glass facade.



**Building C: Enlarged existing commercial**  
The existing commercial floorplate will be enlarged to approximately 1,600sqm (GLA) and clad with external blades to soften the materiality of the existing building and respond to the human scale at its low height.



**Canopy**  
A sculptural glazed canopy is proposed to provide shelter over parts of the plaza, particularly between the bus stop and the entry to the centre, as well as over the escalator voids to the bus terminus below. Whilst it is shown as clear glass for clarity in the indicative computer generated images (CGI's), there will be sun-shading built in to the detailed design.



**Kiosks**  
Kiosks in the plaza will provide retail opportunities activating the space. They are proposed to be single storey flexible, operable timber clad structures located below the glass canopy.



**Public Art**  
There is an opportunity to commission public art for the plaza that draws on the indigenous heritage, the coastal location and the industrial uses of the port precinct.



Architectural Character, Materials and Finishes





## 5.6 Westfield Drive interface / activation strategy

### Role of Westfield Drive

Westfield Drive has performed a critical role in loading and servicing the centre since its original construction in 1987, and also assisted in loading of the previous BATA industrial site. In the last three years the redevelopment of the former industrial BATA site to a high density residential neighbourhood has resulted in an emerging use of Westfield Drive for pedestrian access to the bus interchange and retail services. This was not contemplated in the original design and construction, nor was it considered or addressed as part of approving the Meriton residential development. This dual function now presents some changing community expectations and pedestrian conflicts that the Westfield applicant is being requested to address.

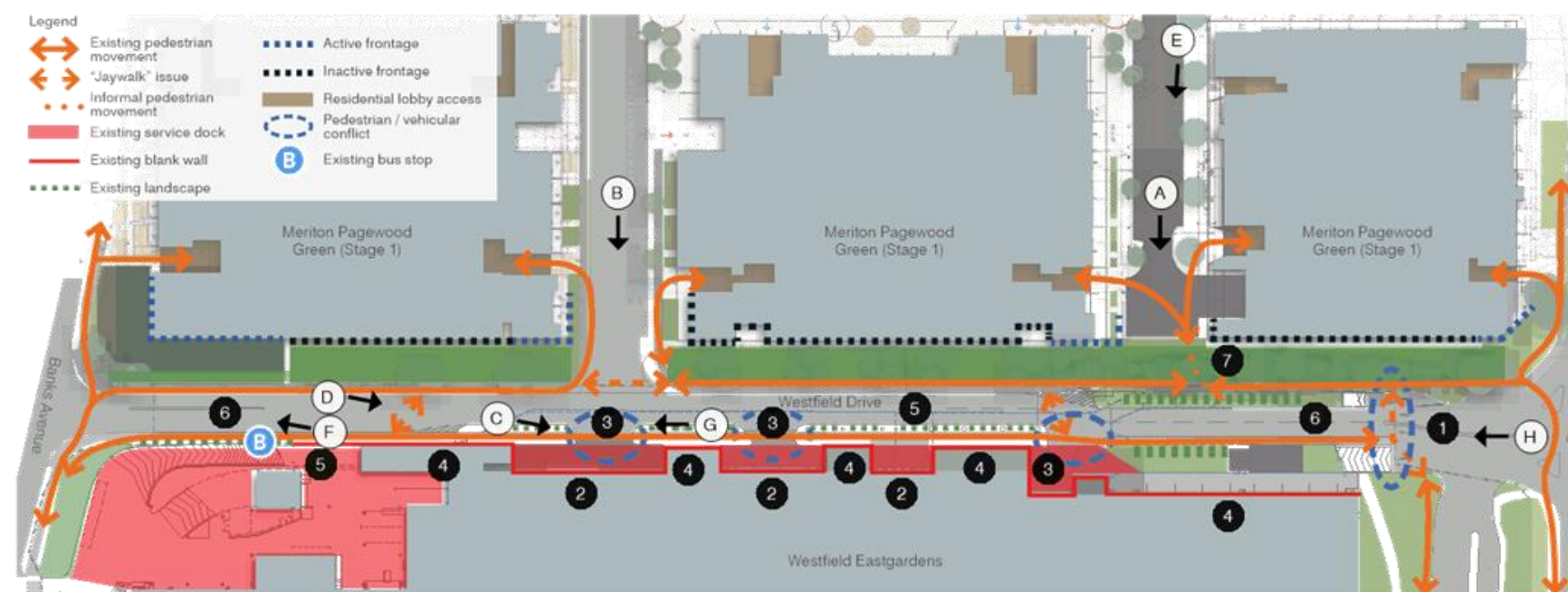
#### Existing conditions and observations

While vehicle traffic is low, vehicles tend to move at high speeds. In addition, pedestrian amenity is low with few opportunities to cross Westfield Drive and circulate north-south. While the existing loading docks are essential to the operation of the shopping centre, they present a blank interface to the street and create potential conflicts between truck and pedestrian movements. It is important that the pedestrian amenity and safety of Westfield Drive is improved.

The existing condition along Westfield Drive is illustrated in the adjacent photographs.

#### Key issues

- 1 Existing footpath layout influences pedestrians to cross Westfield Drive towards the bus interchange at the bottom of carpark ramps presenting safety issues.
- 2 Loading dock area visible from public domain.
- 3 Potential for pedestrian and loading truck conflict at loading dock entry.
- 4 Blank walls present a hard interface to the pedestrian footpath.
- 5 Existing landscaping is sparse along footpath.
- 6 Traffic often travels at high speed along Westfield Drive.
- 7 Lack of path from the Meriton internal street to the footpath results in an 'ant trail' through the landscaped verge of the Meriton site.



Existing Westfield Drive plan





Westfield Drive Photographic Elevation Part 1

Westfield Drive Photographic Elevation Part 2

Westfield Drive Photographic Elevation Part 3



Westfield Drive - Overall photographic elevation



Westfield Drive Photographic elevation - part 1



Westfield Drive Photographic elevation - part 2



Westfield Drive Photographic elevation - part 3

## Key issues

- 1 Existing footpath layout influences pedestrians to cross Westfield Drive at the bottom of carpark ramps presenting safety issues, particularly across the 'down' ramp.
- 2 Loading dock area visible from public domain.
- 3 Potential for pedestrian and truck conflict at loading dock entry.
- 4 Blank walls present a hard interface to the pedestrian footpath.
- 5 Existing landscaping is sparse along footpath.

## Westfield Drive interface / activation strategy

## Proposed Westfield Drive Improvement Strategy

The Westfield Drive improvement strategy aims to clearly delineate pedestrian and vehicle movement. The strategy is to improve pedestrian connections with the Meriton Pagewood Green circulation network at either end of Westfield Drive, and direct pedestrians away from the main dock entries in the centre of Westfield Drive.

There are a number of proposed improvements which will assist in achieving this, including:

## Separating pedestrians from loading areas

- The generous landscaped setback to the Meriton buildings to the north of Westfield Drive acts as a natural incentive to use the northern footpath for pedestrian travel.
- Improvement works will add crossings to the south of Westfield Drive at locations either side of the central loading area. This will encourage pedestrians to cross to the southern side once they are beyond the dock area, to the eastern and western ends of the street.

## Traffic calming

- Raised crossings are proposed near the intersection of the new Meriton site streets. These are intended to provide clear points of pedestrian crossing, as well as to slow traffic and deter 'rat-running' through Westfield Drive.
- 'Chicane' style traffic calming is not recommended as this cannot be navigated by buses and loading vehicles that use the street.

## Pedestrian priority

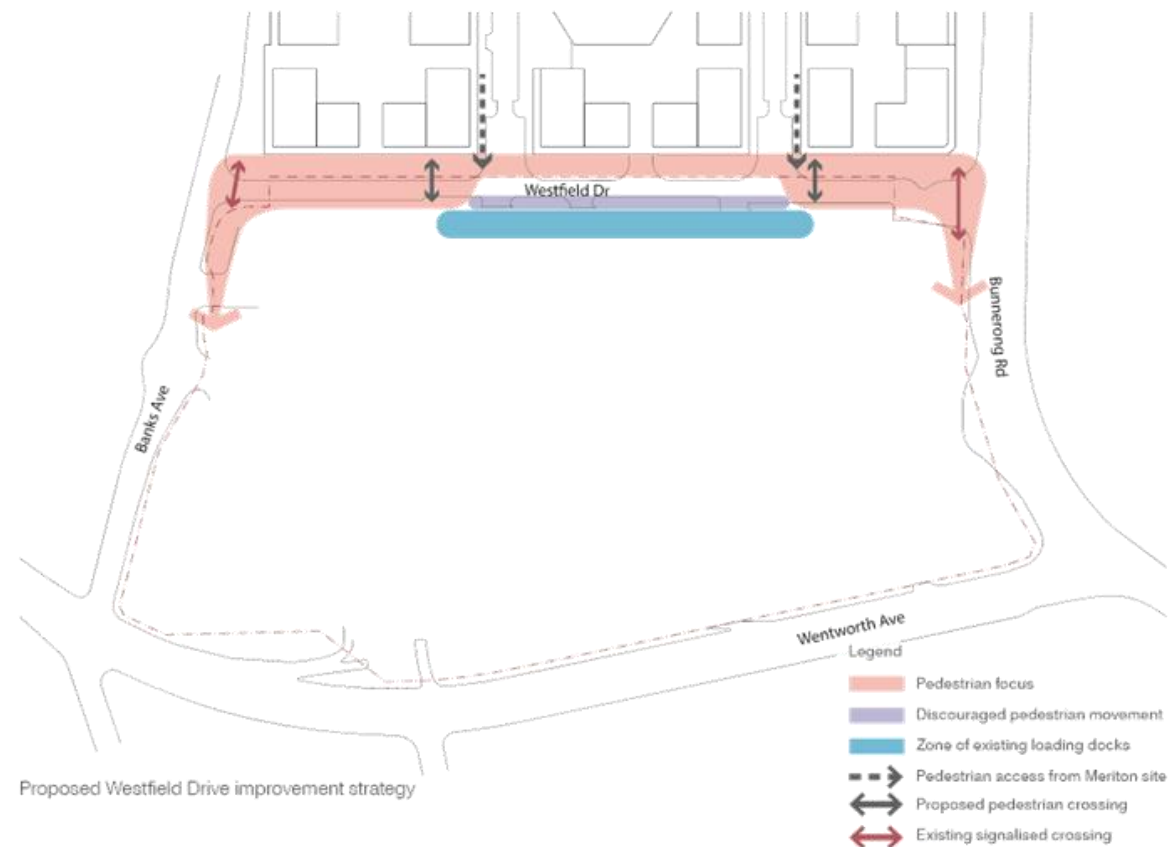
- The raised crossings slow traffic, prioritise pedestrians and increase the visibility of pedestrians crossing.
- A variety of options for circulating are proposed to suit individual pedestrian needs and offer best practice urban design connectivity.
- A pedestrian barrier in the centre of the road was discussed with Council, but is not proposed as it is felt that it would prioritise vehicular movement, encourage increased speed from vehicles, and result in a hostile pedestrian environment.

## Improved amenity

- New landscaping is proposed to improve the amenity and comfort of the street and provide a buffer against the loading docks. It is proposed to use a mixture of low planting to enable visibility and ensure pedestrian safety, as well as some taller planting to provide a canopy and shade.

## Safety and security

- The safety of the pedestrian path between the substation and the shopping centre has been discussed with Council. It was determined that in Stage 1, it will be important to retain this connection in order to offer sufficient choice for pedestrians, and that the short length of obscured path can be managed with CCTV. In Stage 2, the public domain will rise to the Bunnerong Plaza level after the electricity substation to provide improved visibility and surveillance of the space.



Raised crossing slows traffic and improves pedestrian safety and visibility



A barrier in the centre of the road can be frustrating for pedestrian choice, and prioritises vehicular movement

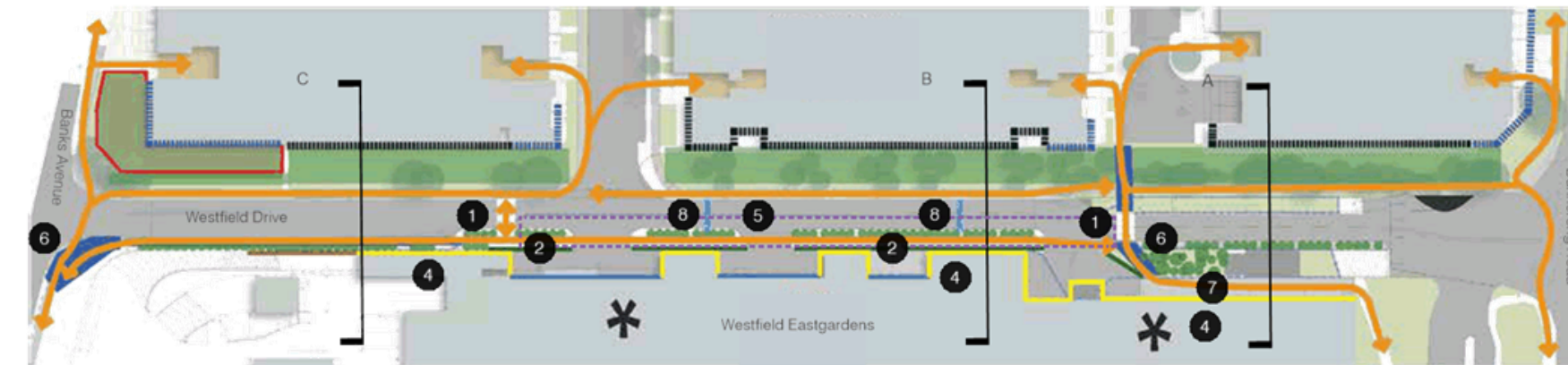


## Westfield Drive interface / activation strategy

## Proposed improvements

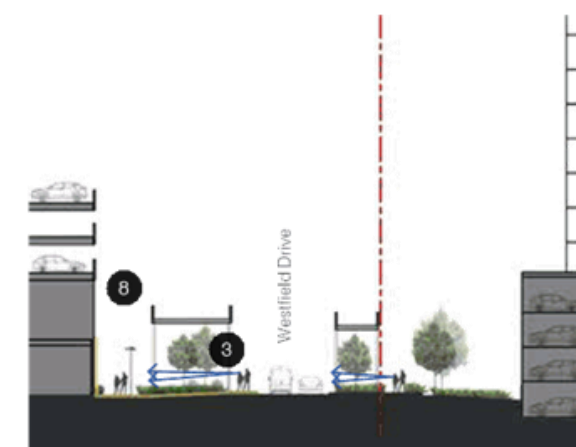
It is proposed to slow traffic, prioritise pedestrians and improve amenity on Westfield Drive with the following interventions:

- 1 Provide dedicated crossing points for pedestrians with a raised 'Wombat' crossing, to improve pedestrian safety and slow traffic.
- 2 Plant a landscape buffer to minimise sight lines into loading docks, while maintaining passing surveillance.
- 3 Enhance tree planting along footpath with clear stems up to 2m to ensure good surveillance, and improve lighting.
- 4 Introduce public art on blank facades appropriate to the context.
- 5 Introduce up-lighting to the structure to highlight the character of the place.
- 6 Widen the footpath to improve pedestrian amenity, particularly at corners.
- 7 Upgrade laneway with public art, graphic wayfinding and lighting
- 8 Introduce speed humps to slow traffic

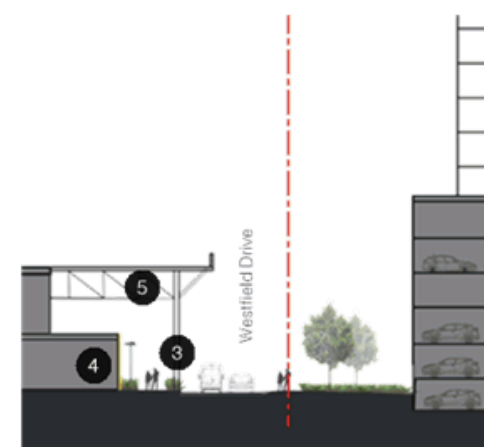


Proposed Westfield Drive improvement strategy

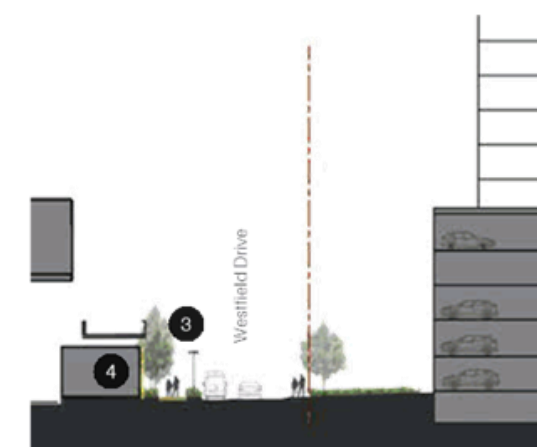
- Legend
- Existing pedestrian movement
  - Existing landscape
  - Active frontage
  - Inactive frontage
  - Existing fence line
  - Residential entry lobby
  - Improved landscape (southern edge)
  - Treatment to blank wall
  - Public art
  - Screening
  - Landscape hedge to 1,200mm height
  - Improvement to underside of slab above
  - New footpath extension
  - Visual treatment important due to terminating viewline, potential to incorporate with unobtrusive retail signage
  - New speed hump



Section AA



Section BB



Section CC



Westfield Drive interface / activation strategy

Public domain inspirations



Low level landscaping in London by Townshend Landscape Architects



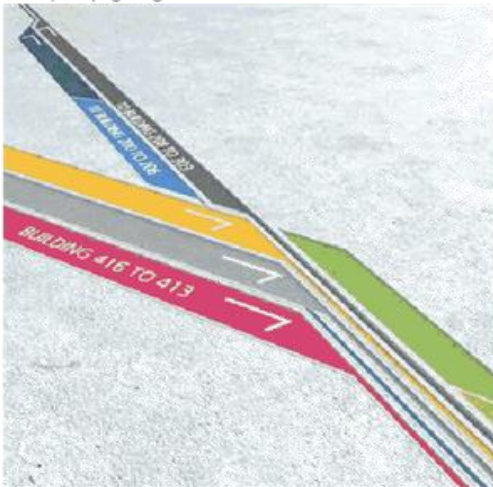
Evenglide Showroom, Blackburn, Victoria



Westfield Tea Tree



Example uplighting



Example wayfinding signage from King Abdul Aziz City for Science and Technology, Saudi Arabia



Metal exterior screening with climbing vine, by Michael Hennessey Architecture



## Westfield Drive interface / activation strategy

Public art activation inspiration  
Examples from recent Scentre Group developments



Westfield Chermide



Westfield Coomera



Westfield Northlakes



Westfield Plenty Valley



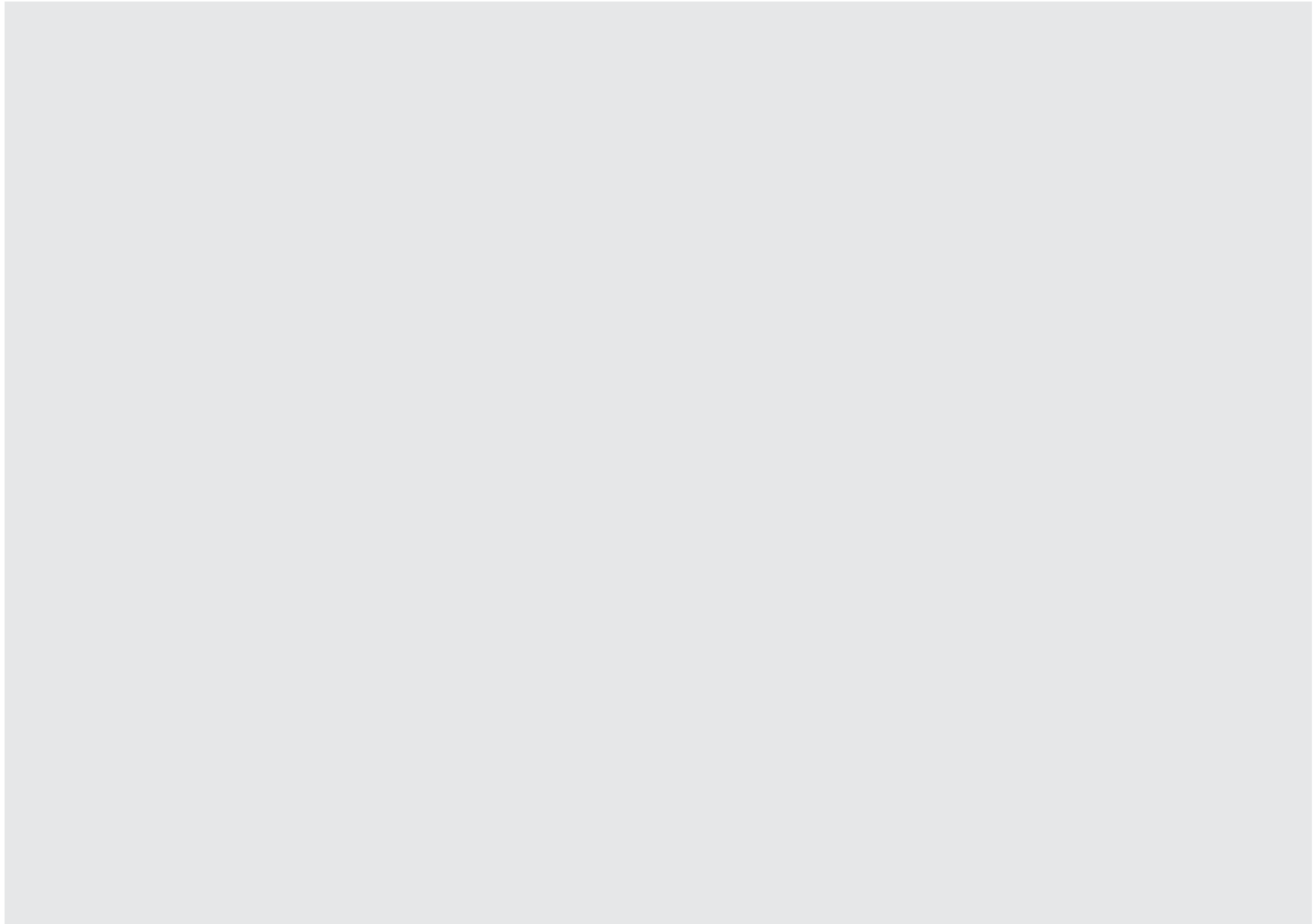
Westfield Plenty Valley



Westfield Tea Tree



Westfield Carousel





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## 6 Testing and Assessment

This section provides detailed analysis of the view and overshadowing impacts of the proposal on the surrounding context.

## 6.1 View Impact Assessment

### View Impact Assessment

The assessment and categorisation of visual impacts is based on the New South Wales Land and Environment Court Planning Principles and a qualitative assessment is set out under the following headings:

- Importance of the view;
- Visual impact; and
- Visual absorption capacity.

A visual simulation (photo-montage) of the proposed development has been prepared for each view that was nominated with Council for detailed visual impact assessment. The photo-montage was then used to determine the visual impact of the proposed development.

The photo-montages shown demonstrate the building form only; they do not show detailed articulation or material selection.

The importance of the view is defined differently for public domain and private views with weighting applied which is consistent with the New South Wales Land and Environment Court Planning Principles. The criteria are defined as follows.

*An understanding of the field of view of photographs and photomontages is important in understanding impacts represented on a page. One standard typically adopted in NSW is the use of a 35mm FX format camera at 50mm focal length (or equivalent) to represent a view on a page similar to how it would be perceived by the human eye at the location.*

*However, for this project, a 50mm focal length would not provide a clear understanding of the breadth of the view and/or the size of the proposal. Therefore, throughout our view impact assessment a wider-angle view has been used.*

*All photos were captured on a Nikon D3100 which has an APS-C sized sensor (roughly 24mm), this results in a crop factor when compared to a 35mm FX (full frame) sensor. As such, although all photos were taken at 18mm, their equivalent 35mm focal length is 27mm.*

#### *LIDAR Model*

*To assist in the positioning of the camera, a 3D model was purchased from Near Map. This was generated from a LIDAR survey of the site and its surrounds. After matching focal length and positioning the camera, this allowed each view to be made as accurate as possible.*

#### Importance of the public domain view

It includes consideration of the following factors:

The context of the viewer (including whether the view is static or dynamic, obtained from standing or sitting positions);

Elements within the view (including whether iconic elements are present, the existing composition of the view, and any existing obstructions to the view);

- The number of viewers;
- The distance to the proposal; and
- The likely period of view.

The features are described for each view and a final categorisation of view importance has been produced as a summary. The following table provides a definition of example use cases for each categorisation of the importance of the view:

	Definition
High	Unobstructed views of highly valuable or iconic elements from highly important locations in the public domain.
Moderate-High	Generally unobstructed views including important visual elements from well-used locations. The view attracts regular use of this location by the public.
Moderate	Views including elements of moderate importance with little obstruction which are obtained from moderately-well used locations. The view may assist in attracting the public to this location.
Low-Moderate	Views with some important elements which may be partially obstructed or from a less well used location. The view may be a feature of the location however is unlikely to attract the public to it.
Low	Views from spaces or streets with little pedestrian use or obstructed views or views with few important elements. Obtaining views is not a focus of using the space.

#### Importance of nearby private views

The importance of nearby private views is considered where there are private views facing the site from a location which is near to the photograph from the public domain. The table below provides a definition of the categories used.

	Definition
High	Uninterrupted views of highly important or iconic elements from standing positions in location from front or rear boundaries.
Moderate	Views of some important elements which may have some lower expectation of retention, such as those across side boundaries, seated views or partial views from bedrooms and service areas.
Low	Views with few important elements, highly obstructed views or views where there can be little expectation of retention.

#### Likely visibility

Likely visibility provides an estimation of how visible the proposal will be in the view. The table below provides a definition of the categories used.

	Definition
High	The proposal will dominate the field of view.
Moderate	The proposal will form part of the overall composition of the view.
Low	The proposal will be noticeable as a minor part of the field of view.
Negligible	The proposal will not be noticeable.

## View Impact Assessment

## Visual absorption capacity

The visual absorption capacity is an estimation of the capacity of the landscape and built environment to absorb development without creating significant visual change that would result in a reduction of scenic or visual quality. This is usually dependent on vegetation cover, landform and existing built form and is influenced by the level of visual contrast between the proposed development and the existing elements within the physical environment.

The degree of contrast between the various elements of the development and the physical environment/landscape setting in which they are located determine the level of visual absorption. Factors such as scale, shape, colour, texture and reflectivity of the development compared to the visual context define the degree of contrast. For the purpose of this study, the rating outlined in the table below has been used in the assessment of visual absorption capacity.

This rating concentrates on the bulk of the proposal in relation to screening factors and contextual development.

Rating	Definition
High	Existing landscape and built environment able to absorb development. Low degree of visual contrast will result from building envelopes.
Moderate	Existing landscape able to absorb some development. Some visual contrast will result from building envelopes.
Low	Existing landscape unable to absorb development. High degree of visual contrast will result from building envelopes.

Some elements which form part of the consideration of view importance can be quantitatively estimated. The table below shows the criteria used in evaluating the relative number of viewers and period of view.

Relative number of viewers	Definition
High	> 1000 people per day
Moderate	100 - 1000 people per day
Low	< 100 people per day
Period of view	Definition
High (long-term)	>60minutes
Moderate	1-60 minutes
Low (short-term)	<1 minute

## Conclusion

The study considers the view impacts from a variety of points in the nearby vicinity and further away from the site.

The visual impacts on the wider context are low to negligible as there is little local change in topography and no high points of note, so proposed buildings are generally either not visible from beyond the immediate vicinity or are viewed within the context of other similarly scaled development.

The visual impacts on views in the immediate vicinity as a result of the proposal can be categorised into three broad categories:

Firstly, from south of the site in the residential streets with single detached dwelling typology views have a higher visibility and lower visual absorption capacity, due to the towers being seen in the context of single storey houses in the foreground, and without the backdrop of the Meriton site development which is further away and therefore less visible. Views from the residential areas to the south are generally moderate, but are deemed acceptable given the emerging urbanised context and the role that the commercial core must play in the strategic centre.

Secondly, as seen in views from the north and east in the vicinity of Bunnerong Road and the Meriton site, the proposal is highly visible, but also has a high visual absorption capacity due to being seen in context with the new development on the Meriton site and the busy roads. The view of the proposal from the new public open space on the Meriton site (view 13) preserves the view of sky at the end of the street block. Therefore, from the north and east, view impacts are considered to be low, and in keeping with the context.

Thirdly, in views of the proposal from the west from Banks Avenue, from the approach along Wentworth Avenue and from Mutch Park it is evident that the visibility of the proposal is moderate to low. From Mutch Park, the proposal is only slightly visible, unless seen from a rarely frequented high point near the fence (view 11). From the Banks Avenue and Wentworth Avenue approach the proposal is visible but does not dramatically change the context of the existing view. From the west, the view impacts are therefore considered to be low and acceptable.



## View Impact Assessment

### Views

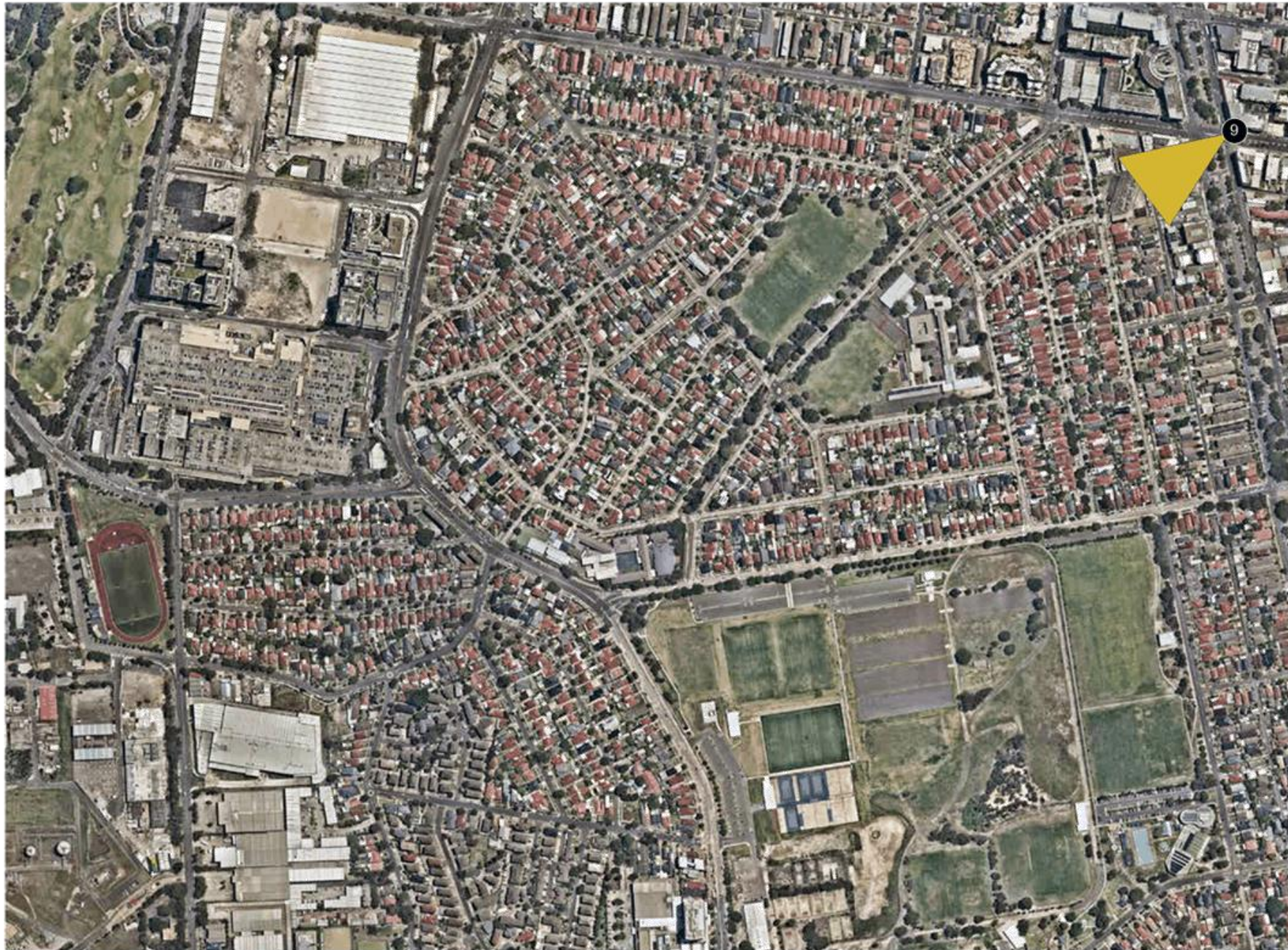
Fourteen views have been chosen in collaboration with Bayside Council to analyse view impacts generated by the proposed design included in the Planning Proposal.

All views are in the immediate vicinity of Westfield Eastgardens except for View 9, which is from Maroubra Junction, location illustrated in the map on the facing page.





View Impact Assessment





View Impact Assessment

1 Hinkler Street



Description of view	This view looks west down Hinkler Street and across Bunnerong Road toward the proposal. Meriton's stage one development can be seen to the right of the image.
Context of viewer	Primarily from cars travelling toward Bunnerong Road
Importance of the public domain view	Low
Importance of nearby private views	Low
Likely visibility	High
Likely period of view	Low
Relative number of viewers	Low
Visual absorption capacity	Low





View Impact Assessment

2 Bunnerong Rd



**Description of view** This view looks south down Bunnerong Rd, with low-scale residential housing on the left and recently constructed high density residential on the right. The existing Westfield Eastgardens entrance can be seen. With the future stage development, greater built form relationship with and transition to the neighbouring Meriton site will be achieved.

**Context of viewer** Primarily from cars travelling south along Bunnerong Road, also from cars waiting at the intersection and lights.

**Importance of the public domain view** Low

**Importance of nearby private views** N/A

**Likely visibility** High

**Likely period of view** Moderate

**Relative number of viewers** High

**Visual absorption capacity** Medium

Architectus | Westfield Eastgardens | Urban Context Report





View Impact Assessment

3 Hensley Athletic Field



Description of view	This view looks north over Hensley Athletic Field, proposed Westfield development forms a low band over the trees with multiple towers from the Meriton development to be visible behind this. The proposal on the eastern edge.
Context of viewer	Primarily users of the athletic field (not publicly accessible), small amount of pedestrian foot traffic
Importance of the public domain view	Medium
Importance of nearby private views	N/A
Likely visibility	Moderate
Likely period of view	Moderate
Relative number of viewers	Low
Visual absorption capacity	Medium





View Impact Assessment

4 Wentworth Ave + Corish Cir



Description of view	This view looks west towards Westfield Eastgardens at a major intersection. The proposal is obscured by existing buildings, and will not be visible when the proposed entertainment and leisure precinct is complete.
Context of viewer	Eastbound traffic, waiting at the lights. Light pedestrian activity.
Importance of the public domain view	Low
Importance of nearby private views	N/A
Likely visibility	Low
Likely period of view	Moderate
Relative number of viewers	High
Visual absorption capacity	High





View Impact Assessment

5 Bunnerong Rd + Fraser Ave



Description of view	This view looks north towards the site down Bunnerong road. Built and proposed form aligns at a consistent height.
Context of viewer	Primarily motorists traveling north. Medium pedestrian traffic due to bus stops along Bunnerong road.
Importance of the public domain view	Low
Importance of nearby private views	Low
Likely visibility	High
Likely period of view	Moderate
Relative number of viewers	High
Visual absorption capacity	Medium





View Impact Assessment

6 Boonah Avenue



Description of view	This view looks north over low scale residential properties. It is taken near the crest in the road.
Context of viewer	Primarily from private residences, low number of pedestrians.
Importance of the public domain view	Low
Importance of nearby private views	Moderate
Likely visibility	High
Likely period of view	Low
Relative number of viewers	Low
Visual absorption capacity	Low





View Impact Assessment

7 Banks Ave + Westfield Dr



Description of view	This view looks south down Banks avenue, Meriton stage one sits just off camera to the left, the existing Westfield Eastgardens can be seen through the trees, with the proposed entertainment and leisure precinct in the distance. The proposal is not visible from this location.
Context of viewer	Primarily motorists traveling south, waiting at the lights.
Importance of the public domain view	Low
Importance of nearby private views	N/A
Likely visibility	Negligible
Likely period of view	N/A
Relative number of viewers	N/A
Visual absorption capacity	N/A





View Impact Assessment

8 Wentworth Ave



Description of view	This view looks west from Wentworth Ave, over Bonnie Doon Golf Club. Foliage and fencing heavily obstruct the view.
Context of viewer	Primarily from traffic traveling east.
Importance of the public domain view	Low
Importance of nearby private views	Moderate
Likely visibility	Low
Likely period of view	Low
Relative number of viewers	Moderate
Visual absorption capacity	High





View Impact Assessment

9 Maroubra Junction



Description of view	This view looks south west over Anzac parade, from Maroubra Junction. Due to the distance and the existing height of built form at Maroubra Junction, the proposal is not visible from this location.
Context of viewer	High levels of both vehicular and pedestrian traffic.
Importance of the public domain view	Low
Importance of nearby private views	N/A
Likely visibility	Negligible
Likely period of view	N/A
Relative number of viewers	N/A
Visual absorption capacity	N/A





View Impact Assessment

10 Mutch Park Nth



Description of view	This view looks south east over Mutch Park, development from Meriton's stage one is most prominent. Due to the distance, topography and foliage, the proposal is mostly hidden from view
Context of viewer	Primarily from people using the park recreationally
Importance of the public domain view	Low
Importance of nearby private views	N/A
Likely visibility	Low
Likely period of view	Moderate
Relative number of viewers	Low
Visual absorption capacity	High





View Impact Assessment

11 Mutch Park Sth (crest)



Description of view	This view looks south west over Bonnie Doon Golf Club, from the top of the hill in Mutch Park.
Context of viewer	Very low foot traffic, as it is a crest at the edge of the park.
Importance of the public domain view	Low
Importance of nearby private views	N/A
Likely visibility	Moderate
Likely period of view	Low
Relative number of viewers	Low
Visual absorption capacity	Moderate





View Impact Assessment

12 Smith St



Description of view	This view looks north over low-scale residential development. Meriton stage one is only visible between houses. The tower of the proposal breaks the profile of the roofs.
Context of viewer	Light foot and vehicular traffic.
Importance of the public domain view	Low
Importance of nearby private views	Low
Likely visibility	Moderate
Likely period of view	Low
Relative number of viewers	Low
Visual absorption capacity	Moderate





View Impact Assessment

13 Meriton Site



Description of view	This view looks south through the Meriton site development from the future open space the existing Westfield Eastgardens is visible in the distance, with the proposal in line with the Meriton built form.
Context of viewer	High pedestrian and vehicular traffic once the Meriton site is completed.
Importance of the public domain view	Low
Importance of nearby private views	Low
Likely visibility	Low
Likely period of view	Moderate
Relative number of viewers	Moderate
Visual absorption capacity	High





View Impact Assessment

14 Wentworth Ave + Denison St



Description of view	This view looks east down Wentworth avenue, the corner of Denison Street, a major intersection which is one of the main entries to the Westfield Eastgardens carpark.
Context of viewer	Heavy vehicular traffic and moderate pedestrian traffic. Waiting at lights increases period of view.
Importance of the public domain view	Low
Importance of nearby private views	N/A
Likely visibility	Moderate
Likely period of view	Moderate
Relative number of viewers	High
Visual absorption capacity	Moderate





## 6.2 Overshadowing Assessment

### Overshadowing Assessment

This section analyses the overshadowing impacts cast by the proposal on the local area. Shadows were assessed during the winter solstice, as well as on the spring and autumn equinox, between the hours of 9am and 3pm, against the following DCP controls as quoted in the adjacent table:

- Botany Bay DCP 2013 Policy 4A Dwelling Houses,
- 4.3 Solar Access, Controls C1, C3 and C5; and
- 4.4 Private Open Space, Controls C4 and C5.

The dwelling houses DCP was used in the absence of any pre-existing DCP for a commercial centre, and because it represents a more conservative standard in response to the neighbouring dwelling houses.

The study indicates that during the winter solstice the proposed towers cast long shadows that are relatively fast moving and affect the surrounding residential areas for relatively short periods of time. The greatest impact on residential dwellings is seen in the area immediately to the south of Wentworth Avenue. There are 5 houses on Wentworth Avenue (Numbers 244, 246, 248, 250, 252) that have been tested in more detail on the following pages as they are not currently able to comply with Clause C1 and C3 due to self-shadowing.

The detailed study for the 5 dwellings is broadly divided into 3 categories:

1. An analysis of existing and proposed overshadowing to primary private open space to the rear of dwellings
2. A desktop analysis to identify the likely location of living rooms in the 5 dwellings that are impacted by the proposal
3. An analysis of existing and proposed overshadowing to the front yards of the 5 dwellings that are impacted by the proposal.

Shadow impacts were further tested at the equinox, to test compliance with Section 4A.4.3, Clause C5 (refer to the end of this chapter).

#### Summary of findings

Outcomes of the shadow studies are seen on the following pages, and are summarised as follows:

- The proposed massing creates additional overshadowing impacts to some of the southern properties fronting Wentworth Avenue. While most of the impacts are minor, and do not impact on the minimum solar access requirements specified within the DCP, there are 5 dwellings that required more detailed overshadowing analysis (due to the self-shadowing of their own private open space).
- There is no additional overshadowing to primary private open space at the rear of the 5 properties as per Section 4A.4.3, Clause C3.
- A desktop study has revealed that it can be reasonably assumed that the living areas of the 5 houses in question are located at the rear/ southern side of each property and so do not require the minimum 2 hours of solar access on 21 June to their front façades. (per 4A, 4.3, clause C1)
- Notwithstanding the location of living areas for the 5 dwellings and primary areas of open space, the proposal ensures a minimum of 1 hour solar access to the front building façades and a minimum of 1 hour solar access to at least 50% of the front-yards in mid winter between the times of 9am to 3pm which is considered reasonable in the context of this location, and objectives of the strategic centre.
- It was found that between the equinox times (from the 21st September to 21st March), the proposed development does not create any additional overshadowing impact to the adjacent properties (and beyond the equinox times from approximately the 3rd August to the 10th May, all properties achieve a minimum of 2 hours solar access to 100% of the front yards and northern facade of the 5 properties in question).

The proposed massing has been designed and amended to minimise overshadowing impacts on the dwellings to the south, however some small impacts as outlined above are considered reasonable at this interface between a strategic centre with B3 Commercial Core zoning and a relatively low-density residential area that has the potential for enhanced development over time.

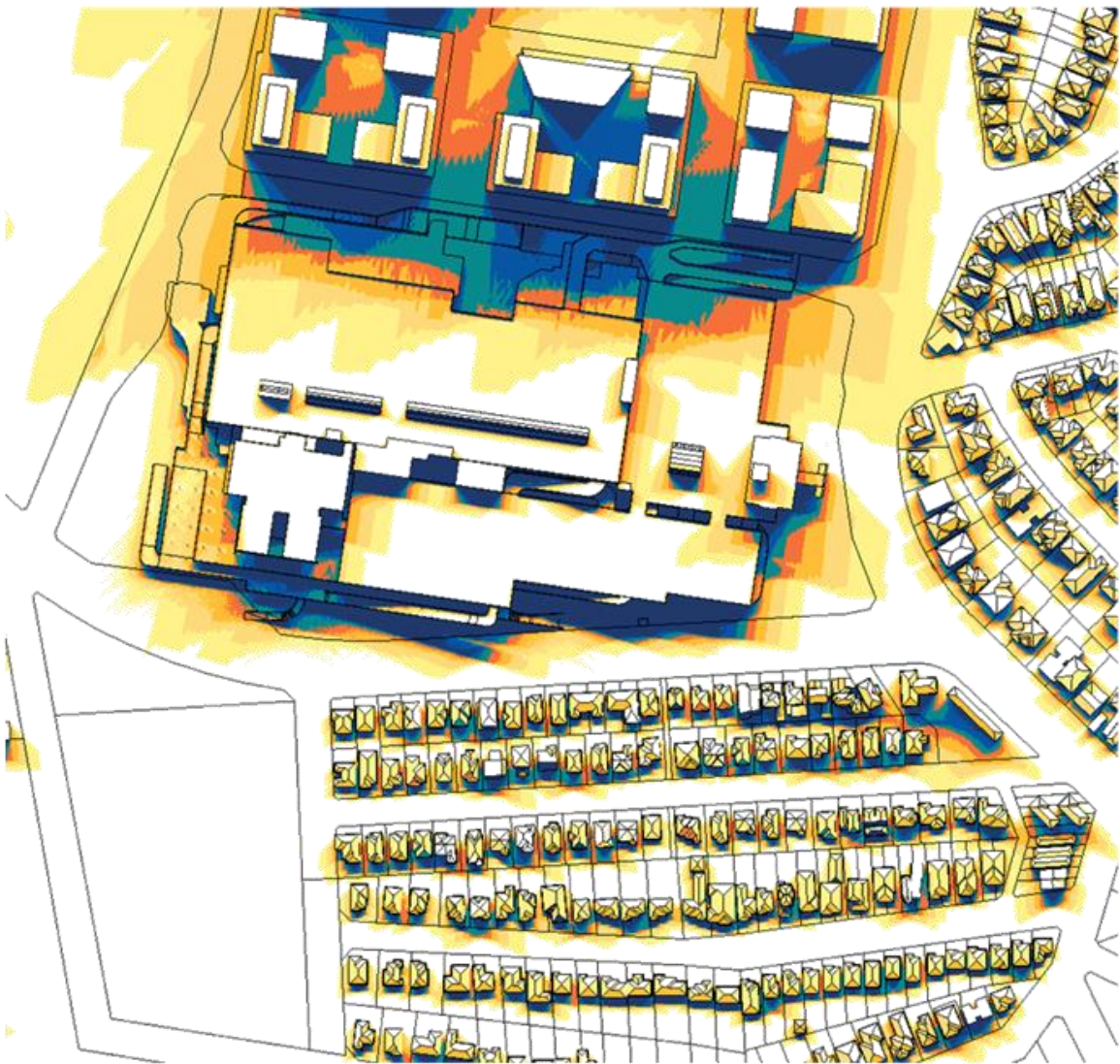
Policy	The Botany Bay DCP 2013, Policy 4A Dwelling Houses
4A, 4.3 Solar Access Section C1	<i>Buildings (including alterations/additions/extensions) are to be designed and sited to maintain approximately 2 hours of solar access between 9am and 3pm on 21 June to windows in living areas (family rooms, rumpus, lounge and kitchens) and to 50% of the primary private open space areas of both the subject site and adjoining properties.</i>
4A, 4.3 Solar Access Section C3	<i>Where the primary private open space of an adjoining development currently receives less than the required amount of sunlight on 21 June (50% coverage for a minimum of 2 hours), the proposed development must not further reduce the amount of solar access to the private open space of the adjoining development.</i>
4A, 4.3 Solar Access Section C5	<i>Where a neighbouring development currently receives less than the required amount of sunlight (on 21 June) the amount of sunlight available on the 21 March or the 21 September will be assessed and form a merit based assessment of the Development Application.</i>
4A.4.4 Private Open Space C4	<i>Areas within setbacks are not to be included as private open space unless they have a minimum width of 3 metres.</i>
4A.4.4 Private Open Space C5	<i>The primary private open space area is to be located at the rear of the property.</i>

\*3D model

*Note the 3D model used for the shadow studies was adapted by Architectus from a 3D model purchased from Near Map. The Near Map model was generated from a LIDAR survey of the site and its surrounds. The format of the model includes elements such as trees and cars in the 3D geometry, which are not able to be isolated and as such it was necessary to create a new simple built form model with which to test the overshadowing impacts of the proposal. While every care was taken to ensure accuracy, Architectus can not take responsibility for the accuracy of the 3D model used for the shadow assessment.*



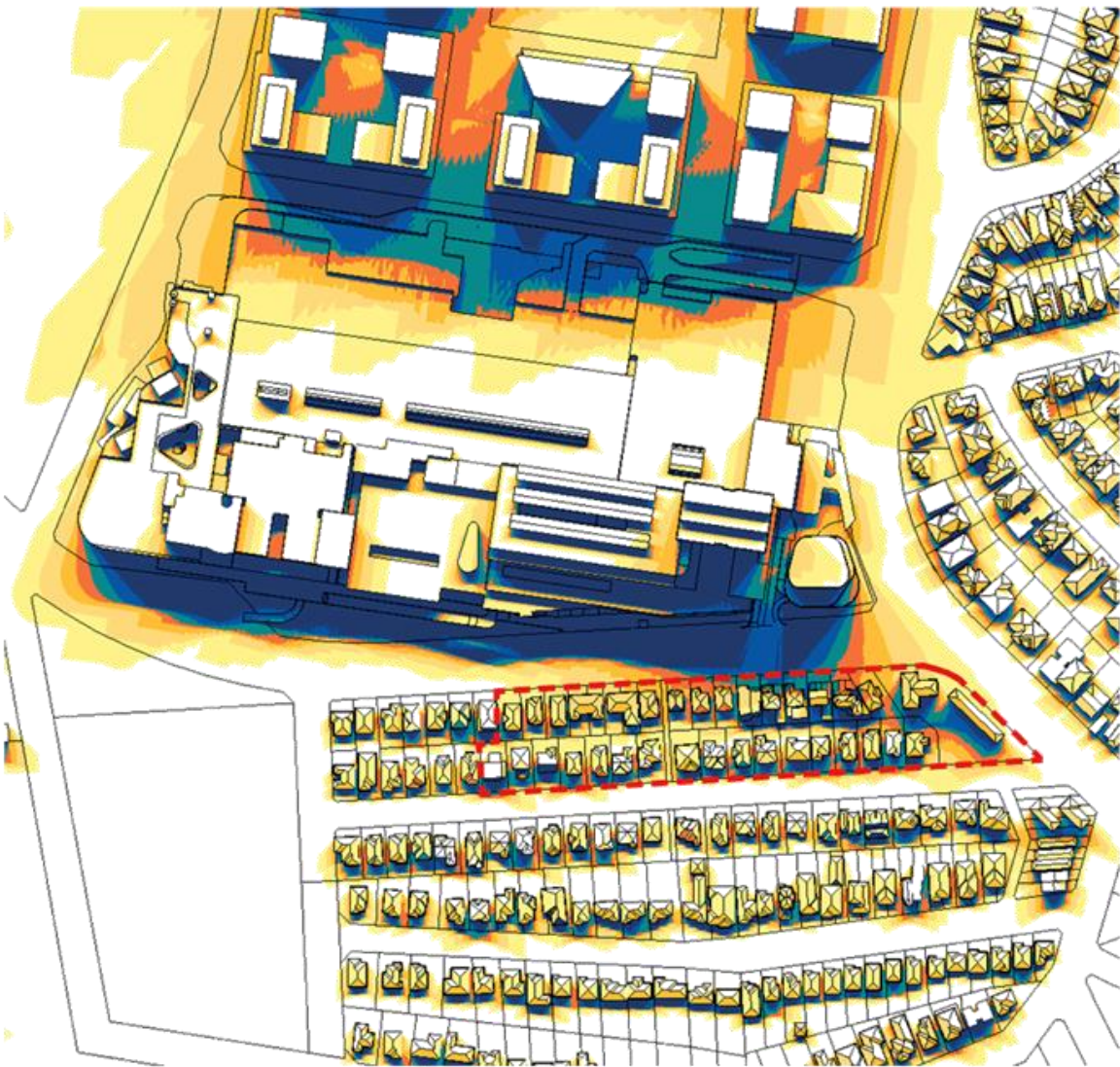
Overshadowing Assessment



Existing buildings Shadow analysis from 9am to 3pm  
(21 June)



Architectus | Westfield Eastgardens | Urban Context Report



Proposed scheme Shadow analysis from 9am to 3pm (21 June)

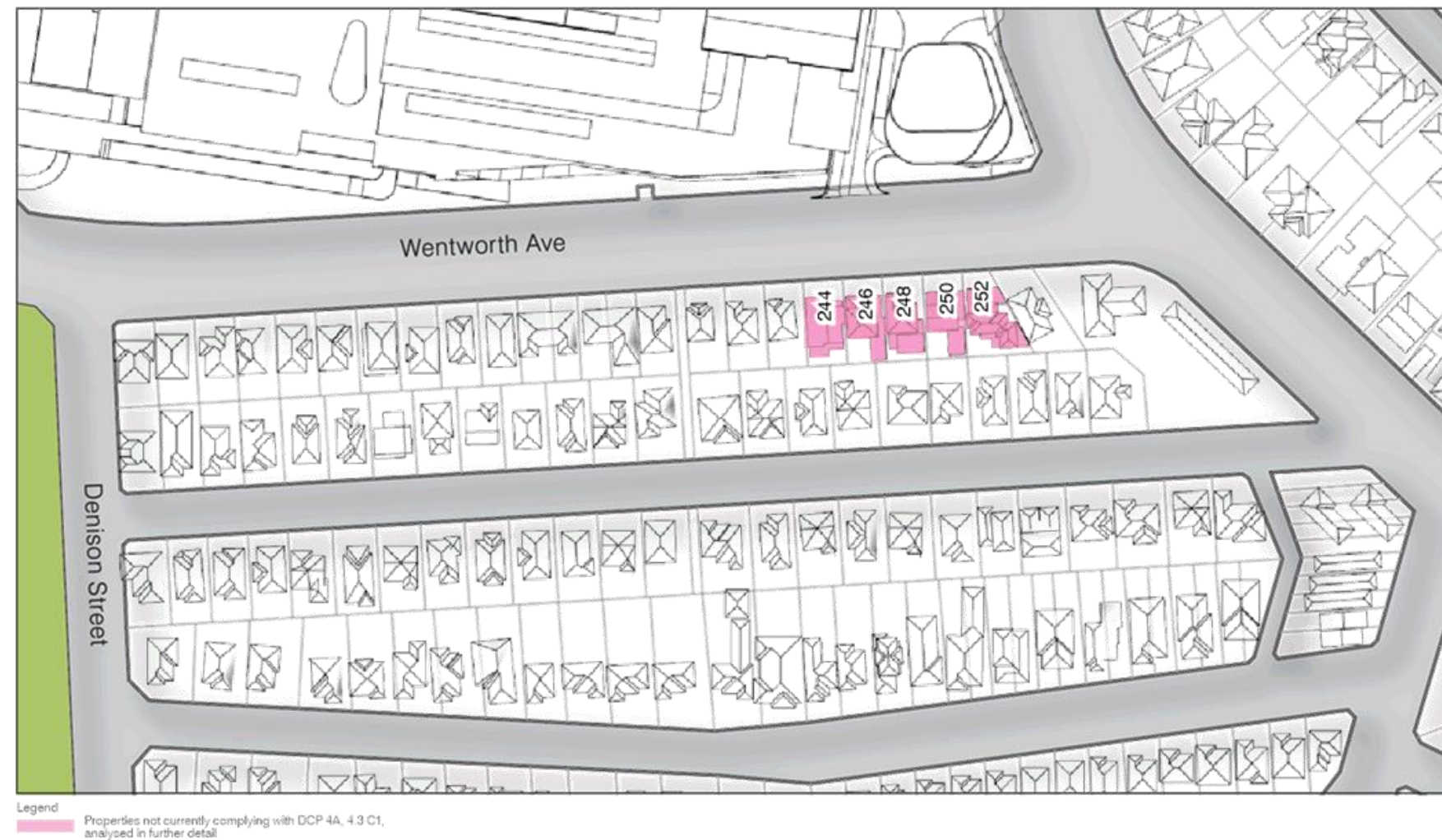
Above: The proposed massing creates additional overshadowing impacts to the properties outlined in red. While most of the impacts are minor, and do not impact on the minimum solar access requirements specified within the DCP, there are 5 houses on Wentworth Avenue (numbers 244, 246,

248, 250, and 252) that have been tested in more detail to demonstrate that the proposed impact to the frontyards is reasonable (considering the self-shadowing that they already create to the areas of primary open space at the rear of their properties).



## Overshadowing Assessment

Dwellings identified in the adjacent diagram (which do not currently comply with Section 4A.4.3, Clause C1 due to self-shadowing) were analysed in further detail, using views from the sun, and detailed shadow diagrams, as illustrated on the following pages.

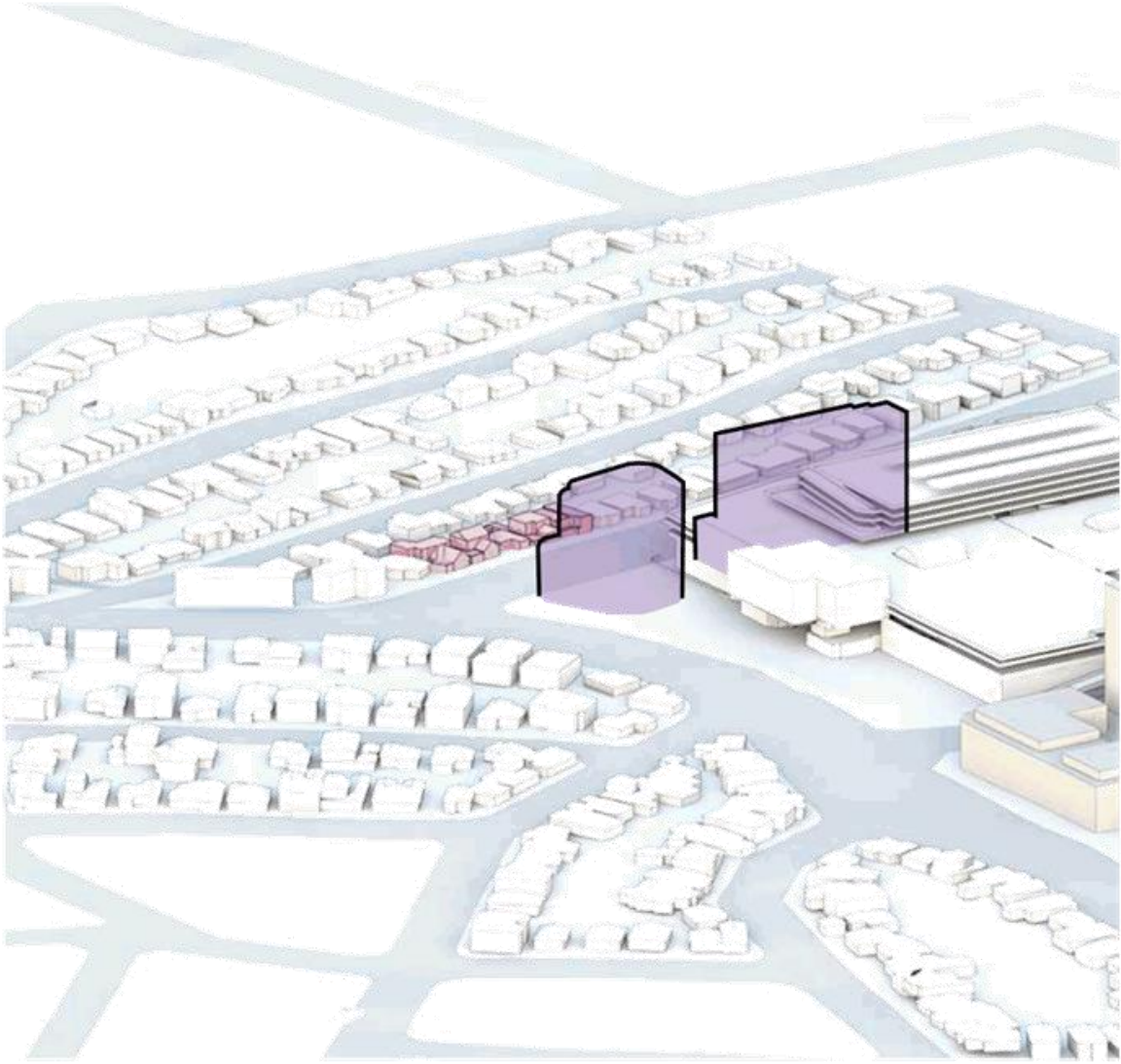


Overshadowing Assessment



Shadow plan at 9am (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



View from sun at 9am (21 June)

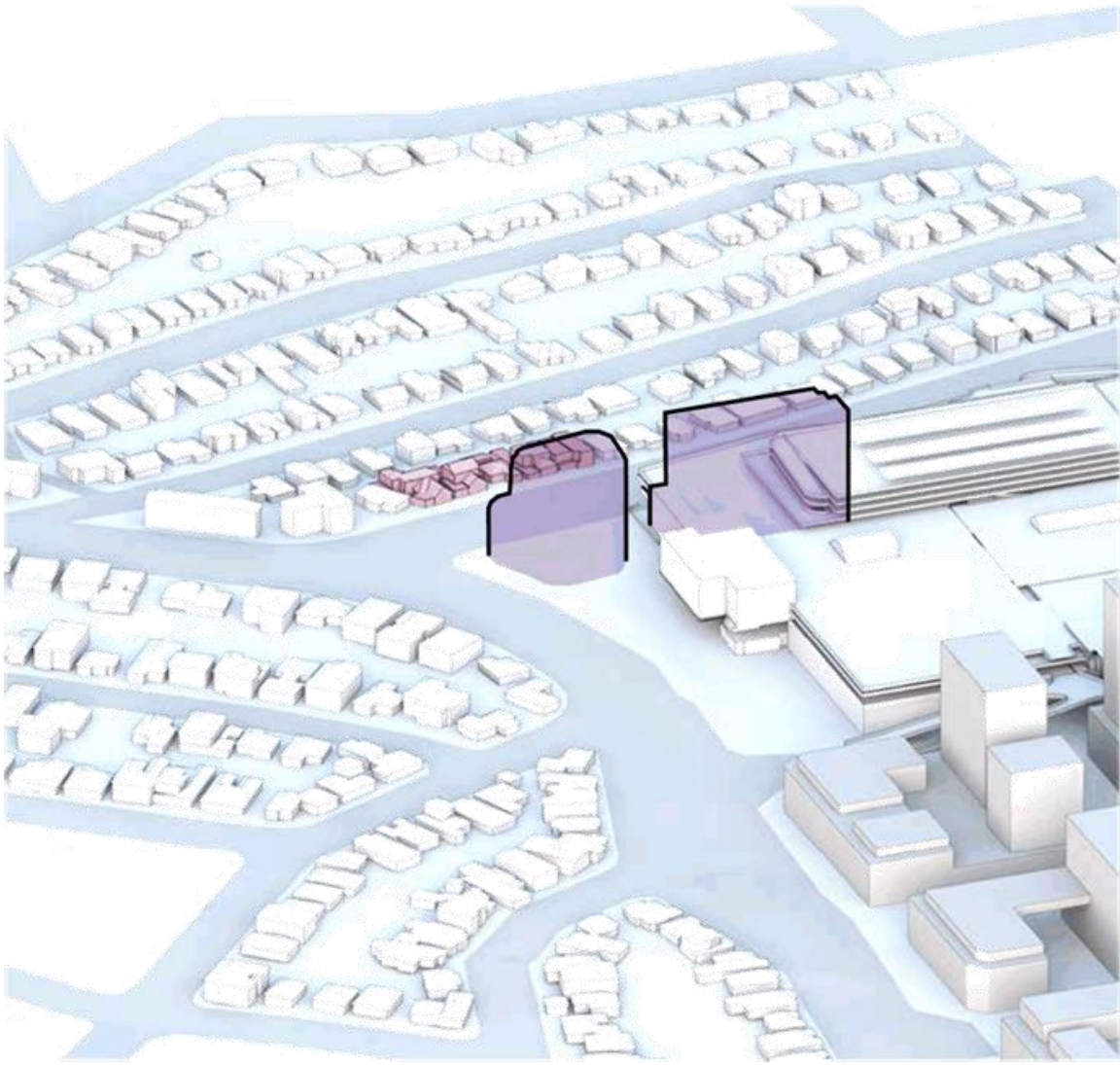


Overshadowing Assessment



Shadow plan at 10am (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



View from sun at 10am (21 June)

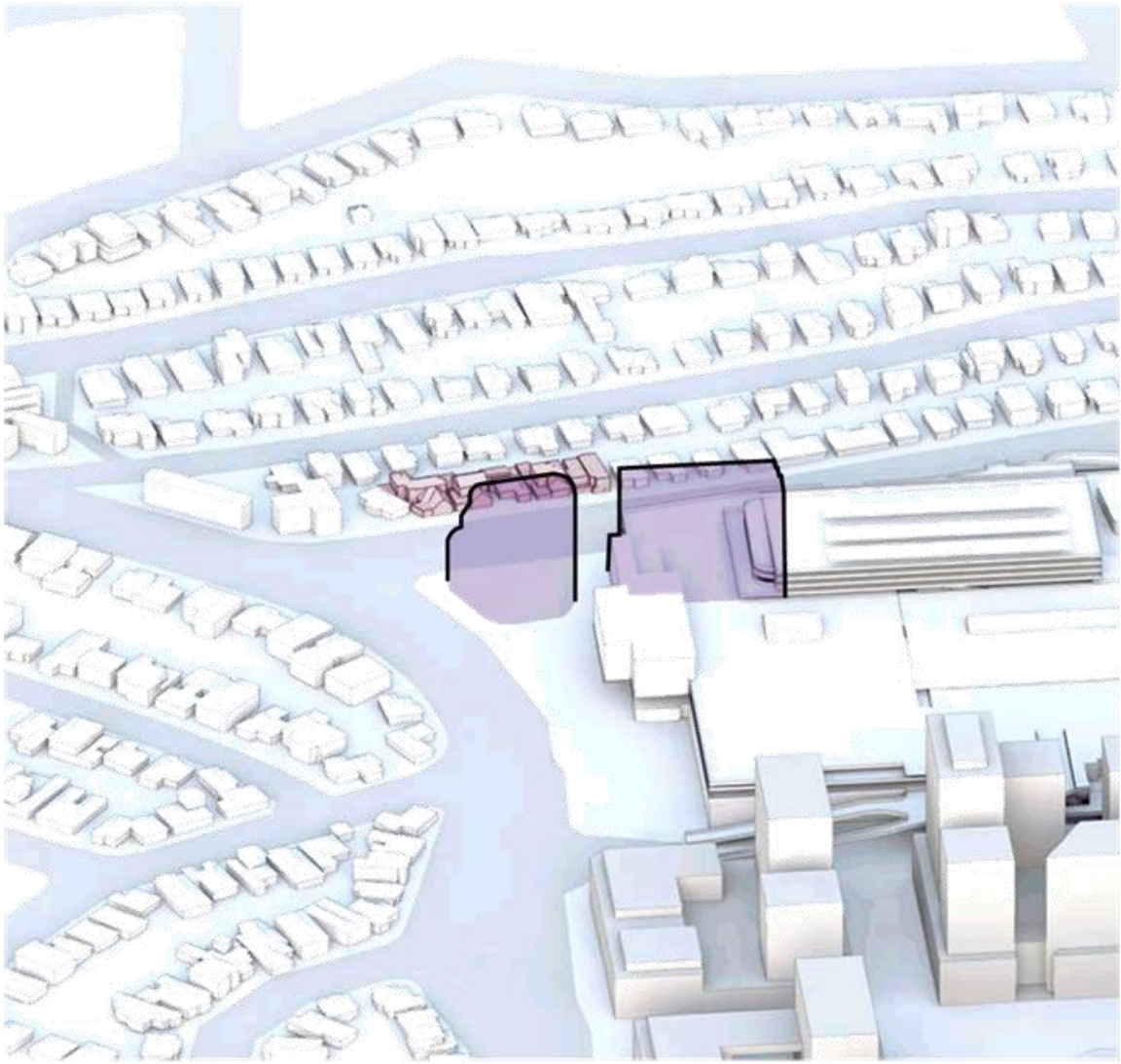


Overshadowing Assessment



Shadow plan at 11am (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



View from sun at 11am (21 June)

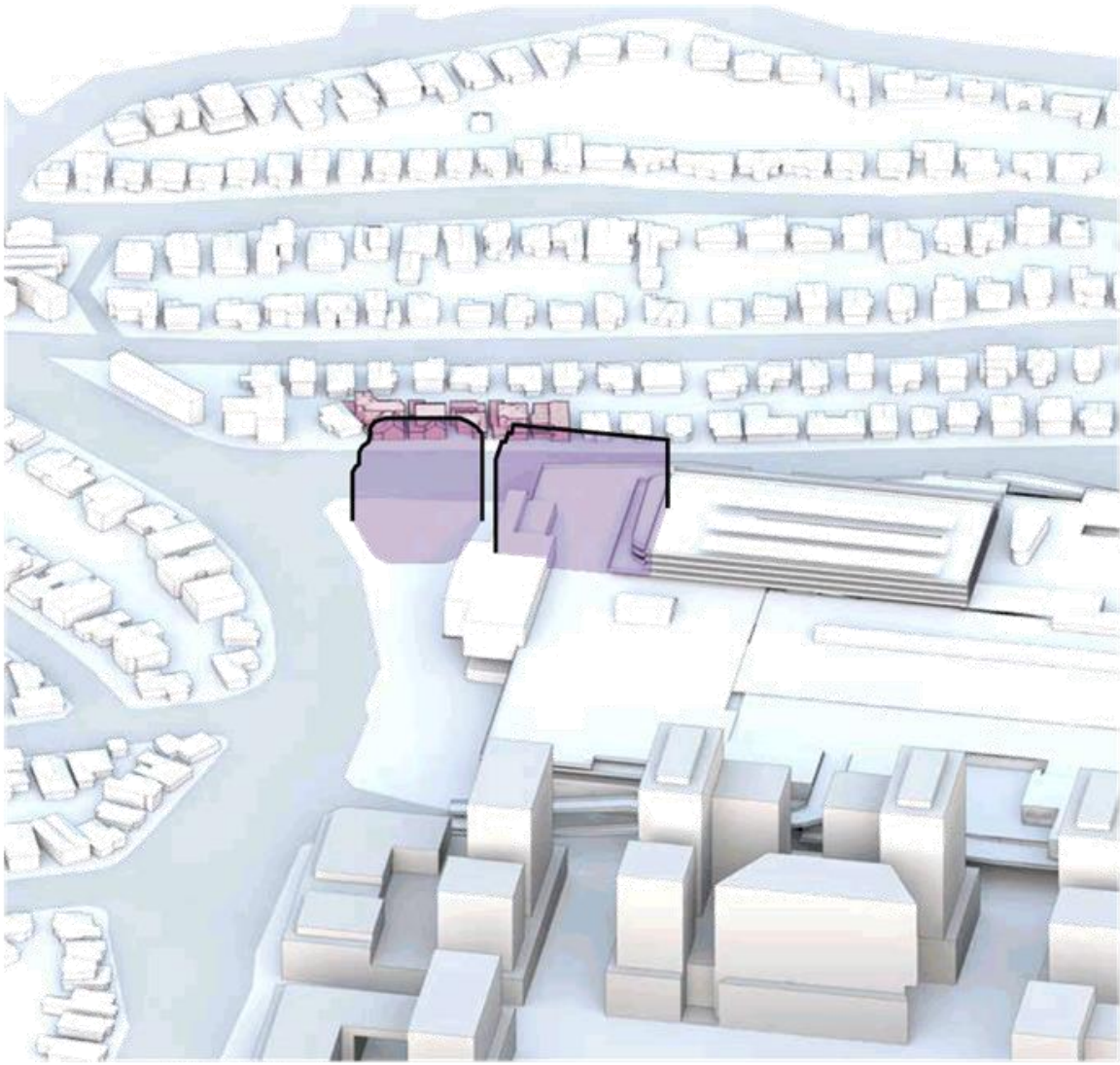


Overshadowing Assessment



Shadow plan at 12pm (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



View from sun at 12pm (21 June)



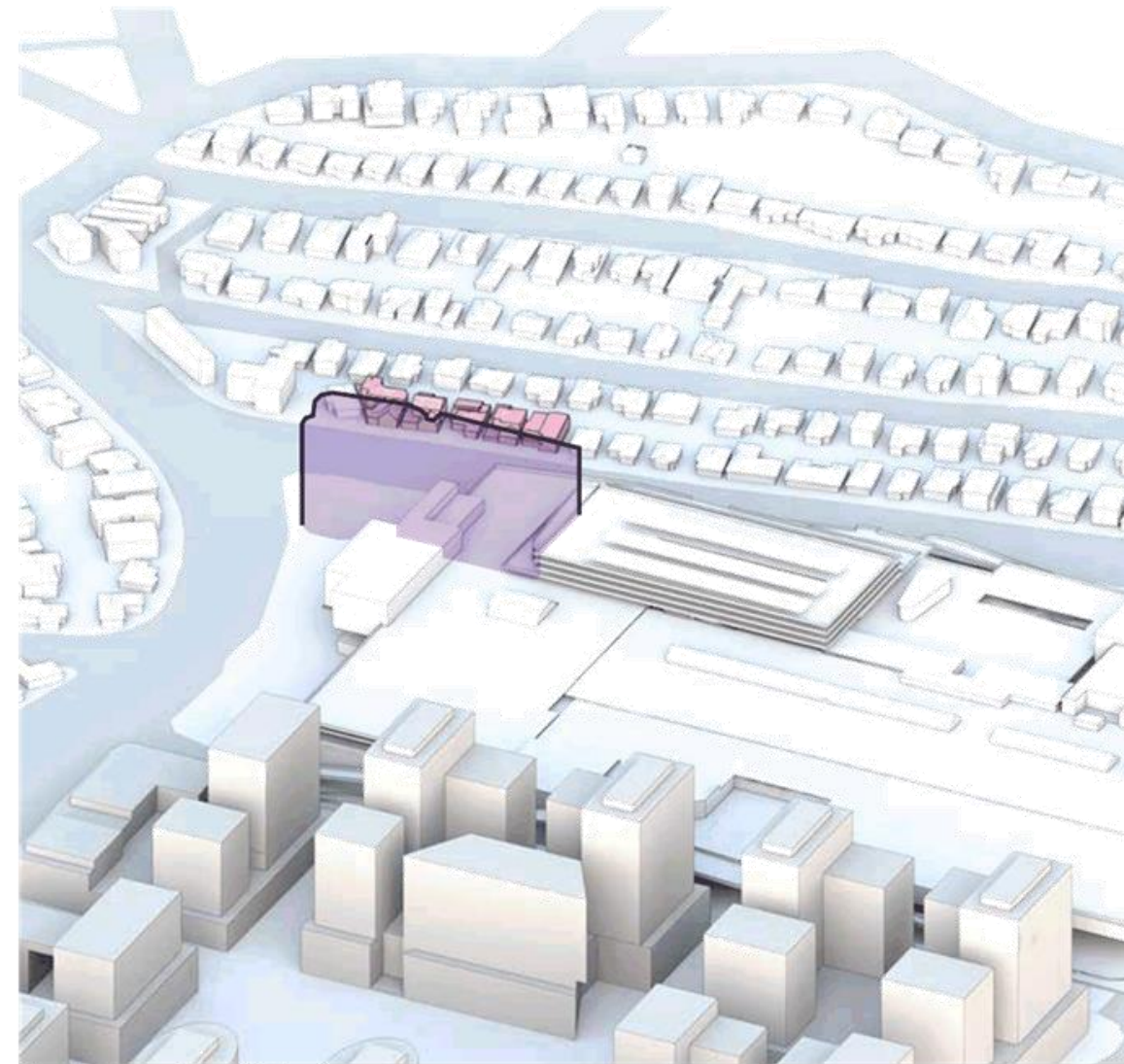
## Overshadowing Assessment



Shadow plan at 1pm (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail

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View from sun at 1pm (21 June)

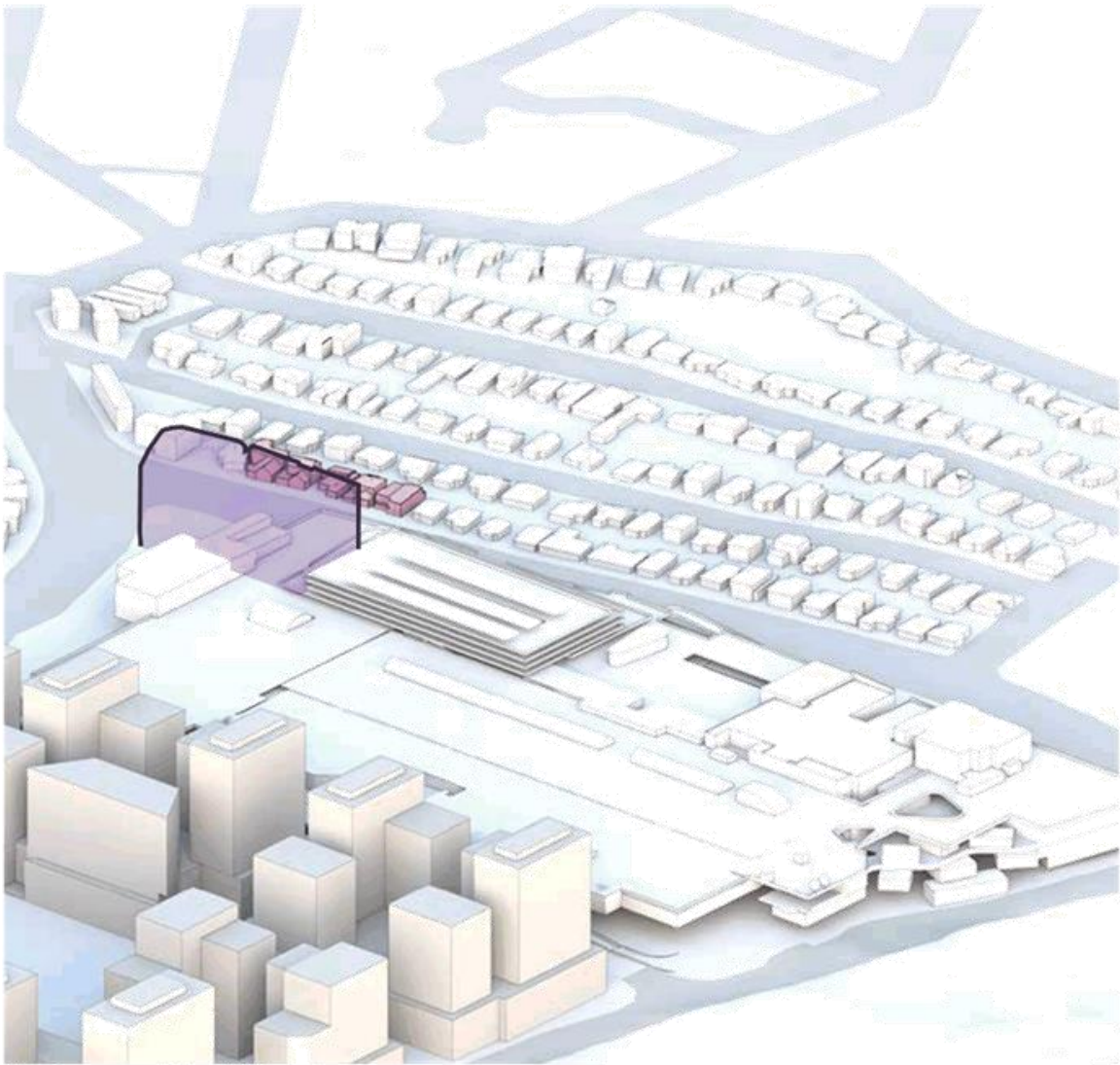


Overshadowing Assessment



Shadow plan at 2pm (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



View from sun at 2pm (21 June)



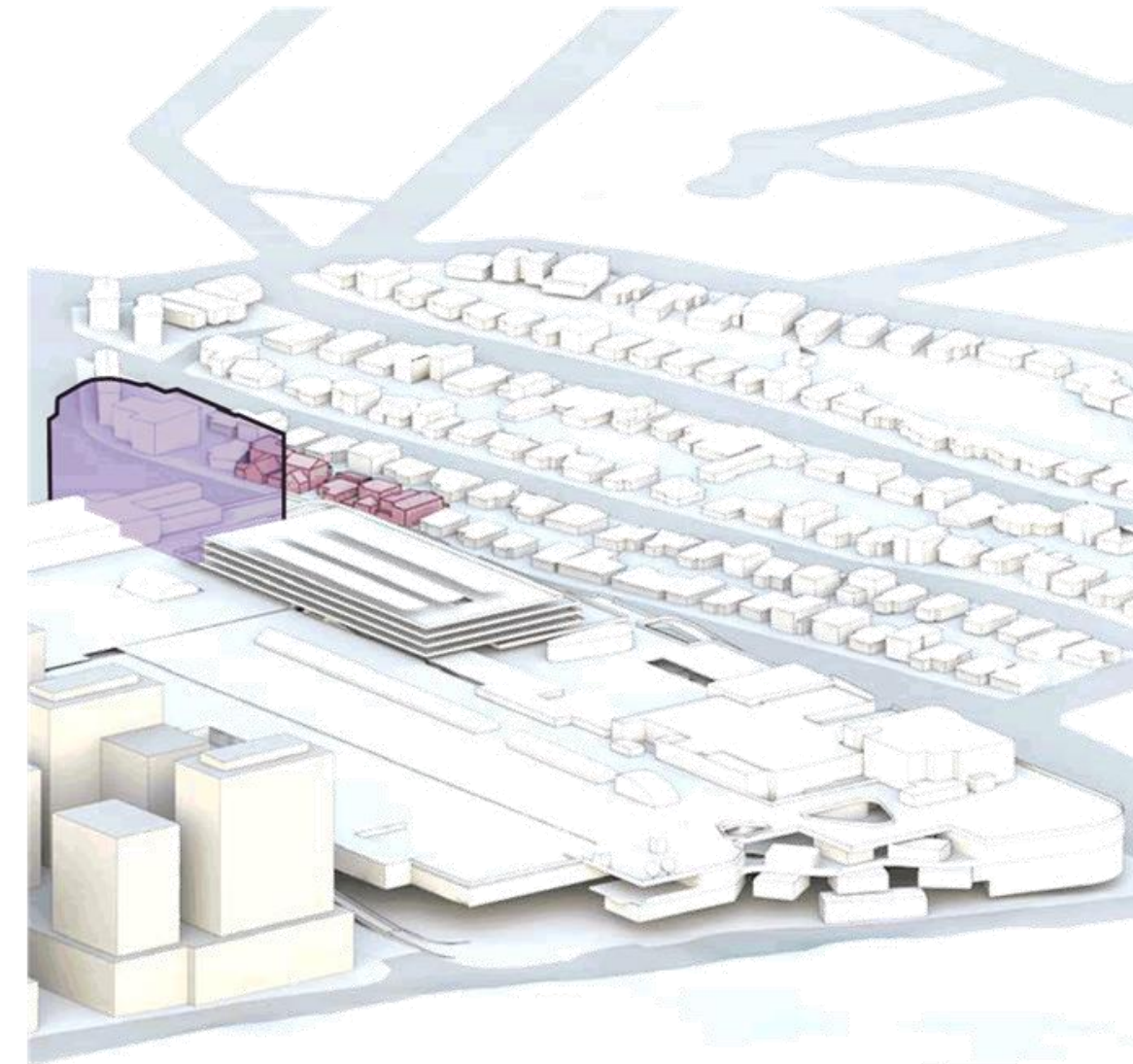
## Overshadowing Assessment



Shadow plan at 3pm (21 June)

- Legend
- Shadow cast by existing buildings only
  - Additional shadow area of the proposal
  - Shadow cast by both existing buildings and new proposal
  - Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail

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View from sun at 3pm (21 June)

91



## Overshadowing Assessment

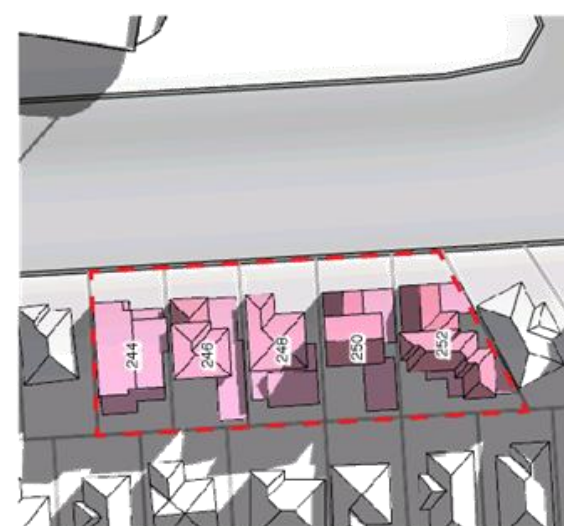
### 1. Analysis of overshadowing to primary private open space to the rear of dwellings

The five houses which have been analysed in more detail have been selected because of their existing self-shadows to private open space on 21 June do not allow them to comply with DCP 4A, 4.3 C1: *...maintain approximately 2 hours of solar access between 9am and 3pm on 21 June to windows in living areas (family rooms, rumpus, lounge and kitchens) and to 50% of the primary private open space ...*

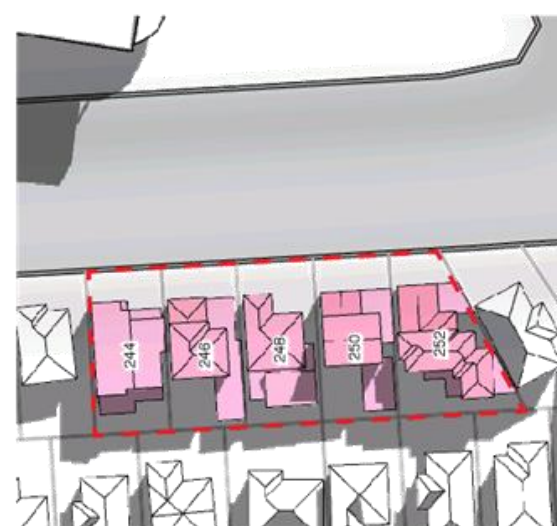
Therefore the impact of the proposal has been tested against DCP 4A, 4.3 C3: *Where the primary private open space of an adjoining development currently receives less than the required amount of sunlight on 21 June (50% coverage for a minimum of 2 hours), the proposed development must not further reduce the amount of solar access to the private open space of the adjoining development.*

#### Conclusion

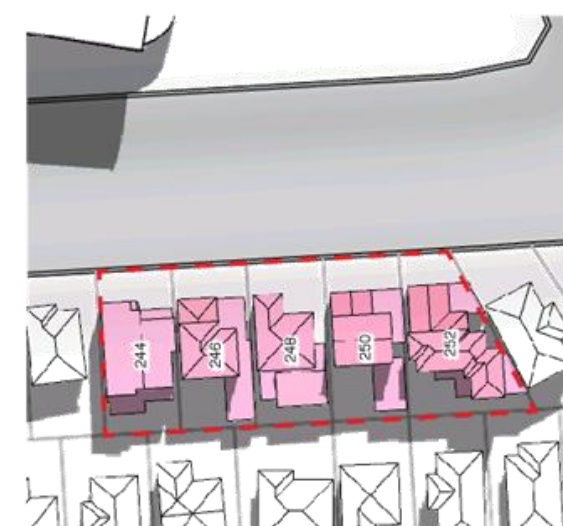
It can be seen from the adjacent diagrams that there is no additional overshadowing impact from the proposal to the primary private open space of any of the 5 dwellings in question which is consistent with Section 4A.4.3, Clause C3 of the DCP.



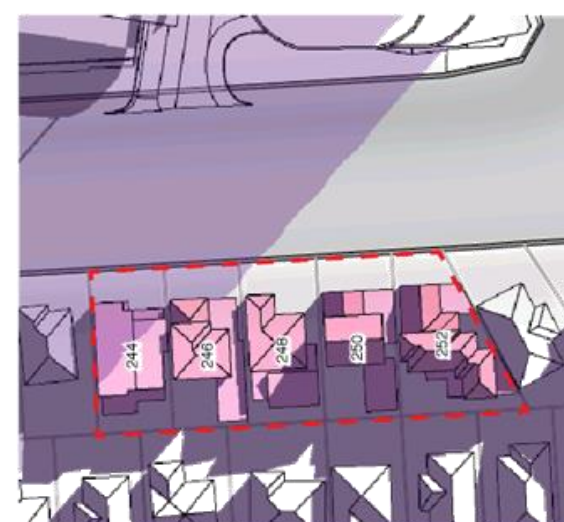
Existing  
9am (21st June)



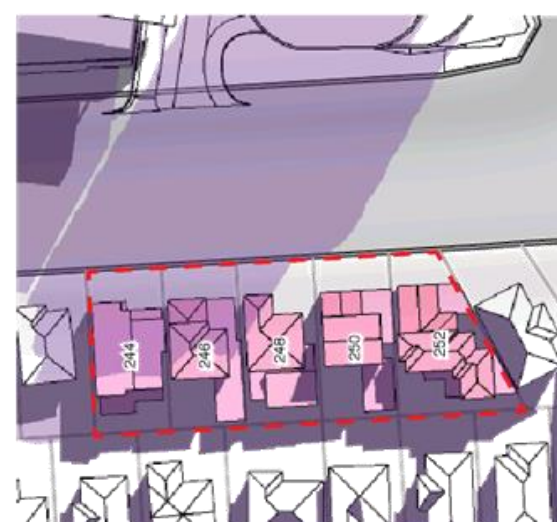
Existing  
10am (21st June)



Existing  
11am (21st June)



Proposed scheme shadow plan at 9am (21st June)  
No additional impact to primary private open space.



Proposed scheme shadow plan at 10am (21st June)  
No additional impact to primary private open space.



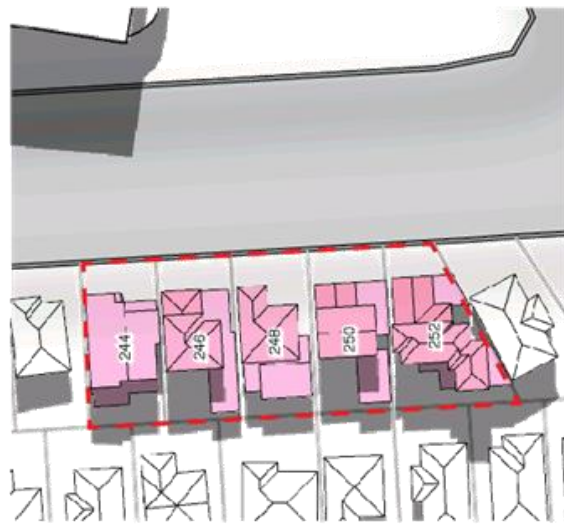
Proposed scheme shadow plan at 11am (21st June)  
No additional impact to or primary private open space.

**Legend**

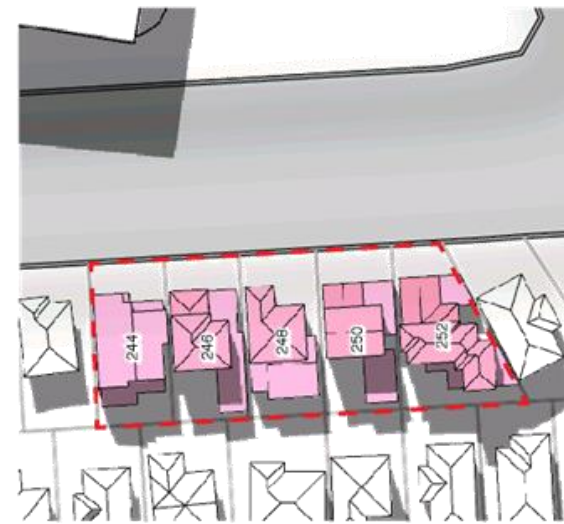
- Shadow cast by existing buildings only
- Additional shadow area of the proposal
- Shadow cast by both existing buildings and new proposal
- Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



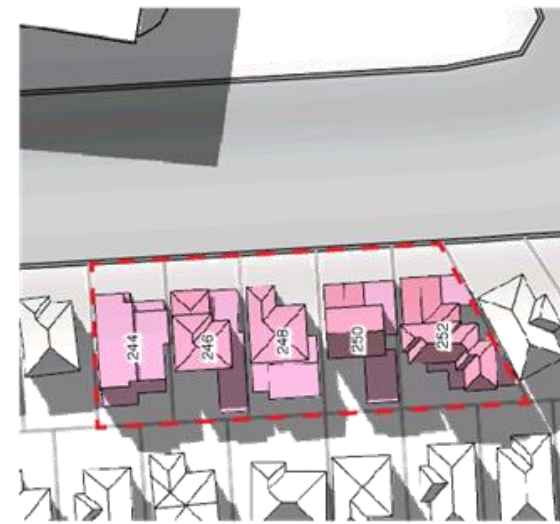
## Overshadowing Assessment



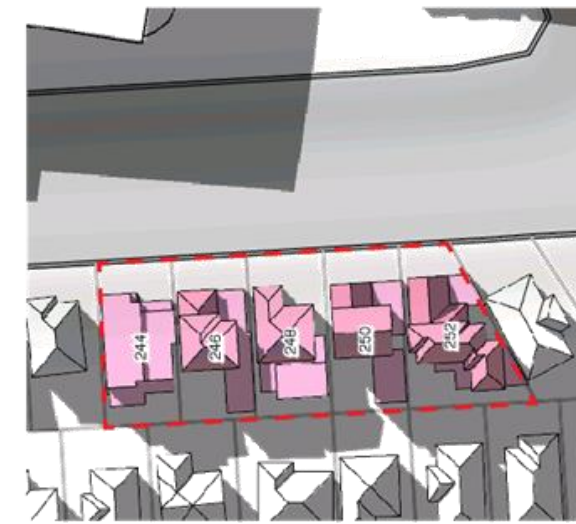
Existing  
12pm (21st June)



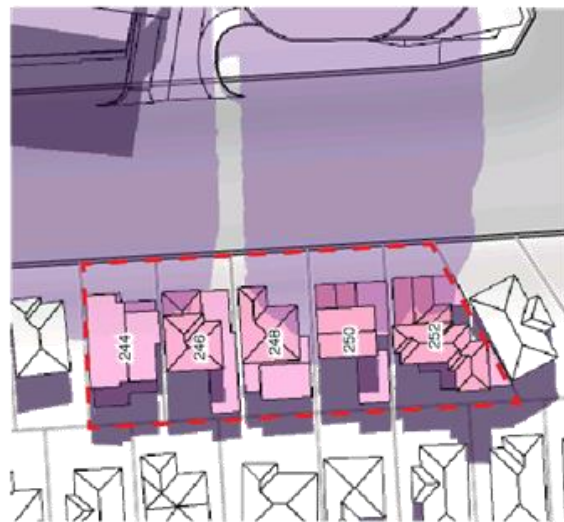
Existing  
1pm (21st June)



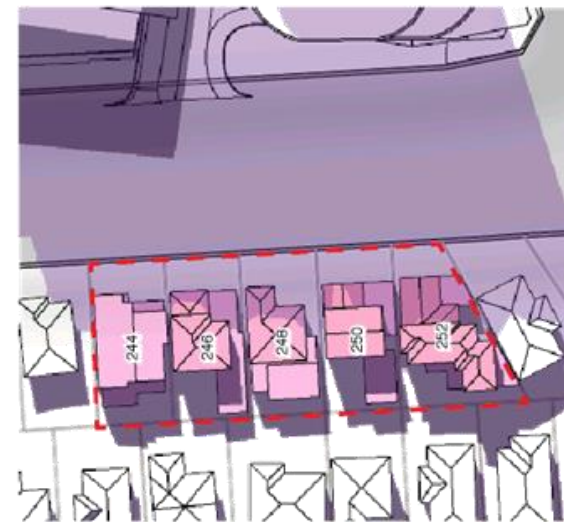
Existing  
2pm (21st June)



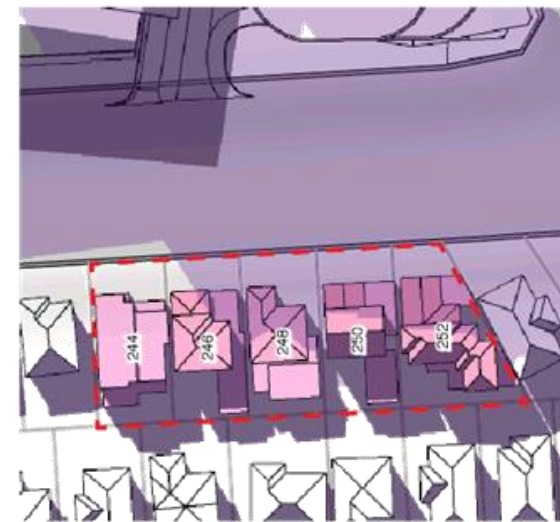
Existing  
3pm (21st June)



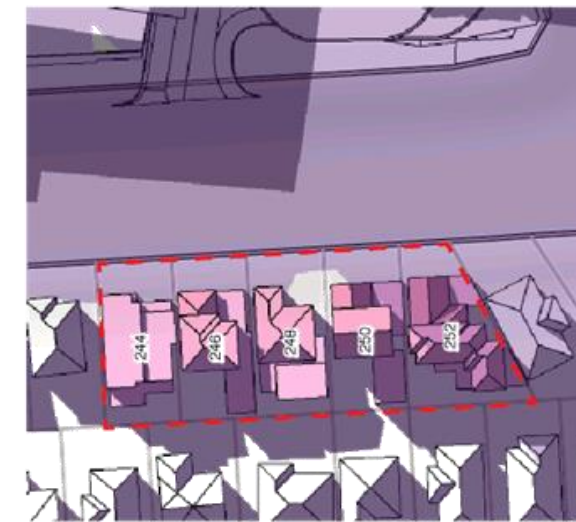
Proposed scheme shadow plan at 12pm (21st June)  
No additional impact to primary private open space.



Proposed scheme shadow plan at 1pm (21st June)  
No additional impact to primary private open space.



Proposed scheme shadow plan at 2pm (21st June)  
No additional impact to primary private open space.



Proposed scheme shadow plan at 3pm (21st June)  
No additional impact to primary private open space.



### Overshadowing Assessment

2. North elevations: location of living areas and overshadowing impacts

Likely location of living areas for 5 properties in question  
A desktop analysis of each of the 5 affected properties was undertaken to identify the location of living rooms in these properties, to comply with Clause 4A, 4.3 Solar Access Section C1. The study revealed that the living areas appear to be located on the southern sides of each dwelling (except for No. 250 Wentworth Ave - where the location of the living room is unknown).

No 244 Wentworth Ave



North elevation



Plan (source- Domain.com.au)

With the exception of a small lounge area at the front/north of the dwelling, the main living areas are on the southern side.

No 246 Wentworth Ave



North elevation (source: domain.com.au)



Living room (source: domain.com.au)

Although no plan of the dwelling is available, it can be seen in the photograph above that the main living areas and their windows open to the rear fence on the southern side of the property.

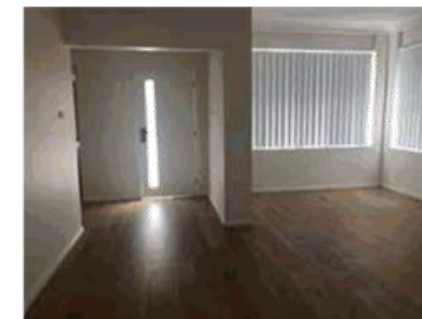
No 248 Wentworth Ave



North elevation



Living room (source: domain.com.au)



Sitting room (source: domain.com.au)

Although no plan of the dwelling is available, it can be deduced from the photograph above that there is a small sitting room on the northern side, adjacent to the front door, and larger living areas to the rear on the southern side of the property.

Overshadowing Assessment

No 250 Wentworth Ave



North elevation

There are no floor plans or internal photographs of the dwelling available. However, looking at the north elevation it can be observed that the car port and front door occupy approximately 2/3 of the width of the dwelling. It can be reasonably assumed that the remaining 1/3 wide room at the front would be too narrow to be the main living area. It is therefore assumed that a main living area is located at the rear of the property.

No 252 Wentworth Ave



Living area (Source: domain.com.au)



Main living area (Source: domain.com.au)

There are no floor plans of the dwelling available. However, looking at the internal photographs it can be assumed that the living areas are located on the southern side of the dwelling. The left photo shows a hallway leading from the front door to a living area, and the top photo shows the living area opening to the rear garden.



## Overshadowing Assessment

Analysis of overshadowing impacts to north elevations  
In consultation with Council, it was requested that the north elevations of the five houses in question be tested for solar access against Clause 4A below:

4A, 4.3 Solar Access Section C1 Buildings (including alterations/additions/extensions) are to be designed and sited to maintain approximately 2 hours of solar access between 9am and 3pm on 21 June to windows in living areas (family rooms, rumpus, lounge and kitchens) and to 50% of the primary private open space areas of both the subject site and adjoining properties. (The Botany Bay DCP 2013, Policy 4A Dwelling Houses)

Regardless of the desktop analysis which revealed that the main living rooms are most likely located to the rear/south side of the properties, the proposal has been designed to ensure that there is appropriate solar access to the front elevations of the five houses in question.

### Conclusion

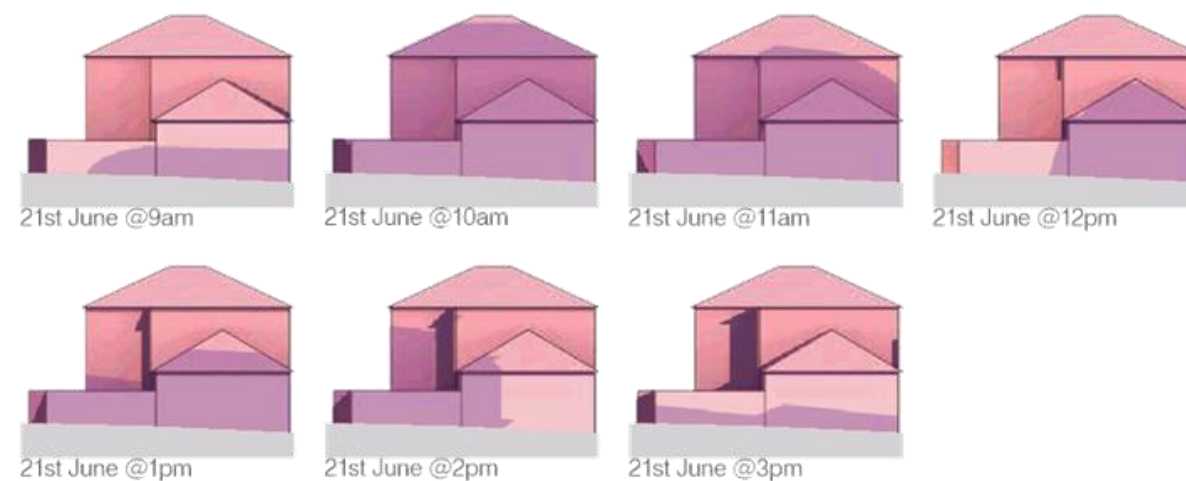
- The northern elevations receive a minimum of 1 hour of solar access in midwinter between the hours of 9am to 3pm. It is recommended that any future development maintain a minimum of 1 hour solar access to the front/ northern windows along Wentworth Avenue.
- (Note that the study is based on the 3D model built by Architectus adapted from the a 3D model purchased from NearMap, but there has not been a detailed survey undertaken to identify specific window locations.)



244 Wentworth Avenue:  
Solar access to north elevation.

The elevation is in full sun at 11am and again between 2pm and 3pm.

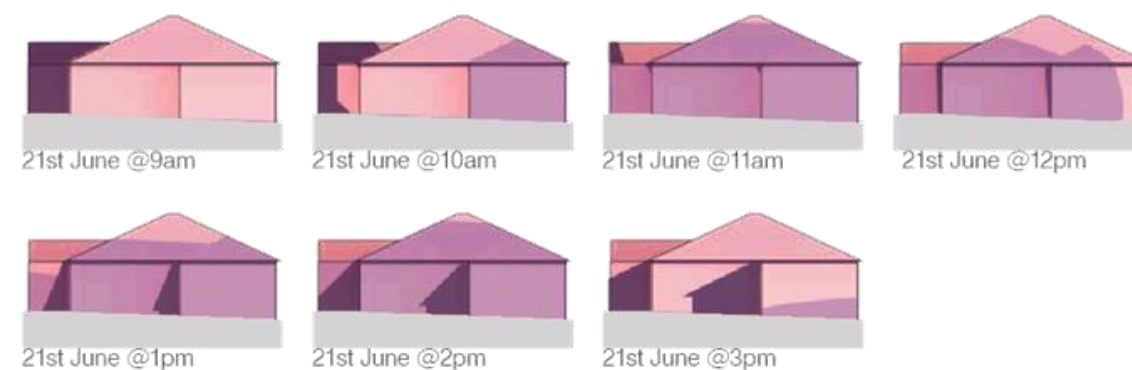
It can therefore be demonstrated that the northern windows receive a minimum of 1hr 30min of sun between 9am and 3pm.



246 Wentworth Avenue:  
Solar access to north elevation.

The elevation is in sun between 9am and 9.15am, again from 2.15pm to 3pm.

It can therefore be demonstrated that the northern windows receive approximately 1hr of sun between 9am and 3pm.



248 Wentworth Avenue:  
Solar access to north elevation.

The elevation is in full sun between 9am and 9.45am, and again from 2.40pm to 3pm.

It can therefore be demonstrated that the northern windows receive approximately 65mins of sun between 9am and 3pm.

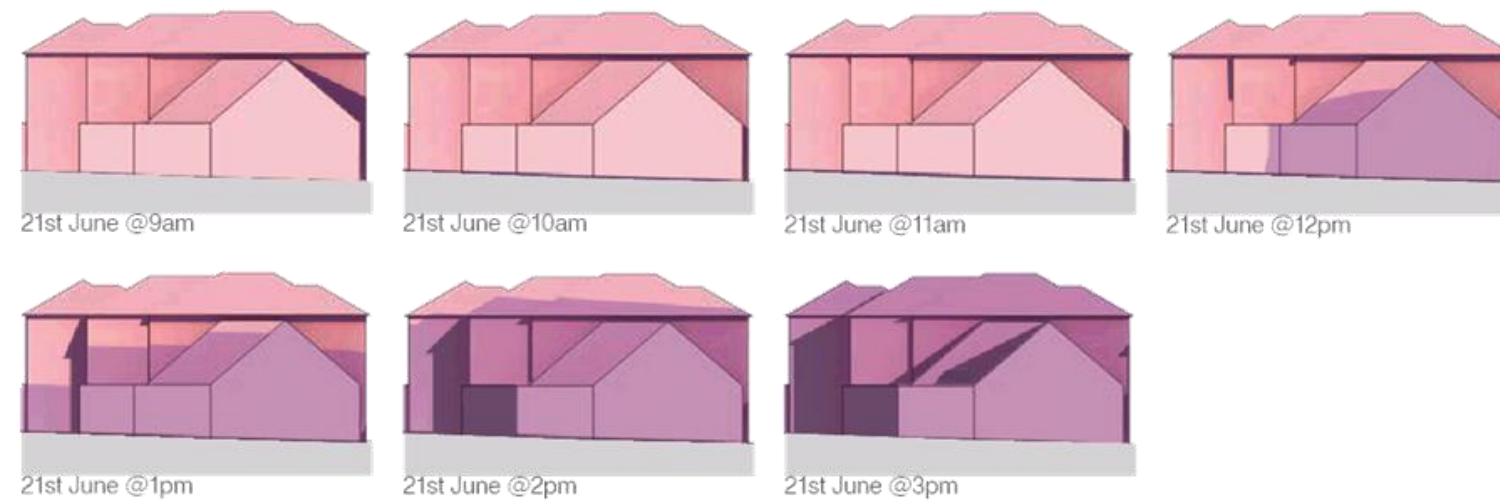
## Overshadowing Assessment



250 Wentworth Avenue:  
Solar access to north elevation.

The elevation is in full sun between  
9am and 10.30am.

It can therefore be demonstrated  
that the northern windows receive  
a minimum of 1hr 30min of sun  
between 9am and 3pm.



252 Wentworth Avenue:  
Solar access to north elevation.

The elevation is in full sun between  
9am and 11am.

It can therefore be demonstrated  
that the northern windows receive  
a minimum of 2hrs of sun between  
9am and 3pm.

Legend

- Additional shadow area of the proposal
- Shadow cast by both existing buildings and new proposal
- Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail

## Overshadowing Assessment

## 3. Analysis of overshadowing impacts to front yards

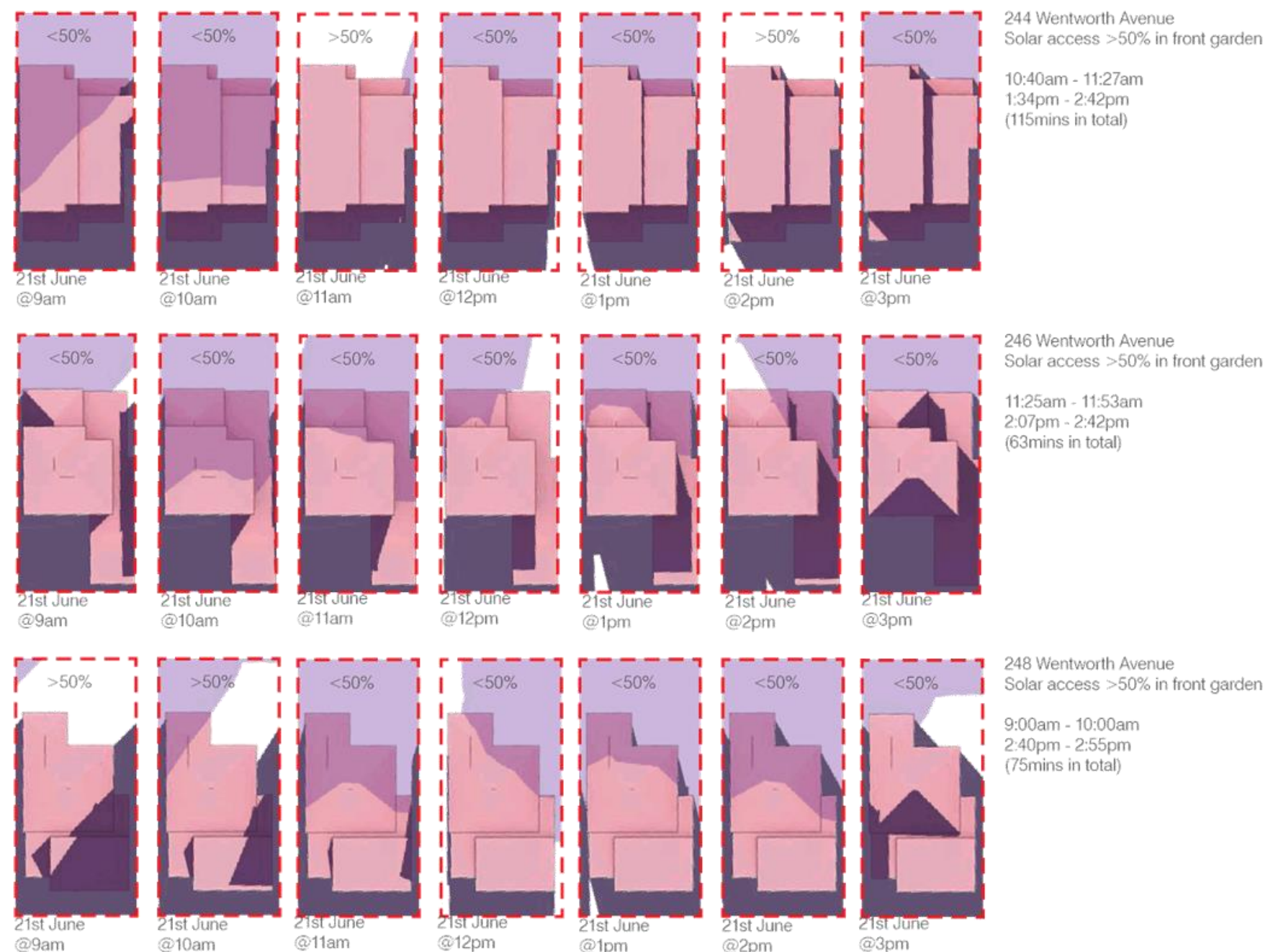
Regardless of living areas and primary private open space being located to the rear of the properties, the proposal was also tested for solar access to the front yards of each property.

## Conclusion

It is considered reasonable that the proposal should achieve a minimum of 1 hour of sunlight to 50% of each front yard where the primary private open space at the rear is not achieving the minimum 50% coverage for a minimum of 2 hours on the 21 June.

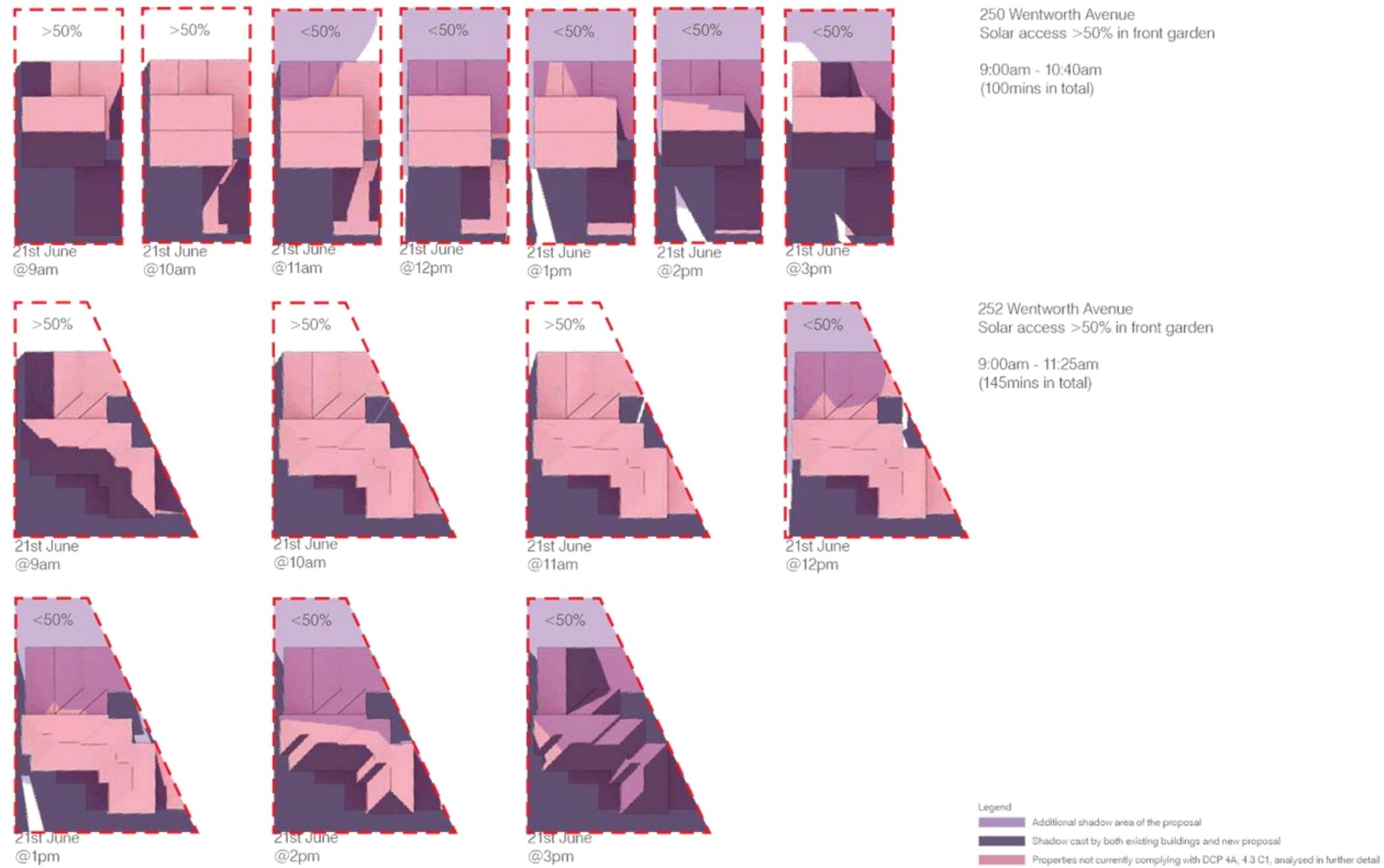
The detailed overshadowing study of front yards is adjacent and demonstrates that this is achieved.

*Note: the adjacent overshadowing study does not include the additional overshadowing created by the existing front fences of properties 246, 250 and 252 Wentworth Avenue (which due to the properties' location on a major arterial road, are solid walls to a height of approximately 2 metres to provide acoustic buffering and enhanced privacy).*





# Overshadowing Assessment



## Overshadowing Assessment

## Spring Equinox shadows (21 September)

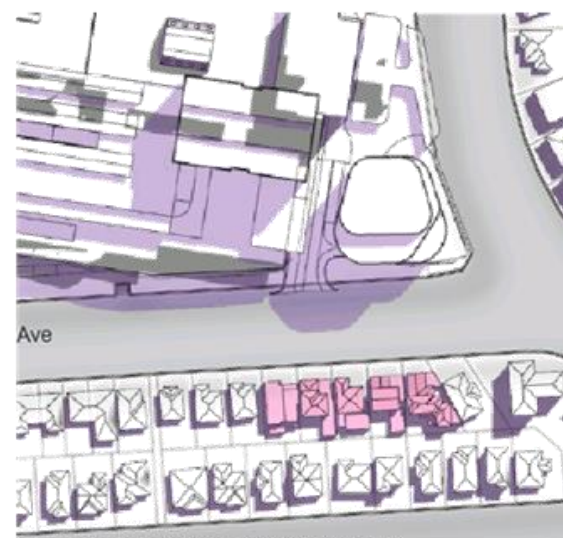
Equinox shadows have been assessed under the Botany Bay DCP 2013, Policy 4A.4.3 Solar Access, which states:

*Control C5: Where a neighbouring development currently receives less than the required amount of sunlight (on 21 June) the amount of sunlight available on the 21 March or the 21 September will be assessed and form a merit based assessment of the Development Application*

The shadow diagrams adjacent analyse overshadowing impacts on the 21st of September and conclude that the proposed development does not create any additional overshadowing impact to the adjacent properties at this time. On this basis the proposal would comply positively on a merit based assessment.



Shadow plan at 9am (21 September)



Shadow plan at 10am (21 September)



Shadow plan at 11am (21 September)



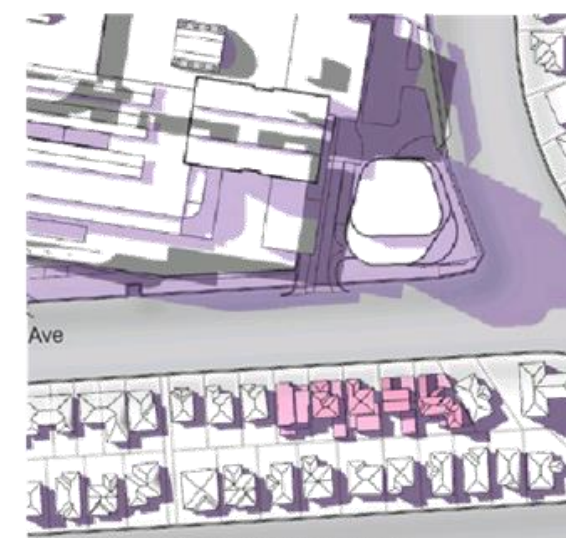
Shadow plan at 12pm (21 September)



Shadow plan at 1pm (21 September)



Shadow plan at 2pm (21 September)



Shadow plan at 3pm (21 September)

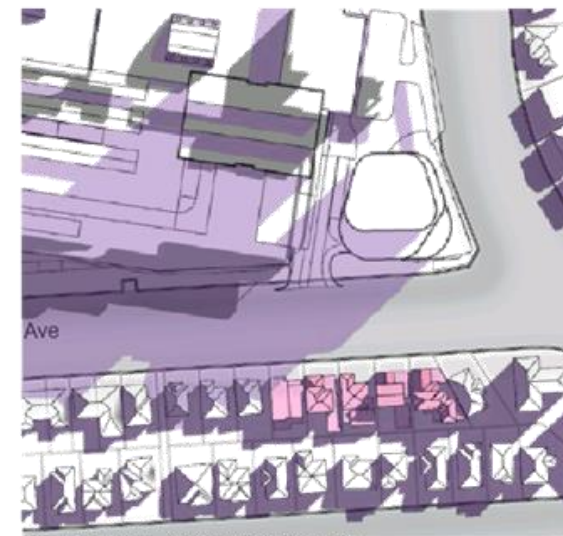
Legend

- Additional shadow area of the proposal
- Shadow cast by both existing buildings and new proposal
- Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail

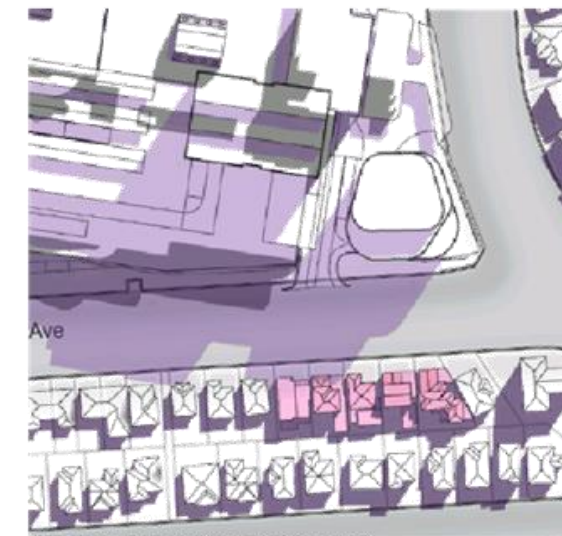


## Overshadowing Assessment

Further analysis undertaken beyond the equinox times demonstrates that all properties can achieve a minimum of 2 hours solar access to 100% of the front yards and northern facade of the 5 properties in question from approximately the 3rd of August to the 10th of May. Outside of this period, the overshadowing impact is still reasonable with at least 1 hour of solar access to 50% of the front yards as demonstrated in the overshadowing studies on the previous pages.



Shadow plan at 9am (03 August)



Shadow plan at 10am (03 August)



Shadow plan at 11am (03 August)



Shadow plan at 12pm (03 August)



Shadow plan at 1pm (03 August)



Shadow plan at 2pm (03 August)



Shadow plan at 3pm (03 August)

Legend

- Additional shadow area of the proposal
- Shadow cast by both existing buildings and new proposal
- Properties not currently complying with DCP 4A, 4.3 C1, analysed in further detail



## Overshadowing Assessment

### Summary of overshadowing assessment

Due to the detailed and thorough nature of the overshadowing assessment, this section of the report is quite long. A summary of key findings is therefore provided below and in the table adjacent.

The study indicates that during the winter solstice the proposed towers cast long shadows that are relatively fast moving and affect the surrounding residential areas for relatively short periods of time. The greatest impact on residential dwellings is seen in the area immediately to the south of Wentworth Avenue. There are 5 houses on Wentworth Avenue (Numbers 244, 246, 248, 250, 252). More detailed analysis of these 5 dwellings found that:

- There is no additional overshadowing to primary private open space at the rear of the 5 properties. (per Section 4A.4.3, Clause C3.)
- A desktop study revealed that it can be reasonably assumed that the living areas of the 5 houses in question are located at the rear/ southern side of each property and so do not require the minimum 2 hours of solar access on 21 June to their front façades. (per 4A, 4.3, clause C1)
- Notwithstanding the location of living areas for the 5 dwellings, the proposal ensures a minimum of 1 hour solar access to at least 50% of the front-yards in mid winter between the times of 9am to 3pm.
- The proposal also ensures a minimum of 1 hour solar access to the front building façades.
- Between the equinox times (from the 21st September to 21st March), the proposed development does not create any additional overshadowing impact
- Before and after the equinox, from approximately the 3rd August to the 10th May, all 5 properties achieve a minimum of 2 hours solar access to 100% of the front yards and northern facade.

## Overshadowing Assessment

	Control	244 Wentworth Ave	246 Wentworth Ave	248 Wentworth Ave	250 Wentworth Ave	252 Wentworth Ave	Compliance
Existing solar access to living areas and primary Private Open Space	4A, 4.3 Solar Access Section C1 <i>...2 hours of solar access between 9am and 3pm on 21 June to windows in living areas.. and to 50% of the primary private open space areas.</i>	Less than two hours existing sunlight to living areas and primary private open space, therefore refer to 4A,4.3.C3.					Self-shadowed under existing conditions
Primary Private Open Space	4A, 4.3 Solar Access Section C3 <i>Where the primary private open space ...currently receives less than the required amount of sunlight on 21 June, the proposed development must not further reduce the amount of solar access to the private open space.</i>	No additional overshadowing					Complies
Front yards- minimum sunlight achieved	Additional testing and control proposed by the proponent. <i>Min. 1hr sunlight to 50% of front yard on 21 June</i>	1hr, 55min	1hr, 3min	1hr, 15min	1hr, 40min	2hrs, 25min	Complies with proposed control
North elevation- minimum sunlight achieved	Additional testing and control proposed by the proponent <i>Min. 1hr sunlight to north elevation on 21 June</i>	1hr, 30min	1hr approx.	1hr, 5min	1hr, 30min	2hrs	Complies with proposed control
Spring Equinox (similar at Autumn)	4A, 4.3 Solar Access Section C5 <i>Where a neighbouring development currently receives less than the required amount of sunlight (on 21 June) the amount of sunlight available on the 21 March or the 21 September will be assessed and form a merit based assessment of the Development Application.</i>	No additional overshadowing to properties					Satisfies merit based assessment
Between 03 August and 10-May	Additional merit based testing undertaken by the proponent	Minimum 2hrs to 100% of front yards and north elevations achieved					Satisfies merit based assessment









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## 7 Conclusion & Recommendations



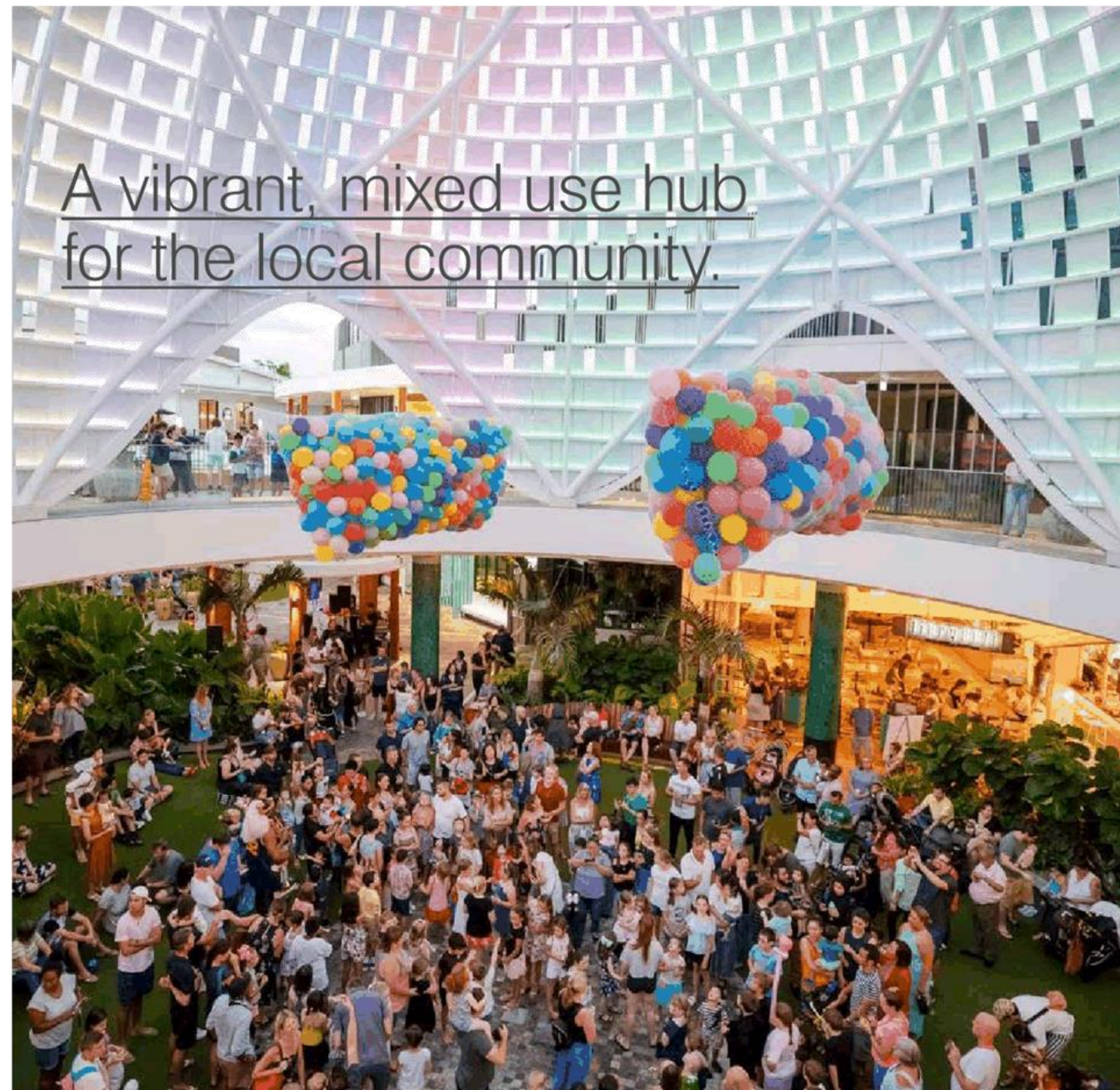
## 7.1 Conclusion

Identified as a Strategic Centre within the Eastern City District Plan, the opportunity exists to directly contribute to the priorities set out in the Plan by expanding the offer provided at Westfield Eastgardens beyond a traditional internalised retail mall, to a vibrant, mixed use hub for the local community.

With an improved arrival experience, and better connections to various modes of travel including bus, taxi, ride-share and pedestrian links, the centre will be more easily accessible to the local community for all demographics and ages.

With the potential to provide an additional 900 – 1,100 new retail jobs (full-time and part-time) and some 980-1,225 new commercial office jobs, the redevelopment of Westfield Eastgardens will play a significant role in strengthening the local economy and meeting the higher jobs target of 9000 for the Eastgardens-Maroubra Junction Strategic Centre.

The master plan illustrated within this updated planning proposal presents a re-imagined scheme that directly responds to the comments from consultation with Bayside Council and Council's independent urban design assessment.



The community gathering under "the urchin" at Westfield Chermerside



## Conclusion

Key benefits of the revised scheme include:

### ☀ 01

Exciting new publicly accessible civic plaza at the front door to the centre, defined by active edges and integrated with an upgraded bus terminus

### ☀ 02

Achievement of a comfortable scaled street wall height along Bunnerong Road with taller built form set back off the street onto the existing retail podium

### ☀ 03

Greater connections and interface with the community, through an enhanced arrival experience and externalisation of the retail offer at each end

### ☀ 04

Expansion of the offer beyond retail to include new commercial, entertainment, education, medical, and services for the community

### ☀ 05

Adequately sized A-grade commercial floorplates that will be unique in the strategic centre and respond to market demands

### ☀ 06

Defined location and shape of the proposed 59m commercial tower to significantly reduce overshadowing and visual impacts

### ☀ 07

Enhanced identity and presence through the addition of an iconic, landmark mixed-use building at the corner of Bunnerong Road and Wentworth Avenue, together with an integrated landscape experience throughout the whole centre, inside and out

### ☀ 08

Provision for future mixed use development in the north-eastern corner of the site that contributes to the realisation of the holistic master plan vision for the whole centre.

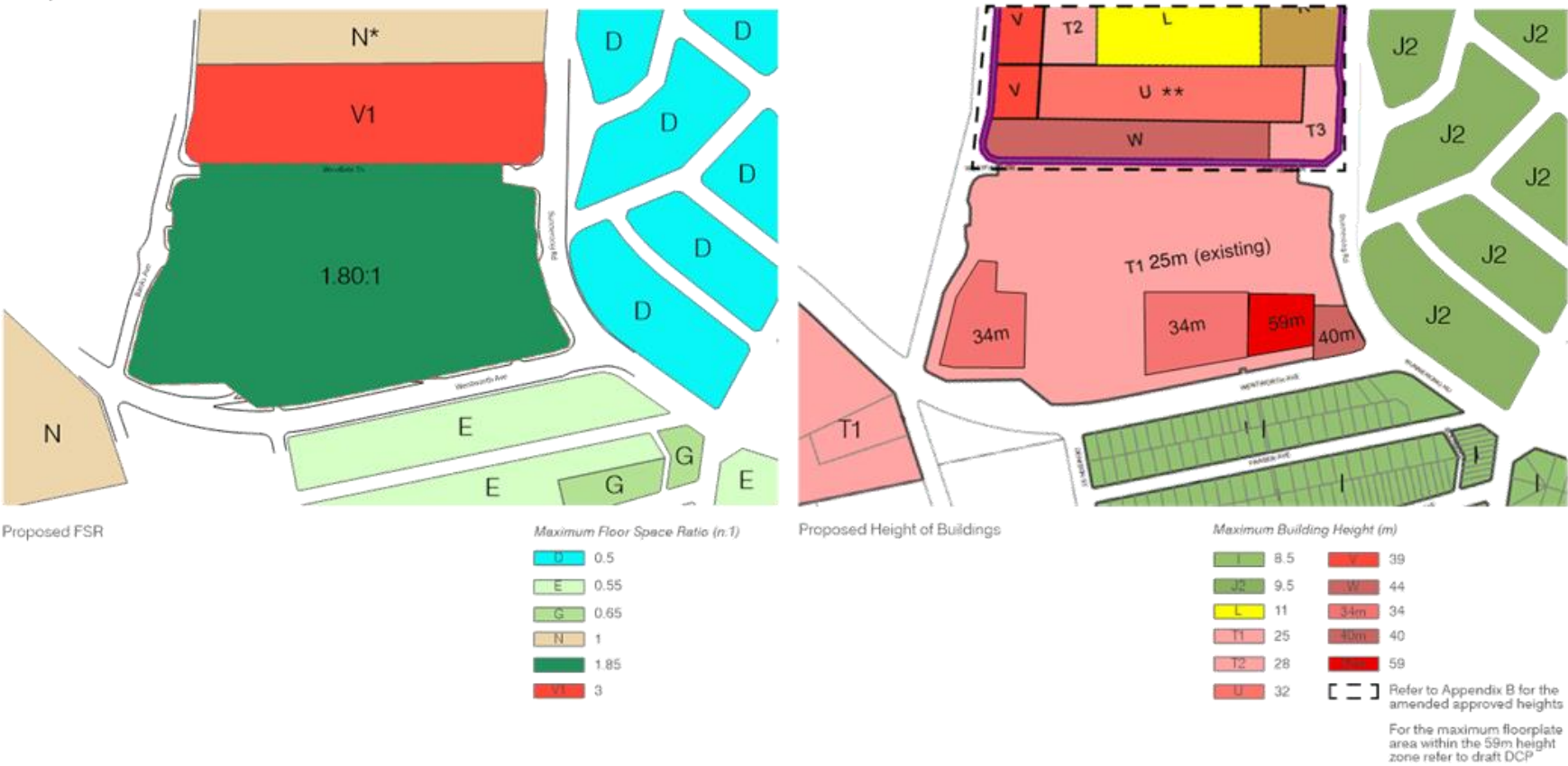


7.2 Recommendations

It is recommended that the FSR and height controls applicable to the site be revised as outlined in the adjacent diagrams.

For detailed controls including built form, open space setbacks, refer to the draft site specific DCP for the site.

Proposed LEP amendments



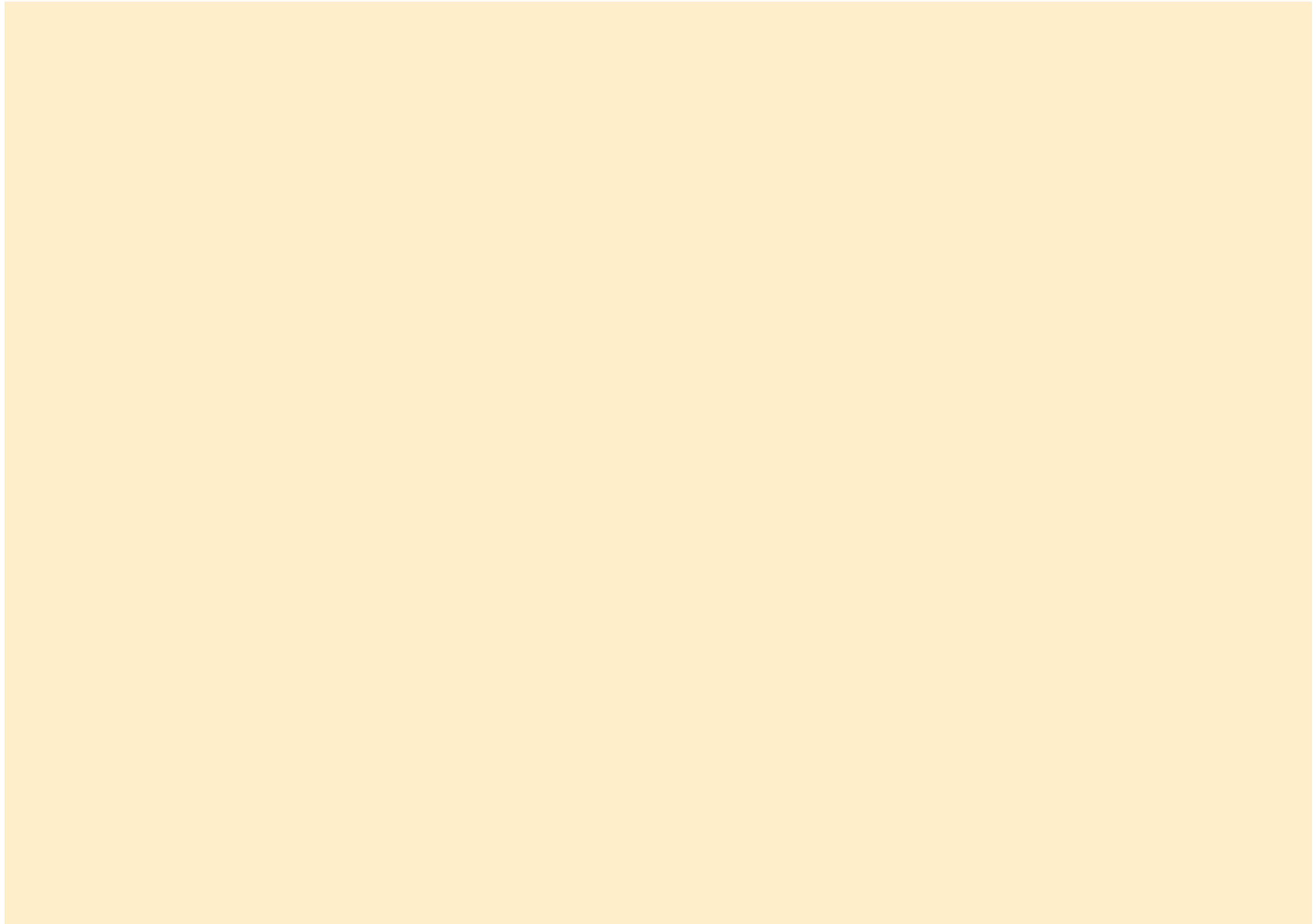
Note:

\*FSR for Stage 2 Meriton site redevelopment has now been approved through Council to be 2:1 (awaiting gazettal)

\*\*LEP maximum building heights for the Stage 1 Meriton site are less than the approved building heights as per the NSW Land and Environment Court Proceedings No. 20730/14, Dated 7/8/15 (refer to Appendix B)

## Recommendations

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## A Appendix

Assessment of revised proposal against  
Bayside Council's independent review of  
previous planning proposal

## Appendix A

## Assessment against key opportunities raised in independent review

The proposed revised master plan has successfully addressed the issues identified in the independent review commissioned by Council with a well considered proposal that contributes to the local amenity and the economy of the strategic centre.

The adjacent table summarises the points of concern raised in the independent review and how they have been responded to in the revised proposal.

Assessment of Master Plan against independent review

Key issue	Independent review comment	Master Plan response	Document reference
<b>Planning Justification</b>			
– Justification for additional height and FSR	– The scale of the towers is driven by the additional FSR sought and insufficient planning justification is provided to explain the need for this additional yield.	<ul style="list-style-type: none"> <li>– The proposal meets the strategic priorities set out in the Eastern City District Plan by maximising employment and services for a growing population within the Eastgardens-Maroubra Junction Strategic Centre.</li> <li>– Proposed height and increased FSR is focused around a transport interchange.</li> <li>– Relates to the future built form scale of the Meriton residential development, while distinguishing the proposal at Westfield Eastgardens as a clear mixed use town centre with a variety of building types, uses and scales, distinct from the Meriton site.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 2.1 Strategic Context</li> <li>– Section 4.3 Evolution of Design</li> </ul>
– Justification for location of proposed tower	<ul style="list-style-type: none"> <li>– Analysis not provided that determines that the location of the 70 metre tower is appropriate.</li> <li>– The developable areas nominated in the Urban Context Report appear to be based on structural and logistical feasibility considerations rather than driven by improvements to existing built form or streetscape outcomes, contextual relationships and associated amenity impacts.</li> <li>– No investigation of lower built forms distributed around the site (as an alternative to a taller tower) have been provided to improve overshadowing or streetscape improvements.</li> </ul>	<ul style="list-style-type: none"> <li>– Locations needs to be linked to the Bunerrong Road activity corridor and an active ground plane; have direct access to public transport; meet the ground at a logical location to provide both a separate address point and prominent commercial address for each building from street level; work with existing retail planning and the established east-west mall axis and skylights; and utilise available undeveloped land where possible. The Eastern plaza is a suitable location to best meet the above requirements.</li> <li>– Located at this eastern front door, careful placement of the proposed tower ensures generous setbacks from the street boundary are achieved to mitigate visual and overshadowing impacts.</li> <li>– Distributing towers around the site would result in cores penetrating multideck parking or retail shops, would reduce the critical mass required for a commercial precinct, and would be commercially unfeasible due to the disruption to tenancies within the operational centre, and construction cost of multiple lift cores and plants for several smaller towers.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 4.3 Evolution of Design</li> <li>– Chapter 6, Testing and Assessment</li> </ul>

## Appendix A

Key issue	Independent review comment	Master Plan response	Document reference
<b>Interface responses and connectivity</b>			
– Active street frontages and quality of streetscapes	<ul style="list-style-type: none"> <li>– Provision of a transport hub has not resulted in investigation of a street-based design outcome to the centre other than to Bunnerong Road.</li> <li>– Corner activation nominated but this is dislocated from the mall entries.</li> <li>– Street activation limited to east and west only.</li> </ul>	<ul style="list-style-type: none"> <li>– An active publicly accessible pedestrian plaza and upgraded transport interchange at the eastern end, together with the revitalisation of the western end of the centre, provides the opportunity to re-focus activity from a central internalised mall to active hubs at each end.</li> <li>– Corner activation purposely separated to create an activated public plaza, and to give a separate identity to the office building that is distinct from the retail mall. The tower will not feel dislocated from retail, but will be an important part of activating the public plaza.</li> <li>– While the current functions of Westfield Drive and Wentworth Ave are operationally important and need to be retained, the quality of both streetscapes will be improved (including new public art, lighting, landscaping, pedestrian paths and traffic calming measures along Westfield Drive and strengthened landscape buffering and improved pedestrian crossings along Wentworth Avenue).</li> <li>– The extensive perimeter of the site, and existing centre layout cannot support a continuous active pedestrian edge. It is therefore preferable to focus activity around the eastern and western ends with urban, walkable precincts with street-based interfaces.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 4.2 Urban Design Principles</li> <li>– Section 5.6 Westfield Drive interface / activation strategy</li> </ul>
– Internalised	– The indicative scheme does not adopt town centre principles of externalising areas of activation around the site or of increased walkability or genuine site permeability.	<ul style="list-style-type: none"> <li>– Proposal for western facade to externalise tenancies via outdoor terraces and for eastern entry to be centred around a new external plaza and active retail frontages. These proposed upgrades will re-focus activity from a central internalised mall to active hubs at each end.</li> <li>– Proposed new buildings have entries and active frontages to Bunnerong Road.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 5.2 The Master Plan - West Precinct</li> <li>– Section 5.3 The Master Plan - East Precinct</li> </ul>



## Appendix A

Key issue	Independent review comment	Master Plan response	Document reference
– Car oriented design	<ul style="list-style-type: none"> <li>– The increase in internalised retail is likely to increase car use and discourage street based revitalisation.</li> <li>– An expansion of carparking is also proposed, contrary to the contemporary direction of new centres across NSW and District Plans, promoting walkability to reduce car dependencies.</li> </ul>	<ul style="list-style-type: none"> <li>– New pedestrian focused plaza at the eastern end incorporates a re-developed bus terminus, which will add more capacity for public transport and significantly improve the passenger experience. New opportunities introduced for on-demand transport (ride-share, taxi), and defined pathways for pedestrian access.</li> <li>– New east and west address points for pedestrian access.</li> <li>– Upgrades to the Westfield Drive public domain will facilitate and promote walking connections with the Meriton site to the north.</li> <li>– New car parking is mainly to replace existing parking that is relocated for the retail development. Actual parking provision will be modelled at DA stage for assessment by Council.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 5.2 The Master Plan - West Precinct</li> <li>– Section 5.3 The Master Plan - East Precinct</li> </ul>
– Loss of vegetation buffer	<ul style="list-style-type: none"> <li>– Concerned that the proposal does not sufficiently secure tree retention and there seems to be some inconsistencies in the landscaped setbacks nominated for the north eastern part of the site.</li> <li>– Lack of landscape strategies for the northern and western edges of the site.</li> </ul>	<ul style="list-style-type: none"> <li>– Vegetation buffer retained and expanded along Bunnerong Road and Wentworth Avenue into the new pedestrian plaza.</li> <li>– Vision for western end of the site is to create an "Urban Oasis" where landscape will be the focus of the precinct with vertically landscaped terraces and interactive green spaces from ground to roof-top.</li> <li>– New landscaping proposed along Westfield Drive to improve the amenity and comfort of the street while providing a buffer against the loading docks.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 4.2 Urban Design Principles</li> <li>– Section 5.1 The Master Plan</li> <li>– Section 5.6 Westfield Drive interface / activation strategy</li> </ul>
– Pedestrian connection from Meriton site to the north	<ul style="list-style-type: none"> <li>– The proposal delivers no substantial improvements to the northern interface which will continue to be dominated by vehicular access ramps and loading, providing a poor outcome to the residential areas to the north and directing pedestrian movement out only to the main road.</li> </ul>	<ul style="list-style-type: none"> <li>– Proposed that pedestrian movements be separated from loading areas.</li> <li>– A variety of options for circulating are proposed to suit individual pedestrian needs.</li> <li>– Traffic calming strategies to improve safety for pedestrians.</li> <li>– New landscaping, public art and lighting is proposed to improve the amenity of the street.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 5.6 Westfield Drive interface / activation strategy</li> </ul>

## Appendix A

Key issue	Independent review comment	Master Plan response	Document reference
<b>Height of Buildings</b>			
– Relationship to surrounding context	<ul style="list-style-type: none"> <li>– 70 metre height not clearly justified.</li> <li>– Lack of scale transition between proposed tower and adjacent context.</li> <li>– Against Meriton height strategy - the maximum building height proposed for the indicative scheme appears to exceed the height of the approved developments to the north.</li> </ul>	<ul style="list-style-type: none"> <li>– The previously proposed 70m tall commercial tower has been reduced in height to 59m (less than the maximum height approved for the Meriton residential development) and is set back from the street edge above the retail podium, deeper into the site.</li> <li>– The master plan broadly adopts the Meriton height strategy with a lower street wall fronting Bunnerong Road with a proposed height of 22m transitioning up 40m storeys at the south-east corner. Taller built form is set back to align with the taller built form under construction on the Meriton site. The proposed low-scale street wall along Bunnerong Road improves the interface with and transition to surrounding low density residential.</li> </ul>	– Section 4.3 Evolution of Design
– Lack of justification for "Gateway" location	– Concern for location of previous proposed (March 2018 planning proposal) for 70m tower at "gateway" location on corner of Bunnerong Road and Wentworth Avenue.	– The previously proposed 70m tall commercial tower has been reduced in height to 59m and is now set back from the street deeper into the site. In its place a 40m tall commercial building is proposed for the prominent corner of Bunnerong Road and Wentworth Avenue. It is envisaged that this building would be a landmark sculptural building, set within the existing landscape buffer.	– Section 4.3 Evolution of Design
– Urban form options	– The maximum building height and massing distribution should be generated from a detailed study of the urban form outcomes across the elongated centre and ensuring minimal overshadowing.	<ul style="list-style-type: none"> <li>– A number of options were tested that considered overshadowing and view impacts, site planning and commercial feasibility.</li> <li>– The preferred option that is the subject of this planning proposal has a maximum height that meets DCP compliance by: 1) achieves a minimum of 2 hours of solar access between 9am and 3pm on 21 June to 50% of the primary private open areas of adjoining properties; 2) where this is not currently achieved, creates no additional overshadowing to the primary private open space of these properties; 3) achieves minimum 1 hour to &gt;50% of the front yards on 21 June between 9am and 3pm to those properties that currently receives less than the required amount of sunlight to primary private open space.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 1.3 Options Tested</li> <li>– Chapter 6, Testing and Assessment</li> </ul>

## Appendix A

Key issue	Independent review comment	Master Plan response	Document reference
– Lack of GFA distribution breakdown	– The applicant should provide a detailed breakdown of the expected GFA distribution across the site to allow Council to determine whether the indicative massing scheme is consistent with the capacity of the proposed uplift.	<ul style="list-style-type: none"> <li>– The revised planning proposal proposes no change in zoning from the current B3 Commercial Core land zoning. The increased FSR is anticipated to be allocated as 27,300sqm commercial and 37,500sqm of retail. The design and land-use will be developed as the project progresses, and in response to market demand. A future stage development will include flexible buildings which may accommodate commercial, hotel, build-to-rent and/or student accommodation uses in order to complete the master plan for the eastern end of the site.</li> <li>– A proposed GFA breakdown based on the reference scheme is provided in Appendix C.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 5.1 The Master Plan</li> <li>– Appendix C - GFA breakdown</li> </ul>
– Inappropriate primary and secondary setbacks	– Upper level setbacks are insufficient and should be increased to Bunnerong Road to provide a more balanced streetscape and a human scale environment.	– Setbacks have been revised from the previous planning proposal. An 8 storey street wall height at the corner of Bunnerong Road and Wentworth Avenue provides a transition with surrounding streetscapes and the 59m tower is set back behind the street wall and from the podium edge (with a minimum 35m setback from the southern boundary)	<ul style="list-style-type: none"> <li>– Section 5.1 The Master Plan</li> <li>– Section 5.5 Architectural Character, Materials and Finishes</li> </ul>
– Future planning stage	– The intention for the “Future Planning Stage” is unclear as it is also nominated for building height increase to 34 metres.	<ul style="list-style-type: none"> <li>– The future planning stage in the north-east corner of the site is not subject to a request for additional height as part of this planning proposal. Indicative future built form for this location has been included in order to illustrate the complete master plan vision for the precinct and help guide Council’s LEP review process.</li> <li>– The intention is for these indicative built form envelopes to form part of a future planning scheme that will explore additional land use options for the site that further diversify the mixed use centre offering and support the strategic priorities of the precinct.</li> <li>– A Stage 1 plan of Level 2 is provided on page 50 of this report to illustrate how the proposed master plan can be staged and allow for the future development to be realised at a later stage.</li> </ul>	<ul style="list-style-type: none"> <li>– Section 1.1 Project Background</li> <li>– Section 1.2 Key Objectives</li> <li>– Section 5.3 The Master Plan - East Precinct</li> </ul>



## Appendix A

Key issue	Independent review comment	Master Plan response	Document reference
<b>Amenity</b>			
– Potential view impacts	– Potential view impacts (in particular precinct vistas) was raised as a concern for the previously submitted planning proposal (submitted March 2018).	– It is considered that the proposed built form will form part of a cluster related to the adjacent Meriton site. The skyline will highlight a hub of density around the mixed use and transport nodes, with a transition to a lower street wall height along the perimeter street interfaces.	– Chapter 6, Testing and Assessment
– Overshadowing impacts	– Overshadowing of the low density residential areas to the south by the 70 metre tower is considered unacceptable.	– The height has been reduced and the tower placement amended so that the proposal can comply with the Dwelling Houses DCP for overshadowing impacts, such that a minimum of 50% of the primary private open space of adjoining properties receive a minimum of 2 hours of solar access between 9am and 3pm, except for dwellings that already self-shadow. For these dwellings, the development does not create additional overshadowing to the area of primary private open space. – Additional overshadowing controls, beyond those required by the DCP have been proposed in the supporting DCP to ensure reasonable solar access to front yards and northern elevations of dwellings to the south of Wentworth Avenue. Recommendations for these controls are discussed in the overshadowing section in Chapter 6. – This change to height and overshadowing impact is now considered reasonable and acceptable in the context of a strategic centre.	– Chapter 6, Testing and Assessment
<b>Accuracy of Documentation</b>			
	– Detailed sections not provided showing accurate topography	– Additional ground level RLs have been added to the section drawings.	– Section 5.3 The Master Plan - East Precinct
	– Inaccuracies in the view analysis (various)	– The view analysis and model used has been checked and inaccuracies fixed for built form in the Stage 1 approved Meriton residential development site.	– Chapter 6, Testing and Assessment
	– Heights shown in the 3D indicative massing are not consistent with the approved BATA Masterplan. Some buildings appear to be shown 4 storeys higher than the approved Masterplan.	– The Stage 1 approved Meriton residential development site in the Architectus model has been amended to match the approved master plan included in Appendix B of this report.	– Chapter 6, Testing and Assessment



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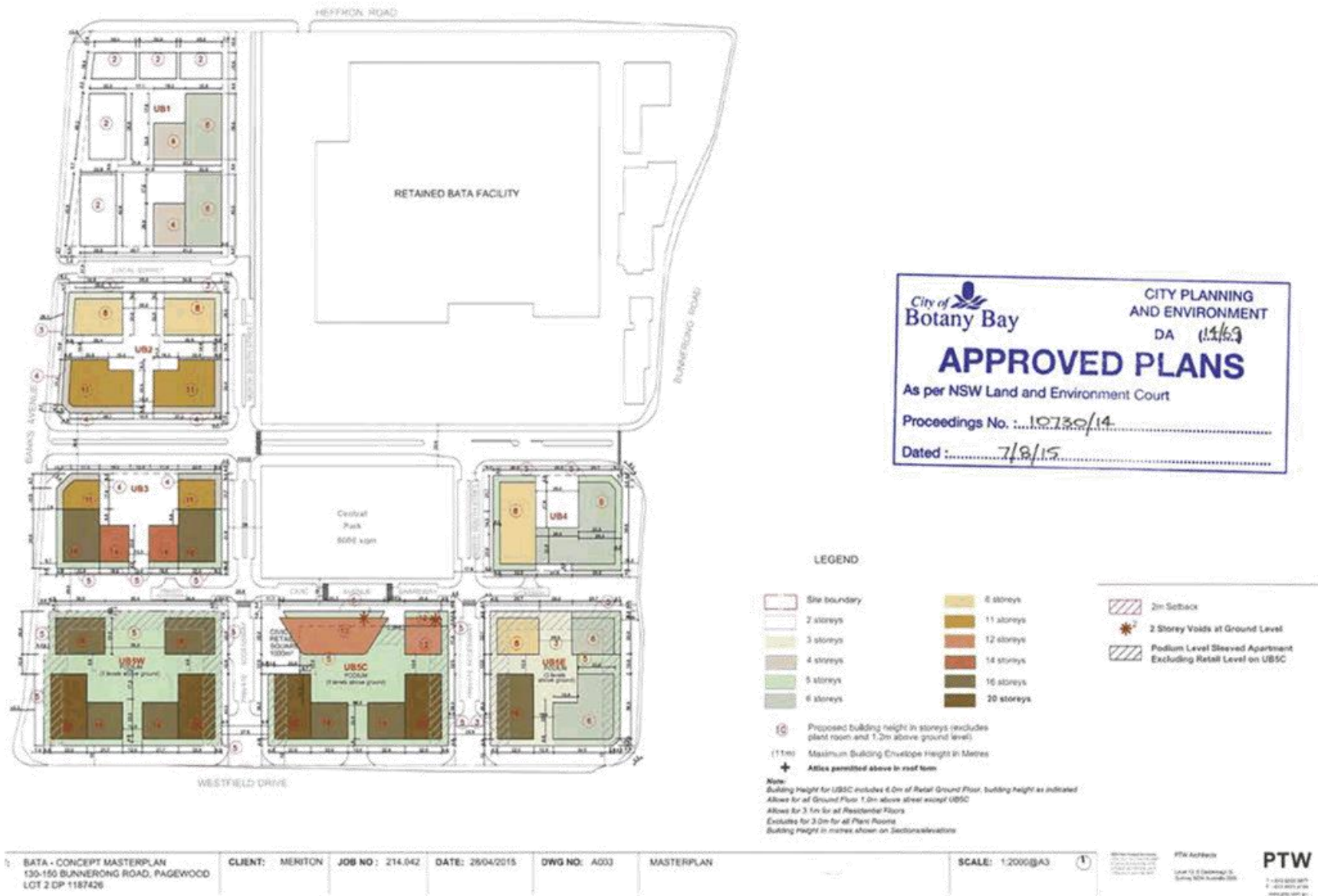
## B Appendix

Council Approved Concept Master Plan for 130-150 Bunnerong Road, Pagewood



Appendix B

Council Approved Concept Master Plan for 130-150 Bunnerong Road, Pagewood



## Appendix B

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C Appendix

Indicative GFA distribution breakdown  
as per the concept reference scheme

## Appendix C

Concept reference scheme indicative  
GFA distribution breakdown per level

*Note: Areas provided are indicative only, based on concept reference scheme and subject to change through the detailed design phase and commercial requirements.*

Description			Incremental GFA	Efficiency	Incremental GLA
<b>Retail</b>					
Incremental retail			37,500	n/a	27,500
<b>Commercial</b>					
<b>Tower A</b>					
Level 16 - plant level			-	n/a	-
Level 15 - tiered part level			760	86%	650
Level 14			1,360	90%	1,220
Level 13			1,360	90%	1,220
Level 12			1,360	90%	1,220
Level 11			1,360	90%	1,220
Level 10			1,360	90%	1,220
Level 9			1,360	90%	1,220
Level 8			1,360	90%	1,220
Level 7			1,360	90%	1,220
Level 6 - connected to Level 6 of existing Tower C			1,360	90%	1,220
<b>Sub-total Tower A</b>			<b>13,000</b>	<b>89%</b>	<b>11,630</b>
<b>Tower B</b>					
Level 10 - setback part level			800	84%	675
Level 9 - setback part level			800	84%	675
Level 8			1,050	88%	920
Level 7			1,050	88%	920
Level 6			1,050	88%	920
Level 5			1,050	88%	920
Level 4			1,150	87%	1,000
Level 3			1,150	87%	1,000
Level 2			1,150	87%	1,000
Level 1			1,100	86%	950
Basement			650	85%	550
<b>Sub-total Tower B</b>			<b>11,000</b>	<b>87%</b>	<b>9,530</b>
<b>Tower C</b>					
Enlargement of existing Level 6 (plus connection to Tower A shown separately)			540	90%	485
Enlargement of existing Level 5			920	85%	785
Enlargement of existing Level 4			920	85%	785
Enlargement of existing Level 3			920	85%	785
<b>Sub-total Tower C</b>			<b>3,300</b>	<b>86%</b>	<b>2,840</b>
<b>Incremental Commerical</b>			<b>27,300</b>	<b>88%</b>	<b>24,000</b>
<b>Incremental retail and commercial reference scheme</b>			<b>64,800</b>	<b>80%</b>	<b>51,500</b>

## Appendix C

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EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

# **Part 9E**

## **Eastgardens**

### **Mixed-use Centre**

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

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## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.1 INTRODUCTION**

This Part establishes a framework to guide the staged development of Westfield Eastgardens, at 152 Bunnerong Road, Eastgardens, NSW 2036 (the site), shown at Figure 1, overleaf.

**9E.1.1 DCP NAME AND COMMENCEMENT**

This DCP is called Botany Bay Development Control Plan (DCP) 2013 – Part 9E Eastgardens Mixed-use Centre.

**9E.1.2 AIMS AND OBJECTIVES OF THIS PART**

The objectives of this Part are to:

- Establish a clear vision, development principles and controls for the development of the site;
- Promote the delivery of high-quality retail and commercial uses that support the needs of current and future residents in the local community and beyond; and
- Encourage the evolution of the retail asset as a high-quality mixed-use centre, consistent with its role within the Eastgardens-Maroubra Junction Strategic Centre.
- Staged public domain upgrades with the renewal of stages of the site over time.

**9E.1.3 LAND TO WHICH THIS PART APPLIES**

This Part applies to land at 152 Bunnerong Road (Lot 1 DP 1058663), Eastgardens, as outlined in red at Figure 1. For the purposes of this DCP, the site has been divided into four precincts, which are at different stages of planning and development. The DCP provides directions for each precinct, as outlined below.

**Table 1 Explanation of precincts**

<b>Precinct</b>	<b>DCP directions</b>
<b>Precinct 1 – Bunnerong Road Main Street Renewal Precinct</b>	<ul style="list-style-type: none"> <li>- Following a master plan process and LEP amendment (2019 Planning Proposal), this DCP provides more detailed guidance on planning and design outcomes for this renewal precinct within the site.</li> <li>- Detailed provisions for access and public domain for this precinct</li> <li>- Detailed provisions for the design of buildings A, B and C</li> <li>- The "future development" footprints D and E show potential locations for future development of student housing or commercial premises, subject to feasibility, design and planning considerations. This DCP provides principles for future master planning to test these building locations.</li> </ul>
<b>Precinct 2 – Wentworth Avenue – minor retail and parking additions</b>	<ul style="list-style-type: none"> <li>- The planning controls allow for some additional retail and parking development in this precinct, subject to design and future Development Applications (DA's)</li> <li>- This DCP provides principles and controls for the location and design of any additional development.</li> </ul>
<b>Precinct 3 – Cinema, Entertainment and Food Gateway Precinct</b>	<ul style="list-style-type: none"> <li>- Additional development for entertainment, retail and food and beverage uses in this precinct will help to activate this important corner. The intent is to reduce the impacts of vehicles to this edge and open the center to the street with some outdoor dining opportunities, for future assessment via the DA process.</li> <li>- This DCP provides principles and controls for the location and design of any additional levels under the current controls, and extended cinema under revised controls.</li> </ul>

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

	<ul style="list-style-type: none"> <li>– This DCP provides principles for future master planning or development applications where tower height may be considered in the long-term.</li> </ul>
<b>Precinct 4 – Westfield Drive – Short-term public domain and access improvements</b>	<ul style="list-style-type: none"> <li>– The planning controls do not allow for substantial new development, or taller buildings in this precinct.</li> <li>– This area may be subject to future master planning, and at that time, a review of the site's access and servicing will be required, with a view to improve the activation, walkability and presentation of Westfield Drive.</li> <li>– The DCP provides general guidelines for future master planning or development approval and some interim design outcomes for short term improvements to the presentation and functionality of Westfield Drive.</li> </ul>

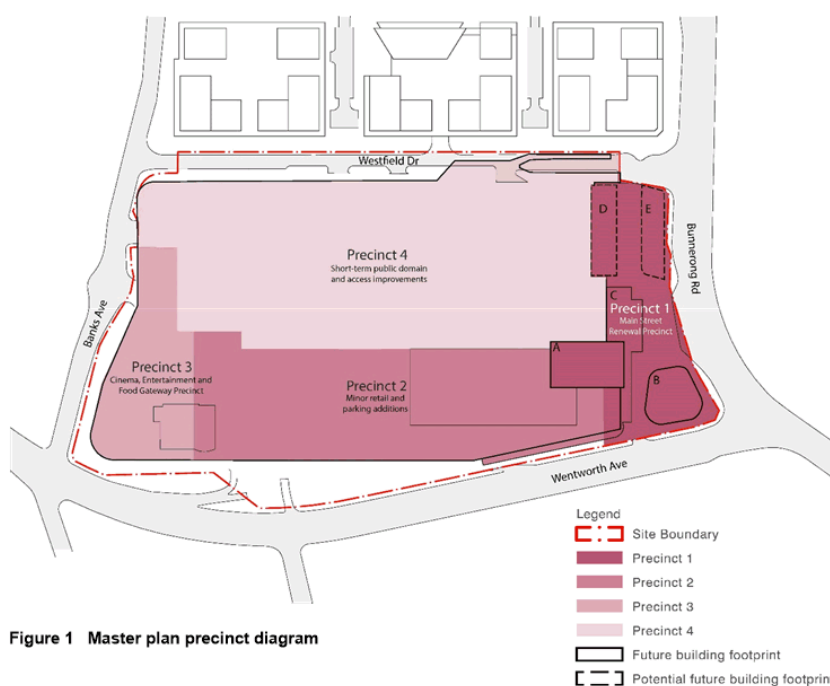


Figure 1 Master plan precinct diagram

## 9E.1.4 RELATIONSHIP WITH OTHER PARTS OF THE DCP

This site specific DCP forms part of The Botany Bay Development Control Plan 2013 (Botany Bay DCP 2013 or the DCP). This Part should be read in conjunction Part 3 General Provisions.

EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

Development within the site will need to have regard to this Part of the DCP as well as other relevant controls in the DCP. In the event of any inconsistency between this Part and other Parts of the DCP, this Part will prevail to the extent of the inconsistency.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.2 VISION****9E.2.1 VISION FOR THE EASTGARDENS MIXED-USE CENTRE**

Westfield Eastgardens will transform over time into a vibrant, mixed-use centre with the introduction of additional uses, an improved retail and entertainment offer and a focus on enhancing customer visitation to the centre on foot and by public transport. New commercial office towers will be integrated into an active civic plaza connected to the bus terminus at the eastern end. The transformation of Westfield Eastgardens is an opportunity to improve accessibility, better connect with the community, create jobs and strengthen the important strategic and economic role of the centre.

Westfield Eastgardens will transcend its role as a traditional shopping centre and become a morning to evening community hub where people can fulfil more of their daily needs.

A new street address fronting Bunnerong Road, centred on an active publicly accessible civic plaza, will ensure the centre integrates with the surrounding neighborhood and delivers an improved arrival experience for visitors travelling on foot, by car or by public transport.

Key elements of the vision are:

- To expand and redevelop the shopping centre to deliver a mix of new uses to meet the needs of the local community.
- To accommodate future employment growth and promote job creation at the centre.
- To accommodate health, wellbeing and civic service and lifestyle uses to support the day to day needs of the community.
- To deliver an improved retail offer that builds on the strategic retail importance of the centre.
- To improve pedestrian accessibility, amenity, safety and permeability.
- To improve the external interface and quality of the streetscape around the centre.
- To create a better civic entry from the east by rearranging bus and taxi access, along with an enhanced public domain.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

## 9E.2.2 MASTER PLAN AT A GLANCE – KEY FEATURES

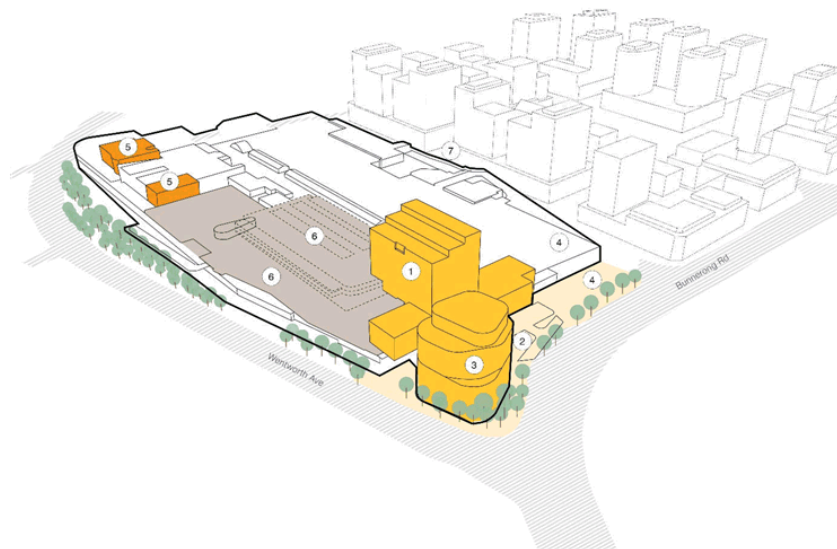


Figure 2 Master Plan – Key Features

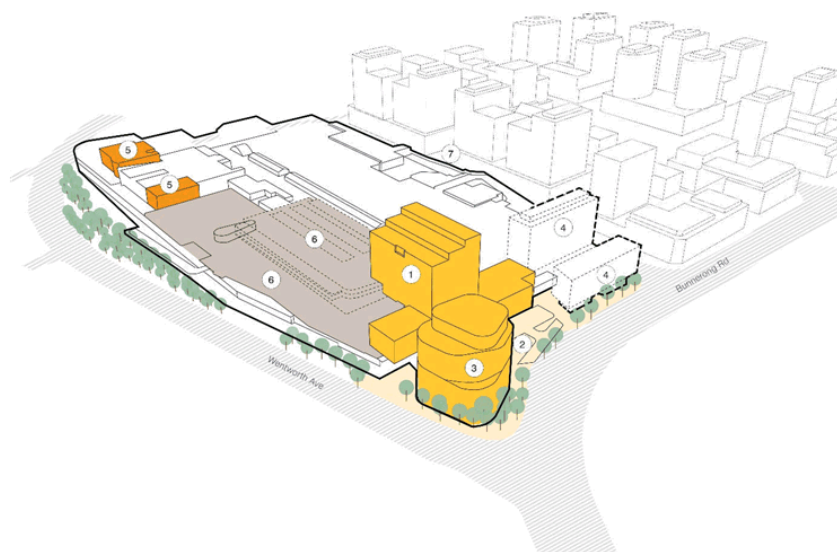


Figure 3 Master Plan – Key Features (including potential Future Stage tower forms)

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

The redevelopment of the site should be consistent with the indicative master plan illustrated at Figure 2 and Figure 3 and the key features outlined in Table 2.

**Table 2 Master Plan – Outline of key features**

<i><b>Key features</b></i>	
<b>1</b>	A new commercial building up to a height of 59 metres
<b>2</b>	A new publicly accessible plaza fronting Bunnerong Road
<b>3</b>	A new commercial building up to a height of 40 metres
<b>4</b>	Potential locations for future student housing or commercial development (subject to future testing, assessment and planning approvals)
<b>5</b>	Preferred location for minor retail expansion, including outdoor food & beverage terrace and additional cinemas
<b>6</b>	Potential car park extension (subject to future authority requirements only)
<b>7</b>	Public domain and walkway improvements to Westfield Drive and new pedestrian crossing to the Meriton Pagewood Green site to the north.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

## 9E.2.3 PRINCIPLES FOR THE SITE

**Principles for Precincts 1, 2, 3 and 4**

The following principles apply to all precincts within the site. Any future development of the site is to demonstrate consistency with the following principles:

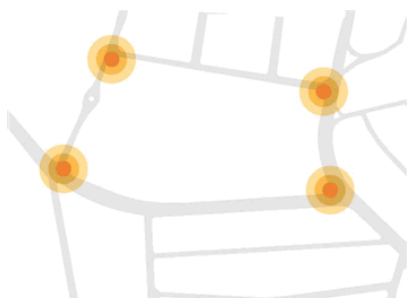
Table 3 Principles for the Site



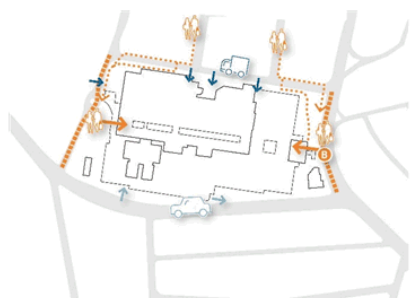
- a) **Destination hubs at each end linked by central spine:** Create two active hubs at the eastern and western end of the centre to enhance the arrival experience to the centre. A new plaza at the eastern end will connect to the existing central spine.



- b) **Entries:** Ensure that all new buildings have entries at ground level from the public domain and that building lobbies are clearly visible and publicly accessible.

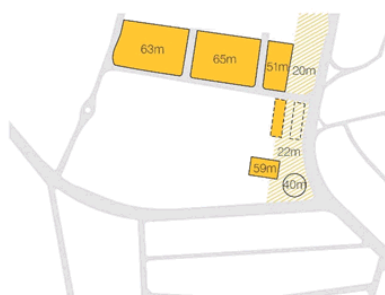


- c) **Activate corners:** Corners should be activated with ground floor uses and high-quality landscaping where appropriate. Blank walls and facades are to be minimised as the centre evolves over time.

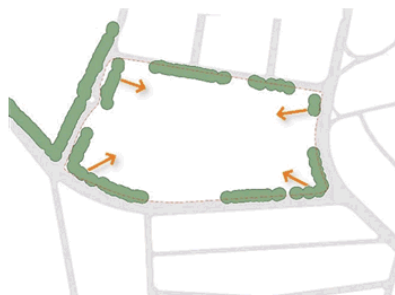


- d) **Defined street functions:** Each street to have a defined role and function:
- **Bunnerong Road (east edge)** to function as the main public transport and pedestrian interface
  - **Wentworth Avenue (south edge)** to accommodate vehicular entries, exits and car parking in a landscaped setting
  - **Westfield Drive (north edge)** to continue essential loading services and ramp access, with improved pedestrian amenity, safety and pedestrian crossings.
  - **Banks Avenue (west edge)** future DA's to demonstrate how this precinct can be an improved place for pedestrians to meet, gather and enter to site.

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan



- e) Heights to relate to adjacent context:** Establish an appropriate street wall height along Bunnerong Road to provide an appropriate transition to surrounding development. Taller built form is to be set back on the podium behind the street wall.



- f) Strengthen green edges:** Retain and enhance vegetation to create a green buffer around the perimeter of the site.

**9E.3.1 LANDSCAPE, PEDESTRIAN ACCESS AND AMENITY****Objectives**

- O1** Provide a high-quality public domain that is publicly accessible and pedestrian focused.
- O2** Create an attractive environment for people to arrive, depart, meet, shop and dine.
- O3** Where possible retain existing significant trees and vegetation and enhance as an integral part of the public domain.
- O4** Ensure public spaces are accessible, safe and pleasant at all times of the day.
- O5** Allow for a staged approach to the public domain, specifically:
  - Ensure good pedestrian access to the site from the BATA with or without the potential future buildings D and E; and
  - Ensure that public domain upgrades and access improvements make Westfield Drive a better environment for pedestrians and cyclists in the short-term, ahead of any major renewal in Precinct 2 in the longer term.

**9E.3.2 LANDSCAPE STRATEGY REQUIRED FOR PRECINCT 1 PRIOR TO DEVELOPMENT**

- C1** The landscaped areas should be provided generally in accordance with the public domain strategy provided in Figure 4 and Figure 5.
- C2** A development application for either Building A, B or C (whichever is first) should be accompanied by a staged Landscape Strategy for Precinct 1, which is generally consistent with the strategy shown at Figure 4, and will be delivered in stages as each building is approved for development. The Landscape Strategy must comprise:

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

- Design and location of bus shelters and access points;
  - Streetscape design –including materials, pavement and kerb design, furniture and pedestrian access points;
  - A detailed landscaping strategy;
  - Signage and wayfinding palette;
  - Arrangement of outdoor seating attached to dining premises;
  - Street lighting;
  - Materials palette; and
  - Public art strategy (if required).
- C3** The total area of the plaza and full extent of the laneway will be delivered in stages as development of Buildings A, B and C occur over time. Staging is to be agreed as part of the Landscape Strategy, endorsed as part of the first DA for a new building in Precinct 1.
- C4** An application for the development of Buildings D or E must be accompanied by a revised Landscape Strategy that demonstrates that the principles of the plan in Figure 5 can be achieved.



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Figure 4 – Landscape and publicly accessible areas public domain indicative plan – where Buildings D and E are not constructed

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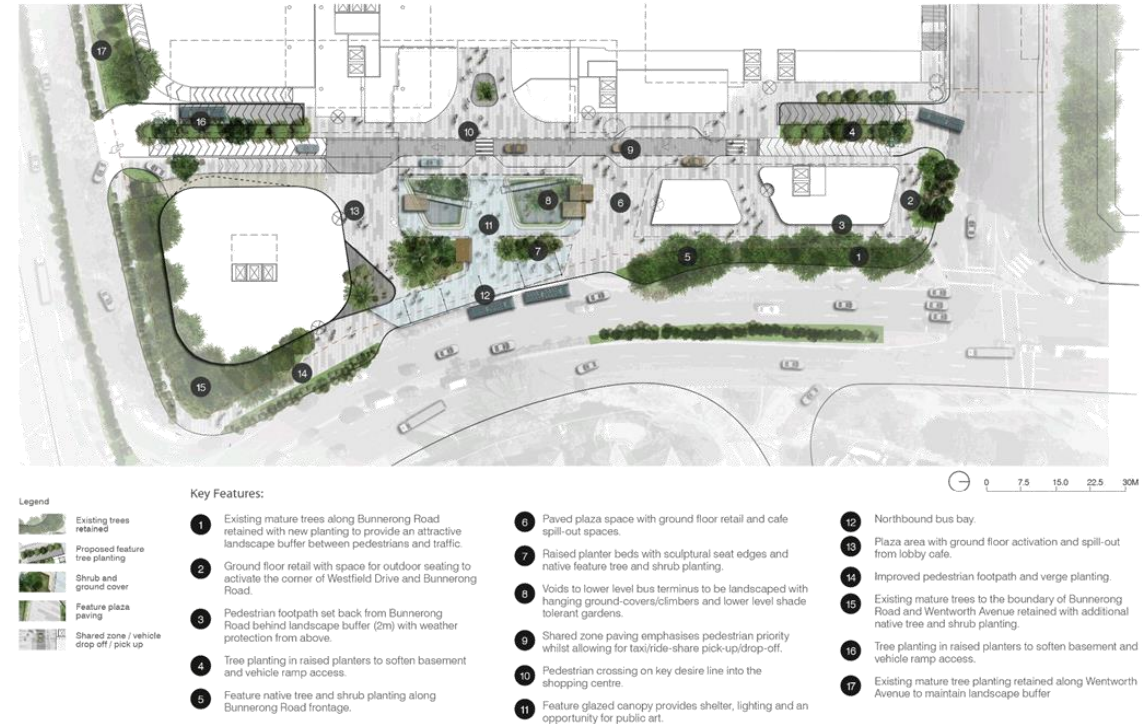


Figure 5 – Landscape and publicly accessible areas public domain plan indicative FUTURE PLAN – should Buildings D and E be developed in the future

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

## 9E.3.3 DESIGN AND OPERATION CONTROLS FOR PUBLICLY ACCESSIBLE SPACES IN PRECINCT 1

Bunnerong Road Plaza

- C5** A new active civic plaza is to be delivered along Bunnerong Road, generally in accordance with Figure 4.
- C6** The plaza is to remain in private ownership, but the level at street grade is to be publicly accessible for 24 hours a day.
- C7** The design of the new plaza must:
- Provide improved pedestrian access to the entrance to the retail centre and building entries of buildings A, B and C.
  - Be activated by either ground floor retail, café, outdoor dining or community uses.
  - Be as open to the air and sky as possible.
  - Where the lane way is not open to sky, new development over the lane should be limited to canopies and weather protection, and the space is to be naturally ventilated and feel open and public.
  - Include high quality landscaping.
  - Allow for natural ventilation and daylight access to the below ground level bus terminus.
  - Provide direct access from the plaza to the bus terminus below.
  - Be integrated with the new laneway, sunken bus terminus and future development area.
  - Provide natural daylight to the bus terminus at Level 1 below the plaza.
- C8** The landscaping strategy should prioritise native or locally inspired planting to complement existing mature vegetation.

The lane way

- C9** The new lane way is to provide a new north-south connection through the plaza from Westfield Drive to Wentworth Avenue, generally in accordance with Figure 4.
- C10** The design of the new laneway must:
- Be designed to allow for a minimum width of 3 metres.
  - Be as open to the air and sky as possible, with the minimum areas to be open to the sky shown in Figure 6.
  - Be publicly accessible with 24-hour access.
  - Prioritise pedestrian safety and amenity, whilst still allowing flexible pick up / drop off space for taxi / ride-share / private vehicles.
  - Allow for direct access from the plaza to the retail centre and lobbies of buildings A and C via new pedestrian crossings which maintain a key desire line from the northbound kerbside bus bay along Bunnerong Road into the retail centre.
  - Use materials/paving treatment to encourage a slow speed environment.
  - Appropriate lighting should be installed for safety and security purposes.



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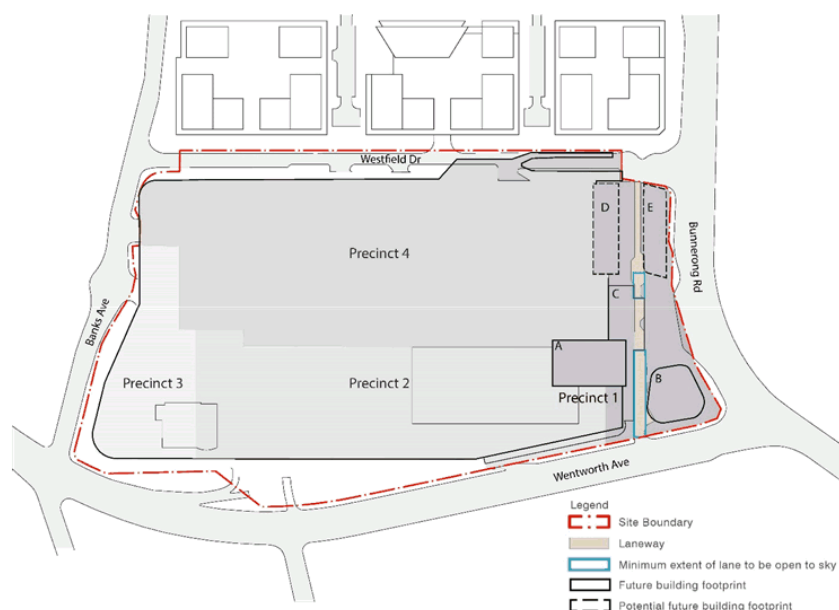


Figure 6 – Plan showing areas of the new laneway to be designed to be opened to the sky



Figure 7 – Section diagram showing the new laneway on the upper level, with sunken south-bound bus terminus below

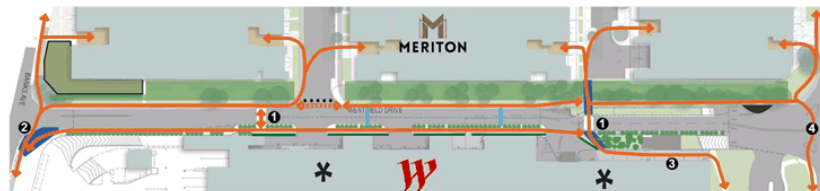
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## 9E.3.4 PUBLIC DOMAIN &amp; ACCESS IMPROVEMENTS TO WESTFIELD AVENUE– PRECINCT 4

## Controls

- C1** Public domain and access improvements to the site at Westfield Drive, shown in Figure 8 to Figure 12 must be undertaken to Council's satisfaction prior to the occupancy of any development in Precinct 1.

## CONNECTIVITY



## LEGEND

- EXISTING PEDESTRIAN MOVEMENT
- EXISTING LANDSCAPE
- ACTIVE FRONTAGE
- INACTIVE FRONTAGE
- RESIDENTIAL ENTRY LOBBY
- IMPROVED LANDSCAPE (SOUTHERN EDGE)
- TREATMENT TO BLANK WALL

- PUBLIC ART
- SCREENING
- LANDSCAPE HEDGE TO 1200MM HEIGHT
- IMPROVEMENT TO UNDERSIDE OF SLAB ABOVE
- NEW FOOTPATH EXTENSION
- VISUAL TREATMENT IMPORTANT DUE TO TERMINATING VIEWLINE. POTENTIAL TO INCORPORATE WITH UNOBTRUSIVE RETAIL SIGNAGE
- NEW SPEED HUMP

- 1 REDIRECT PEDESTRIAN ROUTE VIA WOMBAT CROSSING, IMPROVING PEDESTRIAN SAFETY AND TO SLOW DOWN VEHICULAR TRAFFIC -IMPROVE FOOTPATH CONNECTION
- 2 WIDEN FOOTPATH FOR BETTER PEDESTRIAN ENVIRONMENT AROUND THE CORNER (SUBJECT TO TRAFFIC STUDIES)
- 3 PREFERRED DAY TIME ACCESS TO SHOPPING CENTRE/BUS INTERCHANGE
- 4 PREFERRED NIGHT TIME ACCESS TO SHOPPING CENTRE/BUS INTERCHANGE

Figure 8 – Required pedestrian access improvements to Westfield Drive (short term project)

## LANDSCAPE



## LEGEND

- EXISTING PEDESTRIAN MOVEMENT
- EXISTING LANDSCAPE
- ACTIVE FRONTAGE
- INACTIVE FRONTAGE
- RESIDENTIAL ENTRY LOBBY
- IMPROVED LANDSCAPE (SOUTHERN EDGE)
- TREATMENT TO BLANK WALL

- PUBLIC ART
- SCREENING
- LANDSCAPE HEDGE TO 1200MM HEIGHT
- IMPROVEMENT TO UNDERSIDE OF SLAB ABOVE
- NEW FOOTPATH EXTENSION
- VISUAL TREATMENT IMPORTANT DUE TO TERMINATING VIEWLINE. POTENTIAL TO INCORPORATE WITH UNOBTRUSIVE RETAIL SIGNAGE
- NEW SPEED HUMP

- 5 LANDSCAPE BUFFER TO MINIMISE VISUAL IMPACT OF LOADING DOCK AREAS, WHILST MAINTAINING PASSIVE SURVEILLANCE IMPROVE LIGHTING
- 6 IMPROVE LANDSCAPE ALONG PUBLIC FOOTPATH (VEGETATION TO HAVE 2 METRES CANOPY TO ALLOW GOOD VISUAL SURVEILLANCE) IMPROVE LIGHTING ALONG FOOTPATH FOR SAFETY AND SECURITY AT NIGHT
- 7 INTRODUCE SPEED HUMPS AT INTERVAL TO SLOW DOWN VEHICULAR TRAFFIC
- 8 REMOVE KERBS TO ENABLE EASIER TRAFFIC FLOW AT BOTTOM RAMP TO LEFT TURN LANE

Figure 9 – Required public domain improvements to Westfield Drive (short term project)

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

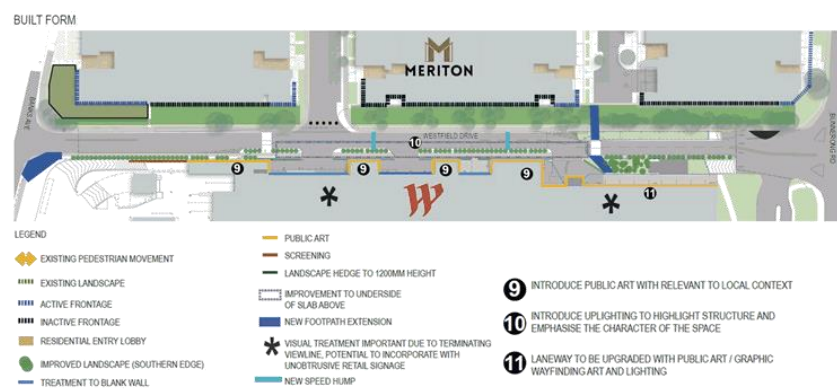


Figure 10 – Required activation improvements to Westfield Drive (short term project)

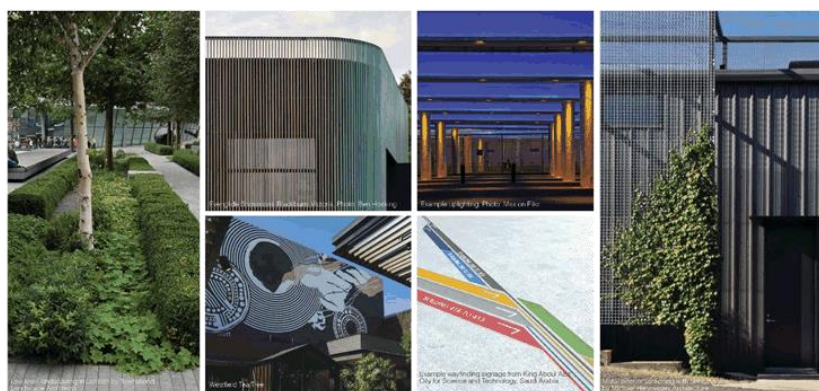


Figure 11 – Example precedent imagery for potential public domain improvements



Figure 12 – Example precedent imagery for potential public art (examples shown are from recent Scentre Group developments)



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.3.5 PUBLIC DOMAIN & ACCESS IMPROVEMENTS IN PRECINCTS 2 & 3****Objectives**

- O1** To ensure that future development of Precincts 2 and 3 deliver improved landscape, design and access conditions.

**Controls**

- C1** Any significant future development in Precinct 2 or 3 must be accompanied by a Landscape and Access Strategy for that precinct, which is to be informed by more detailed planning for these precincts via the Development Consent process.
- C2** The Landscape and Access Strategy must demonstrate how renewal can:
- Promote accessibility to the centre by foot, bike and public transport;
  - Reduce the visual impact of new above ground car parking and blank facades;
  - Minimize vehicle and pedestrian conflict areas; and
  - Create a more typical and improved town centre environment.

**9E.3.6 HOURS OF ACCESS AND OPERATION****Objectives**

- O1** To provide safe access and permeability through the site during hours of operation.

**Controls**

- C1** During the hours of operation of the dining and cinema precinct, a safe path of travel is to be maintained through the centre to the bus interchange (providing bus services are available),
- C2** Access to the bus interchange must be provided during hours of bus service operation.

**9E.3.7 PUBLIC ART STRATEGY****Objectives**

- O1** To create public places that are interesting and relevant to support increased activation and place-making.

**Controls**

- C1** A detailed public art strategy is to be submitted as part of the development application for Building A, B or C (whichever is first), which may be delivered in stages as the precinct is developed.
- C2** The public art strategy should draw on inspiration from either the indigenous heritage, the botanical heritage of Botany Bay, the coastal location or the industrial heritage of the port precinct.

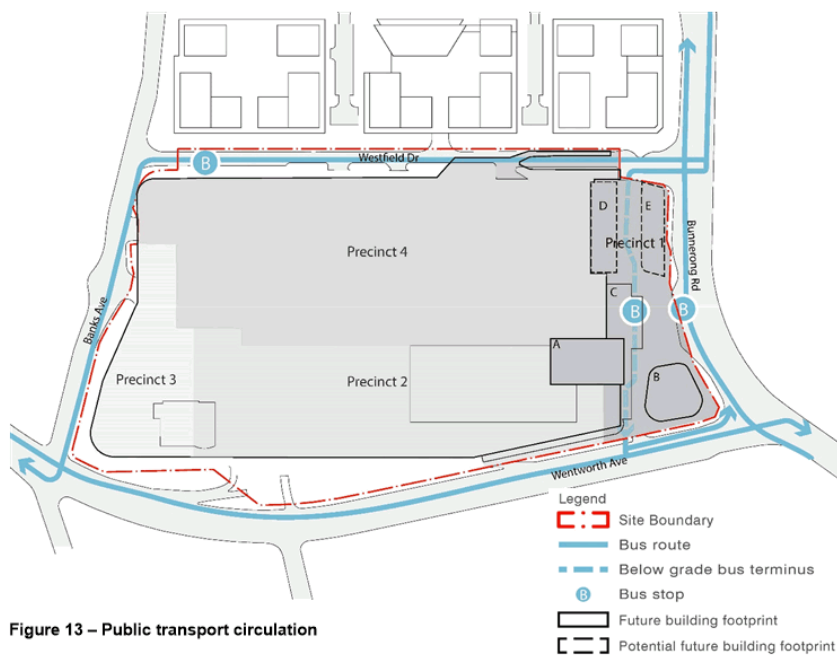
## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.3 TRANSPORT AND MOVEMENT****9E.4.1 PUBLIC TRANSPORT****Objectives and controls for Precincts 1, 2, 3 and 4****Objectives**

- O1** Ensure Bunnerong Road is the main public transport and pedestrian interface.
- O2** Provide clear links to public transport and to increase pedestrian traffic.

**Controls**

- C1** Provide a sunken bus terminus for southbound buses, generally as shown in Figures 7 and 13. **Figure 7 – Section diagram showing the new laneway on the upper level, with sunken southbound bus terminus below**
- C2** Provide a pull-in bay for northbound buses on the western edge of Bunnerong Road.
- C3** Where possible, provide clear links to public transport from building entries.
- C4** Provide a new laneway for shared drop-off (shared mobility, taxi, kiss & ride) focused around a pedestrian plaza, generally as shown in Figure 13.

**Figure 13 – Public transport circulation**

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**9E.4.2 PEDESTRIAN ACCESS****Objectives**

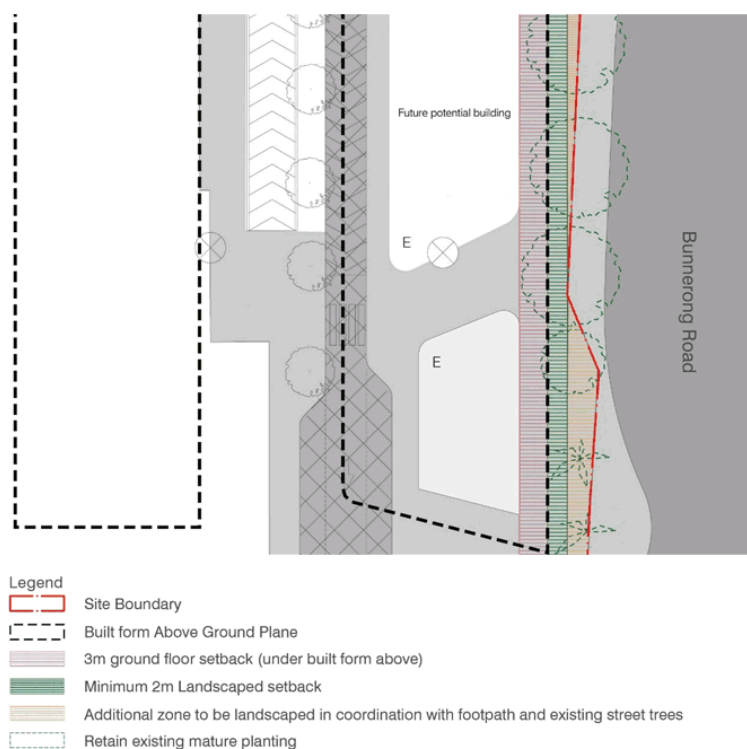
- O1** Improve pedestrian accessibility, amenity, safety and permeability.
- O2** Encourage public transport use, walking and cycling.
- O3** Improve connections from the east of the site to the bus terminus adjacent Bunnerong Road.
- O4** Direct pedestrians away from the south side of Westfield Drive.
- O5** Minimise potential for pedestrian conflict with cyclist and vehicular traffic.

**Controls – Precinct 1**

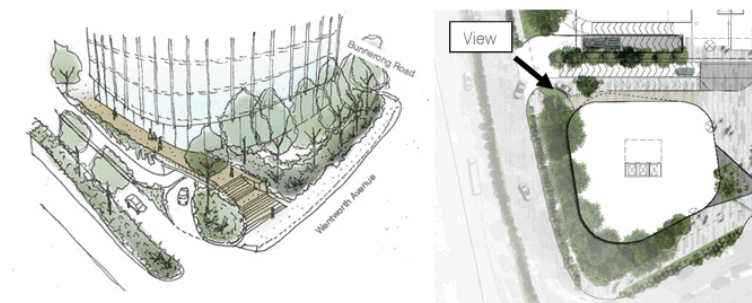
- C1** Pedestrian access is to be provided in accordance with the locations and design requirements in Figure 16 and accessible to the public at all times.
- C2** Paths should be unobstructed by landscape, opening doors or furniture. Paving materials should be of a high quality and support way-finding by the public and visitors to the site. Where the paths are part of the shared plaza area, the path may be designed to integrate with the plaza.
- C3** Pedestrian safety and ease of movement should be prioritized. Vehicular cross-overs of the identified pedestrian routes should be minimized.
- C4** Where the pedestrian connection is provided under a building overhang, the path is to have a two-story height – i.e. the ground level and first level are to be setback 3m in from the building above.
- C5** Escalators should be easy to navigate, be clearly visible and contiguous with the path of travel.
- C6** All paths are to be provided on the subject site. Where there is existing footpath on public land, this can be used to augment the width of the path or provide additional landscape opportunities.
- C7** The paths at the edges of the site should be sheltered by tree canopy wherever possible.
- C8** On Bunnerong Road, a minimum 2m landscape buffer is required on the subject site in addition to the 3m minimum pathway. This additional planted area will allow for mature trees to be retained, and help to buffer pedestrians from the busy street Figure 14 illustrates how the path and landscaped buffer is to be designed on the edge of Bunnerong Road, should Buildings D and E be constructed in the future.
- C9** Retain mature trees in the street setbacks where possible and augment with additional trees.



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**Figure 14 – Illustrative master plan showing pedestrian access and a landscape buffer along Bunnerong Road (future plan)**



**Figure 15 Indicative 3D and plan view of pedestrian access to the west of Building B**

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**Controls – Precincts 2, 3 and 4**

- C1** Provide continuous pedestrian connections in and around the site, including reconfigured footpaths, consistent with pedestrian movement indicated in Figure 16.
- C2** Prior to construction of any additional development in Precincts 2,3 or 4, a Landscape and Access Strategy for that precinct must be submitted as part of a development application to demonstrate how pedestrian access to the centre in these precincts can be improved.
- C3** Development should not restrict the potential for new pedestrian connections and improved site permeability
- C4** Disabled access through the main pedestrian entries must be provided in accordance with Part 3C – Access and Mobility and the Disability Discrimination Act 1992



Figure 16 - Pedestrian access and building entries

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.4.3 ACCESS TO BUILDINGS****Objectives and controls for Precincts 1, 2, 3 and 4****Objectives**

- O1** Ensure that all new buildings have entries at ground level from the public domain.
- O2** Ensure that building lobbies are clearly visible and accessible from the public domain.
- O3** Encourage entrances that orientate visitors and public as to the access points for the building and the transition between private and public spaces.

**Controls**

- C1** Access to existing and proposed buildings are to be generally consistent with Figure 16.
- C2** New entries to Bunnerong Road and Banks Avenue are to be provided, each with their own character and active frontage.
- C3** Access to all buildings including lobbies should be clearly visible from internal laneways, footpaths and where possible address the street frontage.

**9E.4.4 PARKING AND VEHICULAR ACCESS****Objectives for Precincts 1, 2, 3 and 4****Objectives**

- O1** Minimise vehicle and pedestrian conflict.
- O2** Ensure that the location and design of car park entries are efficient, safe, and integrated into the design of the development to minimise visual impact.
- O4** Maintain efficient service vehicle access.
- O5** Maintain the existing primary vehicular access points to the site (off Wentworth Avenue, Westfield Drive and Banks Avenue).
- O6** Retain existing car parking provision and provide additional parking appropriate for the expansion of the centre

**Controls for Precinct 1**

- C1** No car access directly off Bunnerong Road.
- C2** The laneway is to provide for one-way traffic, moving north to south.
- C3** No parking to be provided in the new laneway, apart from short stay drop off bays.
- C4** A development application for either A, B and C (whichever is first) should be accompanied by an updated traffic management plan for the whole site, which may be delivered in stages.

**Controls for Precincts 1, 2, 3 and 4**

- C5** Car parking provision to be determined by surveys of other centres and analysis of current use and demand. Key considerations in determining appropriate car parking rates include:



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

- Access to public transport and active transport opportunities.
  - Where different uses on site have alternative peak periods and can effectively share parking
  - Where technology can be used to ensure parking is used efficiently.
- C6** Minimise the visual impact of basement entries and ramps through good design and landscape treatment.

**Principles for Precincts 2, 3 and 4**

- P1** Any proposed changes to vehicle access to the site should seek to improve accessibility to and through the site for pedestrians, cyclists and public transport.

**9E.4 LAND USE****9E.5.1 PREFERRED LAND USE STRATEGY****Objectives for Precincts 1, 2, 3 and 4**

- O1** Create an integrated mixed-use precinct that is activated at all times of the day and into the night, with retail, commercial and community spaces.
- O2** Encourage new office uses that will support the centre's important economic function and reinforce the centre's strategic employment role.
- O3** Encourage a range of uses that will activate the centre for extended hours of the day, including late night trading premises to enhance the vibrancy and vitality of the centre.

**Controls for Precinct 1**

- C1** Development should be generally in accordance with the preferred land use strategy provided in Figure 17.
- C2** The future uses of the Buildings D and E is to be subject to a future planning approval. The uses should encourage activation of the public plaza areas and complement the existing commercial and retail uses.

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**Figure 17 Preferred land use plan**

## 9E.5 BUILT FORM

### 9E.6.1 BUILDING HEIGHT STRATEGY

### Objectives and controls for Precincts 1, 2, 3 and 4

## Objectives

- |    |  |
|----|--|
| 01 | Ensure building heights reinforce the strategic importance of the centre, but are also appropriate for their context.  |
| 02 | Development on the site should minimize solar impact on adjoining properties and the public domain.  |
| 03 | Ensure building heights and the scale of buildings reinforce the landscape and access strategy.  |
| 04 | Ensure building heights result in reasonable amenity for neighbours and the public domain, in terms of daylight, human scaled streets, sense of openness, and wind mitigation. |

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**Controls**

- C1** Height of buildings should generally be in accordance with the preferred building height strategy in Figure 18.
- C2** Development on the site is to minimise impacts on the dwellings to the south, however some impact is anticipated at this interface between a strategic centre with B3 Commercial Core zoning and a relatively low-density residential area. Development is to:
- Maintain approximately 2 hours of solar access between 9am and 3pm on 21 June to 50% of the primary private open space areas located at the rear of the single residential dwelling houses to the south of Wentworth Avenue;
  - Where the primary private open space of the adjoining development currently receives less than the required amount of sunlight on 21 June (50% coverage for a minimum of 2 hours), development is to not create additional overshadowing to the primary private open space of the adjoining development;
  - In addition, where the primary private open space of the adjoining development currently receives less than the required amount of sunlight on 21 June (50% coverage for a minimum of 2 hours), development is to ensure that 50% of each front yard receives approximately 1 hour of solar access between 9am and 3pm on 21 June.
- C3** The site should have a predominant 22m street-edge character, with well-designed towers at strategic locations where they define corners and activate the ground plane. Additional podium levels above the street edge should be setback from the street wall (with a minimum setback of 6m).
- C4** Building height is to be a maximum of 10 storeys on the corner of Bunnerong Road and Wentworth Avenue to promote the prominence of the site whilst providing a transition to surrounding development.
- C5** Building heights should be provided generally in accordance with the preferred building height strategy unless it can be demonstrated that variation to the height strategy would achieve:
- Consistency with the objectives of the preferred building height strategy;
  - A diversity of building heights, with the tallest heights appropriately set back from Bunnerong Road
  - An appropriate street wall condition that creates a high-quality public domain and pedestrian environment along Bunnerong Road
  - Variation in building height and form to reduce bulk and scale and provide a sense of openness from the street, landscaped areas and the new publicly accessible plaza
  - An integrated heights and land use strategy to ensure any change to the height strategy is consistent with the preferred land use strategy.
- C6** The height of future Buildings D and E is to be determined by future design work and may require amendments to the planning controls.



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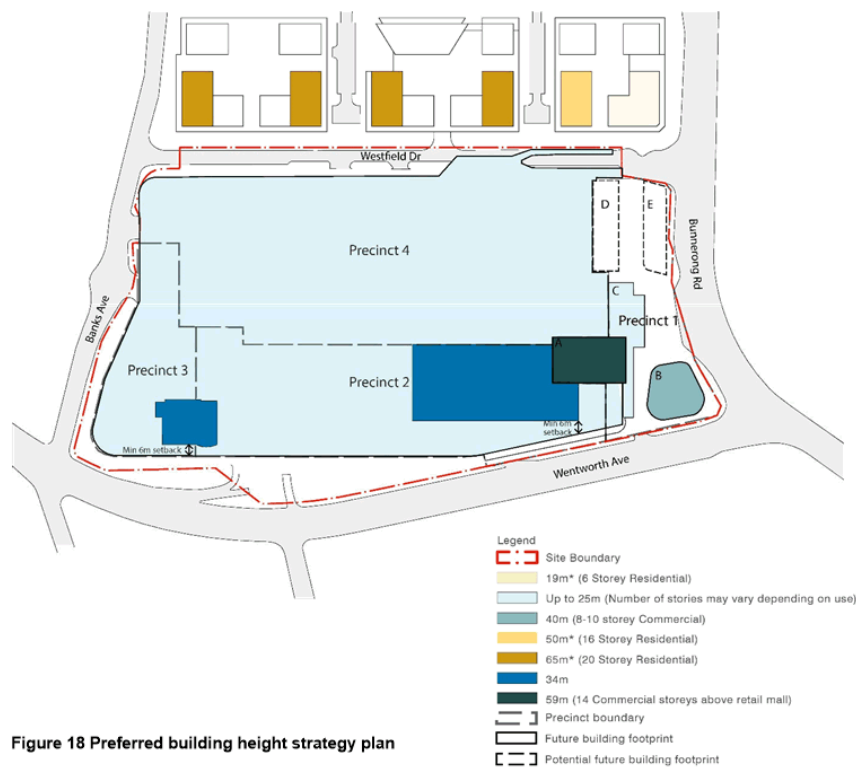


Figure 18 Preferred building height strategy plan

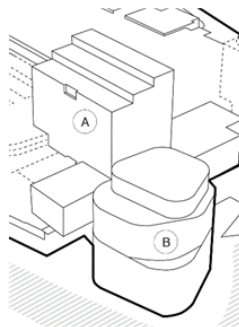


Figure 19 Indicative 3D massing illustrating how Buildings A and B could be designed to minimize overshadowing and comply with this DCP.

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9E.6.2 BUILDING FORM

**Objectives for Precinct 1**

- O1** Ensure the built form of Tower A is complementary to the character of the existing and future centre and amenity impacts on surrounding uses is minimised.

**Controls for Precinct 1**

- C1** The maximum floorplate for Tower A is not to exceed 1,550sqm GFA.

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**9E.6.3 STREET WALLS**

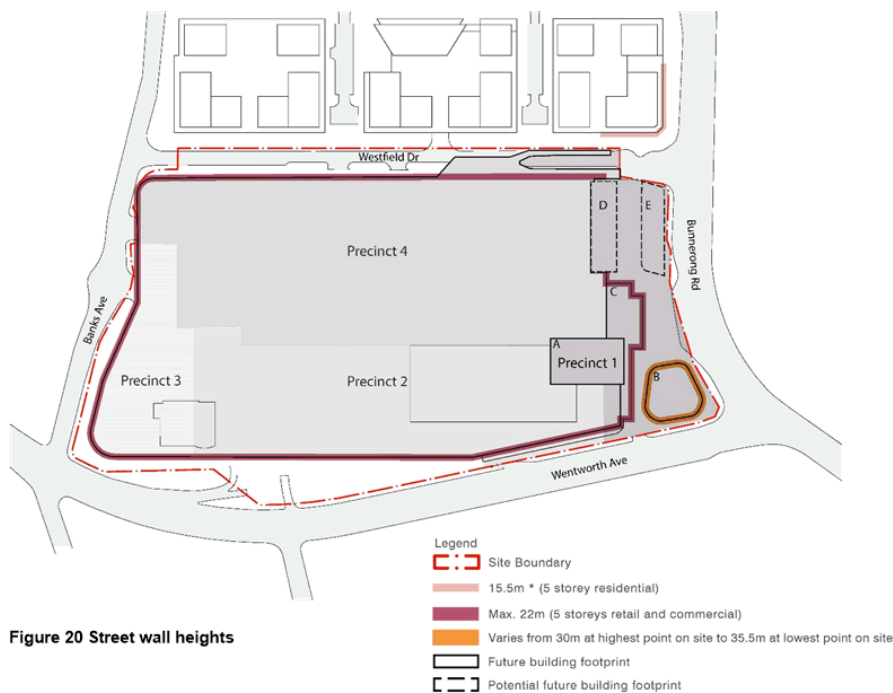
Street wall heights refer to the height of a building that addresses the street frontage from the ground level up to the first building setback.

**Objectives and Controls for Precincts 1, 2, 3 and 4****Objectives**

- O1** Ensure a comfortable street wall height that enhances pedestrian amenity with adequate daylight, scale, sense of enclosure and wind mitigation, acknowledging there is an existing street wall condition.
- O2** Create a consistent street wall height and built form edge along Bunnerong Road.
- O3** Apply design measures and vegetation to minimise the visual impacts of buildings to streetscapes.
- O4** Ensure buildings are appropriately setback above the street wall height and ensure towers provide an appropriate scale transition to the street.

**Controls**

- C1** Street wall heights are to be in accordance with the street wall plan in Figure 20.
- C2** Towers are to have a maximum street wall height of 8 storeys.



**Figure 20 Street wall heights**



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## 9E.6.4 SETBACKS – GROUND LEVEL

**Objectives for Precincts 1, 2, 3 and 4**

**O1** Allow for the existing site landscaped areas to be retained and enhanced.

**Controls for Precinct 1**

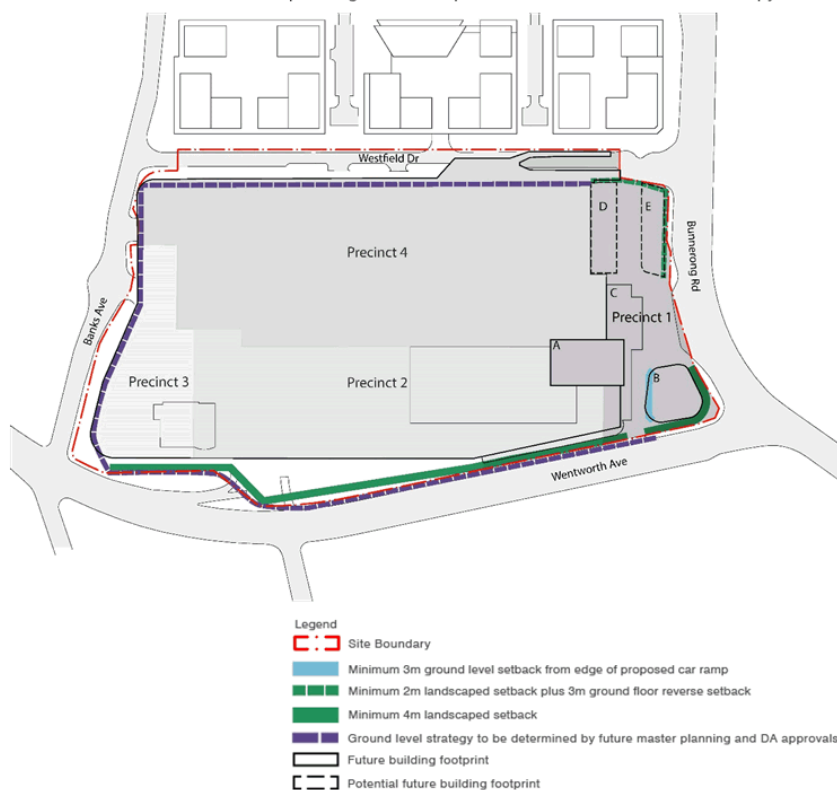
**C1** Ground floor set backs are to be provided generally in accordance with Figure 21.

**Principles for Precincts 2, 3 and 4**

**P1** The ground floor setback strategy is to be determined by a future development approval.

**P2** The intent of the future ground setback strategy is to create a pleasant pedestrian environment and provide for significant landscaped areas and tree canopy on all frontages.

**P3** Ensure that future master planning and development of the site increases tree canopy cover.



**Figure 21 Ground level setback diagram**

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**9E.6.5 SETBACKS – ACTIVE FRONTAGES****Objectives for Precincts 1, 2, 3 and 4**

- O1** Ensure that the centre develops to be more outward-facing at the east and west activity hubs and have an improved relationship with the street than the current building.
- O2** Ensure the activation of busy pedestrian entries, such as the publicly accessible plaza and transport interchange area on Bunnerong Road.
- O3** Create good pedestrian amenity and safety.
- O4** Minimise blank façades, basement access and servicing along Bunnerong Road, the Wentworth Avenue corner at Bunnerong Road, and the new lane way.

**Controls for Precinct 1**

- C1** Active frontages must be provided generally in accordance with Figure 22 below.
- C2** Active frontages must be developed for entertainment, retail or commercial uses that interface with the public domain.
- C3** The number of building entries and active tenancies is to be maximised in activate frontage areas.
- C4** Glazing, outdoor dining and openable windows are to be maximised in the active frontage zones. Blank walls are to be avoided in active frontage areas, and where necessary should be architecturally treated.

**Controls for Precincts 2 and 3**

- C5** An active frontage strategy is to be determined by a future planning approval and be integrated with the landscape and access strategies for the site. The activation of the Banks Avenue precinct is a priority for future development of Precinct 3.

**Controls for Precinct 4**

- C6** In the short-term, the environment of Westfield Drive must be improved for pedestrians and cyclists, in accordance with Section 9E 3.4 of the DCP.
- C7** Any significant additional development in Precinct 4 in the future would need to be accompanied by a strategy for:
  - Rationalization of loading and service areas
  - Investigation of a new north-south through site link into the centre with activated openings to Westfield Drive
  - Investigation into the rationalization of the loading and car ramps to Level 3 and 4 loading and parking facilities.

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

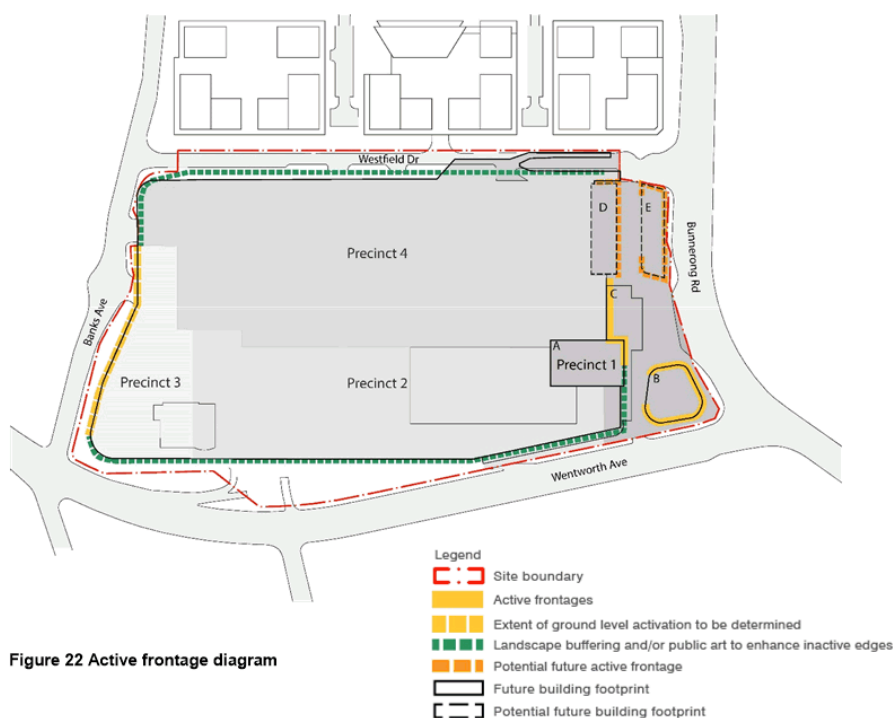


Figure 22 Active frontage diagram

## 9E.6.6 AWNINGS

**Objectives and Controls for Precincts 1, 2 3 and 4****Objectives**

- O1** Provide weather protection and shading for pedestrians and shop fronts.

**Controls**

- C1** Awnings are to be provided along the main entry to the retail centre and commercial buildings, and along active ground floor retail or commercial uses that are facing the plaza, and parallel to primary pedestrian routes, where appropriate.
- C2** Building overhangs (with a depth of 3m or more) can be utilised in lieu of awnings in some locations.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.6.7 ENTRIES****Objectives and Controls for Precincts 1, 2 3 and 4****Objectives**

- O1** Ensure all development is easy to find and access for customers, employees, visitors and transport users.

**Controls**

- C1** All new buildings must be accessible and have entries at ground level from the public domain, or publicly accessible plaza.





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## EXECUTIVE SUMMARY

Colliers International has been commissioned by Scentre Group to prepare an Economic Impact Assessment (EIA) to support a planning proposal for the redevelopment of Westfield Eastgardens (referred to as the "subject site"). This EIA presents a comprehensive and compelling case for a modification to the existing planning controls to permit approximately 30,500m<sup>2</sup> of additional office floorspace as part of the larger expansion of the subject site.

In presenting the case for repositioning, the following tasks have been undertaken:

- Review of relevant strategic planning policies and documents;
- Subject site and proposed development overview;
- Office market overview;
- Survey of relevant local office destinations;
- Present the economic and market-based justification for change;
- Address the considerations raised by RPS; and
- Address the relevant Sec 9.1 Directions.

## SUBJECT SITE AND PROPOSED DEVELOPMENT

### Subject site

With an official street address of 152 Bunnerong Road, Eastgardens NSW 2036, Westfield Eastgardens is situated in the Bayside LGA and is located approximately 8km south of Sydney CBD and 4km east of Sydney Kingsford Smith Airport (straight-line). The site encompasses a total land area of approximately 9.29 hectares within one title, being Lot 1 DP 105 8663.

### Westfield Eastgardens (Subject Site)



Source: Nearmap (aerial)



Each boundary of the subject site has street frontage i.e. Bunnerong Road to the east, Wentworth Avenue to the south, Banks Avenue to the west and Westfield Drive to the north. Road accessibility is exceptional, with access to the Sydney Orbital attained via Wentworth Avenue and the M5, and to Sydney's north, via the Eastern Distributor and Sydney Harbour Bridge or Tunnel. Surrounding uses include Pagewood Green (new Meriton development targeting a completion yield of 3,900 apartments on the former British America Tobacco site) to the north, low density residential uses to the east and south, Hensley Athletic Field and industrial properties to the south west and Mutch Park to the west.

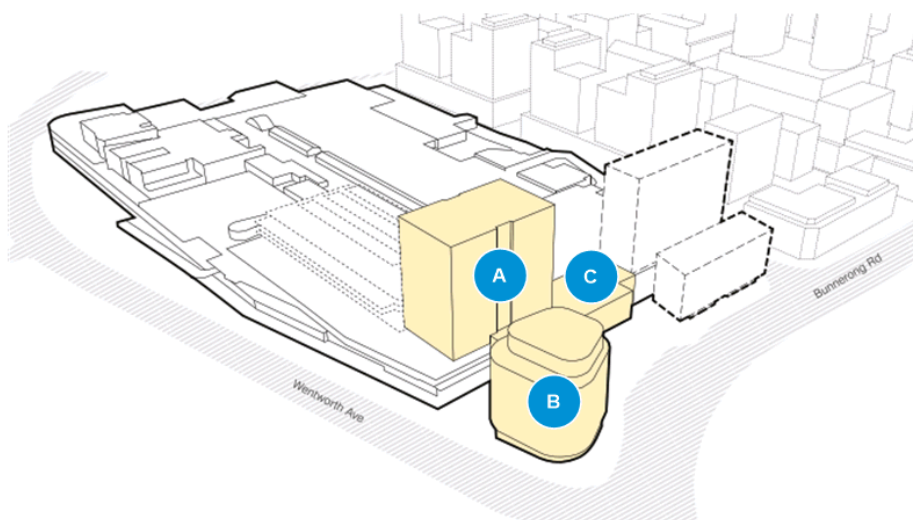
#### Existing built form and uses

The existing three-storey, Westfield Eastgardens building structure encompasses an estimated 74,500m<sup>2</sup> of gross lettable area of retail provision, an extensive food court, 3,700m<sup>2</sup> of commercial floorspace (net lettable), eight-screen Hoyts cinema and approximately 3,150 car spaces (open and enclosed). Classified as a major regional shopping centre, Westfield Eastgardens is co-anchored by all three supermarkets (i.e. Woolworths, Coles and Aldi), three major discount department stores (i.e. Kmart, Target and Big W) and Myer (replaced David Jones upon exit in 2008). Existing office provision is mainly accounted for by suites of between 50-300m<sup>2</sup> (mostly 90-150m<sup>2</sup>) with tenants across the legal, accounting, financial services, real estate, distribution/forward sectors and a 35-place preschool.

#### Proposed development

The proposed development is an expansion of the existing shopping centre at the western end and into the car park, and the addition of commercial uses along its eastern perimeter i.e. Bunnerong Road. It encompasses a combination of 27,500m<sup>2</sup> of retail (gross lettable area) and 30,500m<sup>2</sup> of commercial office provision.

#### Proposed Concept Plan



Source: architectus, Scentre Group



The proposed redevelopment will accommodate a total increment of 30,500m<sup>2</sup> of commercial office NLA across three distinct buildings, being:

- **Tower A:** A new A-grade commercial tower of 14 storeys which will target traditional large floor plate occupiers by providing plates of approximately 1,250m<sup>2</sup> NLA. This tower will provide a total NLA of approximately 18,000m<sup>2</sup>; and
- **Tower B:** A new corner tower of 8-10 storeys that will be geared at commercial usages around services and health. This tower will have floorplates of approximately 1,000m<sup>2</sup> net lettable area (NLA), equating to a total NLA of approximately 10,000m<sup>2</sup>;
- **Tower C:** Modifications to the existing 4 storey office tower to improve the core location and enlarge the floorplate to approximately 1,600m<sup>2</sup> NLA (from an existing 850m<sup>2</sup>) over four storeys, rendering approximately 2,500m<sup>2</sup> additional NLA.

Each office building will have an independent foyer and address point from the new public domain, and importantly, will be connected to the upgraded bus interchange.

#### GOVERNMENT POLICY AND STRATEGIC POLICY OVERVIEW

To develop the necessary background understanding on government policy and strategic plans relevant to the proposed development, Colliers International reviewed the following documents:

- The Greater Sydney Region Plan – A Metropolis of Three Cities (2018);
- Eastern District Plan (2018);
- Sydney Metropolitan Plan – 'A Plan for Growing Sydney' (2014);
- Botany Bay Planning Strategy 2031 (2009);
- Botany Bay Local Environmental Plan (2013); and
- Future Transport 2056 (2018).

A summary of relevant plans and strategies is provided in Section 2.

#### OFFICE MARKET OVERVIEW

Necessary market context to inform the justification section has been established. Essentially, the interaction, evolution and expansion of office centres is highly correlated with market performance. Moreover, office occupancy outcomes are driven by business decisions which are demand-based in nature, and not necessarily based on where office workers live or are expected to reside in the future. An understanding of market dynamics has been established through the provision of:

- An overview on office market performance;
- Explanation on how office destinations form, evolve and expand; and
- Outline of key demand mechanics and considerations.

#### Overview on office market performance

The key findings pertinent to the office market performance review include:

- The upturn in the Sydney Office Market is entrenched;
- The current cycle has been led by Sydney CBD – rental growth has been pronounced, with gross effective rents for premium floorspace eclipsing the coveted \$900 per m<sup>2</sup> mark in early 2017.







- However, the upswing has not been confined to Sydney CBD, with some metropolitan office centres such as Macquarie Park also registering considerable growth during this cycle. Contracting A-Grade vacancy rates, a delayed supply response and an increasing rental differential has underpinned the rise of commercial destinations outside Sydney CBD;
- The supply of commercial development sites has diminished, owing to an unprecedented residential apartment cycle, and strong demand for short-term stay accommodation; and
- Spillover of demand from Sydney CBD to other commercial centres has been apparent during this upturn cycle.

#### How office markets interact, evolve and grow

Interaction between different office destinations is generally most apparent and pronounced during an upturn. In all, there are three ways in which office destinations interact, evolve and grow, being:

- Spillover of demand;
- Offering a 'Point of Difference'; and
- Induced by government policy

**Demand spillover** across commercial/office markets is a common occurrence during an upturn. As occupancy costs increase in major centres such as Sydney CBD, the popularity of more cost-effective options rises. In some cases, significant or protracted market upturns have underpinned the creation of entire new office destinations, as the supply response in existing centres is usually slow. A broader economic cycle spurring above-average business and industry growth can also accentuate the magnitude and rate at which spillover transpires between office markets.

A '**Point of Difference**' (POD) has underpinned the formation and expansion of commercial office destinations in Sydney. A POD can be achieved in several ways, including and not limited to:

- Unique or established industry theme and tenant composition;
- Custom-made premises and build solutions;
- Provision of new transport or infrastructure;
- Offering distinct floorplate sizes and configurations;
- Through the quantum and quality of offer;
- Provision of car parking; and
- Locational-based attributes.

An example of a new office destination evolving is Norwest Business Park (NBP). The office buildings along Columbia Way and Norwest Boulevard offered a range of floorplate configurations and sizes. In particular, some of these office buildings incorporated a large portion of strata offices, which were geared at accommodating small-to-medium sized professional businesses. Notably, this segment of the business sector has experienced rapid expansion, which has also underscored the success of the NBP. The provision of cost-effective car parking has also supported the rise of NBP.

**Government policies** aimed at decentralisation and consolidation have been extremely beneficial for some office destinations, but concurrently detrimental to others. Previous and current examples of government policy affecting demand for office space include:

- During the 1980s government embarked on decentralisation program, relocating departments to regional centres in NSW, as well as other smaller office markets throughout Sydney;





- Government Office Reform Program (1998) which formalised the outflow of state government departments to Parramatta CBD; and
- Current NSW Government Decade of Decentralisation policy, which focuses on relocating jobs from Sydney CBD to metropolitan and regional locations, in particular Western Sydney.

These relocation programs have benefitted suburban office markets in the past e.g. NSW Housing and Family and Community Services to Ashfield. However, more recently, they have been detrimental to suburban office market such as Ashfield and Hurstville i.e. NSW Office of Environment and Heritage relocating from Hurstville to Parramatta CBD.

#### DEMAND MECHANICS AND CONSIDERATIONS

Demand for office floorspace stems from business requirements. As such, business decisions are central to understanding how commercial office markets function, usually adopting specific criteria to select their premises. While the list may vary from business-to-business, there are some common criteria, being:

- Opportunity to trade;
- Industry and sectoral compatibility;
- Floorplate configuration and quality of provision;
- Accessibility and public transport;
- Access to amenities; and
- Future infrastructure investment.

While it is one of many factors, the location and quantum of office-based workers is not the sole determinant of office floorspace demand.

#### LOCAL OFFICE MARKET REVIEW

A high-level review was undertaken on seven relevant commercial office destinations, being Mascot, Botany, Green Square, Banksmeadow, Maroubra, Kogarah-Rockdale and Randwick.

For each centre, a profile was developed, focusing on information on its location, character, classification, quantum of office floorspace, major office building(s), quality of stock, building format, floorplates (typical), industry/sectoral theme and any identified major office projects. A summary of key features for each office destination is presented in the table below.

**Features and Attributes of Office Destination and Centres Reviewed**

Centre	Estimated office stock (m <sup>2</sup> )	Typical floorplate size (m <sup>2</sup> )	Quality of provision	Industry theme(s) of office tenants
Mascot	160,000-165,000	250-600 1,100-2,000 (two tier market)	A or B grade	Aviation, logistics, service firms, transport and consumer durables
Green Square	45,000-55,000	400-1,000	B grade, with some C grade	Local service firms and government
Botany	3,000-4,000	50-200	C or D grade	Local service firms



Banksmeadow	5,000-6,000	100-300	C grade	Freight & logistics, construction, services
Eastgardens-Maroubra	9,200-10,200	50-200	C grade	Local service firms and primary medical and allied health
Kogarah-Rockdale	60,000-65,000	200-800	B and C grade mainly	Financial services (Westpac circa 31,700m <sup>2</sup> ), primary health and local service firms
Randwick-Kensington	7,500-9,000	100-400	Predominantly C grade	Local service firms, health and education

Source: Colliers International

#### ECONOMIC AND MARKET JUSTIFICATION

Owing to a Point of Difference (POD), Colliers International has demonstrated that the impact from the proposed office component will be negligible on existing office provision in the region. In all, it is evident that the office component of the proposed development should be supported in principle as it has been proven that:

- A point of difference through larger floorplates, access to transportation and amenities will ensure that the proposed development will appeal to a different cross-section of tenants and industries, and therefore will have negligible impact on existing office provision in the region;
- The regional business profile is dominated by small-to-medium sized enterprises providing professional services predominantly to local clients. Operating from retail street-strip premises, old suburban office buildings or podiums of mixed-use buildings, these tenants typically occupy a floorplate of between 50 and 200m<sup>2</sup>, with an upper bound limit of 800m<sup>2</sup>. It is envisaged that the proposed development which will comprise of large floorplates (i.e. at least 1,000m<sup>2</sup>) will not be in direct competition with this segment of the market;
- Our view on demand and the profile of future tenants has been informed by inbound office enquires and current market requirements. It is estimated that there is the equivalent of 35,000 to 44,000m<sup>2</sup> of demand which could be accommodated in Sydney's South East over the immediate future. Based on its configuration and format, it is envisaged that the proposed development represents a plausible destination for some of this requirement;
- Outside of established and prominent office destinations, new office development is generally a challenging proposition. There are several factors which affect the viability of new office development, with the most ostensible being achieving necessary pre-commitment levels and the cost of development sites or land.
- The proposed project represents a rare opportunity to achieve a pure office outcome. It possesses a distinct advantage from a feasibility perspective, in that the land cost component of the proposed development is partially embedded in the existing retail centre. The development also incorporates 27,500m<sup>2</sup> of retail floorspace, which typically incurs higher rents, and as such, will cross subsidise the commercial office component through back of house and construction efficiencies;
- Incorporating 30,500m<sup>2</sup> of commercial floorspace, the proposed development has the potential to accommodate close to 22% of total new office-based job additions between 2016 and 2036 (1,525 of the 7,066 new office jobs in Bayside LGA);
- Unlike the subject site which is zoned B3 Commercial Core, the majority of sites in Maroubra Junction along Anzac Parade are zoned B2 Local Centre, which permits (with consent) shop-top housing. This zoning setting reduces the probability of a standalone office development from eventuating given







that housing typically renders the highest development return. Moreover, the majority of sites in Maroubra Junction are relatively small, which will require some form of amalgamation, which is costly and time-consuming;

- Through the provision of larger floorplates, the proposed development will also assist in the retention of businesses that have outgrown existing office stock in the Bayside LGA. As noted in Section 5.3, the contribution to total growth from business with 5-19 employees has been significantly lower in the Bayside LGA relative to Greater Sydney (11.6% versus 19.9% respectively), with one plausible explanation being due to a shortfall in appropriately sized and graded office provision;
- The proposed development is also ideal for accommodating the head office or ancillary functions of an existing quasi industrial-office business that may seek to relocate its industrial function to a more affordable location in Western Sydney;
- The proposed development will diversify the local economy via the introduction of other industry types and tenants, as well as larger corporations;
- Provide an opportunity to improve current levels of self-containment in the Bayside LGA; and
- Renders a positive operational employment outcome for the immediate region (which is a core economic objective of a strategic centre), which is on par with that achieved by the entire LGA between FY2012 and FY2017.

#### RPS CONSIDERATIONS

Colliers International has examined some of the assertions made by RPS in their peer review of the Urbis Economic Impact Statement report. Specifically, it focuses on addressing the following:

- Relevance of office sub-markets used by agencies for the purpose of assessing the impact of new development;
- Actual classification of projects/buildings deemed as 'office' on Page 12 of the RPS review; and
- Assertions directed at market need, demand and impact.

Our core findings include:

- The regions and markets used by property agencies are not intended to be utilised as a framework for assessing the impact from a new proposed development on the existing hierarchy. These sub-markets are based on the operating model of an agency, which is constructed on experts operating in designated zones.
- While we acknowledge that the RPS survey was desktop-based and preliminary, we note that the majority of projects identified as examples of current and known 'office' supply by RPS on Page 12 (Table 1) of the peer review report are on the most part industrial or hybrid industrial/office – only four buildings identified by RPS are considered to be office.
- It is difficult with certainty to quantify the impact from the proposed development on market indicators such as vacancy rates and rents, particularly given that the product being offered will be different from existing provision in the marketplace. Moreover, the quantum of office space required in the future is not determined exclusively by employment projections across certain industries. The location decision is based on business considerations, which include many more deterministic variables other than just the usual place of residence of potential office-based workers.





#### ADDRESSING SECTION 9.1 DIRECTIONS

Overall, the proposed development complies with relevant Section 9.1 Directions and the Regional Plans with respect to economic employment and the role/function of the Eastgardens-Maroubra Strategic Centre, in that it:

- Encourages employment growth in a suitable location;
- Protects business zoned employment land in the Eastgardens-Maroubra Strategic Centre;
- Delivers an outcome which is consistent with the objectives of a B3 Commercial Core zoning;
- Provides an additional source of jobs growth, which is the principle underlying economic goal for strategic centres in Greater Sydney;
- By appealing to a different selection of industries and business, it will reinforce and support the viability of Eastgardens-Maroubra Strategic Centre;
- Integrates land use with transport, in that the proposed development is anticipated to result in higher public transport utilisation rates and reduced car dependence;
- Improves access to jobs and services via public transport; and
- Supports the efficient and viable operation of public transport services.

#### CONCLUDING STATEMENT

Through large floorplate provision and significant adjoining amenity, the proposed development will offer a point of difference which is expected to appeal to a different industry and tenant mix than that currently observed in existing local centres. Unlike these markets which are geared at local service firms and certain specialist industries such as aviation, health and logistics, the proposed development is anticipated to be tenanted by regional service firms and wealth-add industries. These tenants will generate trade from beyond the local trade area i.e. from regional, national or international businesses (as opposed to local firms and clients). The introduction of a different tenant and industry base has the added benefit of diversifying the local economy – which at present, is heavily reliant on the transport and logistics sector as a source for external trade.

The proposed development is also capable of accommodating back or head office functions of existing industrial-office businesses in the region that may seek to relocate its industrial operations to more affordable premises in Western Sydney. Additionally, the proposed development will be able to accommodate firms which have outgrown the region i.e. promote retention. Finally, there will be limited overlap with the future intended industry profile of major centres in the region such as Randwick-Kensington (designated education and health destination), Port Botany and Sydney Airport (major trade gateways).

The proposed project represents an opportunity to achieve an office outcome, which is a rare feat in the Eastgardens-Maroubra Strategic Centre. Compared to other projects, the proposed development possesses a distinct advantage from a feasibility perspective, in that the land cost component is partially embedded in the existing retail centre. The development also incorporates 27,500m<sup>2</sup> of retail floorspace, which typically incurs higher rents, and as such, will cross subsidise the ground works, basements and loading of the commercial component. Moreover, unlike the subject site which is zoned B3 Commercial Core, the majority of sites in Maroubra along Anzac Parade is zoned B2 Local Centre, which permits with consent shop-top housing, which reduces the probability of a standalone office development given the superior returns attained from residential construction.





There are attractive features and traits of the proposed development that will help differentiate it from existing provision in the area, namely accessibility (access to public transport and arterial roadways), co-location with retail, lifestyle and services (childcare and existing primary health), access to skilled workers and proximity to open space and recreational facilities.

A combination of access to public transport provision and an industry mix which is more congruent with working resident skills and expertise, the proposed development is expected to improve current levels of self-containment in the Bayside LGA. It is also anticipated to render a positive operational outcome (between 2,120 and 2,625 jobs), which is roughly on par with that registered over a five-year period to FY2017 across the entire Bayside LGA (+2,102 jobs). The office component alone is expected to render an estimated 1,220-1,525 operating jobs. Additionally, the commute time for some local working residents will be reduced below 30 minutes, which is congruent with the 30-minute objective of Greater Sydney Commissions Greater Regional Plan.

Overall, the proposed development adheres with the objectives of its zoning and the overarching strategic vision for the Eastgardens-Maroubra Strategic Centre, in that it will create jobs which is a fundamental economic goal of Sydney. Overall, the case to proceed with the proposed development is compelling.





## INTRODUCTION

Colliers International has been commissioned by Scentre Group to prepare an Economic Impact Assessment (EIA) to support a planning proposal for the redevelopment of Westfield Eastgardens (referred to as the "subject site"). This EIA presents a comprehensive and compelling case for a modification to the existing planning controls to permit approximately 30,500m<sup>2</sup> of additional office floorspace as part of the larger expansion of the subject site.

This justification report is supported by market reality and rationale. It has also considered the impact from emerging trends and drivers, informed by professionals and experts who are engaged in the marketplace, and therefore have an applied knowledge on how office markets operate and function throughout Sydney.

This EIA addresses the considerations raised by RPS in the Urbis Westfield Eastgardens-Proposed Office Development Economic Impact Statement (dated March 2018) as indicated in the RPS rebuttal (final version dated 18<sup>th</sup> June 2018). It demonstrates that the proposed office provision, being large floorplate in format, will appeal to a different cross-section of tenants than those currently operating in surrounding commercial destinations – which are predominantly geared at servicing local market requirements. As such, it will diversify and reinforce the economic base of the Eastgardens-Maroubra Junction Strategic Centre, and therefore decrease its exposure and susceptibility to local and external shocks. In all, the EIA demonstrates that the proposed development will have a negligible impact on existing office provision in relevant existing centres, and in fact, may represent an opportunity to commence and amass a higher-order commercial/office destination in the Strategic Centre – currently a missing link in the local office hierarchy.

In presenting the case for repositioning, the following tasks have been undertaken:

- Review of relevant strategic planning policies and documents;
- Subject site and proposed development overview;
- Office market overview;
- Survey of relevant local office destinations;
- Present the economic and market-based justification for change;
- Addressed other considerations raised by RPS; and
- Address the relevant Section 9.1 Directions.

This report is presented in eight main sections as outlined below:

- **Section 1** provides a review of the subject site and proposed development
- **Section 2** entails a summary of planning strategy documents relevant to the proposed development
- **Section 3** entails an overview on office markets
- **Section 4** presents a profile of relevant local office markets
- **Section 5** presents the economic and market justification supporting the proposed development
- **Section 6** addresses other issues raised in the RPS peer review
- **Section 7** addresses applicable Section 9.1 Directions
- **Section 8** comprises concluding remarks and the justification statement





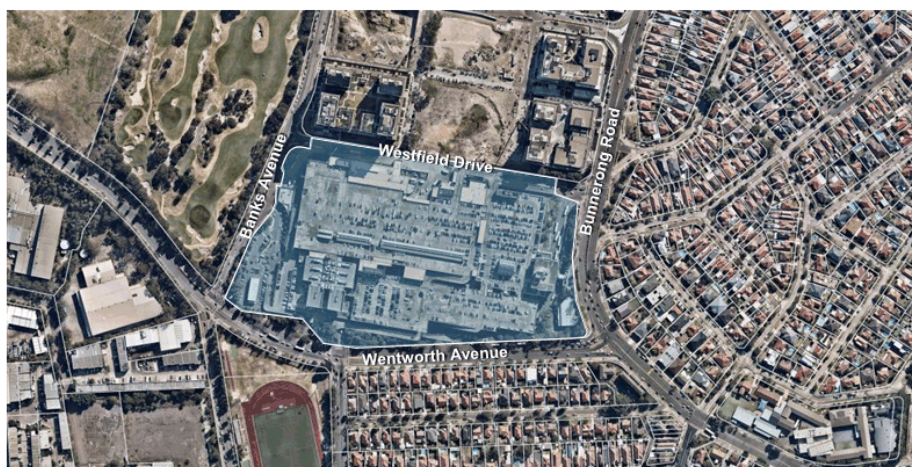
## SECTION 1: SUBJECT SITE & PROPOSED DEVELOPMENT

In this section, Colliers International reviews the subject site, focusing on its key attributes including locational context, land area, existing uses and built form. Additionally, we outline the key features of the proposed development of Westfield Eastgardens.

### 1.1 SUBJECT SITE

With an official street address of 152 Bunnerong Road, Eastgardens NSW 2036, Westfield Eastgardens is situated in the Bayside LGA and is located approximately 8km south of Sydney CBD and 4km east of Sydney Kingsford Smith Airport (straight-line). The site encompasses a total land area of approximately 9.29 hectares within one title, being Lot 1 DP 105 8663.

#### Westfield Eastgardens (Subject Site)



Source: Nearmap (aerial)

Each boundary of the subject site has street frontage i.e. Bunnerong Road to the east, Wentworth Avenue to the south, Banks Avenue to the west and Westfield Drive to the north. Road accessibility is exceptional, with access to the Sydney Orbital via Wentworth Avenue and the M5, and to Sydney's north, via the Eastern Distributor and Sydney Harbour Bridge or Tunnel.

Surrounding uses include Pagewood Green (new Meriton development targeting a completion yield of 3,900 apartments on the former British America Tobacco site) to the north, low density residential uses to the east and south, Hensley Athletic and industrial properties to the south west and Mutch Park to the west.

In terms of public transport, the site is well connected to the broader region via multiple bus routes, with around a dozen services available from Bunnerong Road and Westfield Drive i.e. L09, 301, 302, 310, 316, 317, 353, 391, 392, x92, 400, and 945. The subject site is equidistant from the Mascot and Sydney Domestic Airport Rail Stations, which are approximately 4 km away. Notably, the nearest light rail station is Nine Ways (around 2km north along Bunnerong Road), albeit, it has been suggested that the light rail network may be extended to the south in the future.



## 1.2 EXISTING BUILT FORM AND EXISTING USES

The existing three-storey, Westfield Eastgardens building structure encompasses an estimated 74,500m<sup>2</sup> of gross lettable area of retail provision, an extensive food court, 3,700m<sup>2</sup> of commercial floorspace (net lettable), eight-screen Hoyts cinema and approximately 3,150 car spaces (open and enclosed).

Classified as a major regional shopping centre, Westfield Eastgardens is co-anchored by all three supermarkets (i.e. Woolworths, Coles and Aldi), three major discount department stores (i.e. Kmart, Target and Big W) and Myer (replaced David Jones upon exit in 2008). Existing office provision is mainly accounted for by suites of between 50-300m<sup>2</sup> (mostly 90-150m<sup>2</sup>) with tenants across legal, accounting, financial services, real estate, distribution/forward and a 35-place preschool.

The centre was redeveloped in 2002 to allow for the inclusion of two more anchors; a new supermarket and discount department store. The extension also incorporated an upgrade of Hoyts, which increased its operating capacity from six to eight screens. There have been no significant improvements since 2002, apart from the addition of six restaurants in 2013.

## 1.3 CURRENT PLANNING SETTING

As prescribed in the Botany Bay Local Environment Plan (2013), the subject site is zoned B3 Commercial Core. The objectives of this land use zone include:

- To provide a wide range of retail, business, office, entertainment, community and other suitable land uses that serve the needs of the local and wider community.
- To encourage appropriate employment opportunities in accessible locations.
- To maximise public transport patronage and encourage walking and cycling.

Under the B3 Commercial Core zoning, office premises are permitted with consent. The current FSR is 1:1, and the maximum height of building is set at 26 metres.

The proposed development complies with the objectives of the B3 Commercial Core zoning in that the proposed retail and office additions will seek to serve the needs of the local and wider community, encourages employment in an accessible location and seeks to increase public transport utilisation given the bus interchange located on site. It must be noted, that office premises are a permissible use (with consent), and as such should be notionally supported by Council. The only variation from the current planning setting is in the proposed FSR and height, which exceeds the 1:1 FSR and 26 metre allowance set out in the Botany Bay LEP (2013) i.e. the trigger for the planning proposal. Therefore, from a permissible land use perspective, the proposed development is notionally consistent with the current planning setting.

## 1.4 PROPOSED DEVELOPMENT

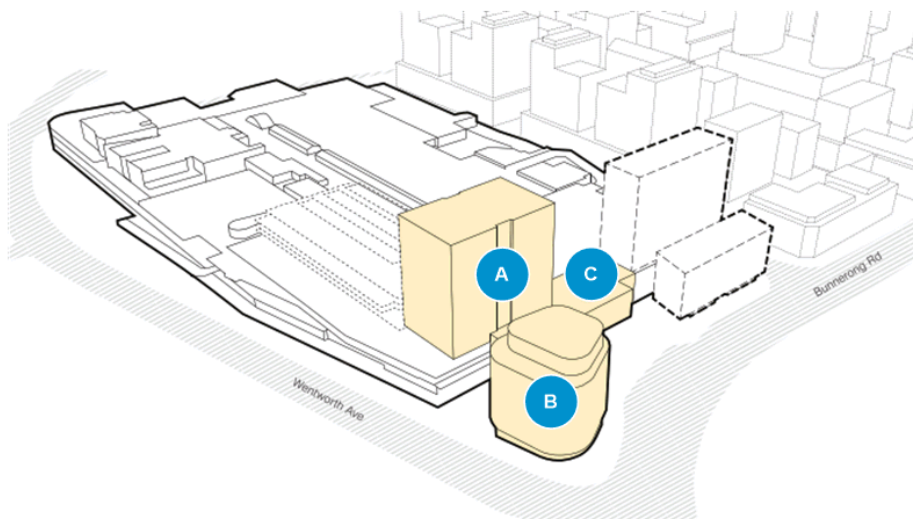
The proposed development is an expansion of the existing shopping centre at the western end and into the car park, and the addition of commercial uses along its eastern perimeter i.e. Bunnerong Road. It encompasses a combination of 27,500m<sup>2</sup> of retail (gross lettable area) and 30,500m<sup>2</sup> of commercial office provision.







#### Proposed Concept Plan



Source: architectus, Scentre Group

The proposed redevelopment will accommodate a total increment of 30,500m<sup>2</sup> of commercial office NLA across three distinct buildings, being:

- **Tower A:** A new A-grade commercial tower of 14 storeys which will target traditional large floor plate occupiers by providing plates of approximately 1,250m<sup>2</sup> NLA. This tower will provide a total NLA of approximately 18,000m<sup>2</sup>; and
- **Tower B:** A new corner tower of 8-10 storeys that will be geared at commercial usages around services and health. This tower will have floorplates of approximately 1,000m<sup>2</sup> net lettable area (NLA), equating to a total NLA of approximately 10,000m<sup>2</sup>;
- **Tower C:** Modifications to the existing 4 storey office tower to improve the core location and enlarge the floorplate to approximately 1,600m<sup>2</sup> NLA (from an existing 850m<sup>2</sup>) over four storeys, rendering approximately 2,500m<sup>2</sup> additional NLA.

Each office building will have an independent foyer and address point from the new public domain, and importantly, will be connected to the upgraded bus interchange.



## SECTION 2: GOVERNMENT POLICY & PLAN OVERVIEW

In this section, Colliers International provides an overview on strategic policies and plans relevant to the proposed development and the Eastgardens-Maroubra Junction Strategic Centre. The government policies and plans that have been reviewed include:

- The Greater Sydney Regional Plan: A Metropolis of Three Cities (2018);
- Eastern City District Plan (2018);
- Sydney Metro Strategy: A Plan for Growing Sydney (2014);
- Botany Bay Planning Strategy 2031 (2009);
- Botany Bay Local Environmental Plan 2013; and
- Future Transport 2056 (2018).

### 2.1 THE GREATER SYDNEY REGION PLAN, A METROPOLIS OF THREE CITIES (2018)

The Greater Sydney Region Plan, A Metropolis of Three Cities is constructed on a vision of three cities where the majority of residents live within 30 minutes of their job, education and health facilities and services.

The Plan seeks to integrate land use, transport and infrastructure planning between the three tiers of government and across State agencies. This new approach to land use and transport utilisation aims to boost Greater Sydney's liveability, productivity and sustainability by distributing growth across Sydney.

With over half of Greater Sydney's future eight million population anticipated to live west of Parramatta, the vision seeks to transform Greater Sydney into a metropolis of three cities, being:

- Western Parkland City;
- Central River City; and
- Eastern Harbour City.

Some of the key benefits and outcomes that are envisaged from the implementation of the Regional Plan framework include:

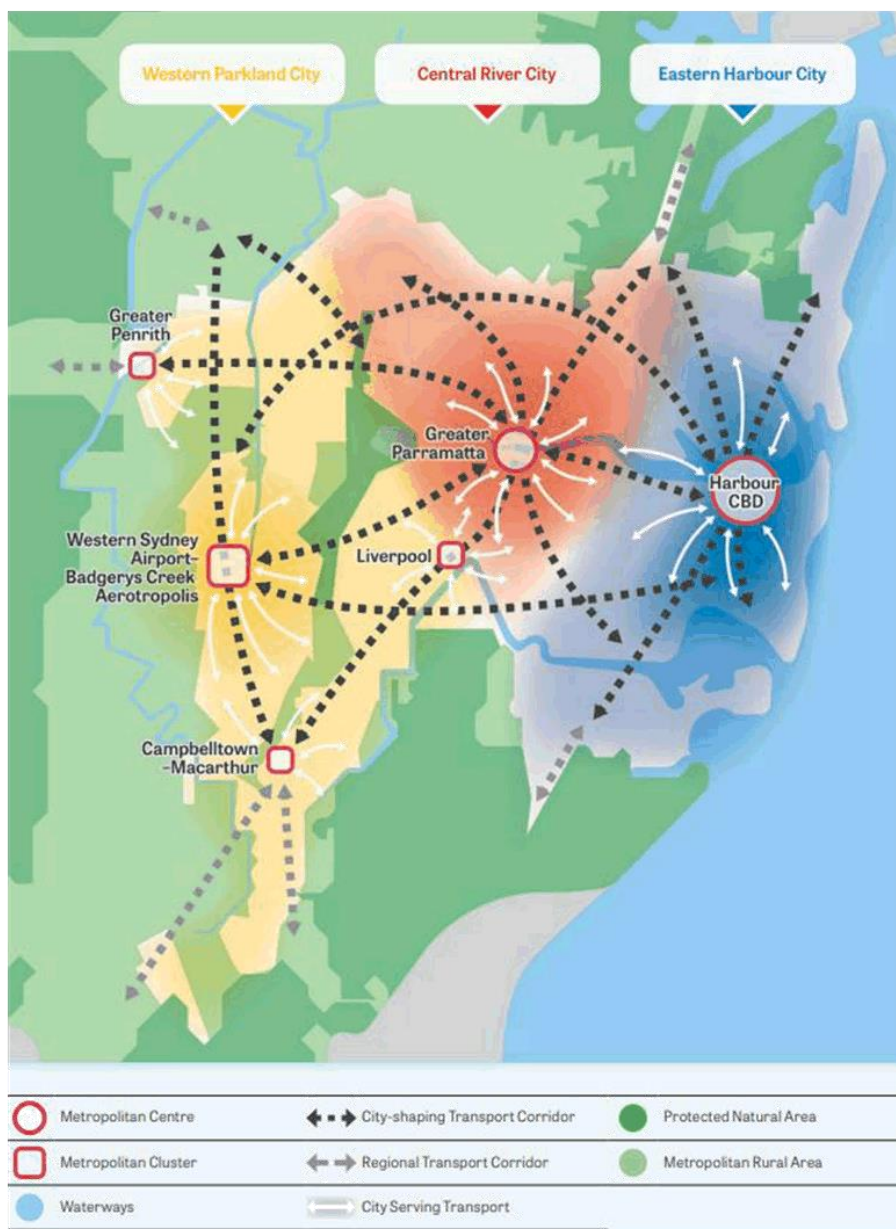
- Residents to have access to jobs and essential services;
- Housing diversity and supply will increase to meet an expanding and evolving community;
- The environment and precious resources will be preserved; and
- Importantly, infrastructure will be sequenced to support growth and delivered concurrently with new homes and jobs.

The Plan provides for the creation of a new, independent body, the Greater Sydney Commission, to oversee implementation of the Regional and District Plans.





Metropolis of Three Cities Vision



Source: The Greater Sydney Region Plan, A Metropolis of Three Cities (2018)





In this plan, Eastgardens-Maroubra Junction is classified as a Strategic Centre. While they do vary in size, location and mix of activities, the overarching role of a strategic centre is to enable access to a wide range of goods, services and jobs. Strategic centres are expected to accommodate high levels of private sector investment, enabling them to grow and evolve into the focal point for the region. The proposed development adheres with all the general requirements envisaged for strategic centres in the Greater Sydney Regional Plan. Specifically, it will provide the Eastgardens-Maroubra Junction Strategic Centre with private sector investment, and importantly, jobs.

#### EASTERN CITY DISTRICT PLAN (2018)

In 2018, the Greater Sydney Commission released five District Plans for Sydney (Central City District, North District, Eastern City District, South District and Western City District), expanding on the directions and actions of The Greater Sydney Region Plan, to create priorities and actions specific to each district. These 20-year plans provide a bridge between regional and local planning and are envisaged to manage growth and facilitate the delivery of the regional 40-year vision.

These District Plans inform local strategic planning statements and local environmental plans, the assessment of planning proposals as well as community strategic plans and policies. Transport initiatives outlined in this plan are directly sourced from 'Future Transport Strategy 2056' (2018).

The overarching priorities of the Eastern City District are:

- Strengthening the international competitiveness of the Harbour CBD, supported by the Innovation Corridor, health and education precincts and the District's strategic centres;
- Boosting innovation and creative industries alongside knowledge-intensive jobs growth;
- Stimulating the night-time economy within a responsive regulatory environment;
- Protecting international trade and freight routes;
- Retaining industrial and urban services land;
- Nurturing quality lifestyles through well-designed housing in neighbourhoods close to transport and other infrastructure;
- Sustaining communities through vibrant public places, walking and cycling, and cultural, artistic and tourism assets;
- Aligning growth with infrastructure, including transport, social and green infrastructure, and delivering sustainable, smart and adaptable solutions;
- Being innovative in providing recreational and open space areas, and increasing urban tree canopy;
- Transitioning to a low-carbon, high-efficiency District through precinct-scale initiatives; and
- Building effective responses to climate change and natural and urban hazards.

#### Eastgardens – Maroubra Junction Strategic Centre

Under the Eastern City District Plan, Eastgardens-Maroubra Junction is a designated Strategic Centre. As such, it is subject to Planning Priority E11: Growing investment, business opportunities and jobs in strategic centres. The priority seeks to capitalise on the existing strengths of each centre to deliver on the wider productivity and liveability objectives i.e. grow jobs across Greater Sydney and improve community access to goods and services. Notably, the priority posits that employment growth is the principal underlying economic goal for strategic centres, and states that strategic centres will be the focus of public transport investments that seek to deliver the greater 30-minute city objective.





Future Vision for the Eastern City District



Source: Eastern City District Plan (2018)

Specifically, the plan seeks to strengthen Eastgardens-Maroubra Junction Strategic Centre through approaches that:

- Protect capacity for job targets and a diverse mix of uses to strengthen and reinforce the economic role of the centre;
- Extend and investigate additional economic activities to connect Eastgardens and Maroubra Junction and complement the existing activities;



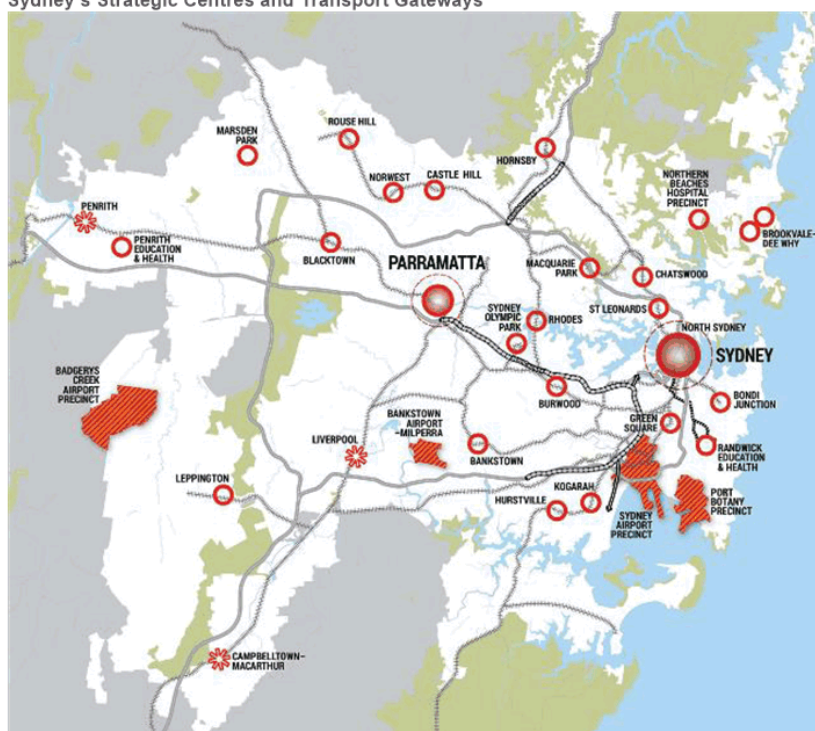
- c. Leverage future public transport connections in the south east and west of the District;
- d. Encourage provision of affordable housing to support the nearby health and education facilities and employment lands;
- e. Promote place making initiatives to improve the quality and supply of public spaces, promote walking and cycling connections and integrate with the Green Grid; and
- f. Improve public transport connections, walking and cycling between Eastgardens-Maroubra Junction and Randwick.

The proposed development complies with the approaches indicated in the Eastern City District Plan. It will realise the employment potential of the subject site, deliver a mix of uses which will strengthen and reinforce the economic base of the Eastgardens-Maroubra Junction Strategic Centre and leverage from the existing public transport network.

## 2.2 SYDNEY METRO STRATEGY, A PLAN FOR GROWING SYDNEY (2014)

Now superseded by The Greater Sydney Region Plan, 'A Plan for Growing Sydney' (2014) represented the cornerstone reference for land use planning decisions for the next 20 years at the time of release. It provided guidance on a few key areas, including commercial destinations, residential areas, transport and infrastructure and growth strategies.

### Sydney's Strategic Centres and Transport Gateways



Source: A Plan for Growing Sydney (2014)



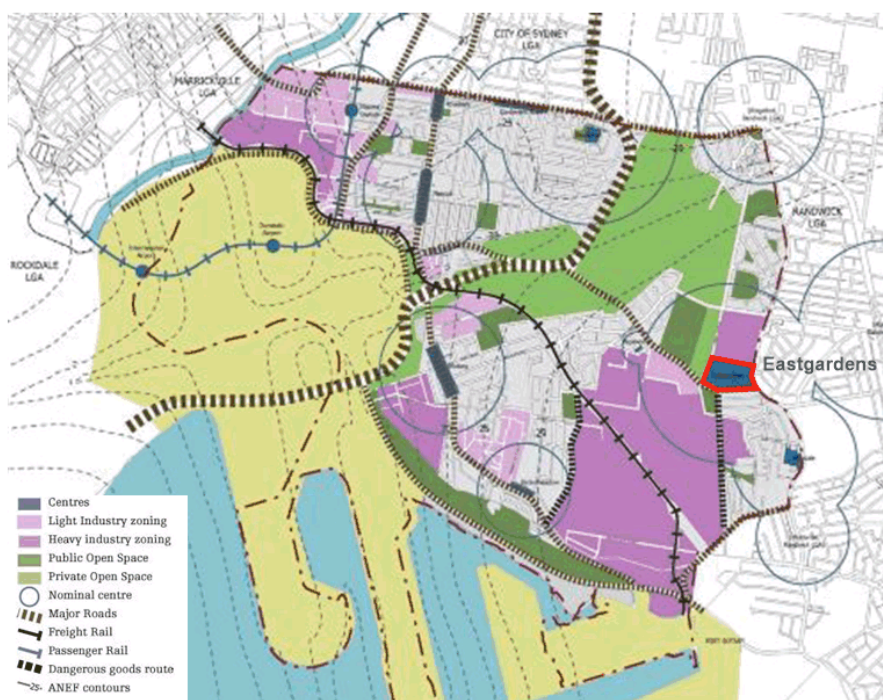


The Plan set a path for government to work collaboratively to deliver housing where people want to live and jobs in accessible locations. Under the Metro Strategy, new housing is to be located close to jobs, public transport, community facilities and services. It acknowledged the need to offer choice in housing location, size and typologies, to better suit our lifestyles and budgets. Most importantly, more intensive apartment development will be complemented by infrastructure and services, culture and the arts, a 'green-grid' of open spaces and renewed bushland to support healthy lifestyles and community life. Notably, there are no specific references to the Eastgardens-Maroubra Strategic Centre in A Plan for Growth Sydney.

### 2.3 BOTANY BAY PLANNING STRATEGY 2031 (2009)

The Botany Bay Planning Strategy 2031 addresses the then Draft East Sub-Regional dwelling and job targets, providing a framework for growth and development to 2031. It guided the preparation of the Botany Bay Local Environmental Plan (2013).

#### Overview of Land Uses, Nominal Centres and Transport Routes in Botany Bay LGA



Source: Botany Bay Strategy 2031 (2009)

A set of principles were developed to underpin the Strategy.

- Enhance existing urban character, improve amenity and protect areas of cultural and environmental significance.
- Promote the sustainable use of resources and enhance natural ecosystems.



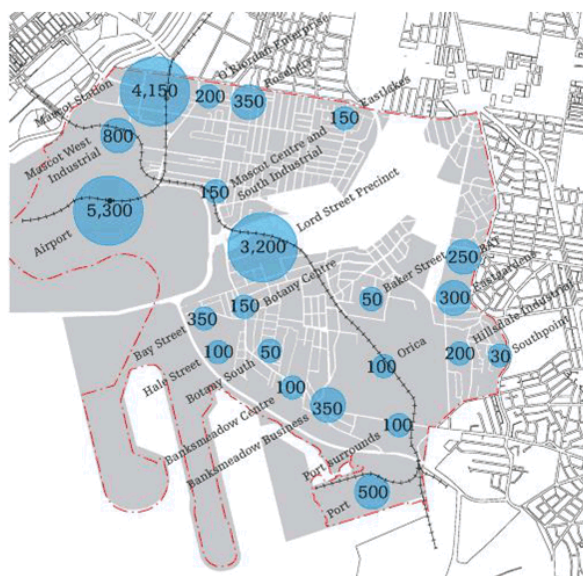
- Develop synergies between the global and local economy.
- Contain and intensify Airport and Port related activities around these economic nodes.
- Retain employment uses that are not directly related to the Airport and Port but provide critical services to the sub-region.
- Consolidate residential activity in and around existing centres.
- Separate regional and local traffic, rail and road movements.
- Ensure that future urban development is guided by principles of good urban design and built form.
- Improve quality of, and access to, open space in the LGA.

Under the planning strategy, Eastgardens is noted as an employment precinct. As presented in the next table, the future directions assigned to Eastgardens included generating employment in retail and manufacturing, as well as transitioning into a future mixed-use destination beyond 2015.

Employment area	Future directions	Strategy to address demand	Timing of implementation
Eastgardens	<ul style="list-style-type: none"> <li>• Retail employment</li> <li>• Manufacturing (British American Tobacco)</li> <li>• Future mixed-use town centre</li> </ul>	Plan for mixed-use centre in the long term (2015+, subject to BAT site coming online and structure planning)	2015+

Notably, it was recommended that a B3-Commercial Core zoning is applied to Westfield Eastgardens, and therefore grouping it together with other major retail and commercial destinations throughout the greater region. Under this strategy, Eastgardens was assigned a job target of 300 jobs by 2031 (as below).

#### Distribution of Additional Employment (2006-2031)



Source: SGS and Botany Bay Strategy 2031 (2009)



While this strategy has been superseded, the proposed development is consistent with its future directions and the objectives with at the time recommended and current B3-Commercial Core zoning. The proposed development will deliver a superior employment outcome relative to the prescribed target.

#### 2.4 BOTANY BAY LOCAL ENVIROMENTAL PLAN 2013

The Botany Bay Local Environment Plan (LEP) 2013 seeks to guide planning decisions for the local government area. The document serves as a planning tool to shape future communities and ensure local development is undertaken appropriately. The plan achieves the above through zoning and development controls, which provide a framework for the way in which land can be utilised.

Under the provisions of the 2013 Botany Bay LEP, Westfield Eastgardens is assigned a B3-Commercial Core zoning. The objectives for commercial core are as follows:

- To provide a wide range of retail, business, office, entertainment, community and other suitable land uses that serve the needs of the local and wider community;
- To encourage appropriate employment opportunities in accessible locations; and
- To maximise public transport patronage and encourage walking and cycling.

Under this zoning, an extensive range of employment-generating uses are permitted on the site (with consent), including commercial premises (which includes offices), child care centres, education establishments, medical centres, recreation facilities, registered clubs, respite day centres, community facilities, information and education facilities, etc. Notably, employment-based uses which are usually accommodated in industrial zonings (IN1, IN2, IN3 and IN4), as well as B5 Business Development and B6 Enterprise Corridor are prohibited under the current zoning.

#### Westfield Eastgardens Land Use Zone



Source: NSW Planning Portal (2018)

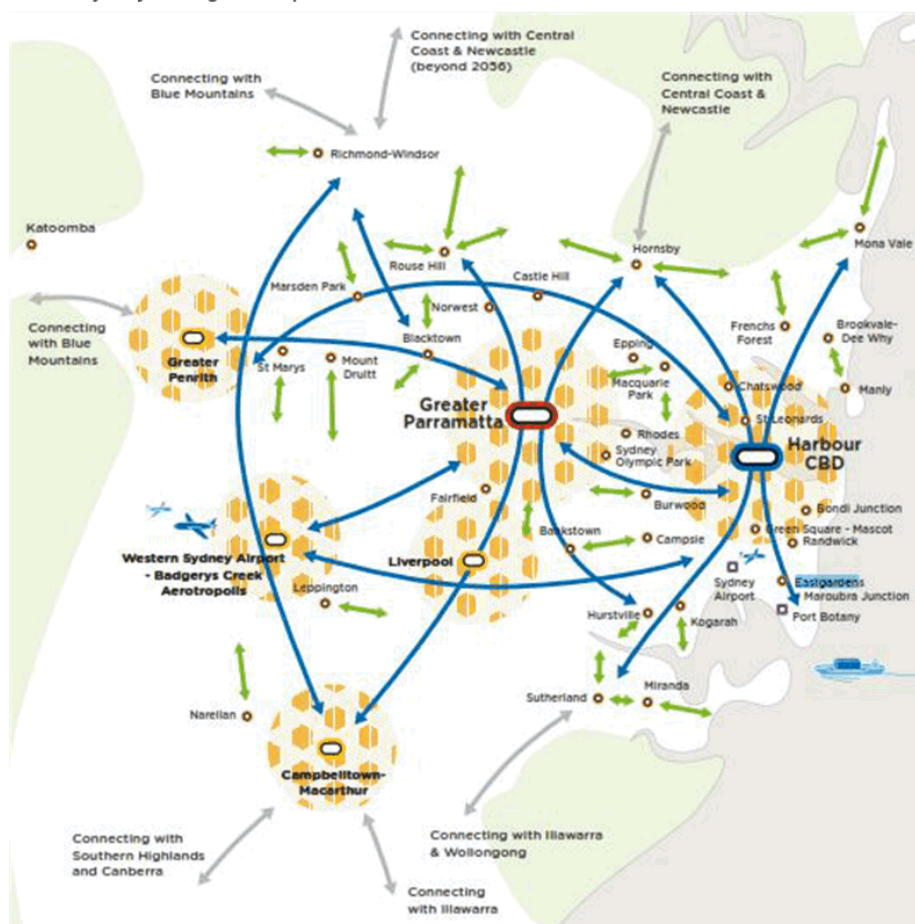




## 2.5 FUTURE TRANSPORT 2056 (2018)

Future Transport 2056 forms an update to the 2012 Long Term Transport Master Plan for NSW. The document details a range of plans and initiatives for the next 40 years of how people will live, work and commute around the state.

### Greater Sydney Strategic Transport Corridors



Source: Future Transport 2056

Importantly, the document aligns its goals with that of the Greater Sydney Commission, Infrastructure NSW, the Department of Premier and Cabinet and the Department of Planning and Environment.

At its core, Future Transport 2056 is an overarching strategy, supported by a suite of plans to achieve a 40-year vision for the NSW transport system.



The vision is built on six main outcomes:

1. Customer focused - creating a move to mobility as a service (MaaS) and beyond
2. Successful places - the liveability, amenity and economic success of communities and places are enhanced by transport
3. Growing the economy - the transport system powers NSW's future \$1.3 trillion economy<sup>1</sup> and enables economic activity across the state
4. Safety and performance - every customer enjoys safe travel across a high performing, efficient network
5. Accessible services - transport enables everyone to get the most out of life, wherever they live and whatever their age, ability or personal circumstances
6. Sustainability - the transport system is economically and environmentally sustainable, affordable for customers and supports emissions reductions

#### **Eastgardens-Maroubra Junction Strategic Centre**

The Eastgardens-Maroubra Junction Strategic Centre is acknowledged in Future Transport 2056. As such, it has been assigned the goals of assisting to enact the 30-minute city and providing 30-minute access for customers to their nearest metropolitan and strategic centre by public transport seven days a week.

Additionally, the centre resides along a city-shaping corridor, which is the largest transport option within the hierarchy defined by Transport 2056, defined as follows: city-shaping corridors encompass major trunk road and public transport corridors providing higher speed and volume connections between our cities and centres that shape locational decisions of residents and businesses.

#### **2.6 CONCLUDING REMARKS**

It is evident that the proposed development (which includes 30,500m<sup>2</sup> of large floorplate, high-quality office floorspace), adheres with the objectives, goals and intentions of the current strategic planning framework. Specifically, the proposed development will enhance the Eastgardens-Maroubra Junction Strategic Centre through the introduction of larger office tenants. Through the creation of between 1,220-1,525 office jobs (refer to Section 5.6), the proposed development will diversify the economic base of the strategic centre, allowing businesses to start, grow and remain in the area. It will also allow the Eastgardens-Maroubra Junction Strategic Centre to be more responsive to changing industry trends in industries. In all, the proposed development represents an opportunity to enhance the Eastgardens-Maroubra Junction Strategic Centre.

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<sup>1</sup> The NSW Intergenerational Report 2016 projects that the size of the NSW economy will reach \$1.3 trillion (in 2014 dollars) by 2056. According to ABS data, Gross State Product for NSW was \$557.86 billion (chain volume measures) over the year to June 2017.





## SECTION 3: OFFICE MARKET CONSIDERATIONS

In this section, we establish the market context required to interpret the justification presented in Section 5 of this report. As such, Colliers International provides an account into the current performance and status of the broader office market in Sydney. We also provide insight into how office centres interact, evolve and function. We demonstrate that the behaviour of office markets is correlated with broader market performance, and importantly, that outcomes are driven by business decisions which are demand-based in nature, and not necessarily where office workers live or are expected to reside in the future.

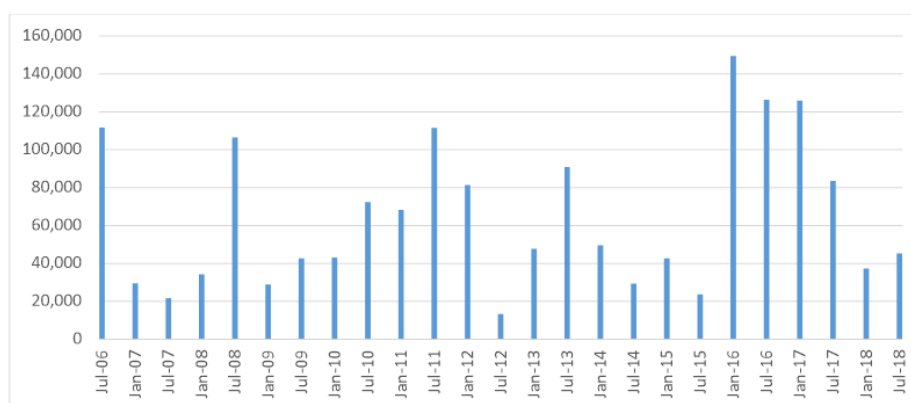
To convey this market-led approach to interpreting demand for office floorspace, Colliers International has provided:

- An overview on office market performance;
- Explanation on how office destinations form, evolve and expand; and
- Outline of key demand mechanics and considerations.

### 3.1 OVERVIEW ON OFFICE MARKET (PERFORMANCE)

Following a period of subdued activity, the Sydney office market has entered a protracted upturn phase. Within a relatively short period of time, improved business sentiment has underpinned a rise in demand for floorspace, which in turn, has coerced solid rental growth and importantly, a building response. Sensing heightened demand for higher grade provision (and the potential to capture high rents), landlords commenced a round of refurbishment projects along key office corridors in Sydney CBD such as Martin Place and George Street. Overall, new office supply additions in Sydney CBD improved vastly in 2010 and have remained solid. Since 2016 alone, approximately 568,140m<sup>2</sup> of new office floorspace<sup>2</sup> has been delivered in Sydney CBD.

**Office floorspace supply additions (m<sup>2</sup>), Sydney CBD (2006-2018)**



Source: Property Council of Australia – Office Market Report (July 2018)

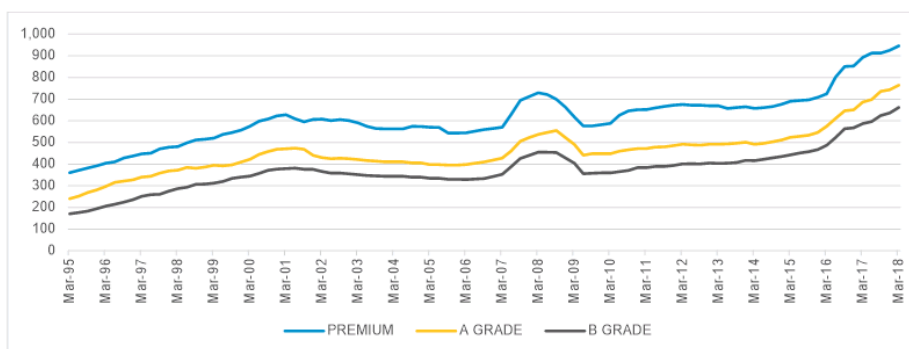
<sup>2</sup> Gross outcome i.e. does not consider withdrawals over the same period





The recent upturn was initiated by businesses relocating to established commercial centres. The moderation after the GFC provided a slight window of opportunity for businesses to relocate to Sydney CBD and other major commercial destinations and capitalise from high incentives (and lower net effective rents) being offered in the marketplace. At this point, corporations believed that the benefits from agglomeration outweighed the higher rents being charged at premiere destinations. This 'reversion back to centrality' phase was also underpinned by other considerations, such as attracting and retaining talent and a desire to be situated in highly accessible locations.

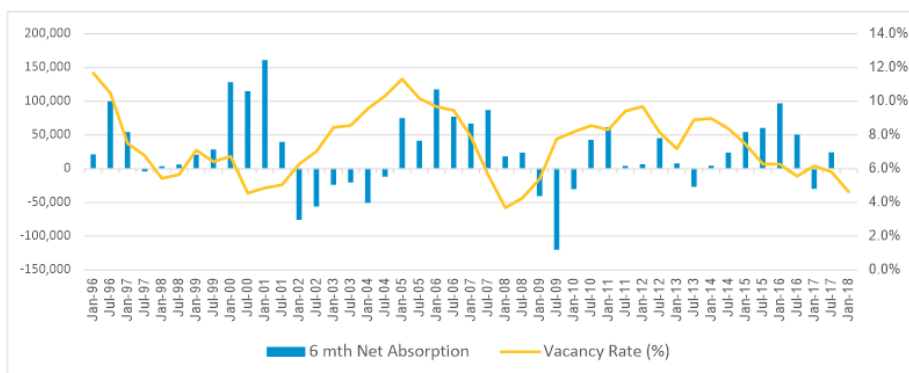
**Average gross effective rents (\$/m<sup>2</sup> per annum), Sydney CBD (1995-2018)**



Source: Colliers International (Q1, 2018)

The current cycle has been led by Sydney CBD. Rental growth has been pronounced, with gross effective rents for premium floorspace eclipsing the coveted \$900 per square metre mark in early 2017. Net office absorption returned to positive territory in 2014, coinciding with a sharp reduction in vacancy rates (as presented in the chart below). Recognising the value in this asset class, investment volumes rebounded strongly in 2010 (spurred by local investors) and continued to strengthen out to 2017. A surge in office purchasing activity pushed up capital values across all grades, resulting in significant yield compression in the office market, coercing a building response.

**Absorption (m<sup>2</sup>) and vacancy rates (%), Sydney CBD (1996-2018)**



Source: Property Council of Australia – Office Market Report (January 2018)



Several commercial centres have also performed strongly. Over the decade to 2018, net office supply exceeded 314,000m<sup>2</sup> in Macquarie Park, which was the most of any office destination in Sydney (as presented in the table below). Arguably the vanguard for new office development in Sydney, Macquarie Park is now Sydney's second largest office destination. Moreover, Parramatta, owing to an in-kind contribution of land from council and improved market sentiment (A-grade face rents have finally surpassed \$600 per square metre), witnessed its development pipeline expand rapidly, with 290,000m<sup>2</sup> earmarked to be delivered as part of the Parramatta Civic project.

**Net office floorspace additions (m<sup>2</sup>), various commercial centres (2008-2018)**

Office market	Supply additions (m <sup>2</sup> )	Withdrawals (m <sup>2</sup> )	Net addition (m <sup>2</sup> )
Macquarie Park*	409,359	95,146	314,213
Sydney CBD	1,454,140	1,182,881	271,259
Parramatta	196,113	84,516	111,597
North Sydney	165,400	163,972	1,428

\* Includes North Ryde

Source: Property Council of Australia – Office Market Report (July 2018)

In all, the upturn in the office market has been pronounced and apparent across many office destinations throughout Greater Sydney.

### 3.2 HOW OFFICE MARKETS INTERACT, EVOLVE AND GROW

The previous section confirmed that the Sydney office market is an entrenched upturn. Interaction between different office destinations, the evolution of office centres (existing and new) and expansion is generally most apparent and pronounced during an upturn.

In all, there are three ways in which office destinations interact, evolve and grow, being:

- Spillover of demand;
- Offering a 'Point of Difference'; and
- Induced by government policy.

The above listed influencers are not necessarily mutually exclusive. Moreover, they can influence multiple office centres concurrently i.e. while the relocation of some state government departments to Parramatta and Liverpool CBDs will augment these centres, it also has the potential to undermine the vacated suburban office markets i.e. Hurstville and Ashfield.

#### 3.2.1 Spillover

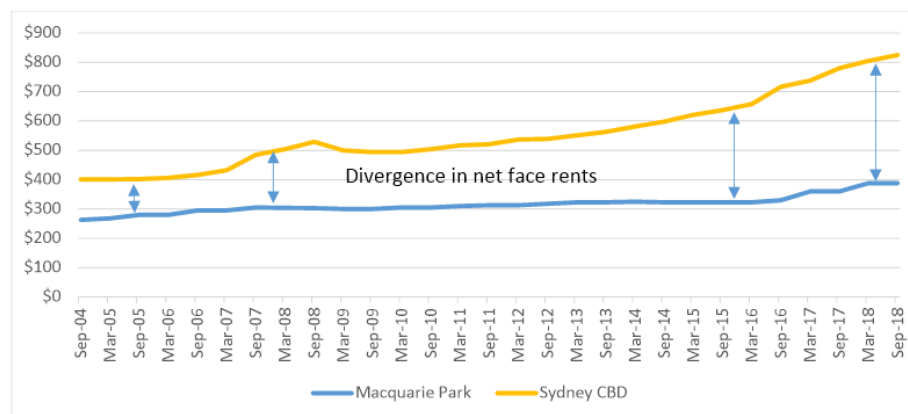
Demand spillover across commercial/office markets is a common occurrence during an upturn. As occupancy costs become exuberant in major centres such as Sydney CBD, the popularity of more cost-effective options rises. In Sydney CBD, there are sub-markets which present as more affordable than others. Additionally, metropolitan office markets offer premises at a fraction of the cost of CBD equivalents, which has coerced many businesses and tenants to relocate to contain and curtail costs. In some cases, significant or protracted market upturns have underpinned the creation of entire new office destinations, as the supply response in existing centres is usually slow to respond. A broader economic cycle spurring above-average business and



industry growth can also accentuate the magnitude and rate at which spillover transpires between office markets.

Demand overflow has also been observed between Sydney CBD and several office markets in Sydney. When rents rise in Sydney CBD, the opportunity to occupy similar premises or large standalone formats at a fraction of the cost has enticed many businesses to other office markets. Moreover, co-location within an industry cluster and cost-effective car parking options have also coerced businesses to other office markets. A prime example is Macquarie Park. Spillover to this metropolitan office destination was most pronounced at the turn of the century but has also been relatively strong since the GFC, owing to a 35% discrepancy on net face rents between Macquarie Park and Sydney CBD, which has since increased to \$437 per square metre (or 113%) as at September 2018 (as shown in the chart below).

**Office Rents (\$ per m<sup>2</sup> per annum), Sydney CBD and Macquarie Park (2004-2018)**



Source: Colliers Edge

The Optus relocation is a classic example. In July 2007, Optus relocated from a 28-storey tower in North Sydney CBD (101 Miller Street North Sydney) to six-squat campus-style buildings in Macquarie Park. At the time, Optus cited operating synergies and cost efficiencies as the main reasons for the relocation and consolidation.

### 3.2.2 Point of Difference

A 'Point of Difference' (POD) has underpinned the formation and expansion of commercial office destinations in Sydney. A POD can be achieved in several ways, including and not limited to:

- Unique or established industry theme and tenant composition;
- Custom-made premises and build solutions;
- Provision of new transport or infrastructure;
- Offering distinct floorplate sizes and configurations;
- Through the quantum and quality of offer;
- Provision of car parking; and
- Locational-based attributes.





The provision of any one or combination of the above POD features may provide a destination or precinct with a competitive edge.

An example of a new office destination evolving is Norwest Business Park (NBP). A portion of the business park, being the Bella Vista component (i.e. adjacent to Old Windsor Road) was created in a similar manner to Macquarie Park, in that some large owner-occupiers relocated to NPB in order to consolidate business operations and reduce occupancy costs e.g. Woolworths Group, ResMed and AV Jennings.

#### Norwest Business Park Map



Source: Nearmap

The POD aspect is most prevalent in the eastern segment of the NBP. The office buildings along Columbia Way and Norwest Boulevard offered a range of floorplate configurations and sizes. In particular, the supply of strata offices was solid in this segment, which were readily absorbed by small-to-medium sized businesses – this segment has experienced rapid growth in Sydney, as evidenced by businesses with one and four employees accounting for nearly three-quarters of total business growth between 2015 and 2017 (refer to table below). Strong growth in this cohort underpinned the success of commercial destinations that offered small floorplate offices (i.e. below 200m<sup>2</sup>) such as NBP. Moreover, car parking was provided at grade, which appealed to businesses which rely on mobility. It also sparked interest amongst the rapidly rising number of professionals in Sydney's north west (who were able to work closer to home).



Business Count and Change by Workforce Size, Greater Sydney (2015-2017)

	1-4 employees	5-19 employees	20-199 employees	200+ employees	Total employing
2015 (no.)	147,793	40,078	10,665	338	198,874
2017 (no.)	158,211	42,869	11,344	453	212,877
Change (no.)	10,418	2,791	679	115	14,003
% of total change	74.4%	19.9%	4.8%	0.8%	100.0%

Source: Australian Bureau of Statistics

### 3.2.3 Policy induced

In the past, office centres and destinations have also been affected by government policy. Policies aimed at decentralisation and consolidation have been extremely beneficial for some office destinations, and concurrently detrimental to others. In the 1980s, the government embarked on decentralisation program, relocating departments to regional NSW locations (e.g. NSW Department of Primary Industries to Orange and Australian Electoral Commission and Department of Primary Industries to Dubbo), but also to other CBDs, metropolitan office and suburban office markets throughout Sydney. A sample of relocations are listed in the next table.

Sample of Government Department Relocations to Sydney Office Centres

Destination	Government Department
Parramatta CBD	Revenue NSW (previously OSR) NSW Police Health Insurance Commission (includes Medicare) RMS (previously NSW Roads and Traffic Authority) Attorney General's Office Sydney Water
Hurstville	NSW Office of Environment and Heritage Australian Taxation Office (since closed)
Ashfield	Family and Community Services (to be relocated) NSW Housing

Source: Colliers International

The introduction of the Government Office Reform Program in 1998 formalised the outflow of public sector tenants to Parramatta CBD. Over a ten-year period, absorption from the public sector totaled circa 88,000m<sup>2</sup>. More recently, the NSW government is implementing the Government's Decade of Decentralisation policy, which focuses on relocating jobs from Sydney CBD to metropolitan Sydney and regional locations, with a particular focus on Western Sydney. Major relocations announced to date include Department of Education (105 Phillip Street), Department of Planning and Environment (4 Parramatta Square), Department of Finance, Services and Innovation (4 Parramatta Square), Department of Infrastructure (4 Parramatta Square) and Industrial Relations Commission of NSW.

Historically, suburban markets benefitted from government decentralisation programs. A classic example is Ashfield, which benefitted from the relocation of two major NSW state government departments, being NSW



Housing and NSW Land & Housing Corporation. Similarly, Hurstville was the recipient of NSW Office of Environment and Heritage, and Penrith CBD the destination for a portion of NSW Fair Trade, as well as the Australian Taxation Office (federal government tenant).

However, the Decade of Decentralisation policy is undermining suburban markets. There are plans to relocate and consolidate a host of state government departments to Western Sydney over the next five years. The Ashfield office market, for example, will be compromised by the relocation of Family and Community Services to Liverpool. Similarly, Hurstville will also be losing a prominent and long-standing government anchor, with the NSW Office of Environment and Heritage earmarked to relocate to Parramatta in 2021.

### 3.3 DEMAND MECHANICS AND CONSIDERATIONS

Demand for office floorspace stems from business requirements. As such, understanding business decisions is the link to comprehending how commercial office markets operate, function and interact. There are a series of criteria utilised by businesses when selecting a location. While the selection criteria may vary from business-to-business, there are some common features and attributes of office destinations that are desired by businesses. These demand-led requirements include:

- **Opportunity to trade** – the office destination requires a minimum level of critical mass and co-location of other businesses to ensure that there is opportunity to trade with other businesses.
- **Industry and sectoral compatibility** – the industry and sector theme at the office destination will need to be complementary and conducive to the business and broader region.
- **Floorplate configuration and quality of provision** – the office destination will need the right floorplate configurations, building or premises i.e. standalone building and site versus strata office in a larger complex. Quality of floorspace is another important factor.
- **Accessibility** – the office destination will need to be highly accessible, either by public transport provision (rail, bus and ferry), road network (and car parking) or via bicycle and walking.
- **Amenities** – the destination will need on-site facilities and surrounding amenities to assist in attracting and retaining talent.
- **Infrastructure investment** – future infrastructure items are also a factor, as they can render positive (i.e. improved accessibility) and negative (i.e. disruption to business operations) outcomes.

In all, demand for office space is business and market based. It focuses around business decisions and is not necessarily based on the number of workers in a certain location (albeit, staff retention is one of many considerations). In fact, as shown in the next table, 17 out of 20 Sydney's SA2 regions with the highest concentration in professionals and managers do not have an office market (refer to next table).

#### Concentration in Professionals and Managers, Top 20 Sydney SA2 Regions (2016)

SA2 Region	No. of managers or professionals	Estimated resident population	Concentration (%)	Office market
Erskineville - Alexandria	6,731	17,340	39%	No
North Sydney - Lavender Bay	4,399	11,479	38%	Yes
Crows Nest - Waverton	7,274	19,125	38%	Yes





St Leonards - Naremburn	4,147	11,065	37%	Yes
Darlinghurst	4,408	12,202	36%	No
Neutral Bay - Kirribilli	6,851	19,052	36%	No
Paddington - Moore Park	5,894	16,411	36%	No
Surry Hills	6,104	17,844	34%	No
Balmain	5,673	16,650	34%	No
Cremorne - Cammeray	6,876	20,281	34%	No
Woollahra	2,680	8,166	33%	No
Lilyfield - Rozelle	4,831	14,933	32%	No
Newtown - Camperdown - Darlington	8,420	26,297	32%	No
Manly - Fairlight	7,508	23,669	32%	No
Potts Point - Woolloomooloo	7,271	22,990	32%	No
Bondi Beach - North Bondi	7,111	22,559	32%	No
Petersham - Stanmore	6,670	21,314	31%	No
Glebe - Forest Lodge	6,462	20,814	31%	No
Double Bay - Bellevue Hill	8,297	26,781	31%	No
Leichhardt - Annandale	8,653	27,957	31%	No

Source: Census 2016

In addition to requirements, businesses must adhere with their budgets, which serves as a limit. As such, there is an overarching trade-off between achieving necessary and desired attributes and the level of rent that a business is prepared (or capable) to pay for these attributes.

### 3.4 FINAL REMARKS

In all, the main observations pertinent to this section include:

- The upturn in the Sydney Office Market is extensive and entrenched;
- The upswing has not been confined to Sydney CBD, with most office centres also benefitting;
- There is a symbiotic relationship between market performance and how office destinations interact, evolve and function;
- There are three ways in which office markets interact, evolve and function, being:
  - i. Spillover of demand
  - ii. Offering a 'Point of Difference'
  - iii. Induced by government policy;
- The above listed levers are not necessarily mutually exclusive. Moreover, they can influence multiple office centres concurrently; and
- Demand is driven by business decisions, which are informed by selection criteria which relate to market considerations – demand is not determined solely by the location of labour supply.





## SECTION 4: LOCAL OFFICE MARKET REVIEW

In this section, Colliers International has undertaken a high-level survey of existing office provision in seven commercial office destinations within the broader region, including:

- Eastgardens-Maroubra Junction;
- Mascot;
- Botany;
- Randwick-Kensington;
- Green Square;
- Banksmeadow; and
- Kogarah-Rockdale.

A profile has been developed for each centre which includes information on its location, character, classification, quantum of office floorspace, major office building(s), quality of stock, building format, floorplates (typical), industry/sectoral theme and any identified major office projects.

### 4.1 EASTGARDENS-MAROUBRA JUNCTION

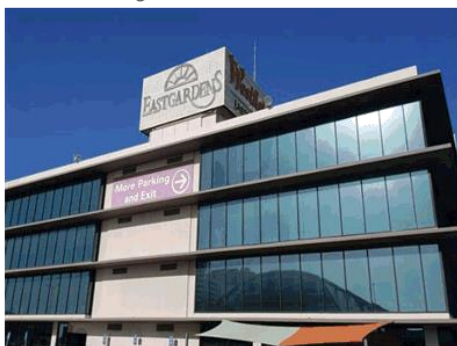


<b>Description</b>	<p>Eastgardens-Maroubra is located approximately 8km south east of Sydney CBD, with Westfield Eastgardens located in the western segment. Employment-based commercial uses are situated mainly along Anzac Parade between Gale Road to the north and Haig Street to the south. Barring Westfield Eastgardens and some recreational open space (Hefron, Nagle, Jellicoe, Snape and Coral Sea parks), the remainder of the area incorporates a mix of residential uses, being predominantly low density residential.</p> <p>Under the Greater Sydney Regional Plan, Eastgardens-Maroubra is classified as a strategic centre. As prescribed by this status, the centre should be accessible seven days a week by public transport, and provide access to jobs, shops and services.</p>
<b>Floorspace</b>	<p>Eastgardens-Maroubra contains approximately 9,200 to 10,200m<sup>2</sup> of office floorspace. The majority of office space identified is situated in 800-812 Anzac Parade, Maroubra (estimated to have 4,000m<sup>2</sup> of NLA) and Westfield Eastgardens (estimated to have 3,700m<sup>2</sup> of NLA). The remainder of office floorspace is situated in retail-strip premises on Anzac Parade and Maroubra Road, and is typically small in stature and size.</p>



<b>Parking</b>	Designated on-site car parking is limited. Car parking (timed) is available along Anzac Parade and other nearby roads and streets. For Westfield Eastgardens designated parking is available for office tenants.
<b>Grade</b>	Office provision is generally of C grade quality.
<b>Format</b>	Identified office provision primarily consists of small offices and floorplates (between 50 and 200m <sup>2</sup> ).
<b>Theme</b>	Smaller office provision located amongst the retail strip is dominated by local service related industries (accountants, real estate, medical, mortgage brokers, employment, education, etc.). Such tenants are generally entrenched in and serve the local market.
<b>Development (major)</b>	At present, the proposed development represents the largest potential source of new office provision for the Eastgardens-Maroubra Strategic Centre.

Westfield Eastgardens Tower



806-812 Anzac Parade, Maroubra



737 Anzac Parade, Maroubra (Pacific Square)



783 Anzac Parade, Maroubra







## 4.2 MASCOT



<b>Description</b>	<p>Mascot is located approximately 5.5km south of Sydney CBD, and 3km north west of Westfield Eastgardens. The area is characterised by large-format office provision, alongside industrial warehousing and business parks.</p> <p>According to the Greater Sydney Region Plan, Green Square-Mascot forms one of nine standalone commercial office precincts, and is designated as a strategic centre, forming part of the eastern economic corridor.</p>		
<b>Floorspace</b>	<p>The largest commercial centre reviewed, Mascot comprises of 160,000 to 165,000m<sup>2</sup> of office floorspace. The largest buildings of the precinct along with their major tenants are summarised below:</p> <ul style="list-style-type: none"> <li>• 203 Coward St, Mascot 40,000m<sup>2</sup> Qantas Building</li> <li>• 185-191 O'Riordan St, Mascot 37,000m<sup>2</sup> Jaguar, TJX, Henry Schein, Patterson, Department of Agriculture and Water Resources, Department of Infrastructure and Regional Development and Cities, JLL</li> <li>• 201 Coward St, Mascot 22,600m<sup>2</sup> TNT, Qantas, Aboriginal Affairs, Westconnex M5 / Sydney Motorway Corporation</li> <li>• 241 O'Riordan St, Mascot 18,000m<sup>2</sup> Coates Hire, Landis+Gyr</li> <li>• 163 O'Riordan St, Mascot 13,500m<sup>2</sup> Electrolux, Winc. (Staples)</li> </ul> <p>The remaining office floorspace is available in smaller formats and floorplates i.e. between 50-150m<sup>2</sup>.</p>		
<b>Parking</b>	Most premises have a significant quantity of on-site parking, either in dedicated parking structures or in underground or basement levels.		
<b>Grade</b>	Office provision is typically A or B grade. The overall quality of stock has been improved recently, owing to the delivery of three A-grade office towers as part of the 185, 189, 191 O'Riordan St redevelopment.		
<b>Format</b>	Floorplates generally range between 200 – 2,000m <sup>2</sup> , albeit, the largest segment is the 250-600m <sup>2</sup> . There are some large corporations occupying single or multiple whole floors of around 2,000m <sup>2</sup> (per floor), such as Qantas, TNT, Electrolux, Winc. (formerly Staples), and Westconnex M5.		
<b>Theme</b>	There is an aviation, logistics and freight-based cluster (i.e. Qantas, TNT, Sydney Motorway Corporation, Northrop Grumman, etc) – benefitting from proximity to Sydney Airport, Sydney CBD, Port Botany and key rail/road arterials. There are also several large government departments (Department of Agriculture and Water Resources, the Department of Infrastructure and Regional Development and Cities, and Aboriginal Affairs) operating in Mascot. There are also a host of entities operating in travel, transport, or rental space e.g. Jaguar/Land Rover, Qantas Holidays, QBT and Avis.		



**Development (major)** Potential future new office provision in Mascot is limited mainly to one development. The development with street address 7, 9, 14, 16, and 18-21 Chalmers Crescent (Mascot), aims to deliver approximately 34,000m<sup>2</sup> of new office provision across four office towers across the 12,000m<sup>2</sup> parcel of land. This project is still in the early design phase.

185, 189, 191 O'Riordan Street, Mascot



201 Coward Street, Mascot



241 O'Riordan Street, Mascot



163 O'Riordan Street, Mascot





#### 4.3 BOTANY



<b>Description</b>	Botany is located approximately 8km south of Sydney CBD, and 1.5km west of Westfield Eastgardens. It comprises primarily of industrial estates. The eastern component contains low-density housing. Under the Greater Sydney Region Plan, Port Botany and Sydney Airport are defined as Greater Sydney's two nationally significant trade gateways. The retention of industrial land has been classified of national significance.
<b>Floorspace</b>	Botany comprises of approximately 3,000 to 4,000m <sup>2</sup> of standard office floorspace, consisting mostly of small office provision (50-150m <sup>2</sup> ), interspersed throughout the retail-strip premises along Botany Road. Approximately 20,000m <sup>2</sup> of office floorspace has been identified in quasi industrial-office premises and business parks (e.g. The Lakes Business Park, 2-13 Lord Street Botany). However, this has not been considered as office provision, as the tenants occupying these properties require the industrial component for their operations, and as such, is classified for industrial purposes – the office component used by back office or ancillary functions of the business. Major tenants in Botany include Telstra, GE Energy, Toll Group, LVMH and Mazda.
<b>Parking</b>	Parking is generally limited due to the position of small commercial tenancies amongst the retail strip.
<b>Grade</b>	The office provision of Botany is primarily low grade, due to the bulk of traditional office being situated in retail strip premises.
<b>Format</b>	The area is predominately comprised of small office leases (50-200m <sup>2</sup> ).
<b>Theme</b>	Smaller office provision located amongst the retail strip is dominated by local service related industries (accountants, real estate, medical, mortgage brokers, employment, etc.). Such tenants are generally entrenched in and serve the local market.
<b>Development (major)</b>	Not identified.





The Lakes Business Park, 2-13 Lord Street, Botany



1371 Botany Road, Botany



Botany Road Retail Strip (1415 Botany Rd, Botany)





#### 4.4 RANDWICK-KENSINGTON



<b>Description</b>	<p>Randwick-Kensington is located approximately 6km south east of Sydney CBD and 2.5km north of Westfield Eastgardens. The area is characterised by its two main anchors, being the University of New South Wales (UNSW) campus and the Prince of Wales Health Precinct which includes Prince of Wales Hospital (public and private), Sydney Children's Hospital and the Royal Hospital for Women. There is some commercial (retail and office) provision scattered along Anzac Parade and Avoca Street. Outside of its major precincts, Randwick presents as a predominately residential market, containing two relatively small areas for retail and commercial (Kingsford and Randwick retail districts). The remainder of the area incorporates a mix of residential uses, predominantly low and medium density housing.</p> <p>Under the Greater Sydney Region Plan, Randwick is classified as a Strategic Centre, and forms one of Greater Sydney's 13 health and education precincts.</p>
<b>Floorspace</b>	<p>Randwick-Kensington contains approximately 7,500 to 9,000m<sup>2</sup> of office floorspace. There are few traditional prominent office buildings in the centre, with the majority of identified office provision interspersed throughout small-format buildings and retail street-strip premises (along Avoca Street and Anzac Parade). Some office space has been identified above ground floor retail premises (shop-top commercial format).</p> <p>One premises that resembles an office building has been identified, being 66 High Street Randwick. This building is occupied by specialist medical uses (cancer treatment, pathology, infusions, medical imaging), which is infused with the dominant health and medical theme.</p>
<b>Parking</b>	Dedicated parking is limited due to the small size of commercial premises. Timed street car parking is available along main roads and around the UNSW campus.
<b>Grade</b>	The office provision within the precinct is generally of B or C grade.
<b>Format</b>	The most common office size is between 100 and 400m <sup>2</sup> . Not including buildings in the health precinct and UNSW campus, there are few examples of large office floorplates in Randwick-Kensington i.e. in excess of 1,000m <sup>2</sup> .
<b>Theme</b>	Smaller office provision located amongst the retail strip is dominated by local service related industries (accountants, real estate, medical, mortgage brokers, employment, education, etc). Such tenants are generally entrenched in and serve the local market.
<b>Development (major)</b>	It is rumoured that UNSW may be developing an innovation precinct which may include some office space – however, geared at the incubator and co-working space.



138 Belmore Road, Randwick



66 High Street, Randwick (Wales Medical Centre)



498 Anzac Parade, Kingsford



166-168 Belmore Road, Randwick







#### 4.5 GREEN SQUARE

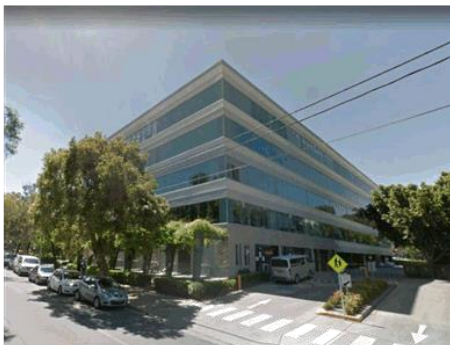


<b>Description</b>	<p>Green Square is located approximately 4km south of Sydney CBD, and 4km north west of Westfield Eastgardens. The area is mostly comprised of industrial and residential development, with a mix of large format industrial alongside creative office space, which is typically smaller offices paired with warehousing or storage options.</p> <p>Green Square also contains office provision which is directly tied to industrial warehousing or retail shopfronts, such as that found at 'The Mill', 41-45 Bourke Rd, Alexandria, or multiple business parks within the area. This office provision is skewed towards industrial usage (warehousing / storage requirements) and as such has not been considered, as it represents a fundamental difference in offering compared to standard commercial office.</p> <p>Under the Greater Sydney Region Plan, Green Square-Mascot forms one of nine standalone commercial office precincts, and is designated as a strategic centre, forming part of the eastern economic corridor.</p>
<b>Floorspace</b>	<p>Green square is comprised of approximately 45,000 to 55,000m<sup>2</sup> of office floorspace. The precinct has three large office buildings, being:</p> <ul style="list-style-type: none"> <li>• 61 Dunning Ave, Rosebery 11,000 m<sup>2</sup></li> <li>• 77 Dunning Ave, Rosebery 5,400 m<sup>2</sup></li> <li>• 11 Bowden St, Alexandria 5,700 m<sup>2</sup></li> </ul> <p>The remaining office space is contained within smaller form commercial buildings (1,000 – 4,000m<sup>2</sup>) or embedded within strip retail (shop-top commercial).</p>
<b>Parking</b>	Car parking is generally provided at grade, while there is some basement car parking in some smaller premises (less than 3,000m <sup>2</sup> ).
<b>Grade</b>	Office provision is primarily B grade with some C grade available. The office premises at 77 Dunning St represents a rare example of A grade provision.
<b>Format</b>	Floorplates range from 600-2,700m <sup>2</sup> , with the majority between 400 and 1,000m <sup>2</sup> . Overall, the Green Square market is dominated by the small floorplate segment (i.e. suites of between 70-300m <sup>2</sup> ).
<b>Theme</b>	The industry theme in the Green Square office market is varied. the dominant industry is fashion or apparel retailers (i.e. Nike, G-Star, Apparel Group, Noni B, etc), followed by business strategists (Cube, Ingram Micro). There are also a host of business service firms (i.e. architects, textiles, entertainment planners, interior designers, commercial IT, visual design) and startup enterprises. There is also some government presence (e.g. NSW Government Family and Community Services), albeit limited to local and regional nodes within the broader NSW network.



**Development (major)** The Green Square Town Centre (a 14ha precinct located in central Green Square) is currently undergoing one of the most significant urban renewal programs in Australia. The new precinct seeks to deliver a total of 410,000m<sup>2</sup> of floorspace (split between asset classes, community, residential, office, etc), with the Landcom and Mirvac portion of the site (5ha) set to deliver approximately 44,000m<sup>2</sup> of office provision. Additionally, a further 9,300m<sup>2</sup> of office will be delivered by Tipalea in their 29 Bourke Road Development.

61 Dunning Ave, Rosebery



77 Dunning Ave, Rosebery



11 Bowden St, Alexandria



Green Square Town Centre





#### 4.6 BANKSMEADOW



<b>Description</b>	Banksmeadow is located 9km south of Sydney CBD, with Westfield Eastgardens situated at its northern periphery. The area is characterised by industrial estates, with some low-density housing to the east. Under the Greater Sydney Region Plan, Port Botany and Sydney Airport are defined as Greater Sydney's two nationally significant Trade Gateways, with retaining the industrial use of land surrounding these areas having been defined as being of national significance.
<b>Floorspace</b>	Banksmeadow comprises of around 5,000 to 6,000m <sup>2</sup> of dedicated office floorspace, with the majority of it situated in one building, being 1753-1765 Botany Road, Banksmeadow (approximately 4,500m <sup>2</sup> of NLA). Other identified floorspace is situated in retail-strip premises along Bunnerong Road. It is generally small in size and stature.
<b>Parking</b>	1753-1765 Botany Road has around 80 dedicated car spaces. Office provision situated in retail-strip premises usually have one or two car spaces positioned at the rear of the property.
<b>Grade</b>	The quality of office provision in Banksmeadow is primarily C grade, owing to 1753-1765 Botany Road.
<b>Format</b>	1753-1765 Botany Road offers an array of office suite sizes, ranging from 100m <sup>2</sup> to 650m <sup>2</sup> – albeit, the majority are between 100 and 300m <sup>2</sup> . This building is anchored by one large tenant, being Teekay Shipping (Australia) Pty Ltd (a specialised freight/logistics company dealing in marine energy transportation, storage, and production). The office suites offered amongst retail strip premises vary in size from 50m <sup>2</sup> to 200m <sup>2</sup> .
<b>Theme</b>	Around one-half of office provision is occupied by tenants in the freight and logistics industry. Other prominent industries include construction, marketing, promotional goods and printing services. Situated in retail-strip premises in the east are local service related industries, in the form of accountants, real estate agents, primary health providers, mortgage brokers, solicitors/lawyers, etc.
<b>Development (major)</b>	New office provision is limited to one future development, being 32 Page Street, Pagewood. It is anticipated that this project will be primarily residential with some food and drink (442m <sup>2</sup> ), neighbourhood shop (514m <sup>2</sup> ), small office suits (1,412m <sup>2</sup> ) tenancies, as well as a 90-place childcare.





1753 Botany Road, Banksmeadow



527 Bunnerong Road, Matraville



486 Bunnerong Road, Matraville



490 & 492 Bunnerong Road, Matraville





## 4.7 KOGARAH - ROCKDALE



<b>Description</b>	<p>Kogarah and Rockdale are located approximately 11km south west of Sydney CBD, with 8km west of Westfield Eastgardens. The centre is anchored by health and medical institutions and clinics, as well as prominent civic and education facilities (e.g. Police Station, TAFE, etc). Low density housing surrounds the centre.</p> <p>Under the Greater Sydney Region Plan, Kogarah is defined as a strategic centre, and forms one of Greater Sydney's 13 health and education precincts.</p>		
<b>Floorspace</b>	<p>Kogarah-Rockdale contains around 60,000 to 65,000m<sup>2</sup> of office floorspace, the majority of which is in two buildings:</p> <ul style="list-style-type: none"> <li>4-16 Montgomery Street, Kogarah 31,700m<sup>2</sup> 100% lease to Westpac</li> <li>15 Kensington Street, Kogarah 3,250m<sup>2</sup> 80% lease to medical</li> </ul> <p>The remaining office space is mostly situated in small-format commercial buildings (at most 2-3 storeys) or street strip premises. Rockdale exhibits a similar profile, albeit does not have as many standalone suburban commercial/office buildings.</p>		
<b>Parking</b>	Designated on-site parking provided by some buildings (either rooftop, at-grade or basement). There is a Wilson car park adjacent to TAFE – St George, and street parking (generally limited to 1 or 2 hours).		
<b>Grade</b>	Identified office provision is generally B/C grade. The main source of A-grade stock in Kogarah and Rockdale is 4-16 Montgomery street, which underwent refurbishment in 2016 and is currently tenanted by Westpac (17 years remaining in the current lease).		
<b>Format</b>	Office provision is mostly small in stature, with 100 and 400m <sup>2</sup> being the most popular category. Overall, office floorplates of between 200 and 800m <sup>2</sup> have been identified.		
<b>Theme</b>	<p>There is a definitive health and medical theme in Kogarah, owing to The St George Hospital. Supplementary and ancillary hospital uses have been identified in streets immediately adjoining the hospital, such as the St George and Sutherland Clinical School and Clinical Teaching Unit on Chapel Street. Several commercial premises serve as specialist centres, being occupied by practitioners and specialists across a variety of health disciplines e.g. the Specialist Centre at 40-42 Montgomery Street. There is also a civic (Police regional headquarters, Kogarah Town Centre Library and Cultural Centre) and education (TAFE – St George) presence in Kogarah.</p> <p>Rockdale is a lower-order commercial/office destination, comprising mostly of small businesses providing local services.</p>		
<b>Development (major)</b>	No new major developments were identified (Cordells & DA search, office provision, \$3,000,000+ project works).		



75 Railway Street, Rockdale



8-10 King Street, Rockdale



4-16 Montgomery Street, Kogarah



15 Kensington Street, Kogarah



#### 4.8 FINAL REMARKS

The high-level survey of seven commercial office centres/ destinations has revealed that there is limited large floorplate, high-quality office provision in the broader region. The majority of 'office' provision is geared at small businesses that generally provide services to a local client base. The few examples of large standalone office premises were mainly confined to Mascot and Green Square, some of which have been tenanted by the same corporation for a long period of time.





## SECTION 5: MARKET JUSTIFICATION

In this section, Colliers International provides a market justification for the proposed development. It has been demonstrated that the impact from the proposed office component will be negligible on existing office provision. The main points being presented in support of the proposed development include:

- Negligible impact on existing office provision due to POD;
- Rare opportunity to achieve a pure office outcome;
- Improved levels of self-containment;
- Diversification of the local economy;
- Retain businesses in the LGA; and
- Generates a positive operational employment outcome.

### 5.1 NEGLIGIBLE IMPACT ON EXISTING OFFICE PROVISION DUE TO P.O.D.

The proposed development will offer a 'point of difference' from existing employment and office destinations reviewed in Section 4. Through the provision of large floorplate and high-grade office floorspace (a product which is in short supply) which appeals to a specific tenant and industry sub-group, the impact from the proposed development on existing office provision is expected to be negligible.

As presented below, the current regional business profile is dominated by small-to-medium sized enterprises providing professional services predominantly to local clients and firms. Operating from retail street-strip premises, old suburban office buildings (3-4 storey) or podiums of mixed-use buildings, these tenants typically occupy a floorplate of between 50 and 200m<sup>2</sup>, with an upper bound limit of 800m<sup>2</sup>. It is envisaged that the proposed development which will comprise of larger floorplate provision (i.e. at least 1,000m<sup>2</sup>) will not undermine or compromise this segment of the market.

#### Features and Attributes of Office Destination and Centres Reviewed

Centre	Estimated office stock (m <sup>2</sup> )	Typical floorplate size (m <sup>2</sup> )	Quality of provision	Industry theme(s) of office tenants
Mascot	160,000-165,000	250-600 1,100-2,000 (two tier market)	A or B grade	Aviation, logistics, service firms, transport and consumer durables
Green Square	45,000-55,000	400-1,000	B grade, with some C grade*	Local service firms and government
Botany	3,000-4,000	50-200	C or D grade	Local service firms
Banksmeadow	5,000-6,000	100-300	C grade	Freight and logistics, construction, local service firms
Eastgardens-Maroubra	9,200-10,200	50-200	C grade	Local service firms and primary medical and allied health
Kogarah-Rockdale	60,000-65,000	200-800	B and C grade mainly	Financial services (one major tenant Westpac circa 31,700m <sup>2</sup> ), health and service firms



Randwick-Kensington	7,500-9,000	100-400	Predominantly C grade	Local service firms, health and education
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\* 77 Dunning St has been identified as the only A grade commercial office building in Green Square (at present).

Source: Colliers International

A few large floorplate (pure) office buildings were identified. These buildings are occupied by whole floorplate or multiple level tenants by prominent national corporations. Of those identified, the majority were either owner-occupiers or longstanding anchor tenants. It was also apparent that their chosen location for operations were strategically inclined e.g. Qantas is positioned in Mascot to capitalise from proximity to Sydney Airport. As such, it is unlikely that any of these firms will relocate to the proposed development.

Overall, with large floorplates of at least 1,000m<sup>2</sup>, the proposed development is anticipated to appeal to a mostly different subset of tenants compared to those identified in Section 4 of this report. Colliers International anticipates that the industry theme of future tenants will be dominated by regional service firms and wealth-add industries. These sub-industries trade amongst other businesses and clients beyond the immediate local market (intra-Sydney, national or international) – albeit, some can also trade to both local and regional trade areas. The prospect of attaining whole floor plate premises at more affordable rents compared to major office destinations will appeal to these firms (i.e. value for money proposition).

There are certain features of the proposed development that will also set it apart from existing office provision. Accessibility (public transport and arterial roadways), co-location with retail, lifestyle and services (childcare and existing primary health), access to skilled workers and proximity to open space and recreational facilities will offer the required point of difference. Notably, the proposed development is also ideal for accommodating the head office or ancillary functions of an existing quasi industrial-office business in the region that may seek to relocate its industrial function to a more affordable location in Western Sydney. It will be able to accommodate firms which have outgrown the region, and therefore promote greater business retention. Moreover, it is well placed to accommodate ancillary functions of existing businesses and entities such as UNSW, with a relocation permitting UNSW to expand on the provision of core operations on site (education services) – and also generate more jobs and trade for the region, and even exports for Australia.

It is anticipated that there will also be limited overlap with the future intended industry profile of major centres in the region. According to the Greater Sydney Plan, Randwick-Kensington is earmarked to be a designated health and education destination, whereas Port Botany and Sydney Airport (and immediate surrounds) are intended for industrial purposes owing to the defined strategic role of these locations, being major trade gateways. In contrast, the proposed development will appeal to office-based uses which are more aligned to business-to-business or regional industry trade and will rely on new sources of trade through value creation, innovation and efficiencies rather than seizing finite market share from existing local markets. As the profile and the means by which trade is attained is somewhat different from that intended for major centres in the broader region, it is envisaged that the proposed development will have little to no impact on existing office markets in the region.

Our view on demand and the profile of future tenants has been informed by inbound office enquires and current market requirements. Combined, these two sources of data provide the best available view on future demand. At present, there are several large tenants approaching the end of their current lease term, and who are open to the prospect of operating in the Eastern Suburbs. They are predominantly large floorplate, whole level or multi-level tenants, and as such could be accommodated in the proposed development. In all, it is estimated that there is the equivalent of 35,000 to 44,000m<sup>2</sup> of demand which could be accommodated over the immediate future. Based on its configuration and format, it is envisaged that the proposed development



represents a plausible destination for some of this requirement, with less than 70% of the upper bound required to achieve full occupancy (i.e. 30,500m<sup>2</sup>).

**Prospective tenants and requirements, Broader Region (as at October 2018)**

Industry or sector	Estimated requirements (m2)	Timing
Business services	8,000 - 10,000	2021-2023
Professional, scientific	10,000 - 12,000	2022-2023
Construction/development	3,000 - 4,000	2023-2024
Advanced health	6,000 - 8,000	2021-2023
Media, arts and social	8,000 - 10,000	2024
Total	35,000 - 44,000	

Source: Colliers International

The industry mix of current requirements is diverse, including business services, professional scientific, construction/development, advanced health and media, arts and social (explicit details of tenants have been withheld due to confidentiality and business strategic reasons). Although there is some minor overlap with the existing industry profile with respect to business and professional services, the prospective businesses are somewhat larger, and therefore represent a new source and component of demand for the Eastgardens-Maroubra and broader regional market. Given that the amount of large office provision is limited in the region (and new projects are rare), the proposed development represents a likely destination for these users.

## 5.2 RARE OPPORTUNITY TO ACHIEVE AN OFFICE OUTCOME

The proposed project represents a rare opportunity to achieve an office outcome in a location where large format office provision is scarce. Our high-level review of Eastgardens-Maroubra revealed that there is just 9,200 to 10,200m<sup>2</sup> of office floorspace stock in the strategic centre, with the majority of it situated in retail-strip premises and podiums of mixed-use buildings. Just two standalone offices were identified; 800-812 Anzac Parade Maroubra which contains around 4,000m<sup>2</sup> of office floorspace and Westfield Eastgardens Office Tower which encompasses 3,700m<sup>2</sup> of office floorspace. As such, the proposed development would be the single largest office precinct in the Eastgardens-Maroubra Strategic Centre.

Outside of established and prominent office destinations, new office development is generally a challenging proposition. There are several factors which affect the viability of new office development, with the most ostensible being achieving necessary pre-commitment levels and the cost of development sites or land.

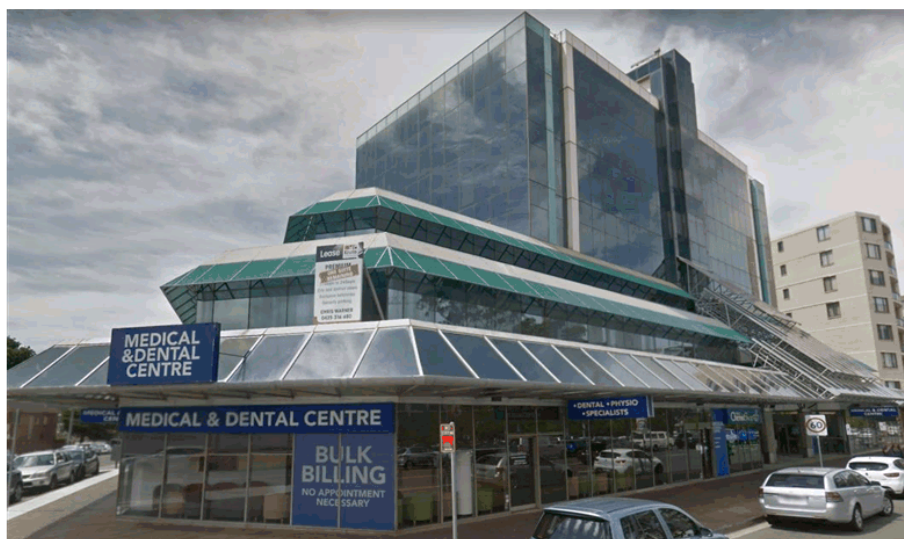
While it was shown in Section 5.1 that there is latent demand in the broader regional market (a portion of which may be secured by the proposed development), the cost of land is a major deterrent for office/commercial developers. An unprecedented residential apartment upturn has affected land prices throughout most centres in Sydney. Sites that permit shop-top housing or have some rezoning 'potential' have attracted premium prices, especially where mixed-use development is considered the highest and best use. The significant returns from residential construction (also due to a development model which incurs gross realisations within a more compressed timeline), has led to a structural lift in land prices throughout most centres, which has outpriced some commercial/office developers completely out of the market. In addition to the sheer magnitude, outlays associated with land are incurred at the start of the project, which places greater





pressure on the viability of commercial development i.e. upfront costs have a greater impact on feasibility than costs incurred later in the development sequence.

#### 800-812 Anzac Parade, Maroubra



Source: Google Maps

Compared to other projects, the proposed development possesses a distinct advantage from a feasibility perspective. The land cost component of the proposed development is partially embedded in the existing retail centre. The development also incorporates 27,500m<sup>2</sup> of retail floorspace, which typically incurs higher rents, and as such, will serve to also subsidise the commercial office component and overall land costs. Moreover, unlike the subject site which is zoned B3 Commercial Core, the majority of sites in Maroubra Junction along Anzac Parade are zoned B2 Local Centre, which permits with consent shop-top housing, which reduces the probability of a standalone office development. It is these features and traits that facilitates the prospect of a feasible office outcome for the proposed development. Notably, there are just a few sites in the broader region which could secure a similar outcome, most of which not in the Eastgardens-Maroubra Junction Strategic Centre.

Notably, the height of the proposed development will ensure that the floorplate size will remain within an acceptable range for operational purposes. Tenants require floorplates (and fit outs) that encourage interaction amongst employees and as such, deliver necessary operational synergies. Floorplates that are too large (circa 3,000m<sup>2</sup> outside established major commercial destinations) can lead to communication and operating inefficiencies and can be detrimental to the business in the short, medium or long term.

There is also a feasibility argument supporting the height of the proposed development. If the floorplate were to be increased significantly to accommodate a more compressed building format, it would require more access points in the form of lifts and lobbies – which adds significant expense. An expanded floorplate would also require the duplication of fire exits, bathrooms, end-of-trip and other features, which would also add to the cost of the project. Given that office development is already a challenging proposition, a compressed



building format with fewer stories would potentially undermine the viability of the proposed development, regardless of its unique features. Moreover, tenants that typically occupy 1,000m<sup>2</sup>-plus floorplates usually require high grade office with certain amenities and features such as end-of-trip facilities and view corridors. These necessary attributes will be delivered by the proposed office building i.e. on-site showers and changerooms, and views from its proposed height. The proposed development would achieve a rare feat in Eastgardens-Maroubra and could also serve as a catalyst development and trigger more office additions in the strategic centre. Additionally, a lower land cost base will enable the proponent to direct more expenditure to the end-product, accentuating the point of difference that will help it attract larger tenants.

### 5.3 RETENTION OF OFFICE-BASED BUSINESSES

The proposed development represents an opportunity for Bayside LGA to retain businesses which may have otherwise departed from the local office market. According to ABS data, there were just 15 large corporations with 200 or more employees in the Bayside LGA, all of which in non-office industries i.e. Health Care and Social Assistance (six businesses), Accommodation and Food Services (six business) and Manufacturing (three businesses). One plausible explanation for the observed under-representation in large office-based businesses is due to a shortfall of appropriately sized and graded provision.

#### Industry Composition of Business with 200 or more Employees (%), Bayside LGA (2017)

Industry	Bayside LGA	
	Number	% of total
Health Care and Social Assistance	6	40.0%
Accommodation and Food Services	6	40.0%
Manufacturing	3	20.0%
Other industries	0	0.0%
Total	15	100.0%

Source: profile id, ABS

Large floorplate office provision is highly constrained in the Eastgardens-Maroubra Strategic Centre, as well as in surrounding office destinations examined barring Mascot – notably, large floorplate stock in Mascot is tenanted by long-standing, anchor corporations that have an affinity with the aviation industry. Therefore, as local office-based businesses expand and grow, it becomes extremely difficult for these businesses to remain within the locality.

#### Change in the Number of Business by Workforce Size, Bayside LGA vs Greater Sydney (2017)

Number of employees	Bayside		Greater Sydney	
	Change	% of total	Change	% of total
1-4	574	86.5%	10,418	74.4%
5-19	77	11.6%	2,791	19.9%
20-199	13	2.0%	679	4.8%
200+	0	0.0%	115	0.8%
Total	664	100.0%	14,003	100.0%

Source: profile id, ABS



The proposed development is also ideal for accommodating the head office or ancillary functions of an existing industrial business that may seek to relocate its industrial function to a more affordable location in Western Sydney. This will also assist in retaining businesses that may have otherwise relocated elsewhere.

Overall, there appears to be a missing link in the local office hierarchy. Given the scale of office provision, floorplate configuration and favourable attributes (proximate to amenities and accessibility), the proposed development is anticipated to be capable of catering for this missing larger business segment.

#### 5.4 ACCOMMODATE A SIGNIFICANT PORTION OF OFFICE-BASED EMPLOYMENT IN THE FUTURE

According to BTS and Urbis employment projections<sup>3</sup>, the Bayside LGA is anticipated to accommodate an additional 7,066 office-based workers between 2016 and 2031.

##### Office-based Employment Projections by Industry, Bayside LGA (2016-2031)

Industry	Job additions, 2016-2031	% of office-based	Office workers
Professional, Scientific and Technical Services	1,751	98%	1,716
Public Administration and Safety	1,799	90%	1,619
Administrative and Support Services	943	95%	896
Information Media & Telecommunications	922	80%	738
Rental, Hiring and Real Estate Services	703	98%	689
Other Services	451	95%	428
Financial and Insurance Services	400	98%	392
Health Care & Social Assistance	2,133	10%	213
Arts and Recreational Services	572	30%	172
Unclassified	122	95%	116
Construction	810	5%	41
Education and Training	754	5%	38
Electricity, Gas, Water and Waste Services	94	10%	9
Retail Trade	2,625	0%	0
Accommodation and Food Services	1,544	0%	0
Wholesale Trade	439	0%	0
Manufacturing	-692	0%	0
Transport, Postal and Warehousing	1,968	0%	0
Mining	12	0%	0
Professional, Scientific and Technical Services	-5	0%	0
<b>Total Employment</b>	<b>17,345</b>		<b>7,066</b>

Source: Urbis (2018), BTS

<sup>3</sup> Projections presented in Economic Impact Assessment: 128 & 130-150 Bunnerong Road, Pagewood





It is difficult to envisage that this project employment outcome will be achieved in the absence of the proposed redevelopment. Incorporating approximately 30,500m<sup>2</sup> of commercial floorspace, the proposed development is capable of accommodating 1,525 operational workers at any one time (and potentially more if Activity Based Working is deployed), which represents a large portion of future office job additions in Bayside LGA (22%).

#### 5.5 IMPROVE SELF-CONTAINMENT RATES

The proposed development provides an opportunity for more residents (current and future) to be employed within their own locality. By rebalancing the industry mix, the proposed development will be more congruent with the industry profile of working residents, which may transpire into improved self-containment levels.

According to Census 2016, 77.5% of working residents who reside in the Botany LGA<sup>4</sup> were engaged in workplaces outside the LGA, meaning that just 22.5% were employed locally – i.e. the observed level of self-containment is 22.5%. This outcome is low relative to most LGAs in Sydney, with Botany achieving only the 22<sup>nd</sup> highest rate of containment (of 32 LGAs), as well as being significantly below the weighted average outcome for LGAs in Greater Sydney (40.7%). Of the workplace destinations observed for working residents of Botany LGA, the most popular were Sydney LGA (33% of working residents) and Randwick (14% of working residents) – as shown below.

**Top 10 Popular Outside Workplace Destinations for Working Residents of Botany Bay LGA (2016)**

Rank	LGA	Number of workers	% of total
1	Sydney	7,617	33.4%
2	Randwick	3,229	14.1%
3	No fixed address	838	3.7%
4	Waverley	702	3.1%
5	Inner West	630	2.8%
6	North Sydney	545	2.4%
7	Rockdale	502	2.2%
8	Woollahra	423	1.9%
9	Parramatta	387	1.7%
10	Canterbury-Bankstown	358	1.6%

Source: Census 2016

To demonstrate that the proposed development can improve the rate of self-containment, we examine containment rates by industry type or sector in Botany LGA. Based on Census 2016, it is apparent that self-containment levels are low in Financial and Insurance Services (6.9%), Public Administration and Safety (9.4%), Education and Training (10.5%), Information Media and Telecommunication (12.7%), Health Care and Social Assistance (13.4%) and Professional, Scientific and Technical Services (18.0%), most of which, occupy office premises. As such, by increasing the quantum of office space at the subject site, it is possible that more outbound office workers will be engaged in the LGA. By rebalancing the employing industry

<sup>4</sup> Data is not available in Table Builder for the amalgamated Bayside LGA.



composition to be more congruent with its working resident profile, it is likely that the rate of employment self-containment will improve in Botany Bay LGA (and by extension Bayside LGA).

**Observed Self-containment Levels by Industry Type, Botany Bay LGA Working Residents (2016)**

Industry	No. of working residents	No. employed in Botany LGA	Self-containment (%)
Transport, Postal and Warehousing	2,069	990	47.8%
Agriculture, Forestry and Fishing	28	10	35.7%
Retail Trade	2,162	765	35.4%
Manufacturing	959	323	33.7%
Mining	16	5	31.3%
Administrative and Support Services	976	273	28.0%
Inadequately described	738	191	25.9%
Construction	1,646	396	24.1%
Accommodation and Food Services	1,889	443	23.5%
Other Services	839	193	23.0%
Wholesale Trade	706	155	22.0%
Electricity, Gas, Water and Waste Services	136	28	20.6%
Rental, Hiring and Real Estate Services	477	94	19.7%
Not stated	323	62	19.2%
Arts and Recreation Services	435	80	18.4%
Professional, Scientific and Technical Services	1,897	341	18.0%
Health Care and Social Assistance	2,405	323	13.4%
Information Media and Telecommunications	528	67	12.7%
Education and Training	1,597	168	10.5%
Public Administration and Safety	1,560	147	9.4%
Financial and Insurance Services	1,286	89	6.9%

\* Weighted average based on the number of workers engaged in the same LGA

Source: Census 2016

Notably, according to profile .id, the proportion of working residents in the Bayside LGA who travelled to workplace destinations outside the LGA was 72.7% in 2016, meaning 27.3% of local working residents were engaged in the same LGA - which is comparable to that presented by Botany Bay LGA.

## 5.6 DIVERSIFICATION OF THE LOCAL ECONOMY

By appealing to a different cross section of industries and tenants, the proposed development is anticipated to diversify the local economy. Measured by locational quotient (LQ being an industry-used approach to measure industry concentration or dominance), the Bayside LGA industry composition relative to Greater Sydney exhibits a definitive skew to Transport, Postal and Warehousing (6.11 ratio). As presented in the table



below, it is the only industry which achieved a LQ of 1.5 or above (which is the industry benchmark for determining industry specialisation).

**Locational Quotient by Industry Type, Bayside LGA compared to Greater Sydney (2016)**

Industry	% of total jobs in Bayside LGA	% of total jobs in Greater Sydney	Locational Quotient*
Transport, Postal and Warehousing	30.5%	5.0%	6.11
Administrative and Support Services	4.4%	3.3%	1.33
Construction	7.4%	6.9%	1.08
Accommodation and Food Services	7.2%	6.8%	1.05
Retail Trade	9.8%	9.5%	1.02
Rental, Hiring and Real Estate Services	2.0%	2.0%	1.02
Manufacturing	5.8%	5.9%	0.98
Industry not classified	4.9%	5.1%	0.96
Wholesale Trade	3.4%	3.7%	0.91
Public Administration and Safety	4.8%	5.7%	0.85
Other Services	2.8%	3.5%	0.80
Electricity, Gas, Water and Waste Services	0.5%	0.8%	0.65
Health Care and Social Assistance	5.5%	11.7%	0.47
Professional, Scientific and Technical Services	4.4%	10.1%	0.44
Education and Training	3.6%	8.2%	0.43
Arts and Recreation Services	0.7%	1.7%	0.42
Agriculture, Forestry and Fishing	0.2%	0.4%	0.41
Information Media and Telecommunications	1.0%	2.8%	0.35
Financial and Insurance Services	1.3%	6.6%	0.20
Mining	0.0%	0.2%	0.13

\* Bayside LGA as % of Greater Sydney

Source: Census 2016: Colliers International

While there is just one specialist industry in the Bayside LGA, concentration in office-based industries such as Financial and Insurance Services (LQ = 0.20) and Professional, Scientific and Technical Services (LQ = 0.44) is very low (less than 0.50). As such, the provision of traditional office product at an accessible location is anticipated to improve current levels of representation and specialisation in industries which operate from office premises in the Bayside LGA.

As the regional business profile is dominated by small to medium sized enterprises, the introduction of large tenants will enhance the local economy. The introduction of large office provision will also reduce Eastgardens-Maroubra Junction's exposure to industry-specific shocks, as enterprises that trade to local and regional client bases react very differently to cyclical, industry-specific and external shocks. Overall, it is anticipated that the proposed development will enhance the local economy.







#### 5.7 GENERATES A POSITIVE OPERATIONAL EMPLOYMENT OUTCOME

The proposed development incorporates 30,500m<sup>2</sup> of office provision. At a very conservative employment density of 20-25m<sup>2</sup> per worker, it is estimated that the office segment will accommodate an operational workforce of between 1,220-1,525 jobs at full capacity.

#### Estimated Operational Outcome by Land Use Type, Proposed Development (upon completion)

Land use type	Estimated floorspace additions	Job density (m <sup>2</sup> per worker)	Number of operational jobs
Office	30,500	20-25	1,220-1,525
Retail	27,500	25-30	900-1,100
Total	58,000		2,120-2,625

Source: Colliers International

Apart from the office component, there is also the retail aspect of the proposed development, which is earmarked to entail 27,500m<sup>2</sup> of GLAR. Employment densities typically range between 25 and 30 for this sector, resulting in 900-1,100 addition retail operational jobs. A collective outcome of between 2,120 and 2,625 jobs is estimated from the entire proposed development.

The addition of circa 2,000 jobs would represent a significant outcome for Bayside LGA. According to profile id, the number of jobs in Bayside LGA increased by 2,102 jobs between FY2012 and FY2017 (from 89,251 to 91,354 jobs). As such, the proposed development would render an employment outcome which is on par with that achieved over a five-year period. Given the absolute quantum of jobs involved, it is paramount that the proposed development is advocated.

Notably, this operational employment represents the number of workers that would typically be engaged within the proposed development at completion i.e. workers who are rostered at that point in time. For office, the difference between rostered workers and operational workforce is negligible. However, the conclusive roster would be somewhat larger, and as such, a higher operational employment outcome is expected to ensue. Additionally, some of the operational jobs accommodated will be on a full-time basis, others part time. It is important that a range of work arrangements and types are provided to suit the local worker profile, which also encompasses of students and residents who seek part time employment – especially, given that one-third of working residents in Bayside LGA are engaged on a part time capacity i.e. less than 35 hours.



#### Resident Workers Hours Worked, Bayside LGA (2016)

Hours worked	Number of working residents	% of total
None	2,215	2.9%
1-15 hours	6,701	8.8%
16-24 hours	9,067	12.0%
25-34 hours	7,230	9.5%
35-39 hours	16,431	21.7%
40 hours	16,729	22.1%
41-48 hours	6,539	8.6%
49 hours or more	9,156	12.1%
Not stated	1,723	2.3%
Total persons	75,791	100.0%
<b>Total below 35 hours</b>	<b>25,213</b>	<b>33.2%</b>

Source: profile id., Census 2016

#### 5.8 CONCLUDING REMARKS

In all, it is evident that the office component of the proposed development should be supported in principle as it has been proven that:

- A point of difference of large floorplate provision and A-Grade accommodation will ensure that the proposed development impact on existing office provision is negligible
- The proposed project represents a real opportunity to achieve an office outcome – a rare feat in the Eastgardens-Maroubra Strategic Centre;
- Through the provision of larger floorplates, it will assist in the retention of businesses that have outgrown existing stock in the Bayside LGA;
- The proposed development can accommodate close to one-quarter of new office additions between 2016 and 2031 (based on Urbis projections<sup>5</sup>);
- It will diversify the local economy via the introduction of other industry types and tenants;
- Provide an opportunity to improve current levels of self-containment in the Bayside LGA; and
- Renders a positive operational employment outcome for the immediate region (which is a core economic objective of a strategic centre).

<sup>5</sup> Urbis (2018), Economic Impact Assessment – 128 & 130-150 Bunnerong Road, Pagewood





## SECTION 6: RPS COMMENTS AND CONSIDERATIONS

In this section of the report Colliers International appraises some of the assertions made by RPS in their peer review of the Urbis Economic Impact Statement report. Specifically, it focuses on addressing the following:

- The relevance of office sub-markets used by agencies for the purpose of assessing the impact of new development;
- The actual classification of projects/buildings deemed as 'office' on Page 12 of the RPS review; and
- Assertions made on market need, demand and impact.

### 6.1 OFFICE REGIONS AND CATCHMENTS

The sub-regions and markets reported by Knight Frank in the RPS peer review are not intended to be utilised as the framework by which 'catchments' are adopted for the purpose of assessing the impact from a new proposed office development. In fact, these sub-markets are based primarily on the operating model of an agency, which is constructed on experts operating in designated zones or 'patches'. These patches are based on spatial proximity or geography and is not necessarily constructed on how office markets interact and function – albeit, there may be some interaction within some regions, it is not the ultimate basis. Notably, Colliers International also produces research reports using a similar format (albeit, slightly different sub-regions), but this is also attributed to the structure of the broader business.

#### Knight Frank Office Sub-Regions in Sydney



Source: Knight Frank

The Sydney CBD exemplifies the disconnect between designated sub-regions and the manner by which office markets operate and function. The operating reach of the Sydney CBD extends far beyond its submarket. Locally, Sydney CBD interacts and influences every office destination in New South Wales. Being the





premiere and largest commercial destination in Australia, Sydney CBD interacts and influences every capital city office market. Finally, being a global city, Sydney also collaborates and interplays with other international cities such as Hong Kong, Tokyo, New York, London, et al. As such, the region used by agencies when preparing research is not a true representative of Sydney CBD's catchment.

## 6.2 CHARACTER OF 'OFFICE' PROJECTS IDENTIFIED IN THE RPS REPORT

Colliers International acknowledges that the review of office provision undertaken by RPS was desktop-based and high level in nature. While not a comprehensive survey, our survey was informed by desktop and primary research methods confirmed by site inspection. In all, it was found that most of premises identified as examples of current and known 'office' supply by RPS on Page 12 (Table 1) of the peer review report are on the most part industrial or hybrid industrial/office. The table below presents our findings with respect to the character of supply identified by RPS.

### Review of RPS Office Supply (as at October 2018)

Address	Suburb	Classification (RPS)	Classification (Colliers)
45-47 Green Street	Banksmeadow	Office	Industrial
11 Erith Street	Botany	Office	Industrial
289 Kings Street	Mascot	Office	Office
1801 Botany Road	Banksmeadow	Office	Industrial
153 Beauchamp Road	Matraville	Office space	Industrial
29 Bourke Road	Alexandria	Office	Industrial
789 Botany Road	Roseberry	Office	Office
23 Bourke Road	Alexandria	Office	Industrial
2-6 Moore Street	Banksmeadow	Office	Industrial
205 Euston Road	Alexandria	Office/warehouse	Retail (dev site)
571-573 Gardeners Road	Mascot	Office	Development site
40 Ricketty Street	Mascot	Office space	Office
2-12 Beauchamp Road	Banksmeadow	Office space	Industrial
189 O'Riordan Street	Mascot	Office space	Office

Source: RPS (based list); Colliers International (observations and reclassification)

In all, only four sources identified by RPS are considered to be office, with the remaining premises being either industrial or hybrid industrial/office. With the exception of 189 O'Riordan Road, the other three sources of office floorspace are relatively small from a quantum perspective (i.e. less than 10,000m<sup>2</sup> of NLA), and generally have small-to-medium sized floorplates (circa 100-1000m<sup>2</sup>). As such, they should not be classified in the same category as the proposed development.

Notably, regardless of the size of the office component, hybrid stock is quite different from traditional office provision. Hybrid employment space accommodates tenants whose primary operating function relies on the industrial, warehouse or factory component, with the office segment, being utilised for the purpose of ancillary functions i.e. back office tasks or head office. Even in cases where the office component is offered separately to the market, it would generally not appeal to traditional office tenants, given that industrial/warehouse



functions are not typically complementary in operations or form – this argument is evidenced by the lack of industrial product in Sydney CBD and Parramatta CBD.

### 6.3 MARKET NEED, DEMAND AND IMPACT ASSERTIONS

In the RPS peer review, several assertions were made on the approach used by Urbis to address market need, demand and impact. According to RPS, Urbis did not conduct a comprehensive office market need and demand assessment, and such as, failed to evaluate the extent of impact the proposed development may have on existing and identified future office market supply.

The schedule below presents some of the assertions made by RPS, as well as our opinion on the comments.

RPS observation or assertions	Colliers International's opinion
No evidence is provided within the report to justify these claims (pertaining to current office supply). While an examination by RPS indicates that a number of these claims may be valid, the Urbis Office Report did not undertake either case study or a full audit of office floor space in the area to provide the necessary evidence.	A full audit of office inventory in the broader sub-market would be an extremely costly exercise and far beyond the usual budget of an EIS or EIA.
RPS does not regarding (sic) the analysis in section 3 of the Urbis report to represent a comprehensive office market need and demand assessment, nor does it clearly demonstrate the extent of impact (or not) of the proposed development on the existing and known future office market supply.	Colliers agrees that Section 3 of the Urbis report does not constitute a comprehensive office market need and demand assessment, nor does it clearly demonstrate the extent of the impact of the proposed development on existing office stock. In response, Section 4 of this report presents a much-improved assessment of existing and future office provision.
The qualitative assessment does not indicate the total amount of office floor space needed to accommodate future workers – just the number of workers (incorrectly calculated) – nor does it provide an estimate on the impact on the local office market in terms of vacancy rates, face rental values and incentives.	Deriving the amount of floorspace required to accommodate a certain job target or projection is not representative of demand. As discussed in Section 3.3 of this report, the materialisation of demand is a consequence of a vast array of business decisions, which extends beyond the number of office workers within a certain distance of the subject site. As such, a debate over which industries should be included in a notional estimate of 'office' workers can be deemed not productive and superfluous.  Measuring the impact from a proposed development using vacancy rates, face rents and incentives is a convoluted and complex task. While demand and supply are determinants of some price-based indicators (i.e. rents and incentives), they do not represent an exhaustive list of deterministic factors. For instance, office rents are also affected by the quality (higher rents are usually obtained by higher grade stock) and quantum of provision (higher rentals are usually charged for smaller offices on a square metre basis). Moreover, specific attributes such as accessibility, end of trip facilities, views (height) and access to surrounding amenities also have a bearing on rent and incentives. Owing to the multivariate nature of these price-based indicators, it is very difficult to ascertain an absolute or conclusive impact from any one development.



Colliers International agrees that there is a connection between vacancy and new projects (and supply). However, the relationship between the two is not absolute in every circumstance – which is the case for the proposed development as it will deliver an office format and product that is not readily available in the market. The proposed development is expected to appeal to a group of tenants that would have been otherwise unable to operate in the Eastgardens-Maroubra Junction Strategic Centre – therefore it is not taking away from the existing pool of tenants. Moreover, for the project to progress, a minimum level of pre-commitments will be required, which indicates that the impact on vacancy rates will be negligible. Using direct linear methods to quantify the impact a new development has on vacancy rates will most likely render an erroneous outcome.

In fact, no reference is made within the Urbis Office Report to key market indicators of the health and performance of the regional office market.

A desktop review by RPS found several assessments of the performance of the Southern office sector in Metro Sydney, including from major real estate firms such as Colliers, JLL and Knight Frank. Additionally, information relating to prevailing trends in the Sydney CBD and other office markets tracked by the Property Council of Australia are not included. RPS considers the inclusion of this information as critical evidence to justify the claims and arguments presented by Urbis in section 3.

Similar to the previous point, it is very difficult to decipher the exact impact on broader market indicators from a single development. Therefore, it is questioned whether reference to agency research reports will add any value to the assessment of the proposed development. What should be considered is whether there is sufficient demand available in the marketplace. The best indication of immediate demand is direct queries for office space from businesses, as well as any large requirements currently circulating in the marketplace (which has been provided in Section 5 of this report).

As discussed in Section 3 of this report, the market setting is conducive at present for office development to occur outside of major office destinations. Moreover, as discussed in Section 5 of this report, the proposed development is viable only because of its unique traits and circumstances i.e. the land cost being partially subsidised by the existing retail asset.

The development supports Eastgardens-Maroubra Junction fulfil its role as a Strategic Centre - this is not an office market need or impact justification, but instead relates to the opinion presented by Urbis in section 1.

While we understand the rationale behind RPS' assertion, Colliers International believes that there is a symbiotic relationship between the proposed development and Eastgardens-Maroubra maintaining its status as a strategic centre. The fundamental economic objective of a strategic centre is to produce jobs, which the proposed development adheres to. The creation of operational jobs in a location which previously did not accommodate these jobs is an impact.

Moreover, the proposed development could act as a catalyst for further development of office space in the strategic centre. It is our opinion that the delivery of office jobs will be required for Eastgardens-Maroubra to reinforce its employment relevance, and therefore its status as a strategic centre in the future.

Large and Growing White Collar Workplace – this is based on data and analysis which is

As raised previously, demand is based on a vast array of business decisions and selection criteria, and not just immediate/local white collar labour supply.





incorrect and overstates demand in the area.

However, if the objective is to calculate the quantum of white collar supply, then it is recommended that this modelling is undertaken at least at an ANZSIC sub-division or group level, and not at a divisional level.

Provides More Employment Opportunities Locally – this is an economic justification not related to the market impact. In the absence of knowing the impact the development will have on the relative occupancy and vacancy of other office developments in the area, it is unclear whether the workers accommodated in the proposed development will be new workers or simply workers transferring from existing stock in the catchment.

As raised previously, it is difficult to accurately assess the impact from any one development on broader market indicators – the cause and effect relationship is not necessarily direct or one-for-one in every circumstance, particularly when there are notably differences in offering (i.e. floorplate and quality) and observed gaps in that market and.

With respect to employment, the focus should be on the absolute rise in the number of office operational jobs. In total, the office component is anticipated to render between 1,220-1,525 office jobs once operational, which is roughly equivalent to 64% of that achieved in the Bayside LGA between 2012 and 2017 (+2,102 jobs according to profile id figures). There are just few standalone developments that have the potential to deliver an office employment outcome of this magnitude.

Additionally, even if new positions are being filled by local workers (i.e. transferring from existing jobs in the LGA or region), it will most likely involve a higher salary, and potentially a promotion. The impact from higher incomes and a more mobile workforce are pronounced on many fronts for the Bayside LGA.

Finally, it is anticipated that there will be a sharp rise in the number of working residents upon completion of Pagewood Green – dual-income professional households are a prominent cohort in the Eastern Suburbs region. The provision of office job opportunities at Westfield Eastgardens may provide a valuable source of employment for some of these future working residents.

Address a Gap in the Market for A-Grade Office Stock – there is not (sic) evidence or justification for this claim in the report

Colliers International attests to RPS' assertion. To form an opinion on any potential market gap, a high-level survey of supply, as well as a view on demand (supported by evidence) is required.

Colliers International has undertaken a survey of existing and future supply (likely future and not just identified in Cordell or DA tracking) and there appears to be a gap in the large floorplate component of this market. This is supported by actual queries for office space, and current market requirements.



## SECTION 7: ADDRESSING STATUTORY OBLIGATIONS

In this section, we confirm that the proposed extension of Westfield Eastgardens, and specifically, the proposed 30,500m<sup>2</sup> of commercial/office provision adheres with relevant Section 9.1 Directions. Explicitly, we address the following relevant directions:

- Business and Industrial Zones; and
- Integrating Land Use and Transport.

### 7.1 BUSINESS AND INDUSTRIAL ZONES

The proposed development is in accordance with the objectives of above direction, in that it seeks to encourage employment growth in the right location, protects employment land in business zones and supports the viability of the Eastgardens-Maroubra Strategic Centre.

It is estimated that the delivery of 30,500m<sup>2</sup> of commercial office space will accommodate a workforce of between 1,220 and 1,525 operational workers (at a conservative employment density of 20-25m<sup>2</sup> per worker). This represents a significant employment outcome for the Pagewood - Hillsdale - Daceyville SA2 region which accommodated 4,243 jobs as at Census 2016 (+26.5%). Importantly, the proposed development location is highly accessible for future residents living in surrounding dwellings (including Pagewood Green) relative to Maroubra Junction. Moreover, it is also accessible to those residing throughout the broader region due to the twelve bus routes servicing the bus interchange at Westfield Eastgardens. This location is also considered appropriate from a commercial perspective owing to the following reason:

- Co-located with extensive retail, lifestyle (cinema, restaurants and future entertainment) and recreation amenities (i.e. gymnasium);
- Workers will have access to services such primary medical/allied health and child care services; and
- Proximate to significant recreational infrastructure, including Mutch Park (250 metres), Hensley Athletic Field (directly opposite), Heffron Park (400 metres), Bonnie Doon Golf Club (500 metres) and Maroubra Beach (3 km).

The proposed development is consistent with the intended objectives of its B3 Commercial Core zoning. It will serve to protect employment land, and in fact, will augment it via the introduction of large floorplate, high-grade office provision – an employment-generating land use type which is scarce in the Eastgardens-Maroubra Strategic Centre.

The proposed development also supports the viability of the Eastgardens-Maroubra Strategic Centre. As the office component is anticipated to appeal to a different cross-section of tenants from that currently operating in the centre, it is expected that the final outcome will be a more balanced and resilient local economy. In addition to expanding the industry mix, a range of floorplate sizes will also reduce Eastgardens-Maroubra Junction's exposure to market downturns, as enterprises that trade to local and regional client bases can react very differently to cyclical and external shocks. It will strengthen the centre through wider productivity and liveability. Moreover, as required by the Eastern District Plan (2018), the proposed development will lead to the generation of additional jobs in the strategic centre, which is the principal underlying economic goal for strategic centres throughout Greater Sydney.





## 7.2 INTEGRATING LAND USE AND TRANSPORT

The proposed development integrates land use and transport. It adheres with the objectives of Direction 3.4 as it will improve access to jobs by walking, cycling and public transport, increases the choice of available transport, reduces the commute time and distance for local residents engaged at the proposed development and supports the efficiency and viability of existing public transport services.

### Travel Method to Work (% of total), Eastgardens-Maroubra SA2 regions vs. Greater Sydney (2016)

Method	Pagewood – Hillsdale – Daceyville SA2	Maroubra West SA2	Combined i.e. Eastgardens-Maroubra	Greater Sydney
Public transport	16%	14%	16%	24%
Vehicle	63%	58%	62%	58%
Active Transport	4%	10%	6%	5%
Other mode	0%	0%	0%	0%
Worked at home or did not go to work	15%	17%	15%	12%
Mode not stated	1%	1%	1%	1%
Total	100%	100%	100%	100%

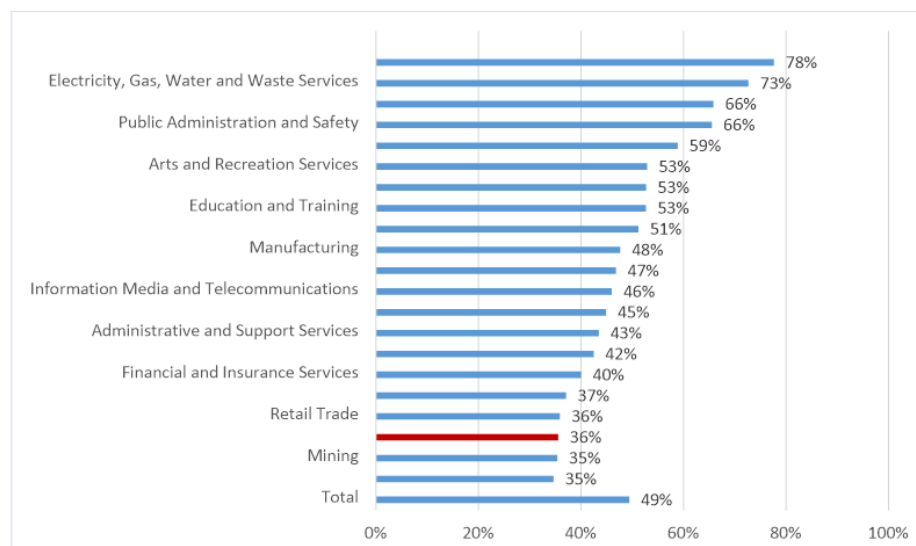
Source: Census 2016

According to Census 2016, approximately 62% of workers in the combined Pagewood-Hillsdale-Daceyville and Maroubra-West SA2 region relied on a private vehicle to commute to work on Tuesday the 9<sup>th</sup> of August (Census day), with just 16% utilising public transport. In Greater Sydney, around one-quarter of workers used public transport on the day, suggesting that the outcome for the combined region is quite low. On that score, the fact that the proposed development is situated at a location which is highly accessible by bus and given that private vehicle usage in the Professional, Scientific and Technical Services (a key prospective tenant group for the proposed development) is low (at 36%) in comparison to other industries amongst Eastern Suburbs workers, it is expected that there will be some improvement on the 2016 outcome for the area if the development were to ensue.





Private Vehicle Utilisation by Industry, Eastern Suburbs (2016)



Source: Census 2016

The proposed development will reduce the commute time and distance for some local working residents in the Eastern Suburbs. For a working resident who lives in Randwick, Mascot, Hillsdale and suburbs south of Matraville and works in Sydney CBD, a commute to the proposed development site will be more time efficient, and substantially shorter distance-wise. It is estimated that the time to travel from Matraville to Sydney CBD (i.e. Wynyard Station) using public transport is around 44 minutes (at 7:30am on the 19/10/2018). In contrast, a commute from Matraville to the proposed development is estimated at just 10 minutes, translating to a time saving of around 34 minutes, and placing this commuter well within the objective of a 30-minute city. Average commute times for several locations in the Eastern Suburbs to Sydney CBD and the proposed development are presented in the table below, with all exhibiting a time saving and importantly, remaining within the 30-minute city objective of the GSC Greater Sydney Regional Plan.

Commute Times from Eastern Suburb Locations to Sydney CBD and Proposed Development

Usual Place of Residence	Sydney CBD*	Proposed development	Time efficiency
Matraville	44 minutes	10 minutes	34 minutes
Maroubra	44 minutes	11 minutes	33 minutes
South Coogee	44 minutes	20 minutes	24 minutes
Kingsford	32 minutes	16 minutes	16 minutes
Randwick	34 minutes	22 minutes	12 minutes
Botany^	44 minutes	19 minutes	25 minutes
Kensington	24 minutes	22 minutes	2 minutes

Note: Estimated at 730am on the 19/10/2018 via bus and walking unless otherwise specified

\* Wynyard Station ^ Bus and train

Source: Google



### 7.3 CONCLUDING REMARKS

Overall, the proposed development complies with relevant Section 9.1 Directions and the Regional Plans with respect to economic employment and the role/function of the Eastgardens-Maroubra Strategic Centre, in that it:

- Encourages employment growth in a suitable location;
- Protects business zoned employment land in the Eastgardens-Maroubra Strategic Centre;
- Delivers an outcome which is consistent with the objectives of a B3 Commercial Core zoning;
- Provide an additional source of jobs growth, which is the principal underlying economic goal for strategic centres in Greater Sydney;
- By appealing to a different selection of industries and business, it will reinforce and support the viability of Eastgardens-Maroubra Strategic Centre;
- Integrates land use with transport, in that the proposed development is anticipated to result in higher public transport utilisation rates and reduced car dependence;
- Improves access to jobs and services via public transport; and
- Supports the efficient and viable operation of public transport services.



## SECTION 8: CONCLUDING STATEMENT

Through large floorplate provision and significant adjoining amenity, the proposed development will offer a point of difference which is expected to appeal to a different industry and tenant mix than that currently observed in existing local centres. Unlike these markets which are geared at local service firms and certain specialist industries such as aviation, health and logistics, the proposed development is anticipated to be tenanted by regional service firms and wealth-add industries. These tenants will generate trade from beyond the local trade area i.e. from regional, national or international businesses (as opposed to local firms and clients). The introduction of a different tenant and industry base has the added benefit of diversifying the local economy – which at present, is heavily reliant on the transport and logistics sector as a source for external trade.

The proposed development is also capable of accommodating back or head office functions of existing industrial-office businesses in the region that may seek to relocate its industrial operations to more affordable premises in Western Sydney. Additionally, the proposed development will be able to accommodate firms which have outgrown the region i.e. promote retention. Finally, there will be limited overlap with the future intended industry profile of major centres in the region such as Randwick-Kensington (designated education and health destination), Port Botany and Sydney Airport (major trade gateways).

The proposed project represents an opportunity to achieve an office outcome, which is a rare feat in the Eastgardens-Maroubra Strategic Centre. Compared to other projects, the proposed development possesses a distinct advantage from a feasibility perspective, in that the land cost component is partially embedded in the existing retail centre. The development also incorporates 27,500m<sup>2</sup> of retail floorspace, which typically incurs higher rents, and as such, will cross subsidise the ground works, basements and loading of the commercial component. Moreover, unlike the subject site which is zoned B3 Commercial Core, the majority of sites in Maroubra along Anzac Parade is zoned B2 Local Centre, which permits with consent shop-top housing, which reduces the probability of a standalone office development given the superior returns attained from residential construction.

There are attractive features and traits of the proposed development that will help differentiate it from existing provision in the area, namely accessibility (access to public transport and arterial roadways), co-location with retail, lifestyle and services (childcare and existing primary health), access to skilled workers and proximity to open space and recreational facilities.

A combination of access to public transport provision and an industry mix which is more congruent with working resident skills and expertise, the proposed development is expected to improve current levels of self-containment in the Bayside LGA. It is also anticipated to render a positive operational outcome (between 2,120 and 2,625 jobs), which is roughly on par with that registered over a five-year period to FY2017 across the entire Bayside LGA (+2,102 jobs). The office component alone is expected to render an estimated 1,220-1,525 operating jobs. Additionally, the commute time for some local working residents will be reduced below 30 minutes, which is congruent with the 30-minute objective of Greater Sydney Commissions Greater Regional Plan.

Overall, the proposed development adheres with the objectives of its zoning and the overarching strategic vision for the Eastgardens-Maroubra Strategic Centre, in that it will create jobs which is a fundamental economic goal of Sydney. Overall, the case to proceed with the proposed development is compelling.







## APPENDIX ITEM 1: SECTION 9.1 DIRECTIONS

Element	Description
<b>1.1 Business and Industrial Zones</b>	
Objective	The objectives of this direction are to: (a) encourage employment growth in suitable locations, (b) protect employment land in business and industrial zones, and (c) support the viability of identified centres
Where and when it applies	This direction applies to all relevant planning authorities.  This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).
Requirements	A planning proposal must:  (a) give effect to the objectives of this direction, (b) retain the areas and locations of existing business and industrial zones, (c) not reduce the total potential floor space area for employment uses and related public services in business zones, (d) not reduce the total potential floor space area for industrial uses in industrial zones, (e) ensure that proposed new employment areas are in accordance with a strategy that is approved by the Secretary of the Department of Planning and Environment.
Consistency	A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Secretary of the Department of Planning and Environment (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are:  (a) justified by a strategy which: i. gives consideration to the objective of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and iii. is approved by the Secretary of the Department of Planning and Environment, or  (b) justified by a study (prepared in support of the planning proposal) which gives consideration to the objective of this direction, or  (c) in accordance with the relevant Regional Strategy, Regional Plan or Sub-Regional Strategy prepared by the Department of Planning and Environment which gives consideration to the objective of this direction, or  (d) of minor significance.  Note: In this direction, "identified centre" means a centre that has been identified as a strategic centre, regional city or centre in a regional strategy, regional plan, sub-regional strategy, or another strategy approved by the Secretary.



### 3.4 Integrating land use and transport

Objective	<p>The objective of this direction is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:</p> <ul style="list-style-type: none"> <li>(a) improving access to housing, jobs and services by walking, cycling and public transport,</li> <li>(b) increasing the choice of available transport and reducing dependence on cars,</li> <li>(c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car,</li> <li>(d) supporting the efficient and viable operation of public transport services, and</li> <li>(e) providing for the efficient movement of freight.</li> </ul>
Where and when it applies	<p>This direction applies to all relevant planning authorities</p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes</p>
Requirements	<p>This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes</p>
Consistency	<p>A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are:</p> <ul style="list-style-type: none"> <li>(a) justified by a strategy which: <ul style="list-style-type: none"> <li>i. gives consideration to the objective of this direction, and</li> <li>ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and</li> <li>iii. is approved by the Director-General of the Department of Planning, or</li> </ul> </li> <li>(b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or</li> <li>(c) in accordance with the relevant Regional Strategy, Regional Plan or Sub-Regional Strategy prepared by the Department of Planning which gives consideration to the objective of this direction, or</li> <li>(d) of minor significance.</li> </ul>







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ABN 50 105 256 228

12 October 2018

Mr Rob Johnston  
Development Executive  
Scentre Group  
85 Castlereagh Street  
SYDNEY NSW 2000

Dear Rob,

## **WESTFIELD EASTGARDENS RETAIL EIA - RESPONSE TO RPS PEER REVIEW**

Urbis was engaged by Scentre Group to prepare an independent Economic Impact Assessment (EIA) for the proposed expansion of Westfield Eastgardens. This letter outlines responses to queries raised by RPS in their peer review of the EIA report.

### ***Treatment of Local Workers***

Section 3.3 of the RPS report has requested additional information in relation to the analysis of the contribution of office workers to the retail potential of Westfield Eastgardens. In this regard the following comments are made:

- The estimate of retail expenditure by workers of the proposed 25,000 sq.m office building, is based on benchmarks derived from surveys undertaken by Urbis of office workers across the country. These surveys indicated that office workers undertake a significant amount of expenditure while at work when they have good access to retail shops and services and can average as high as \$10,000 per year in CBD areas. The benefit to locally provided retail shops can be significant.
- In the case of Westfield Eastgardens we have applied an average retail expenditure level of \$6,800 per annum to the estimated 1,923 workers (25,000 sq.m at a workspace ratio of 13 sq.m per worker). It is important to recognise that a centre of Westfield Eastgardens scale would be able to cater to the typical retail spending needs and demand of office workers. The majority of an office worker's expenditure is directed to food and beverages (F&B), services, general convenience items and groceries, categories which Westfield Eastgardens would provide a sufficient offer to meet everyday needs. The centre would also be able to cater to fashion and other discretionary expenditure. The \$6,800 per annum or \$13 million therefore could very well be a conservative estimate.
- Based on typical capture rates it is reasonable to expect at least half of expenditure by office workers would be directed to shops and services at Westfield Eastgardens. This provides a direct benefit to retail turnover of Westfield Eastgardens.

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- RPS notes that a proportion of the office workers would live in the trade area therefore not all of the office worker expenditure would be a net addition to the retail market available to Westfield Eastgardens which is true. However, RPS hasn't recognised that by having these workers on the doorstep of the centre, this increases the potential for Westfield Eastgardens to capture the expenditure of those workers who live in the trade area. This results in greater capacity to increase the centre's market share of trade area resident expenditure, which is reflected in the market shares assessed for Westfield Eastgardens. Workers who live outside the trade area increase the potential for turnover to be sourced from beyond the trade area. Whilst the overall contribution of the workers is modest in comparison to the overall retail turnover of the centre this has been appropriately allowed for in trade area market shares and turnover sourced from beyond the resident trade area.

### ***Retail Floorspace***

Section 4.1 of the RPS report suggested that Urbis did not consider non-centre retail within the trade area. To clarify, in reviewing the existing and future supply of retail floorspace Urbis has considered all centres and shopping strips of relevance to the type and role of retail shops and services that will be provided at Westfield Eastgardens. This includes those centres listed in the RPS peer review.

### ***Reference to Deep End Retail Analysis for Sydney Metropolitan***

In Section 4.2 of the RPS review, RPS notes several queries with the Urbis analysis of the Deep End Retail analysis as follows:

- The RPS review suggests an oversupply of floorspace in Botany Bay. We note:
  - If the local Botany Bay area is oversupplied then why is Westfield Eastgardens achieving a turnover productivity 12% above the average of the peer group of regional shopping centres. The relative performance of Westfield Eastgardens indicates the opposite and an undersupply of floorspace, particularly for the type of retail provided in regional scale centres.
  - RPS' interpretation of the Deep End analysis is flawed and doesn't recognise that retail centres serve catchments broader than their immediate local area. If you took the same approach as used by RPS you could argue that the Sydney CBD is oversupplied. This is clearly not the case and recognises that major retail centres/precincts serve broader catchments and it is not relevant or appropriate to assess the relative supply of retail floorspace on local areas alone.
  - The broader area including Randwick, Botany Bay and Rockdale indicates a relatively low supply of retail floorspace per capita when compared with other areas in Sydney.
- The RPS review indicates that comparison with the straight Sydney metropolitan average is inappropriate.
  - We agree and this is the basis for Urbis applying a lower rate 1.7 sq.m to 2.1 sq.m per capita for the Westfield Eastgardens catchment, i.e. 13% to 30% lower than the Sydney metropolitan average of 2.4 sq.m per capita, when considering retail floorspace demand in broad terms.

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- The RPS review indicates per capita analysis of floorspace is obsolete or inappropriate.
  - We don't agree that the floorspace per capita metric is obsolete as it still does have value in helping to understand the relative level of supply in areas. However, it is clearly not the only and most relevant consideration in determining market capacity for retail floorspace.
  - Assessing the size of the trade area, gaps in the retail offer, spending patterns and retail role of Westfield Eastgardens are the most important considerations which are taken into account by Urbis in determining the potential turnover of the expanded centre and capacity of the market (or resulting impacts on other centres/precincts) to sustain the proposed increase in floorspace. This is covered by Urbis in the Economic Need, Demand and Impact section of the Eastgardens EIA report.

We further note that RPS has not made reference to the effect of future population growth on retail demand and their review has focussed solely on existing floorspace per capita levels. These existing per capita rates are being sustained by the market and with capacity to increase these rates and the benefit of forecast market growth (trade area expenditure is forecast to grow by \$1.1 billion (\$2017 excluding retail price inflation) to 2023 when the Westfield development would commence trading), there is underlying capacity in the market to support a substantial increase in floorspace. Furthermore, as is understood developments are not built for one year and Westfield Eastgardens expansion will also contribute to addressing the strong forecast growth in demand for retail floorspace over the longer term. The trade area retail market is forecast to increase by another 16% by 2028 and around 30% by 2033.

The Westfield Eastgardens development addresses the substantial available capacity for additional retail floorspace, particularly in terms of the type of retail provided in major regional centres (e.g. food catering and discretionary categories such as fashion, homewares and leisure retailing). Analysis of retail expenditure patterns outlined later in this letter confirms the low supply of retail floorspace in the trade area, particularly in terms of the current range of retail shops not adequately meeting the needs of trade area residents.

Finally, we again note that the most important consideration in an EIA is the level of resulting impacts on other retail centres and precincts in the region of relevance to Westfield Eastgardens. That is, can the existing/planned retail hierarchy absorb the proposed scale of expansion of Westfield Eastgardens expansion without adverse impacts. As noted later in this letter, the trading impacts on individual centres are well within the bounds of a normal and healthy competitive environment and substantially less than the notional 10% one-off impact which is regarded as potentially an issue.

The community will benefit from access to a broader range of retail shops and services and there would be no material cost/adverse impact on the other retail centres and precincts. Overall, the retail centres hierarchy would therefore be strengthened with the Westfield Eastgardens expansion.

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### **Turnover Performance and Market Shares**

In Section 5.1, on page 8 of their peer review, RPS states that the above average trading productivity level of Westfield Eastgardens is *"an indicator that the Centre is receiving above average share of expenditure from the Total Trade Area"*.

We note an above average turnover productivity does not indicate that a centre is achieving an above average market share. In most cases, the premium trading performance is the result of a modest level of competing supply and/or the subject centre is undersized relative to the available retail demand. These later conditions are consistent with the attributes of Westfield Eastgardens and the level and type of competing retail supply in the trade area.

There is underlying market potential for a broader range of retail shops and services at Westfield Eastgardens.

### **Lack of Comprehensive Market Demand Assessment and Inadequate Trade Impact Assessment**

#### **Market Demand Assessment**

In Section 6.1 of the RPS review they state in paragraph 53, *"No consideration is given in section 6.2 of the Urbis Retail Report of the overarching supply and demand (i.e. net need) for retail floor space in the defined Trade Area, nor does the report demonstrate how the proposed 25,000 sq.m GLA was determined based on market dynamics"*. We note the EIA report is based on the proposal for an additional 27,500 sq.m of retail GLA.

The market dynamics that support the proposed retail expansion of Westfield Eastgardens are as follows:

- Westfield Eastgardens serves a large trade area retail market which will include \$5.8 billion of expenditure by residents by 2023 (\$2017, incl. GST).
- The trade area market is forecast to continue to grow strongly and increase by \$1.1 billion or 24% in constant dollar terms from 2017 to 2023, the year in which the expanded Westfield Eastgardens centre is proposed to be trading.
- The proposed expansion would result in Westfield Eastgardens capturing an additional \$149 million or 13% of the forecast growth in trade area retail expenditure. The trade area market share would increase by 2.6 percentage points, with a resulting market share of 10.4%.
- The assessed market shares are within the typical range achieved by higher order centres of a similar scale and role to that of Westfield Eastgardens. The centre would be capturing a share of the market consistent with the role of regional scale shopping centres and not be taking an unreasonable proportion of market demand.
- Westfield Eastgardens is performing well and above benchmarks for its peer group of regional shopping centres and, with no major expansion/improvements for more than 15 years and with limited advancement of non-food retailing in the trade area, the centre is overdue for expansion. By 2023, the timeframe between significant improvements will be around 20 years.

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To further demonstrate the market need and demand we have analysed the shopping patterns of residents of Westfield Eastgardens trade area based on bank card data prepared by Quantum that has been supplied by Scentre Group. This analysis demonstrates the following for the categories of retail that are the focus of the Westfield Eastgardens expansion (i.e. food catering and discretionary retail):

- Around three quarters (76%) of expenditure by trade area residents on apparel, homewares and leisure goods (discretionary items) is not undertaken at centres/locations in the trade area. The level of discretionary expenditure escaping the trade area of Westfield regional centres in Sydney is a significantly lower average of 58%. Furthermore, Westfield Eastgardens' trade area has the highest level of discretionary expenditure escaping a trade area among Westfield centres. Refer to Chart 1.
- The relative result for the Westfield Eastgardens trade area is largely due to a low supply of this form of retail in the trade area. The analysis shows that there is clearly a shortfall of retail stores serving discretionary shopping needs in the trade area to adequately and conveniently meet the needs of residents.
- About two-thirds (67%) of food catering (F&B) expenditure by trade area residents is not undertaken at premises in the trade area. Furthermore, Westfield Eastgardens captures a small market share of only 2%. Regional centres that provide cinemas and an adequate range of F&B tenants to satisfy the needs of customers typically achieve a trade area food catering (F&B) market share between 5% and 8%. It is evident that range and extent of the food catering offer at Westfield Eastgardens is below benchmarks and the trade area is undersupplied in the provision of food catering floorspace.
- The proposed Westfield Eastgardens expansion will help to address this supply shortfall and contain more expenditure locally, which has a range of spin-off social, environmental and economic benefits for the community. Of most importance is the provision of more jobs which increases local employment opportunities for residents.

Utilising the spending patterns identified through the bank card data, Table 1 provides an overview of the current and future leakage of retail expenditure by trade area residents. The key points to note include:

- Currently an estimated 56.6% of trade area resident expenditure is undertaken at locations outside of the trade area. In the case of non-food expenditure (which includes discretionary categories as well as services and bulky goods) the escape level is a higher 66%. Again, these are high levels of escape expenditure, which are an outcome of an inadequate provision of retail floorspace in the trade area. The average level of escape expenditure for the trade areas of Westfield regional shopping centres in Sydney is a significantly lower 47%. Westfield Eastgardens trade area has the highest level of escape expenditure of any Westfield centre in Sydney.
- Without the proposed expansion of Westfield Eastgardens and taking into account limited proposed other new retail development in the trade area, the level of escape expenditure would increase to \$3.4 billion or 58.4% by 2023. This is a substantial level of retail activity lost from the trade area, which has flow-on adverse impacts for economic activity in the trade area.

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- By proceeding with the development, the Westfield Eastgardens trade area market share would increase by 2.6% to 10.4%. Around 80% or 2.1% of the market share gain would come from centres/locations outside of the trade area and 0.5% from centres within the trade area. The low share of trade diversion from centres and locations within the trade area is reflective of the limited range of non-food (discretionary) based retailing in the trade area. That is, there is a modest range of retail floorspace within the trade area that is competitive with the type of retail proposed for the expansion of Westfield Eastgardens.
- Due to the relative size of retail demand and substantial forecast growth in trade area retail expenditure, the proposed expansion of Westfield Eastgardens will still only have a modest impact on reducing the level of escape expenditure. Relative to the market in 2023 without the expansion of Westfield Eastgardens, the proportion of trade area retail expenditure escaping the trade area would reduce by around 2% points with the Westfield Eastgardens development. Relative to the 2017 market, the share of trade area expenditure directed to centres and locations outside of the trade area would be essentially the same (i.e. 56.4%) which is reflective of the strong growth in retail demand expected to occur over the period from 2017 to 2023.
- It is clear from this analysis that:
  - There is an under-provision of retail floorspace in the trade area, particularly in terms of the type of retail proposed for the expansion of Westfield Eastgardens.
  - The expansion of Westfield Eastgardens will claw back expenditure that would otherwise be escaping the trade area and address a shortfall in retail floorspace, which will have flow-on benefits for the community, including social, environmental and economic benefits.
  - The Westfield Eastgardens expansion will only partly address the shortfall in retail floorspace, which recognises the large amount of existing retail demand generated by trade area residents and strong forecast growth in the trade area market (underpinned by new residential developments and evolving demographics through the regeneration and gentrification of existing households).
  - All elements of the market analysis indicate that the proposed expansion of Westfield Eastgardens, including an additional 27,500 sq.m of retail floorspace, is supportable by the market and in fact needed to address a substantial shortfall of retail floorspace in the trade area.

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### Retail Spending Patterns

Westfield Eastgardens Trade Area Residents (\$2017, incl. GST)

Table 1

	Current (2017)			Without Westfield Eastgardens Expansion (2023)			With Westfield Eastgardens Expansion (2023)		
	Food	Non-Food	Total	Food	Non-Food	Total	Food	Non-Food	Total
TA Retail Spend (\$M)	2,668	2,060	4,728	3,245	2,595	5,840	3,245	2,595	5,840
<b>Eastgardens - From TA</b>									
Retail Spend (\$M)	194	224	417	208	252	460	253	357	609
Market Share (%)	7.3%	10.9%	8.8%	6.4%	9.7%	7.9%	7.8%	13.7%	10.4%
<b>TA Resident Expenditure at Other TA Locations</b>									
Retail Spend (\$M)	1,160	477	1,638	1,394	572	1,966	1,380	556	1,936
Market Share (%)	43.5%	23.2%	34.6%	43.0%	22.0%	33.7%	42.5%	21.4%	33.2%
<b>TA Resident Expenditure at Non TA Locations (Escape Expenditure)</b>									
Retail Spend (\$M)	1,314	1,359	2,672	1,643	1,771	3,414	1,612	1,683	3,294
Market Share (%)	49.3%	66.0%	56.6%	50.6%	68.2%	58.4%	49.7%	64.8%	56.4%

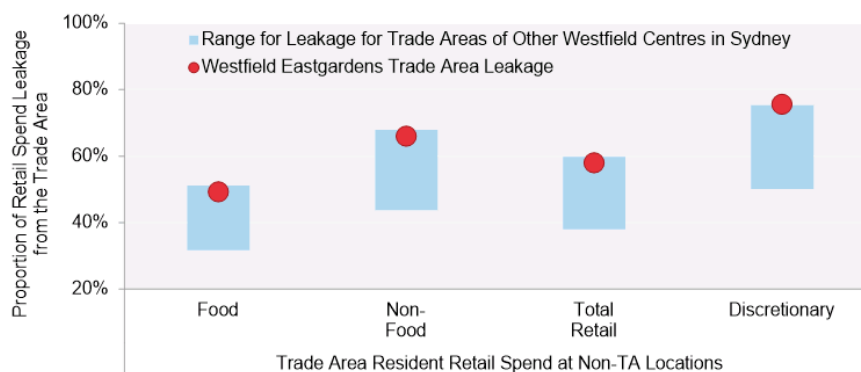
\* Westfield centres

Source: Urbis

### Retail Escape Expenditure from a Trade Area

Westfield Eastgardens Compared with Westfield Centres in Sydney

Chart 1



Source: Urbis

Westfield Eastgardens Retail EIA - Response to RPS Peer Review

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### Retail Impact Assessment

The main and most important consideration in an EIA is the assessment of impacts on the surrounding centres hierarchy. For the purposes of this response to Section 6.2 of the RPS peer review, Urbis has provided further analysis of the trading impacts from the proposed expansion of Westfield Eastgardens on individual retail centres/precincts, refer to Table 2.

### Retail Turnover Impacts

Westfield Eastgardens Proposed Expansion (+27,500 sq.m Retail GLA)

Table 2

	Est. Retail Turnover (\$M)			Change	Impact	Change	Impact
	Existing (2017)	No Dev (2023)	Post-Dev. (2023)	2017-23	2023	2017-23	2023
	(1)	(2)	(3)	(4)=(3)-(1)	(5)=(3)-(2)	(6)=(4)/(1)	(7)=(5)/(2)
<b>CBD / Strategic Centres:</b>							
Sydney CBD	7,000.0	7,982.6	7,948.8	+948.8	-33.8	+13.6%	-0.4%
Kogarah	130.0	149.6	148.6	+18.6	-1.0	+14.3%	-0.7%
Randwick	292.0	314.6	304.8	+12.8	-9.8	+4.4%	-3.1%
<b>District Centres:</b>							
Bondi Junction	1,425.0	1,614.7	1,566.0	+141.0	-48.7	+9.9%	-3.0%
Maroubra Junction	250.0	275.0	270.4	+20.4	-4.6	+8.2%	-1.7%
<b>Local Centres:</b>							
Rockdale	270.0	312.8	307.1	+37.1	-5.7	+13.7%	-1.8%
Kingsford	100.0	109.3	107.9	+7.9	-1.4	+7.9%	-1.3%
Ramsgate	95.0	108.8	108.1	+13.1	-0.7	+13.8%	-0.6%
Hillsdale	90.0	101.7	100.3	+10.3	-1.4	+11.4%	-1.4%
Matraville	80.0	90.2	89.2	+9.2	-1.0	+11.5%	-1.1%
Botany	60.0	68.6	67.7	+7.7	-0.9	+12.9%	-1.2%
South Maroubra	25.0	26.1	25.9	+0.9	-0.2	+3.7%	-0.9%
Eastlakes	88.0	136.3	134.5	+46.4	-1.9	+52.7%	-1.4%
Coogee	90.0	95.1	94.4	+4.4	-0.7	+4.9%	-0.7%
Brighton Le Sands	87.0	100.2	99.3	+12.3	-0.9	+14.1%	-0.9%
East Village	130.0	146.2	144.6	+14.6	-1.6	+11.2%	-1.1%
Marrickville	220.0	358.4	352.7	+132.7	-5.7	+60.3%	-1.6%
Mascot Central	80.0	84.0	83.4	+3.4	-0.6	+4.3%	-0.7%
<b>Proposed Developments:</b>							
Green Square Town Centre		89.5	88.9	+88.9	-0.6		-0.7%

Source: Urbis

Westfield Eastgardens Retail EIA - Response to  
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This analysis highlights the following:

- Impacts on individual centres are estimated to range from mostly 1% to 3.1%.
- The highest impact of 3.1% is well below 10%, which is the notional level where percentage impacts are considered to be potentially an issue.

It is clear that there is more than sufficient market demand in support of the proposed expansion of Westfield Eastgardens and that the trading impacts are well within the bounds of a normal and healthy competitive environment. The assessed impact levels would have no adverse impact on other centres in the region and there is no risk to the sustainability of the centre hierarchy. Furthermore, more than 80% of the growth in market demand to 2023 (or approximately \$920 million additional retail spend by trade area residents) would still be available to support stronger trading levels for existing centres and/or support a substantial range of other retail developments catering to the retail needs of trade area residents.

#### **Net Community Benefit**

As outlined in the Economic Impact Assessment report and in this letter the proposed expansion of Westfield Eastgardens is expected to have a sizeable net community benefit. A summary of the key benefits and costs and assessment of net community benefit associated with the proposed development are outlined in Table 3.

From this analysis it is evident that the marginal negative trading impacts are far outweighed by the positive impacts generated by the proposed expansion of Westfield Eastgardens. The key findings are as follows:

#### Access to Retail Shops and Services

- The trading impacts on other activity centres are low and generally in the range of 1% to 3.1% on individual centres. These levels of impact would not be expected to result in the reduction in the provision of retail shops and services at other activity centres. This reflects the fact that the impacts are well below the threshold of 10% where impacts could potentially be a concern. Furthermore, with trade area retail expenditure forecast to grow by around 3.6% per annum to 2023, the impact levels would, for the most part, account for less than half a year of potential trading growth for activity centres.
- The proposed expansion would therefore provide the trade area community with access to approximately 27,500 sq.m of net additional retail shops and services. Retail services to the community will therefore be significantly improved.
- Residents will also benefit from having to travel shorter distances and less time for the retail needs which will reduce costs (e.g. fuel consumption) associated with shopping.
- The wider economy will also benefit through less impact on roads and the environment as a result of, for example, shorter car trips for shopping.

Westfield Eastgardens Retail EIA - Response to  
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#### Employment Opportunities

- The proposed expansion of Westfield Eastgardens will have significant positive impacts on job creation, particularly in terms of providing employment opportunities for local residents.
- The analysis indicates the proposed expansion of Westfield Eastgardens would generate:
  - 1,139 jobs annually at the centre and a total of 1,790 jobs (including multiplier effects). Given the level of trading impacts are low it is highly unlikely there would be any negative impacts on employment levels at other centres. If trading impacts were greater than 5% on any one centre you might expect some slight loss of jobs at these centres.
  - 223 jobs annually during the expected two year construction of the development and a total of 832 jobs annually (incl. multiplier effects). These figures have been updated to reflect Scentre Group's instructions that the expected construction period will be two years rather than three years previously allowed for and outlined in the EIA report. The updated employment and GVA analysis for the construction benefits of the proposed expansion is provided in Table 4 of this letter.
- Trade area residents will benefit from access to more job opportunities closer to their place of residence and the broader community/economy will benefit from increased levels of employment self-sufficiency and local economic activity.

#### Gross Value Added (GVA)

- Investment in developments, such as the proposed expansion of Westfield Eastgardens, are required to generate and stimulate economic activity which drive the economic performance/growth of local and state economies.
- The positive GVA benefit to the New South Wales economy is assessed as follows:
  - Approximately \$190 million per annum from the operation of the additional floorspace at Westfield Eastgardens.
  - Approximately \$258 million from the construction phase of the development over an expected two year construction period.
- The extent to which the GVA impact will have a net community benefit is influenced by the extent to which there is an opportunity cost of the investment occurring elsewhere. An investment of a similar value to the \$210 million planned by Scentre Group for the retail expansion of Westfield Eastgardens could hypothetically generate value and jobs elsewhere but the likelihood of this outcome is low given there is no alternative proposal by Scentre Group. The EIA and assessment of benefits is based on the particular development application proposed by Scentre Group for Westfield Eastgardens, not a hypothetical development that may occur elsewhere.
- Furthermore, without the investment by Scentre Group at Westfield Eastgardens the local benefits for the economy and community will not be realised.

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#### Other

- There are a range of other benefits which could occur, but not easily quantified, as a result of the expansion of Westfield Eastgardens including:
  - The positive impact of new competition which could encourage greater price competition and other centres to choose to upgrade their offer.
  - Greater containment of retail shopping and provision of employment opportunities will have stimulant effects for local economic activity.
  - As a result of the enhancement of the retail offer, improved amenity for the community and stimulant to the local economy, the proposed expansion of Westfield Eastgardens could also serve as a catalyst for other developments.

Table 3 – Net Community Benefit Summary

Benefit	Cost	Net Benefit
+27,500 sq.m of retail GLA	No expected net loss of retail GLA at other centres	~+27,500 sq.m of retail GLA
+830 jobs annually over a 2 year period created as a result of the construction phase of the proposed development	No negative impacts	~+830 construction phase jobs created annually over 2 years
+1,139 jobs created from the operation of the proposed new floorspace (shops/services/other uses) at Westfield Eastgardens	Given trading impacts are low, there is expected to be no impact on jobs at other centres	~+1,139 operational phase jobs annually
+\$258 million in Gross Value Added for the NSW economy over the construction period of the Westfield Eastgardens development	Opportunity cost if investment was not undertaken or undertaken elsewhere. Minimal weight given to this scenario	+\$258 million in GVA for the NSW economy from the construction phase of the development
+\$190 million in Gross Value Added for the NSW economy annually as a result of the operation of new shops, services and other uses at Westfield Eastgardens	Opportunity cost if investment was not undertaken or undertaken elsewhere. Minimal weight given to this scenario	+\$190 million annually in GVA for the NSW economy from the operational phase of the development



#### Updated Construction Employment and GVA Benefits Analysis

Based on instructions from Scentre Group, the construction phase employment and GVA impacts of the proposed retail expansion of Westfield Eastgardens have been updated to reflect a two year rather than three year construction period. This updated analysis is provided in Table 4 below.

#### Construction Phase Employment and Gross Value Added Benefits

Westfield Eastgardens Retail Expansion

Table 4

	New South Wales
<b>Employment<sup>1</sup></b>	
Direct Employment	223
Indirect Employment	609
<b>Total Employment</b>	<b>832</b>
<b>Gross Value Added (\$M, Constant 2018 Dollar Value)</b>	
Direct Value Added	33.8
Indirect Value Added	95.3
<b>Annualised Gross Value Added</b>	<b>129.0</b>
<b>Total Gross Value Added (Over Three Years)</b>	<b>258.1</b>

1. Total part-time and full-time jobs annually over a two year construction period.

Source: REMPLAN; Urbis

We trust we have adequately addressed the queries raised by RPS and we cannot identify any market and impact metrics that would not support the proposed expansion. Overall, the economic impact assessment indicates that the proposed retail development would provide a demonstrable net community benefit.

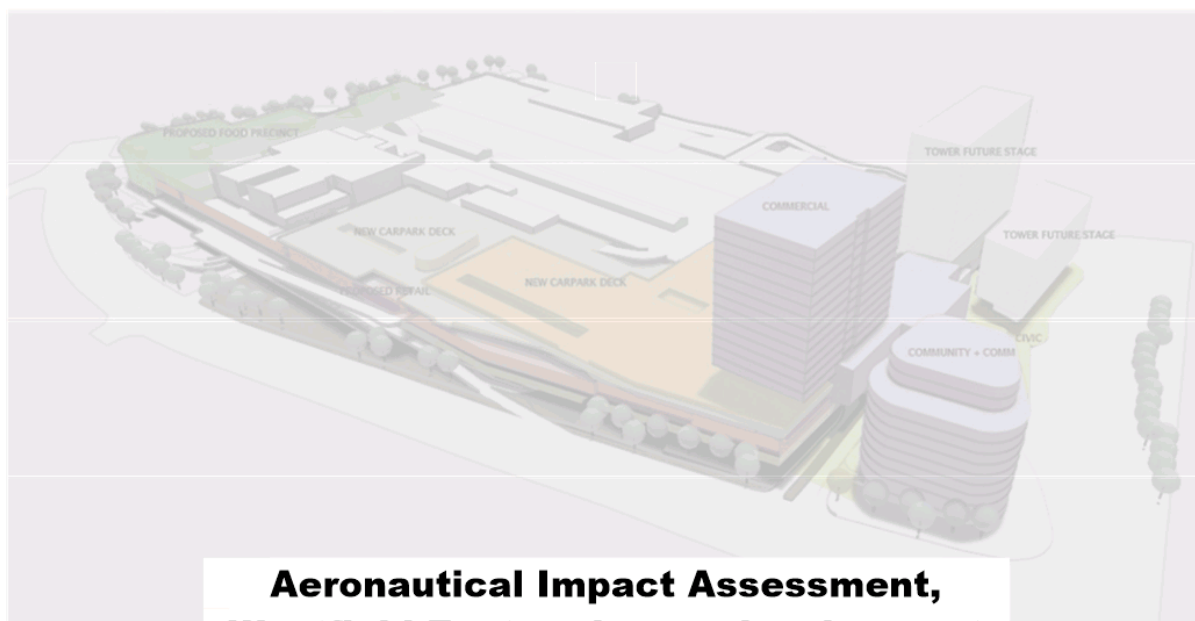
Yours sincerely,

Jeff Armstrong  
Director

Westfield Eastgardens Retail EIA - Response to  
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## **Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**

**Prepared for Scentre Group**

**v1.3**

26-Feb-2019



February 2019 [Doc 19.003-01-001 Ver v1.3]  
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**Client:****Scentre Group**

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For: **Scentre Group**      **Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**  
Report by **Strategic Airspace**

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For: **Scentre Group**      **Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**  
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## 1. Introduction & Executive Summary

Scentre Group is submitting a Planning Proposal to enable a mixed-use redevelopment of Westfield Eastgardens. The proposed scheme consists of an expansion of the existing retail centre at Westfield Eastgardens, plus two new commercial towers above and adjacent to the retail mall. The proposed scheme is being presented to Bayside Council to amend the LEP for additional height and density to deliver the scheme. The two towers included in the Planning Proposal will have heights of 94.4m AHD (tower over the existing retail centre) and 64.4m AHD (tower adjacent to existing retail centre).

A further two towers have been identified as future stage development in order to demonstrate a masterplan for a cohesive approach to developing the Bunnerong Road frontage of the site. Scentre Group is not seeking approval for these towers in this Planning Proposal submission. These further towers are proposed to be lower than the 94.4m AHD tower included in this assessment.

Strategic Airspace has been engaged to provide an aeronautical impact assessment for the first two towers of the proposed expansion. This assessment provides details on the maximum building heights allowable as a result of the aviation-related airspace constraints, guidance concerning crane height impacts, and the likelihood of gaining approvals under the Airports (Protection of Airspace) Regulations (APARs).

**Figure 1-1: The Proposed Development**



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The relevant limiting airspace restrictions are shown in the following table.

**Table 1-1: Summary Hierarchy of Aviation-Related Height Constraints**

Height Limits (m AHD)	Limit Detail	Comment
<b>51m</b>	<b>OLS Inner Horizontal Surface</b>	Under the Airports (Protection of Airspace) Regulations the penetration of the OLS may be permitted. Such a penetration requires that the developer seek approval under the regulations for the proposed development. This approval is likely to be granted if the proposed development, and the cranes required to construct it, does not penetrate any of the overhead PANS-OPS surfaces. <b>In this situation the proposal and cranes do not penetrate the PANS-OPS of AHD 126.4m so there is no impediment to approval.</b> Penetration of the OLS may also cause certain provisions to be imposed upon the development (these generally involve the installation of aviation hazard lights on the extremities of the building and on cranes).
<b>126.4m</b>	<b>PANS-OPS: Category A &amp; B Circling Area</b>	The Category A & B Circling Area is the most restrictive PANS-OPS surface overhead the proposed site. This is a horizontal surface covering the whole of the Westfield Eastgardens development. <b>There is sufficient airspace beneath this surface and above the proposed towers for cranes to construct the towers.</b>
>126.4m	Other PANS-OPS and RTCC Surfaces related to various procedures for RWY 16L, 34R and 07	<b>There is sufficient airspace beneath these surfaces and above the proposed towers for cranes to construct the towers.</b>

The aeronautical assessment has shown that:

- The proposed buildings would penetrate the Inner Horizontal Surface (IHS) of the OLS by up to 43m;
- The maximum height of the proposed buildings would be 32m beneath the most constraining PANS-OPS surface; and
- The 32m metres provides sufficient airspace to erect cranes to construct the towers without infringing any PANS-OPS surface.

Penetrating the IHS does not limit the approvability of the towers as the APARs allow for such infringements. Consequently, there are many existing buildings that penetrate the IHS by a greater amount. However, the APARs require that when a proposed structure would penetrate the OLS an application for approval of the structure as a Controlled Activity must be made to the Department of Infrastructure, Regional Development and Cities (DIRDC) prior to the commencement of construction of the structure. The cranes required to construct the towers would also require approval under the APARs. Such approval is generally granted provided neither the buildings nor the cranes infringe any PANS-OPS surface. This is the case for Westfield Eastgardens expansion so there is **no technical impediment to the granting of an approval of the proposed development as a Controlled Activity as defined under the APARs.**

**Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**  
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Application for airspace height approval for the towers does not need to be made until the DA is ready to be submitted. The airspace height approval for cranes does not need to be made until about 2 months prior to the commencement of construction. However, either or both applications may be made prior to those events.

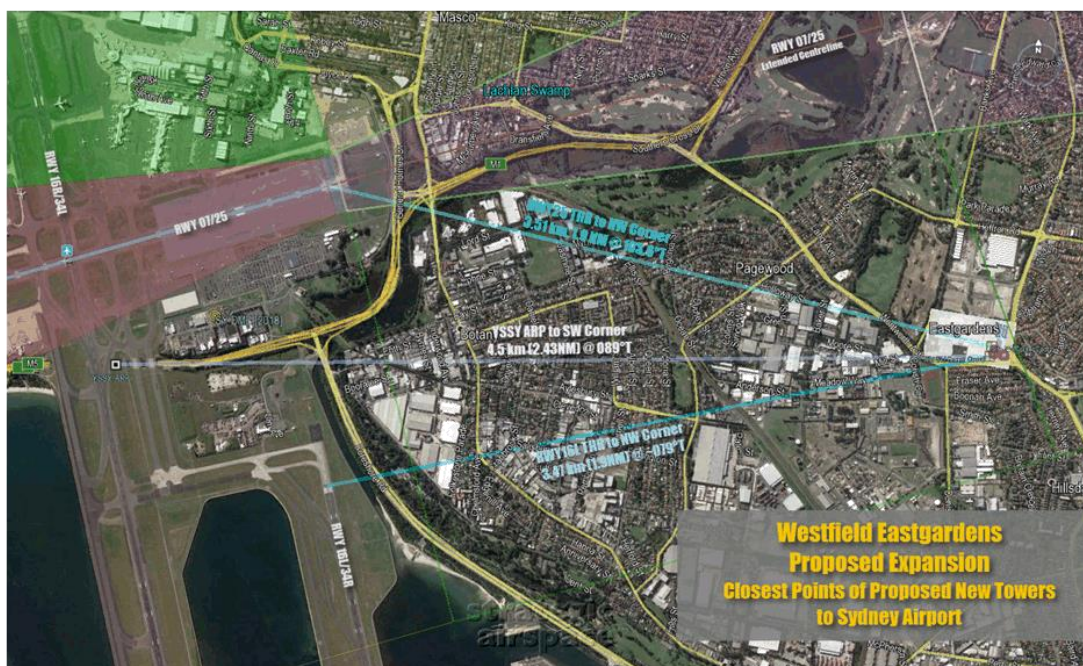


For: Scentre Group      Aeronautical Impact Assessment, Westfield Eastgardens redevelopment  
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## 2. The Project

### 2.1 Site Location & Context

Figure 2-1: The Expansion Project in relation to Sydney Airport



#### 2.1.1 Coordinates & Relation to Sydney Airport

The site coordinates have been digitised based on received plans geo-referenced in GoogleEarth™. (See diagram above.)

RWY25 THR to NW Corner 3.51 km, 1.9 NM @ 103.6°T

ARP to SW Corner 4.5 km 2.43NM @ 089°T (089.54°T)

RWY16L THR to SW Corner: 3.47 km = 1.9NM (1.88NM) @ -079°T

Table 2-1: Project Site Coordinates

Feature	Latitude S	Longitude E
NW	33° 56' 42.73"	151° 13' 32.98"
SW	33° 56' 44.42"	151° 13' 32.65"

In relation to the airport reference point (ARP) the project site is:

- 2.43 NM (4.5 km) at 089°T

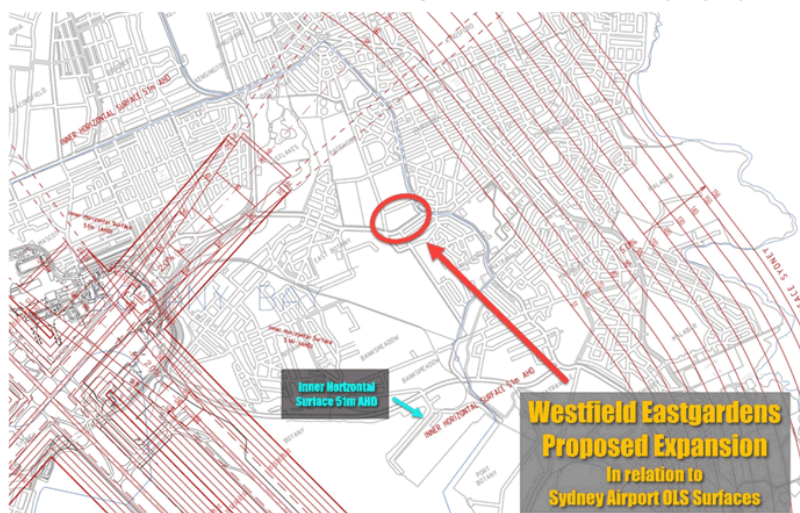
For: Scentre Group

Aeronautical Impact Assessment, Westfield Eastgardens redevelopment  
Report by Strategic Airspace

### 3. Aeronautical Height Analysis

#### 3.1 Obstacle Limitation Surfaces (OLS)

Figure 3-1: Site in relation to the Sydney Airport OLS



The OLS surface above the site is the Inner Horizontal Surface (IHS). This surface is flat and has a height of 51m AHD. The location of the site in relation to the OLS is depicted in Figure 3-1.

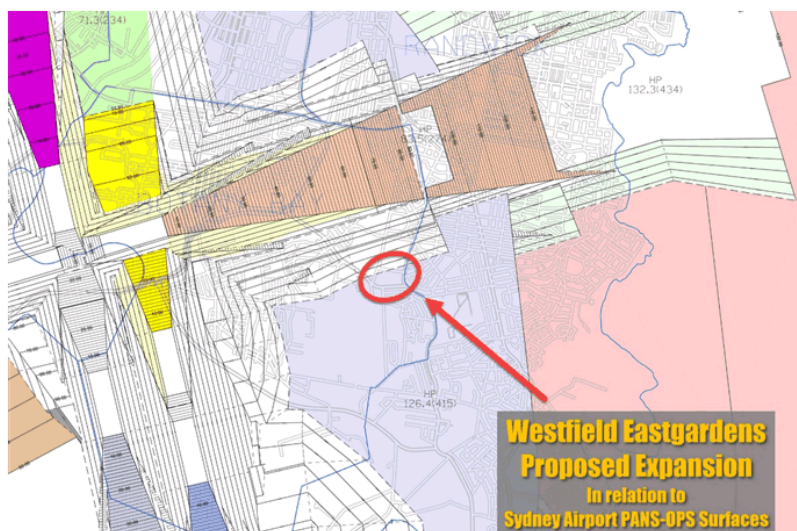
The proposed maximum heights for the buildings at 94.4m AHD would penetrate the OLS by 43m — and thus the proposed development would require a prior airspace approval, by the Department of Infrastructure, Regional Development and Cities (DIRDC), as a Controlled Activity under the Airports (Protection of Airspace) Regulations (APARs).

The fact that a building would penetrate the OLS is not a barrier to approval of an airspace height application. It does mean however that any buildings that infringe the OLS may be required to install and operate one or more obstacle lights on the building. Obstacle lighting conditions would be recommended by the Civil Aviation Safety Authority (CASA) in their response to an airspace height application, and these would be stipulated as a condition of approval by DIRDC.

For: **Scentre Group**      **Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**  
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### 3.2 PANS-OPS Analysis

*Figure 3-2: Site in relation to the Sydney Airport PANS-OPS Approach Surfaces*



The closest runway ends are the Departure Ends of Runways 07 and 16L.

Sydney Airport's PANS-OPS surfaces chart (for approach procedures), from the currently published Declared Airspace for Sydney Airport (from 2015) is depicted in Figure 3-2 above.

These charts are now considered outdated — partly due to changes in criteria to be used in designing the procedures, and partly because of changes to the PANS-OPS flight procedures actually published for use — and so do not necessarily provide the correct guidance for applicable height constraints.

An assessment of the actual PANS-OPS flight procedures, as published by Airservices Australia (Amendment 158, effective 28-Feb-2019 to 22-May-2019), provides results shown in the table below. Note that in some cases the values in this table are conservative because the assessment calculations were conducted only to a level that provided sufficient guidance as to the lowest value overhead the site.



**Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**For: **Scentre Group**Report by **Strategic Airspace****Table 3-1: PANS-OPS Height Limitations**

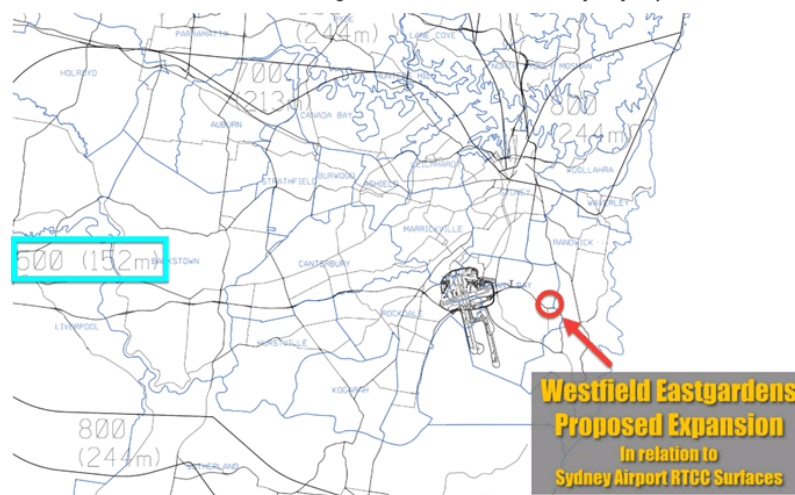
<i>Procedure</i>	<i>Height Limit (m AHD)</i>	<i>Clearance Above Building</i>	<i>Description</i>
<b>Circling</b>	<b>126.4m</b>	<b>32m</b>	The proposed buildings are located within the Cat A & B Circling area. This imposes the most limiting restriction on the proposed buildings. The clearance above the proposed building maximum height provides sufficient room for cranes.
<b>RWY 07 DEP</b>	<b>135.2m</b>	<b>40.8m</b>	The most restrictive departure surface. The clearance above the proposed building maximum height provides sufficient room for cranes..
<b>RWY 07 Basic ILS</b>	<b>&gt;152m</b>	<b>&gt;57.6m</b>	The proposed development is beneath the Basic ILS Y-surface. The actual height of the surface is an estimate only. The clearance above the proposed building maximum height provides sufficient room for cranes.
<b>RWY 34R DEP</b>	<b>223.1m</b>	<b>128.7m</b>	The clearance above the proposed building maximum height provides sufficient room for cranes..
<b>RWY 25 Basic ILS</b>	<b>~229m</b>	<b>~134.6m</b>	The clearance above the proposed building maximum height provides sufficient room for cranes.
<b>RWY 16L DEP</b>	<b>234.2m</b>	<b>139.8m</b>	The clearance above the proposed building maximum height provides sufficient room for cranes..
<b>RWY 07 LNAV APCH</b>	<b>&gt;277.5 m</b>	<b>183.1m</b>	The proposed development is located in the missed approach secondary area very near the primary area. The clearance above the proposed building maximum height provides sufficient room for cranes.
Other procedures	N/A		Protection areas for other procedures are either located away from the site or are far less restrictive than other surfaces identified.

**3.3 Radar Terrain Clearance Chart (RTCC) Surfaces**

The site lies under the RTCC (Radar Terrain Clearance Chart) / Minimum Vector Altitude (MVA) surface that would impose a height limitation of 152.4m AHD.

Aeronautical Impact Assessment, Westfield Eastgardens redevelopment  
 For: Scentre Group Report by Strategic Airspace

Figure 3-3: Site in relation to the Sydney Airport RTCC Surfaces



### 3.4 Other Standard Height Assessment Considerations

The following table provides a brief assessment of other considerations

Table 3-2: Other Assessable Height Limitations

Procedure	Height Limit (m AHD)	Description
Navigation Infrastructure	N/A	The proposed development, based on its location and maximum building height, should not affect any navigation infrastructure.
Other Sydney Airport Declared Airspace Surfaces	N/A	The proposed development is outside the charted protection surface areas such as the PAPI light planes and so forth.
Airlines Engine Out Procedures	N/A	Engine Out procedures (from RWY 34R, the most relevant take-off runway end for these procedures) are designed and maintained by each of the passenger transport aircraft operators in accordance with the relevant regulations. Though confirmation will need to be sought from the operators at the time of application for approval, the proposed site can be considered to be sufficiently distant from the track centreline that it will not adversely affect any contingency procedures.

## 4. Maximum Effective Heights for Buildings and Cranes

The PANS-OPS and RTCC surfaces overhead the site should be considered as hard limits.

**Aeronautical Impact Assessment, Westfield Eastgardens redevelopment**For: **Scentre Group**Report by **Strategic Airspace**

Generally, PANS-OPS surface heights are considered as the maximum possible approvable height for buildings under the APAR, but this situation changes where the RTCC limit is lower. In that case, approval of buildings (as Controlled Activities, in the terminology of the APAR) would most likely be limited to the RTCC surface height limit.

Note that maximum heights approvals under APAR for buildings are deemed to be the absolute maximum heights for the entire built structure including overruns, rooftop furniture, signage and so forth.

#### 4.1 Crane Considerations

The most constraining PANS-OPS surface is 32m above the maximum building height; this is sufficient height above the proposed buildings for most types of cranes. Therefore, the cranes needed to construct the proposed towers will not be an impediment to approval of the proposed development by DIRDC.

#### 4.2 Airspace Height Application Considerations

Application for airspace height approval for the towers does not need to be made until the DA is ready to be submitted. The airspace height approval for cranes does not need to be made until about 2 months prior to the commencement of construction. However, either or both applications may be made prior to those events.

### 5. Conclusion

Both proposed tower buildings will penetrate the Inner Horizontal Surface of the OLS by significant amounts. Under the APARs structures may penetrate the OLS - there are many existing buildings that infringe the OLS around Sydney Airport. However, such a proposed infringement requires that an application for approval of the proposed development as a Controlled Activity be made to DIRDC.

Generally, this approval will be granted provided that the proposed buildings, and the cranes required to construct the buildings, do not infringe any PANS-OPS surface. This is the case for the proposed Westfield Eastgardens expansion – so there is no technical impediment to approval of the proposed development by DIRDC.

Whilst this analysis has been prepared for the two commercial towers included in the Planning Proposal, the two towers identified for *future stage* development along Bunnerong Road have heights that are lower than the tallest commercial tower proposed, and hence the conclusions reached in this report will be applicable to these future towers also.



## Memorandum



<b>To:</b>	Rob Johnston	<b>At:</b>	Scentre Group
<b>From:</b>	Chris Lawlor Tim Sullivan	<b>At:</b>	SLR Consulting Australia Pty Ltd
<b>Date:</b>	28 February 2019	<b>Ref:</b>	620.12132-M03-v1.1 Revised Planning Proposal Transport Review 20190228.docx
<b>Subject:</b>	Westfield Eastgardens Revised Planning Proposal Review of Transport Matters		

### 1 Introduction

#### 1.1 Context

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Scentre Limited (Scentre Group) to undertake transport modelling and provide traffic engineering advice in relation to the proposed expansion of Westfield Eastgardens, located at 152 Bunnerong Road, Eastgardens.

This memorandum has been prepared to assess the consistency of a revised Planning Proposal for Westfield Eastgardens with transport modelling previously undertaken by SLR, including the validity of traffic generation and distribution assumptions and proposed road network capacity improvements. The document also provides a high level review of the relevant transport matters associated with the revised Planning Proposal.

Concept plans for the revised Planning Proposal are included at Attachment A.

#### 1.2 Background

SLR has previously undertaken AIMSUN microsimulation modelling to assess the external traffic impacts of an expansion of Westfield Eastgardens consisting of the following incremental increase in floor area:

- 27,500sq.m of retail lettable floor area;
- 25,000sq.m of commercial (office) lettable floor area.

In addition to the Westfield Eastgardens expansion, the AIMSUN modelling also assessed the external traffic impacts of development within the adjacent precinct, including the Meriton development (Stages 1 and 2).

A peer review of the SLR AIMSUN modelling and associated reporting was conducted by external traffic consultant Cardno on behalf of Bayside Council. After several model revisions, the SLR AIMSUN modelling was accepted by Bayside Council as being appropriate.

For context, the most recent and relevant documentation pertaining to the SLR AIMSUN modelling assessment is included at Attachment B:

1. *Westfield Eastgardens Expansion: SLR Response to Cardno Modelling Peer Review Comments* dated 2 October 2018 prepared by SLR ('Document 1');
2. *Westfield Eastgardens: Transport Impact Assessment Peer Review* dated 15 June 2018 prepared by Cardno ('Document 2', attached to Document 1);
3. *AIMSUN Future Year and Development Options Traffic Assessment* dated 24 July 2018 prepared by SLR ('Document 3', attached to Document 1).

Further to the above, it is understood that the development scheme and supporting transport assessments for the adjacent Meriton development (Stage 2) have been revised since the AIMSUN modelling was undertaken by SLR. To ensure consistency between the latest Meriton development and the SLR AIMSUN modelling, SLR carried out a review of the latest publically available reporting prepared by ARUP (*128 and 130-150 Bunnerong Road, Pagewood: Transport Impact Assessment* dated 21 November, 2018). This document (referred to herein as the 'Meriton TIA') is available at: <https://haveyoursay.bayside.nsw.gov.au/planning-proposal-128-and-130-150-bunnerong-road-eastgardens-bata-site/documents>.

## 2 Revised Planning Proposal Summary

Based on the concept plans included at Attachment A and advice provided by Scentre Group, the land uses and floor areas associated with the revised Planning Proposal are compared to the previously assessed Planning Proposal and existing shopping centre yield in Table 1 below.

**Table 1 Westfield Eastgardens Planning Proposal Summary**

Land Use	Existing Yield	Previously Assessed		Revised Planning Proposal	
		Incremental Increase	Total	Incremental Increase	Total
Commercial (office)	5,000sq.m	+25,000sq.m	30,000sq.m	+30,500sq.m	35,500sq.m
Retail (shopping centre)	79,400sq.m	+27,500sq.m	106,900sq.m	+27,500sq.m	106,900sq.m
<b>Total</b>	<b>84,400sq.m</b>	<b>+52,500sq.m</b>	<b>136,900sq.m</b>	<b>+58,000sq.m</b>	<b>142,400sq.m</b>

As indicated in Table 1, the increase in retail floor area associated with the revised Planning Proposal is consistent with that previously modelled by SLR as per Document 3 included at Attachment B (referred to herein as the 'SLR Modelling Options Report'). The commercial floor area now proposed has increased by 5,500sq.m from that previously assessed by SLR. This increase in commercial floor area has been proposed to accommodate the urban design scheme developed by Architectus.

The implications of the additional 5,500sq.m commercial use yield and any design changes associated with the revised Planning Proposal are assessed in the subsequent sections of this document.

### 3 Review of Consistency with Previous SLR Modelling Assumptions

#### 3.1 Traffic Demand

The traffic demand potential for the revised Planning Proposal yield was calculated consistent with the assumptions detailed in Section 3.4 of the SLR Modelling Option Report. The traffic demand estimated for the revised Planning Proposal yield is compared to that estimated for the previously assessed Planning Proposal yield in Table 2 below.

**Table 2 Revised Westfield Eastgardens Traffic Demand Estimate (Incremental Increase)**

Land Use	Yield	Thursday PM (TPM)			Saturday Midday (SAT)		
		Total	In	Out	Total	In	Out
Previous planning proposal							
Commercial	25,000sq.m	300vph	60vph	240vph	150vph	75vph	75vph
Retail	27,500sq.m	700vph	350vph	350vph	843vph	422vph	422vph
Total	52,500sq.m	1,000vph	410vph	590vph	993vph	497vph	497vph
Revised Planning Proposal							
Commercial	30,500sq.m	366vph	73vph	293vph	183vph	92vph	92vph
Retail	27,500sq.m	700vph	350vph	350vph	843vph	422vph	422vph
Total	58,000sq.m	1,066vph	423vph	643vph	1,026vph	513vph	513vph
Difference	+5,500sq.m (Commercial)	+66vph	+13vph	+53vph	+33vph	+17vph	+17vph

Table 2 indicates that, adopting the previous traffic demand assumptions as per the SLR Modelling Option Report, the revised development would generate an additional 66 trips during the Thursday PM (TPM) peak period, and an additional 33 trips during the Saturday midday (SAT) peak period.

The 66 additional TPM trips and 33 additional SAT trips are equivalent to around one additional vehicle per minute (TPM) and one additional vehicle every two minutes (SAT) over the respective peak hour periods. In the context of the traffic volumes currently experienced on the road network surrounding Westfield Eastgardens, this trip demand increase is not considered significant enough to change the findings of the previous traffic assessment. These additional trips will also be dispersed across a number of access/egress points and external intersections.

Further to the above, as per the Cardno comment ('3.4.2 Cumulative Traffic Demand') in Table 2-1 of the Peer Review (i.e. Document 2 at Attachment B), the retail traffic demand rates adopted by SLR are conservative when compared with typically adopted RMS retail trip generation rates (i.e. *Guide to Traffic Generating Developments: Updated traffic surveys*, 2013). As a sensitivity test, the increase in traffic demand calculated using RMS trip rates (i.e. for 'Shopping Centre' use with a floor area of >70,000sq.m) is presented in Table 3 and is compared with the adopted SLR retail traffic demand estimate.



**Table 3 Sensitivity Test: RMS Retail Traffic Demand versus SLR Retail Traffic Demand Estimate**

Component	TPM	SAT
Total retail floor area	84,400sq.m + 27,500sq.m = 111,900sq.m	
RMS traffic generation rate	3.1vph per 100sq.m	3.6vph per 100sq.m
RMS total retail traffic demand (111,900sq.m)	3,469vph	4,028vph
Minus existing 85 <sup>th</sup> %ile traffic demand (84,400sq.m)	3,368vph	4,055vph
<b>RMS incremental retail traffic demand (+27,500sq.m)</b>	<b>+101vph</b>	<b>-27vph</b>
SLR incremental retail traffic demand (+27,500sq.m)	+700vph	+843vph
Difference (SLR incremental – RMS incremental)	+599vph	+870vph

Based on the above, sufficient conservatism has been adopted in estimating the previous development traffic demands, as detailed in the SLR Modelling Options Report, to cater for the traffic likely to be generated by the additional 5,500sq.m of commercial floor area associated with the revised Planning Proposal, and therefore no additional AIMSUN modelling is considered to be warranted to support the revised Planning Proposal.

Travel demand measures to be implemented as part of the revised Planning Proposal (which will assist in limiting private vehicle trips to the expanded centre) are discussed in Sections 4 and 5 of this document.

### 3.2 AIMSUN Model Site Access Coding and Traffic Distribution

SLR carried out a high level review of the concept plans prepared for the revised Westfield Eastgardens Planning Proposal (included at Attachment A) to determine consistency with the previous AIMSUN model, particularly with regard to the coding of site accesses, and the adopted distribution of trips between the various site accesses. The following is noted in relation to the review:

- New development traffic was previously assigned to site access/egress locations based upon the number of car parking spaces available through each access, and the relative convenience of each site access in consideration of the trip distribution to/from the external trade catchment;
- The number of car parking spaces available through each access (i.e. considering the interconnectivity between different car parking areas and levels) as indicated on the concept plans prepared for the revised Planning Proposal was compared to that indicated on the previous concept plans used to inform the coding of the AIMSUN model for the 'With Development' (i.e. Westfield) scenarios. Although the number of car parking spaces provided on each proposed car parking level has now changed, the interconnectivity between the various site accesses, car parking areas and levels is reasonably consistent with that previously modelled, and therefore the distribution of new trips to the proposed site accesses is not anticipated to materially change. The design and locations of proposed site accesses indicated on the revised concept plans are generally consistent with that previously modelled. It is noted that the access to a service area and two egresses for car parking areas on Wentworth Avenue (eastbound) between Denison Street and Bunnerong Road differ slightly from that previously modelled. These access/egress locations will likely require a further level of assessment in the future; however, this is mainly design related as opposed to operational impact (i.e. given the low anticipated traffic volumes at these access locations). Importantly, none of these design adjustments are anticipated to impact upon the previous assessment of external intersections.

Based on the above, the previous coding of the SLR AIMSUN model remains sufficiently consistent with the revised Planning Proposal concept plans for the AIMSUN modelling to remain valid.

### 3.3 Review of Latest Meriton Proposal

As detailed in Section 1.2, the development scheme and supporting transport assessments for the adjacent Meriton development (Stage 2) have been revised since the AIMSUN modelling was undertaken by SLR. In order to determine the consistency of the current Meriton proposal with that modelled by SLR, the latest publically available Meriton TIA was reviewed.

#### 3.3.1 Traffic Demand

Whilst the Meriton TIA does not detail the specific development yields now proposed, two hour traffic demand estimates for the proposal are provided. To allow a like-for-like comparison the Arup traffic demand estimates (two hour) and those modelled by SLR (one hour), the two hour traffic demand detailed in *Table 8* (Change to development traffic) of the Meriton TIA was converted to a peak hour traffic demand using the factors detailed in *Table 4* (Traffic Demand Profile) of the *Traffic Modelling Report* attached to the Meriton TIA.

Reflective of the above, the ARUP and SLR modelled traffic demands are compared in table 4 below.

**Table 4 Meriton Traffic Demand Comparison**

Modelled Traffic Demand	TPM	SAT
Arup 2 hour demand	$1,622 + 245 = 1,867 \text{ vehicles/2hrs}$	$1,185 + 705 = 1,890 \text{ vehicles/2hrs}$
Arup peak hour demand	$0.52 \times 1,867 = 971 \text{ vph}$	$0.48 \times 1,890 = 907 \text{ vph}$
SLR peak hour demand	1,117vph	1,223vph
Difference	+146vph	+316vph

Table 4 indicates that the traffic demand estimates previously adopted by SLR for the AIMSUN modelling of the Meriton development were sufficiently conservative to cater for the revised Meriton development yield.

#### 3.3.2 AIMSUN Model Network Coding

The coding of the AIMSUN model network adopted by SLR for the Meriton development was compared to the revised layout modelled by Arup as documented in the Meriton TIA. It is noted that the AIMSUN model networks developed by SLR and Arup are generally consistent; however, as a result of recent changes to the Arup modelling, there are a number of differences which are outlined in Table 5. Commentary is also provided regarding the potential impact of the differences on the modelled network.

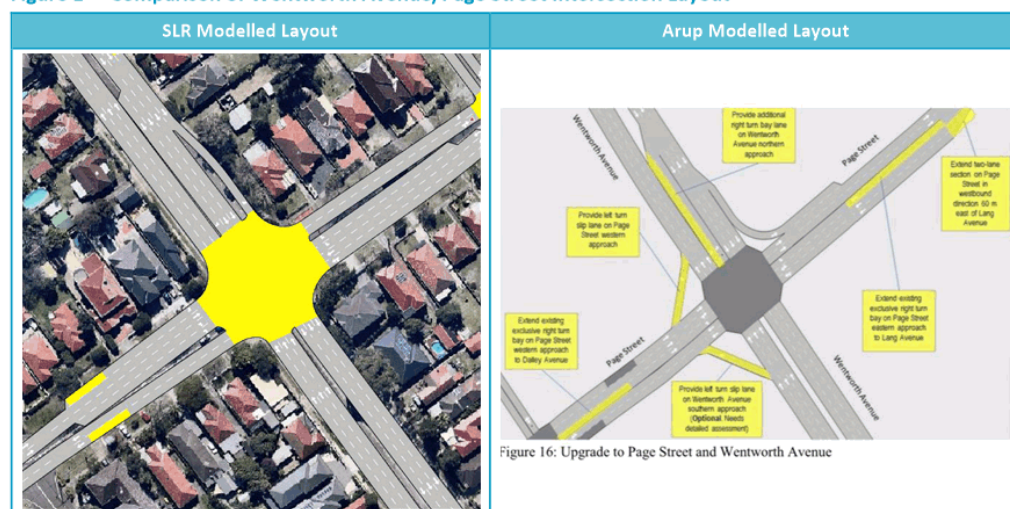
**Table 5 Meriton AIMSUN Model Network Comparison**

Element	Differences	Commentary on Impacts
<b>External Intersections/Upgrades</b>		
Wentworth Avenue/Page Street intersection	<ul style="list-style-type: none"> <li>SLR has modelled a proposed intersection upgrade layout (shown on Figure 1) based on plans provided by Bayside Council;</li> <li>Arup has modelled an upgraded intersection layout (shown on Figure 1) with additional left turn slip lanes on the south-eastern Wentworth Avenue and south-western Page Street approaches. These slip lanes will result in extensive property impacts.</li> </ul>	The SLR modelled intersection layout was shown to provide an adequate Levels of Service (i.e. LOS C or better for all assessed scenarios and peak periods as per Section 4.4 of the SLR Modelling Options report), with sufficient spare capacity to cater for any moderate increases in traffic arising from the updated Meriton and Westfield planning proposals.
<b>Meriton Site Accesses</b>		
Bunnerong Road/Meriton Boulevard	<ul style="list-style-type: none"> <li>SLR has modelled a left in/left out/right in signalised intersection (shown on Figure 2) based on previous Arup reporting;</li> <li>Arup has now modelled a left in/left out only priority intersection at this location (shown on Figure 2).</li> </ul>	<p>The impact of removing the signalised intersection from the model is that travel times/delays along Bunnerong Road will improve over that previously modelled by SLR. This improvement in travel time will occur across all scenarios, and will therefore not materially impact on the results previously reported by SLR.</p> <p>In consideration of the conservative traffic demand assumptions adopted by SLR, the impact of this change is expected to be minimal.</p> <p>At a high level, the removal of the right turn movement into Meriton Boulevard from Bunnerong Road will likely redistribute a number of trips (i.e. associated with the Meriton development) through the following intersections:</p> <ol style="list-style-type: none"> <li>1. Bunnerong Road/Maroubra Road/Heffron Road intersection;</li> <li>2. Heffron Road/Banks Road intersection.</li> </ol> <p>Based on a review of path assignment data from the AIMSUN model, the number of trips anticipated to be redistributed between movements at the above intersection is presented on Figure 3.</p> <p>As detailed in Section 4.4 of the SLR Modelling Options Report, both intersections 1 and 2 are anticipated to operate at a Level of Service of B or higher for all assessed scenarios and peak periods, and hence the redistributed Meriton traffic demands will readily be accommodated by the remaining capacity of each intersection. On this basis, no additional modelling is considered to be warranted.</p>

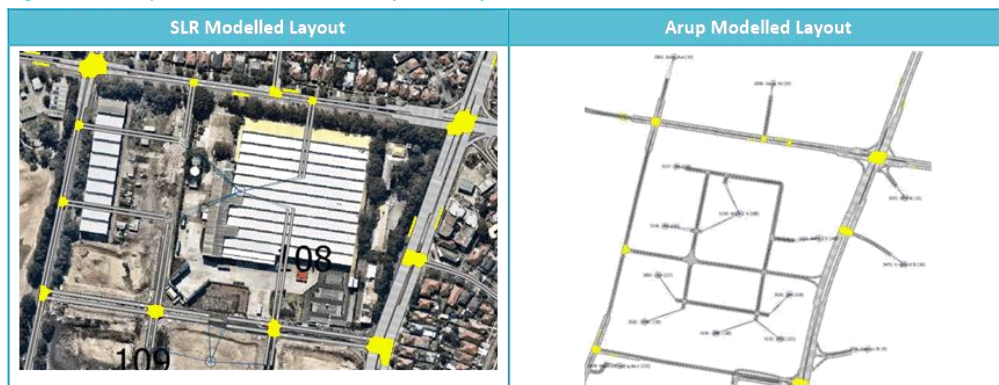


Element	Differences	Commentary on Impacts
Other site accesses	<ul style="list-style-type: none"> <li>In addition to the single Bunnerong Road site access detailed above, SLR has modelled a number of Meriton site accesses (shown on Figure 2), including accesses to Heffron Road, Banks Avenue, and Westfield Drive as per the previous Arup reporting;</li> <li>Arup has now modelled the single Bunnerong Road site access and a single all movements' access to Banks Avenue (shown on Figure 2).</li> </ul>	<p>The impacts of the removing the Meriton site accesses would mainly be confined internally within the site (i.e. given the reduction in access locations, queues of exiting vehicles would likely be longer). It will be the responsibility of Meriton and their traffic consultant to ensure that traffic impacts internal to their site can be adequately managed with the new access configuration.</p> <p>It is also expected that the reduction in site accesses would concentrate Meriton traffic around the Heffron Avenue/Banks Avenue intersection and Banks Avenue/Meriton Site Access intersections, which may increase queuing and delays for certain movements over that assessed by SLR.</p> <p>Given that the access changes are unlikely to have a significant impact on vehicle route choice in the model, and also in consideration of the conservative traffic demand assumptions adopted by SLR, the impacts of this change on the wider model network are expected to be minimal, and therefore no additional modelling is considered to be warranted.</p>

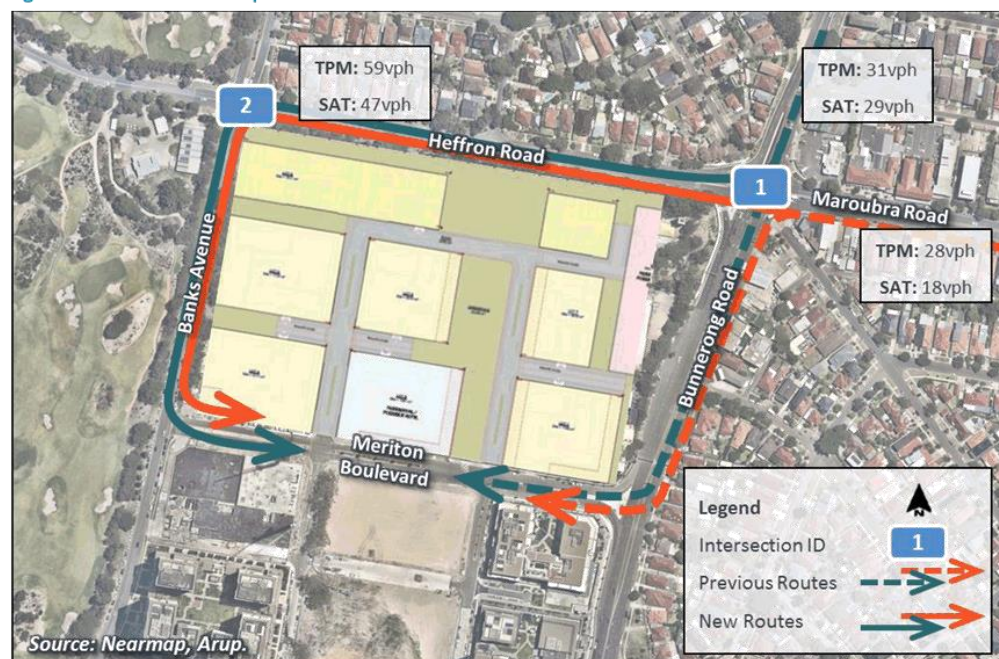
Figure 1 Comparison of Wentworth Avenue/Page Street Intersection Layout



**Figure 2 Comparison of Meriton Development Layout**



**Figure 3 Meriton Development Traffic Redistribution**



Based on the above analysis, SLR considers that the recent changes to the Meriton development do not require additional modelling at this stage. The previous SLR modelling is still considered valid for determining the external traffic impacts of the revised Westfield Eastgardens Planning Proposal.

### 3.4 External Intersection Upgrades

Given that the previous SLR modelling is still considered appropriate for determining the external traffic impacts of the revised Westfield Eastgardens Planning Proposal, the proposed external intersection upgrade works detailed in the SLR Modelling Options Report also remain valid. For ease of reference, the previously proposed external intersection upgrades are summarised in Table 6 below.

**Table 6 Westfield Eastgardens Planning Proposal - External Intersection Upgrades Summary**

Intersection	Proposed Upgrading Works
Wentworth Avenue/Banks Avenue/Corish Circuit Intersection	<ul style="list-style-type: none"> <li>• Additional Banks Avenue northern approach auxiliary left turn lane;</li> <li>• Additional Wentworth Avenue eastern approach auxiliary right turn lane.</li> </ul>
Wentworth Avenue/Denison Street/Westfield Access Intersection	<ul style="list-style-type: none"> <li>• Additional Westfield Access northern approach auxiliary left turn/through lane;</li> <li>• New Westfield Access northern approach entry lane;</li> <li>• Additional Wentworth Avenue western approach auxiliary right turn lane;</li> <li>• New Wentworth Avenue eastern approach auxiliary right turn lane.</li> </ul>
Wentworth Avenue/Bunnerong Road Intersection	<ul style="list-style-type: none"> <li>• Additional Bunnerong Road northern approach auxiliary right turn lane.</li> </ul>
Bunnerong Road/Westfield Drive Intersection	<ul style="list-style-type: none"> <li>• Additional Bunnerong Road northern approach auxiliary right turn lane;</li> <li>• Reconfiguration and optimisation of the Westfield Drive approach lane arrangements.</li> </ul>



#### 4 Car Parking Provision

As noted in the transport reviews prepared to accompany previous Planning Proposal submissions for Westfield Eastgardens, car parking provision, access, servicing and internal circulation are matters that will be addressed in detail as part of a future Development Application.

At a high level, the following is noted in relation to the car parking provision likely to be delivered as part of the future development of the site:

- Additional retail car parking will be provided at a rate which aligns with the forecast trip generation across the expanded centre. The car parking rate for the expanded centre is expected to be lower than the car parking rate of the existing centre on the basis of the following:
  - Controlled car parking and parking guidance has recently been installed across Westfield Eastgardens and has significantly improved the availability of car parking spaces to retail customers through the removal of non-retail car parking (e.g. commuter car parking for the bus interchange, employees of adjacent sites, and even airport parking), and through the relocation of staff car parking (i.e. through the provision of 'nested' staff parking areas) to previously underutilised rooftop car parking areas;
  - The additional retail floor area will target retail categories that are complementary to existing trips to the centre (i.e. due to the increased retail offer, a visitor to the centre will be able to carry out multiple additional tasks in the same trip), and new categories that are likely to attract trips at different times of the day (e.g. restaurants that attract visitors in the evenings outside of peak car parking demand periods);
  - The retail demand generated by the large future residential catchment located in close walking proximity (i.e. the 3,800+ residential dwellings proposed as part of the adjacent Meriton development) that will generate minimal car parking demand;
  - The improved appeal of travelling to the centre by public transport, to be achieved by the proposed improvements to the capacity and experience of the Westfield Eastgardens bus interchange, which is encouraged by the pricing mechanism of controlled car parking which has now been implemented across the site.
- Commercial office car parking will be provided based on the likely private vehicle mode share of the target tenancy mix, and also in consideration of the temporal variation in car parking demand between the retail use and office use (i.e. whereby office uses can be assumed to have limited car parking demands on weekday evenings, and on weekends when retail uses typically experience a higher car parking demand).

Further analysis will be undertaken at a Development Application stage to provide rigour around the ultimately adopted car parking provision. A review of the sustainable transport opportunities available to further support a reduced car parking provision for the Planning Proposal is provided below.

## 5 Sustainable Transport Opportunities

### 5.1 Overview

The Planning Proposal presents a significant opportunity to improve travel by sustainable transport modes to Westfield Eastgardens and the surrounding area, as envisaged by a number of key strategic transport/planning documents, including the following:

- *Future Transport Strategy 2056*, Transport for NSW, March 2018 (‘Future Transport 2056’);
- *Eastern City District Plan*, Greater Sydney Commission, March 2018 (‘Eastern City District Plan’).

*Future Transport Strategy 2056* is a state-wide transport planning strategy describing the key challenges and opportunities for providing the mobility required to facilitate the significant population growth anticipated to occur across Greater Sydney and Regional NSW over the next 40 year period. The *Eastern City District Plan* provides a more detailed roadmap to achieving the nominated ‘Planning Priorities’, each of which has specific ‘Objectives’, ‘Actions’ and ‘Responsibilities’.

Both *Future Transport 2056* and the *Eastern District Plan* have identified linkages between the existing Sydney CBD, the Eastgardens - Maroubra Junction Strategic Centre, and other Centres as key strategic growth corridors for multiple modes of transport. Of particular relevance to the subject site, in response to Planning Priority E11 (‘Growing investment, business opportunities and jobs in strategic centres’) of the *Eastern City District Plan*, a number of actions are identified in relation to Eastgardens-Maroubra Junction. *Action 48* of the *Eastern City District Plan* is reproduced in Table 7 below.

**Table 7 Action 48 of the Eastern City District Plan**

Actions	Responsibility
<b>Strengthen Eastgardens-Maroubra Junction through approaches that:</b> <ol style="list-style-type: none"> <li>Protect capacity for job targets and a diverse mix of uses to strengthen and reinforce the economic role of the centre;</li> <li>Extend and investigate additional economic activities to connect Eastgardens and Maroubra Junction and complement the existing activities;</li> <li>Leverage future public transport connections in the south east and west of the District;</li> <li>Encourage provision of affordable housing to support the nearby health and education facilities and employment lands;</li> <li>Promote place making initiatives to improve the quality and supply of public spaces, promote walking and cycling connections and integrate with the Green Grid;</li> <li>Improve public transport connections, and walking and cycling between Eastgardens-Maroubra Junction and Randwick.</li> </ol>	Bayside Council, Randwick City Council, other planning authorities and State agencies

Source: Eastern City District Plan

As described in Table 7, there are a number of transport related actions, with a particular emphasis on improving sustainable transport connections to, from and within Eastgardens-Maroubra Junction, including improvements to public transport, walking and cycling.

A high level review of the sustainable transport opportunities available for Westfield Eastgardens with reference to the aforementioned key transport planning strategies is provided below.

## 5.2 Existing Public Transport Services

Due primarily to the bus interchange located within the site, Westfield Eastgardens has excellent existing access to public transport. Details of existing bus routes servicing the subject site are provided in Table 8 below, whilst the proportion of the Westfield Eastgardens trade area catchment located within 400m walking distance of an existing bus route is mapped on Figure 4 overleaf, which has been prepared by Urbis.

**Table 8 Existing Public Transport Services (Bus)**

Route	Description	Service Frequency
301	Eastgardens – City Circular Quay Via Mascot	30 minutes (both directions)
302	Eastgardens – City Circular Quay Via Kingsford	Hourly (both directions)
310	Eastgardens – Central Railway Square via Botany Rd	20 minutes (both directions)
316	Eastgardens – Bondi Junction via Randwick Junction	20 minutes (both directions)
317	Eastgardens – Bondi Junction via Randwick Junction & Beauchamp Rd	30 minutes (both directions)
353	Eastgardens – Bondi Junction	30 minutes (both directions)
391	La Perouse or Port Botany – Central Railway Square	30 minutes (both directions)
392	Little Bay – City Circular Quay via Eastgardens & Prince Henry Hospital	30 minutes (both directions)
400	Burwood – Bondi Junction via Eastgardens (Limited Stops)	30 minutes (both directions)
410	Bondi Junction – Rockdale	15 minutes during AM and PM peak periods (both directions)
X10	Eastgardens – Central Railway Square (Express Service)	15 minutes during AM and PM peak periods (operates in peak direction only)
X92	Little Bay – City Museum (Express Service)	



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### 5.3 Future Public Transport Opportunities

As identified in *Future Transport 2056* and the *Eastern City District Plan*, there is a need for additional public transport connectivity to the Eastgardens-Maroubra Junction Strategic Centre. The Westfield Eastgardens Planning Proposal, which adds retail and commercial density above a bus interchange, is aligned with a number of actions recommended by the *Eastern City District Plan*, including:

- Action 48 (c), which calls to strengthen Eastgardens-Maroubra Junction through approaches that leverage future public transport connections in the southeast and west of the District; and
- Action 48 (f), by improving public transport connections between Eastgardens-Maroubra Junction and Randwick.

Further to the above, Scentre Group participated in engagement for *Future Transport 2056*, and have made formal submissions to Transport for NSW, recommending that future mass transit is routed through Eastgardens.

A number of planned projects also have the potential to increase the public transport accessibility of Westfield Eastgardens and Eastgardens-Maroubra Junction as follows:

- The Sydney Light Rail project will include a station at Kingsford, located around 2.2km to the north of the subject site. Whilst 2.2km is not considered to be an 'easily walkable' distance, the Meriton TIA includes commentary around Meriton having preliminary discussions with the State to extend the light rail line further to the south towards the Meriton site (i.e. and also the subject site). This would further increase the accessibility of the subject site by public transport;
- Other planned large scale public transport project such as the Sydney Metro West may in the longer term provide heavy rail access to the Eastgardens-Maroubra Strategic Centre, and provide the potential for an increased public transport catchment for the site through the interchange of modes/services at other locations.

### 5.4 Westfield Eastgardens Bus Interchange Improvements

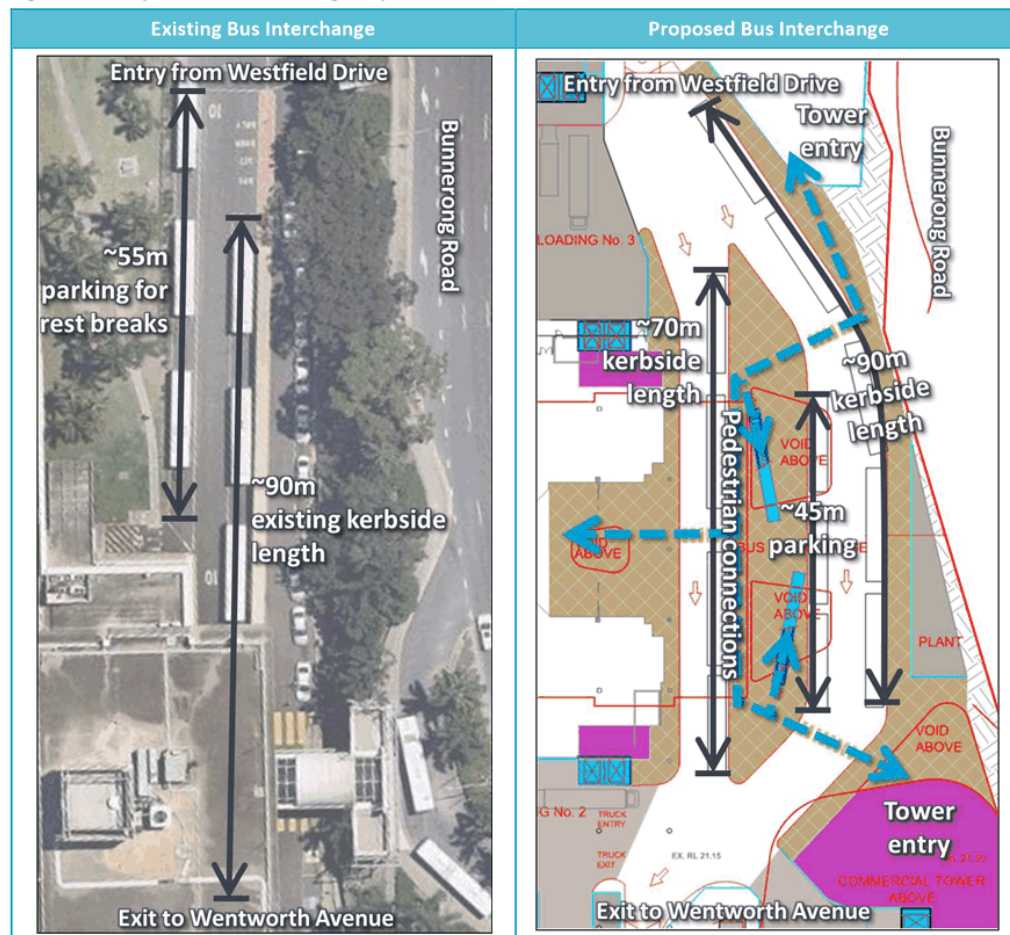
As indicated on the concept plans prepared for the revised Planning Proposal, a number of significant improvements are proposed for the existing bus interchange facilities located within the site and on the Bunnerong Road frontage of the site. These improvements are aligned with Actions 48(c) and 48(f) of the *Eastern City District Plan*, facilitating greater public transport connectivity between Eastgardens-Maroubra Junction, Randwick, and other key destinations.

The key improvements to the bus interchange facility, as indicated on the concept plans, are described as follows:

- Additional bus stop capacity and accommodation of larger design vehicles;
- Enhanced bus waiting areas, pedestrian amenity and security;
- Improved pedestrian connections with the shopping centre and new vertical transport to the proposed commercial towers;
- Additional parking and improved facilities for bus drivers on a rest break.

An overview of the existing and proposed bus interchanges is presented on Figure 5 overleaf.

**Figure 5 Proposed Bus Interchange Improvements**



The bus interchange improvements will encourage the use of public transport services to access the subject site, and in turn reduce the reliance on private vehicle travel (and demand for car parking) for employment-based uses. Scentre Group will continue to liaise with Transport for NSW to progress the current conceptual design of the bus interchange.

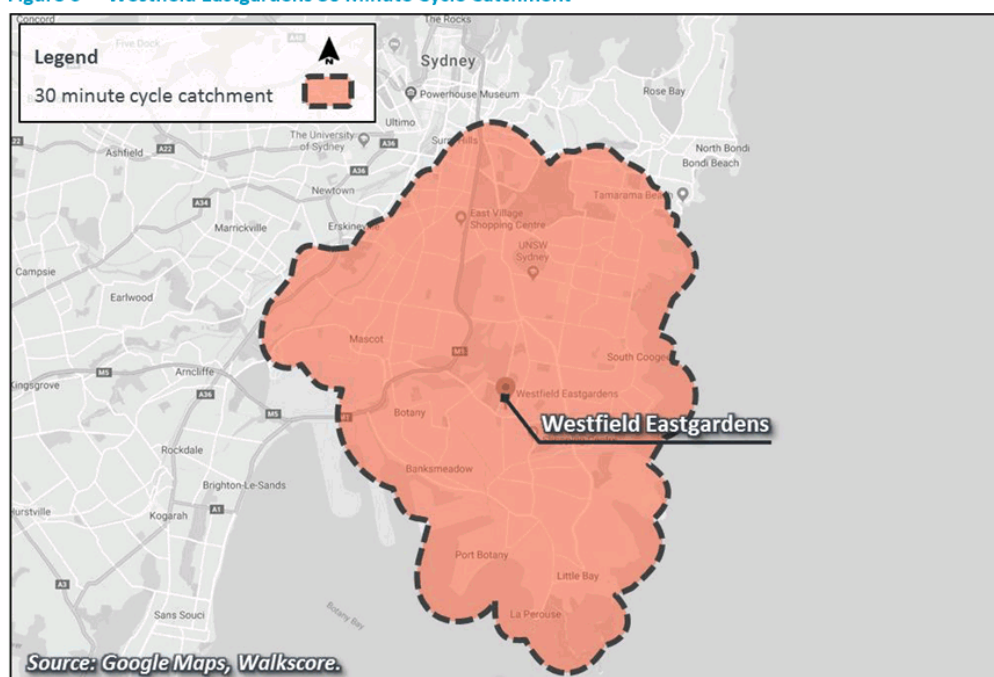


## 5.5 Active Transport Provisions

The concept scheme prepared for the revised Planning Proposal includes provision for bicycle parking and end-of-trip facilities below the commercial towers. The provision of high quality bicycle parking and end-of-trip facilities will encourage employees of the commercial component to cycle to work, also reducing demand for car parking. This addresses Actions 48(e) and 48(f) of the *Eastern City District Plan* in promoting cycling, in particular, between Eastgardens-Maroubra Junction and Randwick.

Figure 6 below illustrates that there is a substantial area (including Randwick) located within a 30 minute cycle trip of Westfield Eastgardens, indicating that cycling is a highly feasible transport option for retail customers and employees of the future commercial uses located on the subject site.

**Figure 6 Westfield Eastgardens 30 Minute Cycle Catchment**



## 6 Summary

SLR has been commissioned by Scentre Group to undertake transport modelling and provide traffic engineering advice in relation to the revised Planning Proposal for Westfield Eastgardens.

Based on the above analysis, the following is concluded in relation to the revised Planning Proposal:

- The external traffic impacts of the additional 5,500sq.m of commercial floor area and recent changes to the adjacent Meriton development have been assessed as unlikely to make a material difference to the findings of the previous AIMSUN modelling undertaken by SLR. Therefore, the proposed external intersection upgrade works, as detailed in the SLR Modelling Options Report, also remain valid.
- The Planning Proposal presents a significant opportunity to improve travel by sustainable transport modes to Eastgardens-Maroubra Junction and the surrounding area, which aligns with strategic transport/planning documents including *Future Transport 2056* and the *Eastern City District Plan*.

Westfield Eastgardens  
Revised Planning Proposal  
Review of Transport Matters

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## Attachment A

Concept Plans

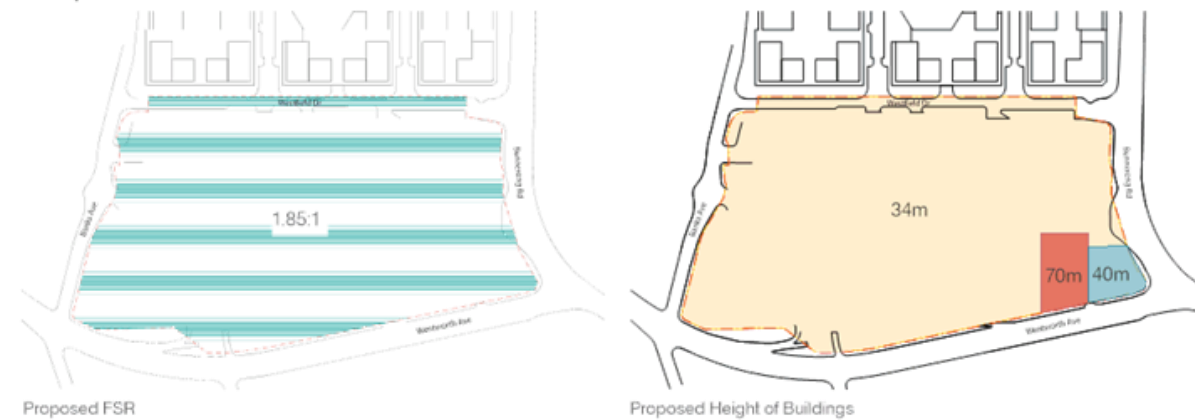


## The Master Plan

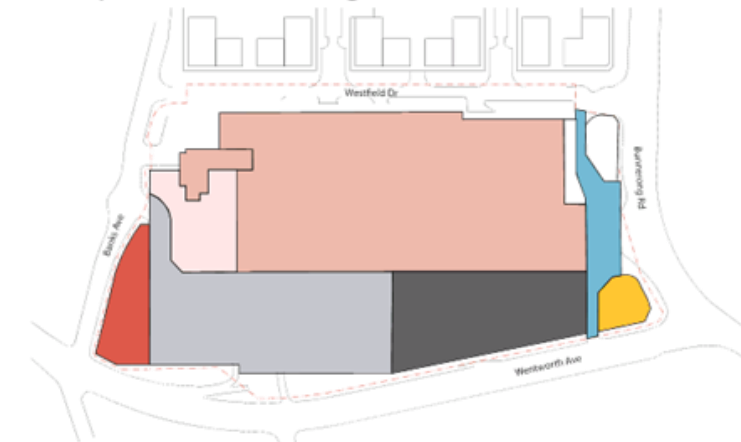
### Indicative Area Schedule

Description	Tower	Floorplate (GLA)	Incremental GFA	Efficiency	Incremental GLA
<b>Retail</b>					
Incremental retail	n/a	n/a	37,500	n/a	27,500
<b>Commercial</b>					
14 commercial storeys above retail mall	Tower A	~1,250sqm	20,000	90%	17,900
8 + part 2 commercial storeys above basement	Tower B	~1,000sqm	11,500	85%	9,800
Enlarged floorplate of existing 4 commercial storeys above retail mall	Tower C	~1,600sqm	3,300	85%	2,800
Sub-total incremental commercial			34,800		30,500
Total incremental scheme			72,300		58,000
<b>FSR calculation</b>					
Existing GFA			99,400		
Incremental GFA			72,300		
Completion GFA			171,700		
Site area			92,900		
Completion FSR			1.85		

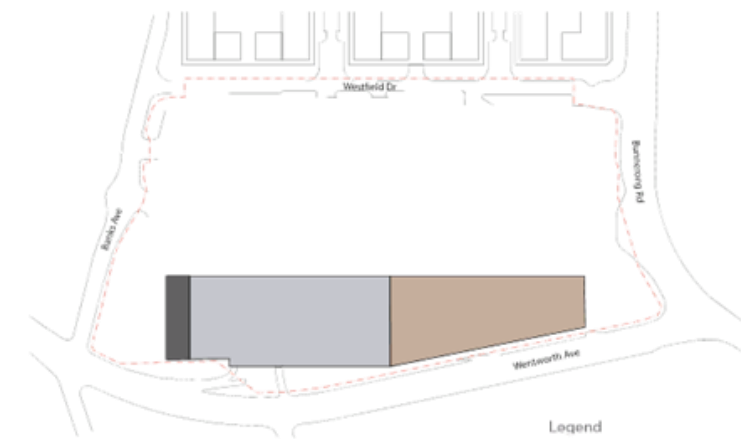
### Proposed LEP amendments



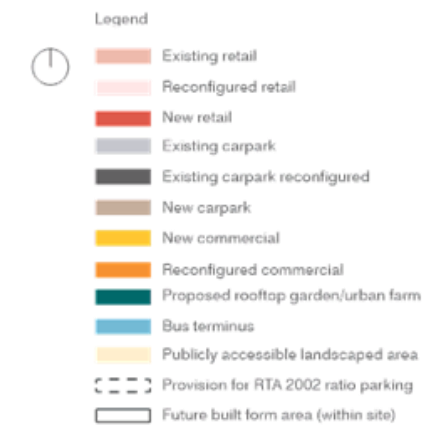
### Proposed Block Diagrams



Level 1 Block Diagram



Level 1M Block Diagram



The Master Plan



Westfield Eastgardens  
Revised Planning Proposal  
Review of Transport Matters

SLR Ref: 620.12132-M03-v1.1 Revised Planning  
Proposal Transport Review 20190228.docx  
Date: 28 February 2019

## Attachment B

AIMSUN Modelling Documentation





2 October 2018

620.12132-L01-v0.3 Eastgardens Modelling Peer Review Response 20181002.docx

Scentre Group  
85 Castlereigh Street  
Sydney NSW 2000

**Attention: Robert Johnston**

Dear Robert

## Westfield Eastgardens Expansion SLR Response to Cardno Modelling Peer Review Comments

### 1 Context

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Scentre Group Pty Ltd (Scentre Group) to undertake transport modelling in relation to the proposed expansion of Westfield Eastgardens, located at 152 Bunnerong Road, Eastgardens.

This letter has been prepared to respond to issues raised in a peer review of the AIMSUN microsimulation modelling carried out by SLR in relation to the subject Eastgardens Planning Proposal. The peer review, carried out by Cardno on behalf of Bayside City Council, is documented in *Westfield Eastgardens: Transport Impact Assessment Peer Review* dated 15 June 2018 - attached.

Table 1 herein summarises the SLR responses to the Cardno peer review. To ensure a comprehensive response, the AIMSUN modelling previously assessed and reported by SLR in March 2018 has been re-run and reporting updated in considering the peer review comments.

The results of the updated AIMSUN modelling are documented in the updated SLR report *Westfield Eastgardens Development Modelling Options Assessment* dated 24 July, 2018 (referred to as 'Modelling Options Assessment' herein) - attached. The scope and form of this updated modelling report is consistent with that which formed part of the Planning Proposal. Only the model results are updated to make account of the Cardno peer review matters.

### 2 Items Raised in 'Review of SLR Traffic Impact Assessment'

**Table 1 Responses to Items Raised in 'Review of SLR Traffic Impact Assessment'**

Section Reference	Summary	Cardno Comment	SLR Response
3.3.1.3 Traffic Profiles	The column headings for "Thursday PM Model" and "Saturday Midday Model" appear to provide the trip distribution during the 2 hour period.	The time periods provided in the table 6 appear to be incorrect. This appears to be a typographical error and is unlikely to impact the conclusions made by the report.	This was a typographical error and has been corrected in the updated Modelling Options Assessment report.

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www.slrconsulting.com ABN 29 001 584 612

Section Reference	Summary	Cardno Comment	SLR Response
<b>3.3.2.2 Further changes to the '2031 Base + Meriton' Model</b>	The report identifies that further changes to the 2031 base model have been made in order to alleviate congestion, including removal of parking along Wentworth Avenue approach to the Wentworth Avenue/Page Street intersection	As this adjustment is on the Base model, it is likely the implementation of removing parking is an issue for Council/RMS to investigate based on the SLR report findings.	The issue of future on-street parking will be discussed with Council as the application progresses and confirmation will be sought regarding this assumption which forms part of the Base and Future model scenarios.
<b>3.4.2 Cumulative Traffic Demand</b>	The trip generation rates adopted for Commercial floor space are based on the RMS Technical Direction which provides updated trip rates for the RMS Guide. The SLR assessment has assessed weekend (Saturday) traffic generation at 50% of the weekday peak hour.	The trip generation rate adopted is based on commercial office use. The proposed office yield (25,000m <sup>2</sup> ) is significant in size. Accordingly, if the end user is identified as being retail or a higher trading use then the trip rate should be adjusted accordingly to reflect what would likely be a higher traffic generation rate. As the application is a Planning Proposal and the end user is yet to be defined, the application should be required to revisit its traffic and transport assessment in the event that land the land use / end user changes.	The trip generation rates and development yields were adopted by SLR based on information presented by Scentre Group prior to lodging the Planning Proposal. It is understood that these assumptions accurately reflect the development proposal and hence no further action is warranted.
<b>3.4.3.6 Incremental Retail Traffic Generation</b>	The methodology described to formulate the decay curve analysis is stated as being based on technical standards and guidelines published by relevant authorities and industry organisations.	Cardno does not object to the use of the decay curve methodology, however the resulting decay curve for Westfield Eastgardens should be compared to the cited documents to ensure the resulting curve (and trip rate adopted) is consistent with other survey information.  Based on the updated RMS survey information, the RMS incremental trip rates based on floor area appears to be lower than the rates adopted by SLR. Therefore, the trip rate adopted by SLR appears to be conservative however a similar graphical presentation of Westfield Eastgardens curve will demonstrate any anomalies.	Noted.  The adopted traffic generation curve is higher than that presented in RMS guidance. The higher curve is conservative and is based on a calibrated base scenario.  Ultimately, the SLR assumption is conservative as it results in a higher incremental traffic demand resulting from the proposed expansion, hence no further justifications or actions are warranted.

Section Reference	Summary	Cardno Comment	SLR Response
	The adopted traffic direction split is presented in Table 11 of the SLR assessment. The direction split for retail is 50% inbound and 50% outbound during both the weekday and weekend peaks	A comparison to the survey information would be a more reliable source of directional split. The adopting of 50% inbound and 50% outbound is generally accepted by the traffic industry however as there is available data to identify the directional split this would be a more reliable source to base the assumption on.	The traffic survey evidence indicates an in/out split approximating 50%/50%.  This directional split assumption for retail uses is widely accepted in industry practice, hence no further justifications or actions are warranted.
<b>3.4.3.7 Resultant Westfield Eastgardens Demand Summary</b>	A 19% "drop-in trips" has been adopted by the assessment, applicable to the retail trip generation only.	It is unclear how 19% for "drop-in trips", also referred to as "passing trade". The RMS Guide suggests rates of up to 25% may be applied, based on a site by site basis. Therefore the 19% assumption may not be incorrect, however it is unclear how it is determined.	SLR has adopted the 19% from table F1 of the Guidelines for Assessment of the Road Impacts of Development (available at: <a href="https://www.tmr.qld.gov.au/-/media/busind/techstdpubs/Road-planning-and-design/Guidelines-to-Traffic-Impact-Assessment/GARID_Guidelines_200406.pdf?la=en">https://www.tmr.qld.gov.au/-/media/busind/techstdpubs/Road-planning-and-design/Guidelines-to-Traffic-Impact-Assessment/GARID_Guidelines_200406.pdf?la=en</a> )  The 19% relates to 'undiverted drop-in' trips for shopping centres greater than 20,000sq.m. This is a conservative assumption and lower than that suggested by Cardno, hence no further justifications or actions are warranted.



Section Reference	Summary	Cardno Comment	SLR Response
<b>3.4.4.1 Proposed Intersection Upgrades</b>	<p>The SLR assessment identifies four intersections that require upgrades to offset impacts associated with the Planning Proposal. The intersections include:</p> <ul style="list-style-type: none"> <li>Wentworth Avenue/Banks Avenue/ ornish Circuit;</li> <li>Wentworth Avenue/ Denison Street/Site Access;</li> <li>Wentworth Avenue/ Bunnerong Road;</li> <li>Bunnerong Road/ Westfield Drive.</li> </ul>	<p>The report acknowledges that civil concepts for these upgrades are yet to be developed/finalised and accordingly, the impact to existing road alignment, existing property boundaries etc is not defined.</p> <p>The screenshots provided by the Aimsun model depicted the proposed upgrades being contained within the existing road reserve however it is unlikely this will be the case.</p> <p>The upgrades identified will need to be further discussed with Council and RMS. In the event that the suite of upgrades is modified, then the traffic assessment will require an update accordingly. Any upgrades attributed to the Planning Proposal should be appropriately conditioned prior to commencement of any works within the Westfield Eastgardens site.</p>	<p>Noted.</p> <p>It is understood the Scentre Group have engaged a civil engineering consultant to prepare functional layouts for the subject intersections. Should the design process reveal that the proposed intersection footprints cannot be appropriately accommodated, it would be reasonable that discussions with the City and RMS were held to confirm if supplementary the AIMSUN modelling was necessary.</p> <p>Until such time, no further actions are considered to be warranted.</p>

### 3 Items Raised in 'Review of SLR Traffic Modelling'

**Table 2 Responses to Items Raised in 'Review of SLR Traffic Modelling – Base Model Development'**

Input Parameter	Latest Cardno Comment	SLR Response
<b>D1 – Vehicle Types</b>	Cardno's review requested justification as to why larger heavy vehicles were not used in version 1 of the base model but not necessarily requesting a change in vehicle size to occur. Whilst SLR have now adopted to change the size of trucks within the microsimulation model, other parameters such as acceleration profile would similarly need to change for larger vehicles as this can in turn impact queuing. Cardno requests SLR to review their approach to modelling of large trucks and advise of the impact. Additionally, Section 3.2.1 should clearly state what changes have been made to vehicle types which differ to the default settings.	SLR adjusted the maximum and median size of trucks within model, as requested, to reflect the B-Double vehicles that were observed using the Wentworth Avenue/Denison Street intersection on both aerial imagery and a site inspection. During the site inspection, larger B-Double design vehicles were not observed to cause any additional delays (i.e. due to acceleration) compared with Articulated Vehicle and Heavy Rigid Vehicles, both of which are accommodated within the default AIMSUN settings. As such, it is considered appropriate to adjust the design vehicle size for heavy vehicles within the model, however not the vehicle performance profile. Furthermore, given that the model shows a high degree of calibration for heavy vehicles at the Wentworth Avenue/Denison Street intersection (see response to 'K1' below). No further changes are considered to be warranted.

Input Parameter	Latest Cardno Comment	SLR Response
<b>J1 – Number of seed runs</b>	<p>The updated reporting does not calculate the number of model runs required rather adopts Cardno's previous review. However, as parameters have been changed for base model version 2, the number of model runs similarly may have changed.</p> <p>The correct calculation to determine number of seeds to determine the stability of the model is calculated as per the RMS Modelling Guide.</p> <p>Based on the updated reporting, both the Weekday PM and Saturday have been identified to contain outliers. Whilst outliers occur, it should be investigated as to why they are happening and if they can be avoided via changes in the model. Additionally commentary is required for these outliers and the impact on the modelling results. For example in model run 2 of the PM peak vehicles turning right from Heffron Road into Bunnerong Road are seen to queue into the one lane section causing excess build-up of traffic behind. This in turn causes a queue to back up into the roundabout at Heffron Road / Banks Avenue causing a gridlock within the roundabout which does not get resolved. Due to this, the confidence of whether this can happen in the future models is at question and is recommended to be resolved in the base model.</p> <p>For the weekend peak the section incidents along Wentworth Avenue blocks buses from accessing the bus stop which in turn causes excess queuing.</p>	<p>Based upon the previous Cardno request, SLR increased the number of model runs from five to seven, which is beyond the five runs typically specified in the RMS modelling guidelines.</p> <p>The stability statistics reported by SLR show one outlier in each modelled scenario. This would likely be the case if additional model runs were added.</p> <p>The issues affecting model stability mentioned by Cardno are unlikely to impact modelling of future scenarios given the following:</p> <ul style="list-style-type: none"> <li>• The Heffron Road/Banks Avenue roundabout is a signalised intersection in all future scenarios and hence will not cause the network to lock up due to demand variance produced by the different random seeds (roundabouts in microsimulation models are inherently unstable and prone to lock-up when at capacity);</li> <li>• The section incident along Wentworth Avenue has been adjusted to be clear of the bus stop, and hence will no longer cause congestion in future modelling scenarios.</li> </ul> <p>The model stability figures provided at Appendix A of the amended Modelling Options Assessment report demonstrate appropriate model stability. Based on the above, no further actions are considered to be warranted.</p>



Input Parameter	Latest Cardno Comment	SLR Response
<b>K1 – Turning counts</b>	Based on past experience with RMS, they have requested that results be presented to show calibration statistics for light and heavy vehicles separately. This is also indicated in the RMS Modelling Guidelines: “Generally RMS requires demand to be calibrated for each one hour period within the model and for each major vehicle type.” This quote is from Section 11.5.2 of the Modelling Guidelines.	<p>To demonstrate the existing calibration of the model with regard to heavy vehicle movements, the calibration of turning movements at the following intersections along Wentworth Avenue (i.e. where heavy vehicle movements were observed to be the greatest) was assessed:</p> <ul style="list-style-type: none"> <li>• Wentworth Ave/Page St;</li> <li>• Wentworth Ave/Denison St/Westfield access;</li> <li>• Wentworth Ave/Bunnerong Rd.</li> </ul> <p>The results presented at in Table 3 and Table 4 for the PM peak period and Saturday peak period below demonstrate that all turning movements have a GEH of less than 5, and accordingly, show a high level of calibration.</p> <p>Given that movements with the highest heavy vehicle volumes are calibrated in the Base model, this provides a reasonable level of certainty that heavy vehicle movements are not statistically significant (i.e. and will not impact on the operation of the model), and therefore no further actions are considered to be warranted.</p>

**Table 3 PM Peak Hour Heavy Vehicle Calibration Check**

Intersection	Approach	Movement	Object ID	Observed	Modelled	GEH
Wentworth Ave/Page St	N	L	1856	0	8	4.1
		T	1857	4	3	0.5
		R	1855	3	6	1.5
	E	L	1860	0	5	3.3
		T	1858	87	74	1.4
	S	L	1849	3	2	0.6
		T	1850	8	0	3.8
		R	1851	1	2	0.8
	W	L	1847	5	5	0.1
		T	1853	70	70	0.0
		R	1854	10	6	1.5
Wentworth Ave/Denison St/Westfield Access	N	L	1701	0	0	0.0
		T	1702	0	0	0.0
		R	1700	0	0	0.0
	E	L	1704	4	7	1.2
		T	1703	14	29	3.2
	S	L	1696	61	48	1.8
		R	1697	6	5	0.5
	W	L	2769	3	4	0.4
		T	1698	21	19	0.5
		R	1699	43	49	0.9
Wentworth Ave/Bunnerong Rd	N	T	1690	16	17	0.3
		R	1691	2	13	4.1
	S	L	2827	16	22	1.3
		T	1687	20	8	3.3
	W	L	1682	44	35	1.4
		R	1688	27	34	1.2

**Table 4 SAT Peak Hour Heavy Vehicle Calibration Check**

Intersection	Approach	Movement	Object ID	Observed	Modelled	GEH
Wentworth Ave/Page St	N	L	1856	0	4	2.8
		T	1857	3	0	2.4
		R	1855	1	1	0.0
	E	L	1860	2	3	0.6
		T	1858	56	38	2.6
	S	L	1849	2	4	1.2
		T	1850	3	1	1.4
		R	1851	2	1	0.8
	W	L	1847	2	4	1.2
		T	1853	52	50	0.3
		R	1854	3	1	1.4
Wentworth Ave/Denison St/Westfield Access	N	L	1701	0	0	0.0
		T	1702	0	0	0.0
		R	1700	0	0	0.0
	E	L	1704	3	5	1.0
		T	1703	25	10	3.6
	S	L	1696	26	22	0.8
		R	1697	6	9	1.1
	W	L	2769	0	8	4.0
		T	1698	15	14	0.3
		R	1699	36	28	1.4
Wentworth Ave/Bunnerong Rd	N	T	1690	7	11	1.3
		R	1691	12	8	1.3
	S	L	2827	16	7	2.7
		T	1687	23	15	1.8
	W	L	1682	30	15	3.2
		R	1688	18	14	1.0



#### 4 Items Raised in 'Future Option Modelling'

**Table 5 Responses to Items Raised in 'Future Option Modelling'**

Section Reference	Cardno Comment	SLR Response
<b>3.1.2 Meriton Boulevard Configuration</b>	<p>The Arup assessment submitted for Meriton Stage 2 considered the intersection of Meriton Boulevard/Bunnerong Road under two arrangements. The agreed intersection arrangement is not defined and as such there is likely to be uncertainty around this intersection until Meriton formalise their application post gateway.</p> <p>The SLR assessment adopts the intersection arrangement permitting right turn movements into Meriton Boulevard, which appeared to have better results based on the Arup assessment. In the event that Meriton Boulevard is configured differently then this would need to be reflected in the traffic modelling.</p>	<p>The arrangement of the Bunnerong Rd/Meriton Boulevard signalised intersection was prepared based on the best information available at the time, noting that the various transport assessments prepared for the Meriton development were inconsistent with regards to the various upgrades proposed.</p> <p>Until such time as a specific intersection layout is approved and conditioned for the Bunnerong Rd/Meriton Boulevard intersection, the layout modelled by SLR is considered to be appropriate, representing a conservative scenario.</p>
<b>3.1.3 Node 2801 – Altitude Mismatch</b>	<p>Section altitudes do not match at node 2801, thus creating a 5.7m "drop" at the node as shown in Figure 32.</p> <p>This mismatch is considered to be minor and is likely to be rectified for further analysis if the application is to proceed post Gateway.</p>	<p>This error has been corrected in all model scenarios. All scenarios have been rerun and the updated results are presented in the amended Modelling Options Assessment report.</p>
<b>3.1.4 Virtual Queues on Section 1277 at End of Peak Hour</b>	<p>At the end of the main simulation period for the 2031 TPM Base + Meriton + Westfield scenario (i.e. at 5:30) there is a virtual queue of approximately 150 vehicles on Section 1277 (refer Figure 3-2), which would not have been accounted for in the reported delays. This is only observed to occur in the TPM scenario, not the SAT scenario.</p>	<p>At the same point (i.e. 5:30PM) in the '2031 TPM Base + Meriton' scenario, there is a virtual queue of 150 vehicles on Section 1277. Furthermore, there is a virtual queue of around 100 vehicles present in the '2031 TPM Base' scenario on Section 1277, and on Section 23311 (Page Street southwestern approach), a virtual queue of around 240 vehicles is present at the end of the peak hour period (this is due to the constrained existing intersection form, which is upgraded in the '+ Meriton' scenario).</p> <p>Based on the above, the virtual queue issues are present across all scenarios at the Wentworth Avenue/Page Street intersection, and hence the reported delays are considered to show the relative incremental impact of each model scenario, and are not biased in favour of the Westfield development.</p> <p>Accordingly, no further action is considered to be warranted.</p>

Section Reference	Cardno Comment	SLR Response
<b>3.1.5 Public Transport</b>	The 2031 models do not assume any changes to the existing Public Transport services. It is expected that any changes to the model relating to public transport will have minimal impact to the conclusions identified in the SLR report.	This is the case for all modelled 2031 scenarios, and hence the impacts are relative across all scenarios. Therefore, no further actions are considered to be warranted.
<b>3.1.6 Meriton Development Demand (2031 Base only)</b>	For the zones associated with the Meriton site (i.e. zones 108 and 109), there are 28 trips in the "2017 TPM Adjusted" scenario and 77 trips in the "2017 SAT Adjusted" scenario. In the 2031 Base scenarios, these trips appear to have been removed without any explanation provided. Similarly, the reintroduction of trips associated with these zones is unlikely to change the conclusions identified in the SLR report	The demand for these centroids was inadvertently removed in the 2031 Base scenarios. This has been corrected and the models rerun. The updated results are presented in the amended Modelling Options Assessment report.
<b>3.1.7 Westfield Zones</b>	It is unclear what methodology has been adopted to distribute the incremental traffic across the Westfield zones. Clarification is required on whether changes to car park accesses and distribution of the additional car park bays proposed as part of the expansion have been accounted for.	New development traffic has been assigned to site access/egress locations based upon the number of car parking spaces and relative convenience of each site in consideration of the distribution to the external trade catchment. Should the design of the internal car parking and/or access arrangements change significantly, it may be reasonable to review these assumptions. No change is warranted at this time.
<b>3.1.8 Network Wide Results</b>	Spot checks confirm the reported results in Tables 15 and 16. However, it is noted that due to the model structure, the reported results also include the network statistics from both the warm-up and cool-down periods. Minor comment: the last row in Tables 15 and 16 is titled "Total vehicles in matrix". However, this appears to refer to the "Input Count" from the replication Output Summary, which is the total amount of vehicles that were "read in" to the model. While the "Input Count" is based on the Traffic Demand, they are not necessarily similar.	The information presented in Table 15 and Table 16 is meant to provide a broad, high level snapshot of model statistics. They are not used to evaluate or determine the location and scale of possible scenario impacts. As such, it is considered appropriate to provide statistics from the entire 2 hour modelled period in this instance. With regard to the 'total vehicles in matrix', this has been changed to 'input count' in the amended Modelling Options Assessment report.

Scentre Group  
Westfield Eastgardens Expansion  
SLR Response to Cardno Modelling Peer Review Comments

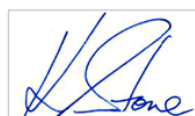
SLR Ref: 620.12132-L01-v0.3 Eastgardens Modelling  
Peer Review Response 20181002.docx  
Date: 2 October 2018

Section Reference	Cardno Comment	SLR Response
<b>3.1.9 External Travel Route Travel Times</b>	<p>Spot checks confirm that the reported results in Table 17 and 18 can be replicated in the supplied models.</p> <p>However, as shown in it appears that the reported travel times include both the warm-up and cool-down periods where there is less demand in the network. If these time periods are excluded, the model travel times will likely differ. Example provided in Figure 3-5 for Route 1 Eastbound the 2031 Base TPM + Meriton + Westfield scenario where the reported travel time is 215 sec. However, is the warm-up and cool-down periods are excluded, the modelled travel time increases to approximately 245 sec.</p>	<p>The travel time observations collected by others and agreed for use with the City and Cardno are for a 2 hour period across all scenarios, hence the results presented demonstrate the relative travel time impacts of each scenario.</p> <p>Nevertheless, the travel times have been revised to reflect the peak hour period only and are presented in the amended Modelling Options Assessment report.</p> <p>It is important to note that this has not materially altered the findings or conclusions of the prior report and that no changes to the previously recommended engineering upgrades are warranted.</p>
<b>3.1.10 Intersection Results Operations Delay</b>	<p>It is unclear how the intersection delays in Tables 19 and 20 have been calculated as no sub-paths have been set up in the models for these intersections. It has therefore not been possible to confirm the reported results in these tables.</p>	<p>Intersection delays have been exported from the MINODE table in the results database, which provides the average approach delay for each node.</p> <p>Given that this is the AIMSUN default for measuring intersection delay, it is considered appropriate for use in reporting. Importantly, this approach is used consistently across all scenarios, hence, the incremental impact and determination of no nett worsening is possible.</p> <p>It is noted that intersection delays had previously been calculated for the 2 hour modelled period, however, these have now been updated to reflect the peak hour only and are presented in the amended Modelling Options Assessment report.</p>

Should you have any queries in relation to this response, please do not hesitate to contact the undersigned.



CHRIS LAWLOR  
Associate - Transport Advisory



KRIS STONE  
Principal Consultant – Transport Advisory



Appendix  
Westfield Eastgardens Expansion  
SLR Response to Cardno Modelling Peer Review Comments

SLR Ref: 620.12132-L01-v0.3 Eastgardens Modelling  
Peer Review Response 20181002.docx  
Date: 2 October 2018

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## Attachment A

### Cardno Peer Review Comments

# Westfield Eastgardens

## Transport Impact Assessment Peer Review

80018011

Prepared for  
Bayside City Council

15 June 2018





## Contact Information

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## Document Information

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## Document History

Version	Date	Description of Revision	Prepared by:	Reviewed by:
1	6/06/2018	Daft	Jackie Liang / Andreas Wang	Hayden Calvey
2	15/06/2018	Final		Hayden Calvey

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## 1 Introduction

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Cardno has been commissioned to undertake an independent peer review of the Planning Proposal submitted for Westfield Eastgardens currently being considered by Bayside Council. Cardno understands that the current Planning Proposal requests modification to current controls that is likely to yield an additional 52,500m<sup>2</sup> Gross Leasable Area (GLA).

The following documents have been reviewed as part of this peer review:

- > Aimsun Future Year and Development Options Traffic Assessment, SLR (March 2018)

Cardno has reviewed these documents to ensure it meets the typical objectives of a transport assessment, and provide the findings and recommendations for further study or clarification. The objectives of the aforementioned documents are to investigate the proposed development with regard to the following:

- > Identify the traffic and transport impact of the proposed development;
- > Identify the number of trips and likely travel modes associated with the proposed land uses;
- > Assess the impact the development will have on the capacity of the road system, in particular on intersections;
- > Accessibility to public transport and other transport modes.
- > Review the number of off-street parking spaces required to support the development; and
- > Identify measures to limit the impact the development will make on the transport network.

### 1.1 Scope of works

The objective of this report is to prepare a technical report presenting the findings from the peer review of the Future Year and Development Options Assessment (with associated AIMSUN model).

The documents have been reviewed to assess the:

- > Assessment of the traffic and transport implications
- > Cumulative traffic and parking impacts
- > Review of modelling methodology and model parameters

### 1.2 Assumptions and exclusions

The following assumptions and exclusions were made whilst undertaking this peer review:

- > Additional traffic surveys would not be conducted; and
- > Site visits were not required.

### 1.3 Reference documents

The following documents were reference as part of this peer review:

- > Aimsun Future Year and Development Options Traffic Assessment, SLR (March 2018)
- > Eastgardens Planning Proposal Traffic Review, CBHK (16 March 2018)
- > Westfield Eastgardens Aimsun Base Model Development Report, SLR (19 February 2018)
- > Westfield Eastgardens Aimsun Microsimulation Modelling – Peer Review Responses, SLR (19 February 2018)
- > RMS Guide to Traffic Generating Developments (2002); and
- > Technical Direction TDT 2013/04a – Guide to Traffic Generating Developments Update.

---

#### 1.4 Report structure

This report has been divided into three sections, detailed below:

- > **Section 1: Introduction:** An introduction to this document, including report structure, scope of works and reference documents.
- > **Section 2: Review of Aimsun Future Year and Development Options Traffic Assessment, SLR (March 2018):** A review of the Future Year and Development Options assessment including trip generation rates, travel patterns, public and active transport review and impacts to the road network. This report also incorporates the Base Model Development Report, SLR (19 February 2018).
- > **Section 3: Review of SLR Traffic Modelling Files (received 2 May 2018):** A review of the Aimsun modelling prepared for Westfield Eastgardens, including model assumptions and set up.
- > **Section 4: Summary of findings and conclusion:** An overall summary of the review and key items raised that require further assessment.



## 2 Review of SLR Traffic Impact Assessment

**Table 2-1 Review of SLR Traffic Impact Assessment**

Section Reference	Review of SLR Traffic Impact Assessment Summary	Cardno Comment
3.3.1.3 Traffic Profiles	The column headings for "Thursday PM Model" and "Saturday Midday Model" appear to provide the trip distribution during the 2 hour period	The time periods provided in the table 6 appear to be incorrect. This appears to be a typographical error and is unlikely to impact the conclusions made by the report.
3.3.2.2 Further changes to the '2031 Base + Meriton' Model	The report identifies that further changes to the 2031 base model have been made in order to alleviate congestion, including removal of parking along Wentworth Avenue approach to the Wentworth Avenue / Page Street intersection	As this adjustment is on the Base model, it is likely the implementation of removing parking is an issue for Council / RMS to investigate based on the SLR report findings.
3.4.2 Cumulative Traffic Demand	The trip generation rates adopted for Commercial floor space are based on the RMS Technical Direction which provides updated trip rates for the RMS Guide. The SLR assessment has assessed weekend (Saturday) traffic generation at 50% of the weekday peak hour.	The trip generation rate adopted is based on commercial office use. The proposed office yield (25,000m <sup>2</sup> ) is significant in size. Accordingly, if the end user is identified as being retail or a higher trading use then the trip rate should be adjusted accordingly to reflect what would likely be a higher traffic generation rate. As the application is a Planning Proposal and the end user is yet to be defined, the application should be required to revisit its traffic and transport assessment in the event that land the land use / end user changes.
3.4.3.6 Incremental Retail Traffic Generation	The methodology described to formulate the decay curve analysis is stated as being based on technical standards and guidelines published by relevant authorities and industry organisations.	Cardno does not object to the use of the decay curve methodology, however the resulting decay curve for Westfield Eastgarden should be compared to the cited documents to ensure the resulting curve (and trip rate adopted) is consistent with other survey information. Based on the updated RMS survey information, the RMS incremental trip rates based on floor area appears to be lower than the rates adopted by SLR. Therefore, the trip rate adopted by SLR appears to be conservative however a similar graphical presentation of Westfield Eastgardens curve will demonstrate any anomalies.

Section Reference	Review of SLR Traffic Impact Assessment Summary	Cardno Comment
	The adopted traffic direction split is presented in Table 11 of the SLR assessment. The direction split for retail is 50% inbound and 50% outbound during both the weekday and weekend peaks	A comparison to the survey information would be a more reliable source of directional split. The adopting of 50% inbound and 50% outbound is generally accepted by the traffic industry however as there is available data to identify the directional split this would be a more reliable source to base the assumption on.
3.4.3.7 Resultant Westfield Eastgardens Demand Summary	A 19% "drop-in trips" has been adopted by the assessment, applicable to the retail trip generation only.	It is unclear how 19% for "drop-in trips", also referred to as "passing trade". The RMS Guide suggests rates of up to 25% may be applied, based on a site by site basis. Therefore the 19% assumption may not be incorrect, however it is unclear how it was determined.
3.4.4.1 Proposed Intersection Upgrades	The SLR assessment identifies four intersections that require upgrades to offset impacts associated with the Planning Proposal. The intersections include: <ul style="list-style-type: none"> <li>&gt; Wentworth Avenue / Banks Avenue / Cornish Circuit</li> <li>&gt; Wentworth Avenue / Denison Street / Site Access</li> <li>&gt; Wentworth Avenue / Bunnerong Road</li> <li>&gt; Bunnerong Road / Westfield Drive</li> </ul>	The report acknowledges that civil concepts for these upgrades are yet to be developed / finalised and accordingly, the impact to existing road alignment, existing property boundaries etc is not defined. The screenshots provided by the Aimsun model depicted the proposed upgrades being contained within the existing road reserve however it is unlikely this will be the case. The upgrades identified will need to be further discussed with Council and RMS. In the event that the suite of upgrades is modified, then the traffic assessment will require an update accordingly. Any upgrades attributed to the Planning Proposal should be appropriately conditioned prior to commencement of any works within the Westfield Eastgardens site.

### 3 Review of SLR Traffic Modelling

Cardno has provided a review of the SLR Base model, to which responses have been provided by SLR in the memorandum 19 February 2018. Following the responses and an updated base model, Cardno provided the following additional comments.

**Table 3-1 Review of SLR Base Model Development**

Input Parameter / Model Reference	Cardno Review (Base Model 1)	Cardno Recommendation (Base Model 1)	SLR Response	Cardno Review (Base Model 2)
D1 – Vehicle types	Standard vehicle types have been utilised in the model.  As the study area is adjacent to an operational container port, the model documentation should include additional data / justification of why larger trucks have not been included in the model.	Model documentation provided to include justification for not modelling larger trucks.	The maximum and median size of trucks within the model has been adjusted	Cardno's review requested justification as to why larger heavy vehicles were not used in version 1 of the base model but not necessarily requesting a change in vehicle size to occur. Whilst SLR have now adopted to change the size of trucks within the microsimulation model, other parameters such as acceleration profile would similarly need to change for larger vehicles as this can in turn impact queuing.  Cardno requests SLR to review their approach to modelling of large trucks and advise of the impact. Additionally, Section 3.2.1 should clearly state what changes have been made to vehicle types which differ to the default settings.
J1 – Number of seed runs	5 seed runs have been presented, which is the industry standard minimum. However, based on the indicated total travel times a	Determine the number of appropriate runs required for the model to present stability.	This is not a usual requirement; nevertheless, the number of model runs has been expanded to 7 seeds.	The updated reporting does not calculate the number of model runs required rather adopts Cardno's previous review. However, as parameters have



Input Parameter / Model Reference	Cardno Review (Base Model 1)	Cardno Recommendation (Base Model 1)	SLR Response	Cardno Review (Base Model 2)
	statistical analysis shows that the PM peak would require 7 runs to determine stability (this is an iterative process and would require to be redone after 7 runs to confirm number of runs required and so forth)		The updated Model Development report includes details regarding this expanded modelling procedure.	<p>been changed for base model version 2, the number of model runs similarly may have changed. The correct calculation to determine number of seeds to determine the stability of the model is calculated as per the RMS Modelling Guide.</p> <p>Based on the updated reporting, both the Weekday PM and Saturday have been identified to contain outliers. Whilst outliers occur, it should be investigated as to why they are happening and if they can be avoided via changes in the model. Additionally commentary is required for these outliers and the impact on the modelling results. For example in model run 2 of the PM peak vehicles turning right from Heffron Road into Bunnerong Road are seen to queue into the one lane section causing excess build-up of traffic behind. This in turn causes a queue to back up into the roundabout at Heffron Road / Banks Avenue causing a gridlock within the roundabout which does not get resolved. Due to this, the confidence of whether this can happen in the future models is at question and is recommended to be resolved in the base model.</p>

Input Parameter / Model Reference	Cardno Review (Base Model 1)	Cardno Recommendation (Base Model 1)	SLR Response	Cardno Review (Base Model 2)
				For the weekend peak the section incidents along Wentworth Avenue blocks buses from accessing the bus stop which in turn causes excess queuing.
K1 – Turning counts	Calibration exceeds the minimum model calibration requirements for all vehicles for turn counts. However, RMS Modelling Guidelines indicates that demand should be calibrated for each major vehicle type (which in this case would be light and heavy vehicles).	Report light and heavy vehicle calibration statistics separately.	SLR has reviewed Section 11.5.2 of the RMS Guidelines (Guideline criteria: traffic volumes) – no reference is made to the calibration of turn count and section flows by vehicle type. It is suggested that the number of trucks is low in the context of the entire modelling volume and that the overall calibration/validation is of sufficient quality that it is reasonable with respect to trucks. Furthermore, this is not a typical requirement that has been encountered previously by SLR on a modelling project.  Accordingly, no change to the modelling is deemed necessary.	Based on past experience with RMS, they have requested that results be presented to show calibration statistics for light and heavy vehicles separately. This is also indicated in the RMS Modelling Guidelines: “ <i>Generally RMS requires demand to be calibrated for each one hour period within the model and for each major vehicle type.</i> ” This quote is from Section 11.5.2 of the Modelling Guidelines

Further to above comments, the review of the Future Option modelling is provided in following sections.

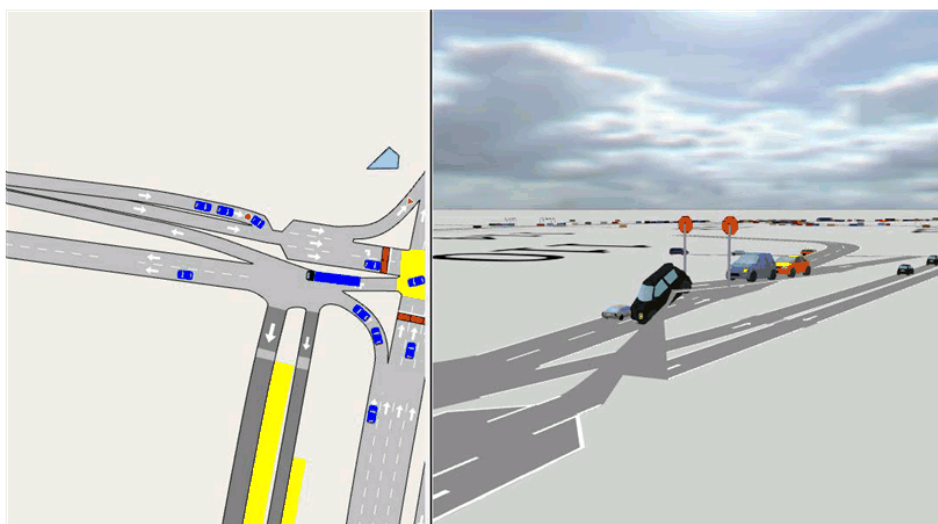
### 3.1.2 Meriton Boulevard Configuration

The Arup assessment submitted for Meriton Stage 2 considered the intersection of Meriton Boulevard / Bunnerong Road under two arrangements. The agreed intersection arrangement is not defined and as such there is likely to be uncertainty around this intersection until Meriton formalise their application post gateway.

The SLR assessment adopts the intersection arrangement permitting right turn movements into Meriton Boulevard, which appeared to have better results based on the Arup assessment. In the event that Meriton Boulevard is configured differently then this would need to be reflected in the traffic modelling.

### 3.1.3 Node 2801 – Altitude Mismatch

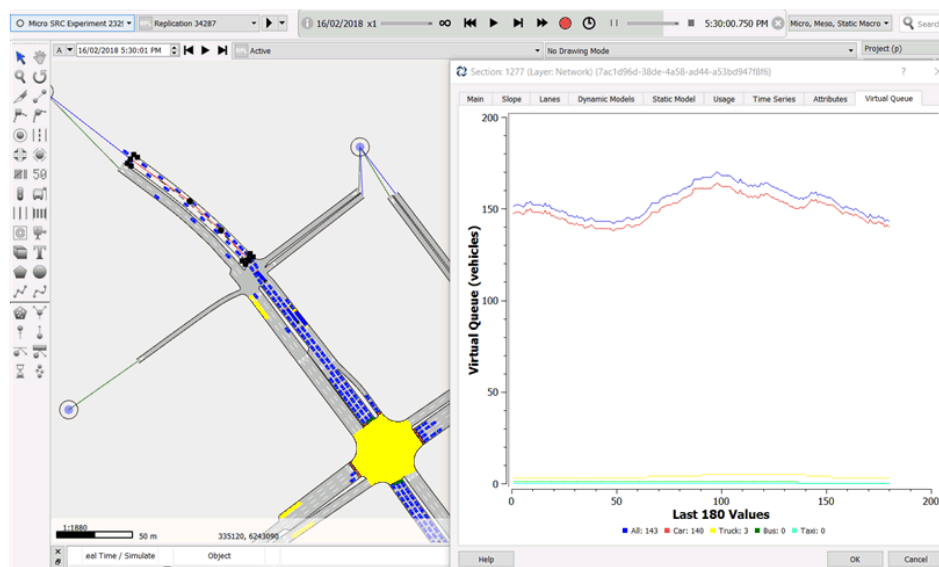
Section altitudes do not match at node 2801, thus creating a 5.7m “drop” at the node as shown in **Figure 3-2**. This mismatch is considered to be minor and is likely to be rectified for further analysis if the application is to proceed post Gateway.



**Figure 3-1 Mismatch of Section Altitudes at Node 2801**

### 3.1.4 Virtual Queues on Section 1277 at End of Peak Hour

At the end of the main simulation period for the 2031 TPM Base + Meriton + Westfield scenario (i.e. at 5:30) there is a virtual queue of approximately 150 vehicles on Section 1277 (refer **Figure 3-2**), which would not have been accounted for in the reported delays. This is only observed to occur in the TPM scenario, not the SAT scenario.



**Figure 3-2 Virtual Queue for Section 1277 for 2031 TPM Base + Meriton + Westfield Scenario**

### 3.1.5 Public Transport

The 2031 models do not assume any changes to the existing Public Transport services. It is expected that any changes to the model relating to public transport will have minimal impact to the conclusions identified in the SLR report.

### 3.1.6 Meriton Development Demand (2031 Base only)

For the zones associated with the Meriton site (i.e. zones 108 and 109), there are 28 trips in the "2017 TPM Adjusted" scenario and 77 trips in the "2017 SAT Adjusted" scenario. In the 2031 Base scenarios, these trips appear to have been removed without any explanation provided. Similarly, the reintroduction of trips associated with these zones is unlikely to change the conclusions identified in the SLR report

### 3.1.7 Westfield Zones

It is unclear what methodology has been adopted to distribute the incremental traffic across the Westfield zones. Clarification is required on whether changes to car park accesses and distribution of the additional car park bays proposed as part of the expansion have been accounted for.

### 3.1.8 Network Wide Results

Spot checks confirm the reported results in Tables 15 and 16. However, it is noted that due to the model structure, the reported results also include the network statistics from both the warm-up and cool-down periods.

Minor comment: the last row in Tables 15 and 16 is titled "Total vehicles in matrix". However, this appears to refer to the "Input Count" from the replication Output Summary, which is the total amount of vehicles that were "read in" to the model. While the "Input Count" is based on the Traffic Demand, they are not necessarily similar.

Example provided in **Figure 3-3** and **Figure 3-4** for the 2031 TPM Base + Meriton + Westfield scenario.



Replication: 34287, Name: Replication 34287, External ID: 2 {cbbbc981-3655-4ead-b95d-5dd988575aca}

Time Series	Value	Standard Deviation	Units
Input Count - All	23572	N/A	veh

**Figure 3-3 Input Count (from Output Summary) for 2031 TPM Base + Meriton + Westfield scenario**

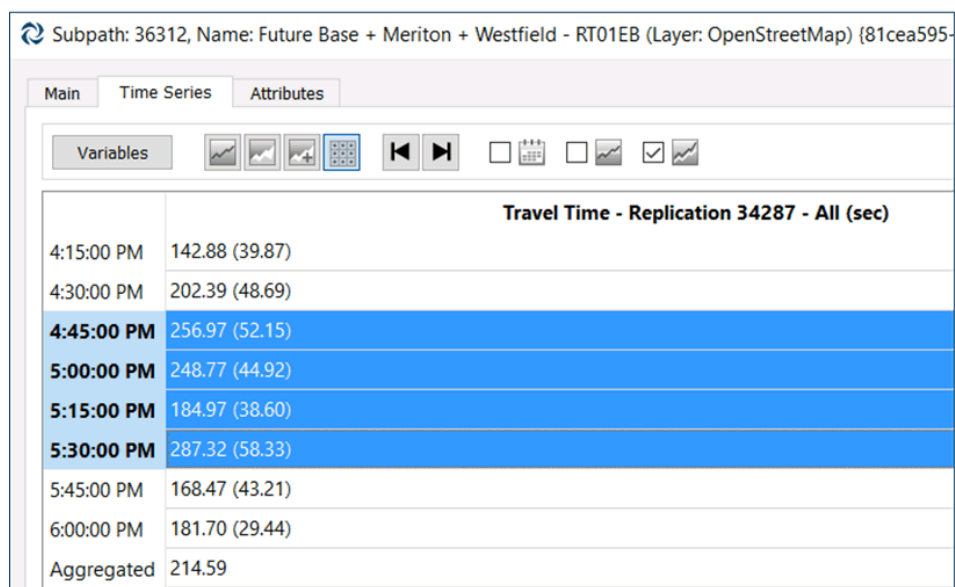
Traffic Demand: 23277, Name: 2031 TPM Base + Meriton + Westfield {d5b505b8-10ad-42b2-a06a-1b8a9b308afb}

	22988: 109	22989: 110	22990: 111	22991: 112	22992: 113	Total
22989: 110	0	0	0	0	0	1138.76
22990: 111	0	0	0	0	0	1667.98
22991: 112	0	0	0	0	0	70.13
22992: 113	0	0	0	0	0	1211
23100: 114	0	0	0	0	0	489.09
Total	523.12	1335.85	1789.41	107.06	1153.46	23422.5

**Figure 3-4 Matrix Total (from Traffic Demand) for 2031 TPM Base + Meriton + Westfield scenario**

### 3.1.9 External Travel Route Travel Times

Spot checks confirm that the reported results in Table 17 and 18 can be replicated in the supplied models. However, as shown in it appears that the reported travel times include both the warm-up and cool-down periods where there is less demand in the network. If these time periods are excluded, the model travel times will likely differ. Example provided in **Figure 3-5** for Route 1 Eastbound the 2031 Base TPM + Meriton + Westfield scenario where the reported travel time is 215 sec. However, is the warm-up and cool-down periods are excluded, the modelled travel time increases to approximately 245 sec.



**Figure 3-5 Modelled Travel Time Statistics for Route 1 Eastbound the 2031 Base TPM + Meriton + Westfield scenario**

### 3.1.10 Intersection Results Operations Delay

It is unclear how the intersection delays in Tables 19 and 20 have been calculated as no sub-paths have been set up in the models for these intersections. It has therefore not been possible to confirm the reported results in these tables.

---

## 4 Summary

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Cardno has been commissioned by Bayside Council to undertake an independent peer review of the Planning Proposal submitted for the Westfield Eastgardens site. Specifically, the Aimsun Future Year and Development Options Traffic Assessment prepared by SLR.

The Planning Proposal involves the request to the current planning controls to permit an additional 52,500m<sup>2</sup> GLA.

As a result of the review, Cardno has identified a number of items with regards to the modelling and reporting provided by SLR, as follows:

- i. The assumptions behind future traffic generation and distribution, including the decay curve methodology, passing trade assumptions and inbound / outbound distribution should be further clarified. However, the resulting analysis adopted by SLR is not necessarily incorrect rather the request detailed previously are to seek clarity.
- ii. Proposed upgrades within the surrounding road network appear to be significant and likely to result in property boundary adjustments. Given majority of the works are along classified roads, consultation with RMS will be necessary. Any upgrades required to offset the traffic and transport impacts of the planning proposal should be appropriately conditioned if the application is to proceed.
- iii. Comments on the base model should be incorporated into further base analysis.
- iv. Discrepancies between peak hour calibration and reporting which includes warm-up and cool-down periods should be clarified.

In summary, the overall modelling undertaken by SLR is considered to be appropriate for the pre-Gateway submission. The network improvements, which the Planning Proposal relies upon, should be agreed with relevant stakeholders and is considered necessary to support the development.

Appendix  
Westfield Eastgardens Expansion  
SLR Response to Cardno Modelling Peer Review Comments

SLR Ref: 620.12132-L01-v0.3 Eastgardens Modelling  
Peer Review Response 20181002.docx  
Date: 2 October 2018

---

## **ATTACHMENT B**

**SLR Consulting's *Westfield Eastgardens Development Modelling Options Assessment* dated 24 July, 2018**



# AIMSUN FUTURE YEAR AND DEVELOPMENT OPTIONS TRAFFIC ASSESSMENT

**Westfield Eastgardens  
152 Bunnerong Road, Eastgardens**

**Prepared for:**

Scentre Group Pty Ltd  
85 Castlereigh Street  
Sydney NSW 2000



Scentre Group Pty Ltd  
AIMSUN Future Year and Development Options Traffic Assessment  
Westfield Eastgardens  
152 Bunnerong Road, Eastgardens

SLR Ref No: 620.12132 R01 v0.3 Westfield Eastgardens Development  
Modelling Options Assessment 20180724.docx  
July 2018

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## BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Scentre Group Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

## DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
620.12132-R02-v0.3	24 July 2018	Chris Lawlor	Kris Stone	Kris Stone
620.12132-R02-v0.2	16 March 2018	Chris Lawlor	Kris Stone	Kris Stone
620.12132-R02-v0.1	16 March 2018	Chris Lawlor	Kris Stone	Kris Stone

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## 1 Introduction

### 1.1 Overview

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Scentre Group Pty Ltd (Scentre Group) to undertake transport modelling in relation to the proposed expansion of Westfield Eastgardens, located at 152 Bunnerong Road, Eastgardens.

This report has been prepared to document the modelling and evaluation of traffic impacts and possible road network capacity improvements associated with the Westfield Eastgardens Planning Proposal submitted by Scentre Group. The AIMSUN modelling also incorporates incremental traffic demands and external road works associated with the Meriton Pagewood development, inclusive of the approved Stage 1 and proposed Stage 2.

**This report (version 0.3) includes updated results based on the findings of a peer review completed by Cardno on behalf of the Bayside City Council (*Westfield Eastgardens Transport Impact Assessment Peer Review, 15 June 2018*). The results summarised herein supersede those presented by SLR in reporting (version 0.2) dated 16 March 2018 which formed part of the Planning Proposal application.**

### 1.2 Background

The following is a summary of the transport related background considered relevant to the Westfield Eastgardens expansion and the accompanying microsimulation modelling:

- 1) A Planning Justification report was prepared by Urbis in May 2017 in relation to the subject Westfield Eastgardens expansion. The Urbis report described the development vision, indicative land uses, yields and building height/form. Additionally, the report summarised a series of amendments to the Local Environmental Plan that would be necessary to facilitate the proposed redevelopment;
- 2) A Transport Review was prepared by Colston Budd Rogers & Kafes in May 2017 (Reference 10339/3) and formed part of Planning Justification Report. The review detailed a high level evaluation of the proposed expansion including a preliminary analysis of the projected traffic demand increases and potential road network capacity improvements. Whilst the Colston Budd Rogers & Kafes review did note the adjacent Meriton development (approved and proposed), it did not include an analysis of the cumulative impact of the development;
- 3) Arup prepared a Transport Impact Assessment in relation to the Meriton development located at 128 and 130-150 Bunnerong Road in April 2017 (Reference 237575 Revision A). The report detailed an assessment of the incremental traffic impacts arising from the 'Stage 2' expansion of the already approved 'Stage 1' Meriton Pagewood development. It isn't clear in the Arup reporting if the modelling considered the cumulative impact of both the Meriton and Westfield Eastgardens redevelopments;
- 4) During consultation throughout late 2017, Bayside Council identified a desire for a cumulative transport assessment considering both the Westfield Eastgardens and Meriton Pagewood developments;
- 5) Attempts were initially made by Scentre Group and SLR to utilise the Arup prepared modelling as the basis for the cumulative assessment of both redevelopments; however, the modelling tools weren't available;
- 6) Scentre Group resolved to develop new microsimulation modelling to inform an assessment of the cumulative impact attributable to development approved and proposed by Scentre Group and Meriton;
- 7) The modelling scope, key input variables and assumptions were agreed with representatives acting on behalf of Bayside Council in January 2018

- 8) The model build and findings were reviewed by Council and their consultant on two occasions in the period January-March, and it was confirmed that the calibrated Thursday and Saturday models prepared for the base year scenarios are reasonable and fit-for-purpose
- 9) At a meeting held 8 February 2018 involving representatives of Bayside Council, Cardno, NSW RMS, Scentre Group and SLR; it was advised that:
  - a) The future peak hour growth rate for background traffic that would be used was 1% based on available survey information. It was requested of NSW RMS that this assumption was validated. At the time of preparing this report, no comments or responses have been received from NSW RMS
  - b) The traffic generation assumptions for the subject Westfield Eastgardens redevelopment and also the Meriton Pagewood development were detailed. It was requested of all stakeholders that these assumption were validated. At the time of preparing this report, no comments or responses have been received from attending stakeholders
- 10) The calibrated model files and reporting provided to Bayside Council is understood to have been forwarded to NSW RMS for their preliminary review and comment in February 2018. At the time of preparing this report, no comments or responses have been received from NSW RMS.
- 11) Cardno, on behalf of Bayside City Council undertook a peer review of the SLR modelling and issued a matrix of issues/comments for consideration
- 12) SLR engaged by Cardno to understand the peer review comments and undertook updated modelling (where warranted) based on the Cardno comments. The results documented in this report make account of the peer review comments.

### 1.3 Report Purpose

This technical report has been prepared to document the microsimulation model development process for the following future year 2031 AIMSUN model scenarios:

- 1) 2031 Base Year = 2017 Calibrated Base Year with annual demand growth
- 2) 2031 Base Year + Meriton Pagewood (Stages 1 and 2)
- 3) 2031 Base Year + Meriton Pagewood + Westfield Eastgardens.

The purpose of the information detailed herein is to inform decisions regarding the road network impacts and proposed capacity improvements.

The majority of the model build process is detailed in the preceding SLR report *Westfield Eastgardens – AIMSUN Base Model Development Report* dated 19 February 2017. This report details the additional model development processes, inclusive of:

- Background growth approach
- Development traffic generation and trip assignment
- Nominated external road network upgrading
- Comparison of network and intersection traffic operations.

## 1.4 Report Structure

The remainder of this report is structured as follows:

- **Section 2:** Provides detailed of the modelled development including that approved/proposed by Meriton and Scentre Group
- **Section 3:** Details the process and assumptions employed in developing the 2031 Base and With Development (two scenarios) cumulative microsimulation models
- **Section 4:** Summarises the results of the 2031 and cumulative modelling process including details relating to possible capacity improvements that mitigate or offset impacts associated with the subject Westfield Eastgardens Planning Proposal
- **Section 5:** Provides a summary of the modelling process undertaken to date including recommendations.

## 1.5 References

The following reports and reference documents have been used in the production of the AIMSUN model and subsequent reports:

- *128 and 130-150 Bunnerong Road, Pagewood: Transport Impact Assessment* dated 7 April 2017 prepared by Arup;
- *128 Bunnerong Road, Pagewood: Traffic Modelling Report* dated 7 April 2017 prepared by Arup; and
- *Traffic Modelling Guidelines* (New South Wales Roads & Maritime Service [RMS], 2013)
- *Guide to Traffic Generating Developments [NSW RMS], 2013*
- *Westfield Eastgardens – AIMSUN Base Model Development Report* [SLR Consulting], 19 February 2018.

## 1.6 Assumptions and Limitations

This report assumes the following:

- Any traffic data collected during the base model calibration and validation is accurate and reliable;
- Any traffic data used in the model calibration and validation process is representative of a typical weekday in the study area;
- Any previous model(s) and data inputs are accurate and reliable
- The traffic input assumptions detailed by SLR in the stakeholder meeting held 9 February.



## 2 Proposed Development

### 2.1 Westfield Eastgardens

The specifics of the proposed redevelopment are addressed in reports and analysis prepared by others. This advice relates only to microsimulation modelling and the evaluation of external traffic impacts and possible capacity improvements.

An indicative development is described in terms of the proposed land uses and their associated yields (in Gross Leasable Area [GLA]) in Table 1 below.

**Table 1 Proposed Development**

Land Use	Existing Situation Yield	Proposed Expansion	Post Expansion Yield
Commercial	84,401sq.m	25,000sq.m	136,901sq.m
Shopping Centre		27,500sq.m	
<b>Total</b>	<b>84,401sq.m</b>		<b>136,901sq.m</b>

### 2.2 Meriton Development

The following land uses and yields have been determined by SLR based on the information presented across the multitude of planning and traffic sources submitted in support of the Meriton Pagewood development. There were several discrepancies noted across many of the Pagewood consultant reports; however, the information summarised in Table 2 has been selected for the purposes of this modelling exercise.

These land uses and yields were introduced to Council, Cardno and NSW RMS representatives at the 9 February 2018 meeting where it was agreed that they representative a reasonable estimate.

**Table 2 Proposed Meriton Development**

Stage	Land Use	Yield
<b>1</b>	Child Care	300 placements (children)
	Residential (apartments)	1,856 apartments
	Retail	1,000sq.m GFA
<b>2</b>	Child Care	100 placements (children)
	Residential (apartments)	2,231 apartments
	Retail	5,000sq.m GFA
<b>Total</b>	<b>Child Care</b>	<b>400 placements (children)</b>
	<b>Residential (apartments)</b>	<b>4,087 apartments</b>
	<b>Retail</b>	<b>6,000sq.m GFA</b>

Should the Meriton Pagewood land uses and yields that are proposed and/or approved vary from that described above, it may necessitate a revision to the modelling and findings summarised later herein.

## 3 Future Network Development

### 3.1 Modelling Scenarios

The following scenarios were modelled using AIMSUN (microsimulation) for both the Thursday PM (TPM) and Saturday Midday (SAT) peak hour periods:

- 2031 base traffic;
- 2031 base plus Meriton development traffic;
- 2031 base plus Meriton plus Westfield development traffic.

### 3.2 Base Scenario

#### 3.2.1 Demand Development

To develop the traffic demand matrices for the 2031 base scenario, growth was applied to background traffic traveling between external centroids. No growth was applied to residential catchments (these are already 'built out') or 'internal centroids (i.e. Meriton and Westfield sites).

It is noted that the Arup assessment conducted for the Meriton development assumed a 1% per annum growth rate based upon the best available RMS data. SLR attempted to engage with RMS on several occasions to discuss, however, to this stage, RMS have not provided any input.

In consideration of the current levels of congestion experienced at the Wentworth Avenue/Page Street and Bunnerong Road/Maroubra Road/Heffron Road intersections (especially the former), it would be difficult for new background traffic to enter the network (i.e. in the absence of any upgrades) due to the levels of congestion currently observed.

Reflective of the above, a linear growth rate of 1% per annum was applied to all external nodes. This is considered to be a conservative assumption and therefore to be appropriate.

#### 3.2.2 Network Development

The calibrated base network from the 2017 base model was modified to consider:

- Intersection upgrade works committed to be undertaken by RMS;
- Minor signal phasing/timing adjustment, as would normally be undertaken by a road authority to accommodate arterial traffic flows.

##### 3.2.2.1 Proposed Non-Development Related Intersection Upgrades

RMS provided SLR with plans for the proposed upgrade of the Wentworth Avenue/Baker Street intersection. It is understood that the upgrade, which will signalise the intersection, will occur within the next few years, and hence was coded into the base scenario AIMSUN network.

The existing layout and AIMSUN upgrade layout of the Wentworth Avenue/Baker Street intersection are shown on Figure 1 overleaf.

**Figure 1 Existing and Proposed Layout: Wentworth Avenue/Baker Street Intersection**



The following is noted in relation to further changes to the coding of the calibrated base model:

- No significant changes were made to signal phasing or timing within the base model;
- Public transport service frequencies were not adjusted from the 2017 base model;
- No other significant changes were made to the base model.

### 3.3 Base Plus Meriton Pagewood (Stages 1 and 2) Scenario

#### 3.3.1 Demand Development

The traffic demand matrices for the ultimate Meriton development were created based upon the information provided in the Arup reporting for the development, and the assumed development yields documented in Table 2 of this report. It has been assumed that the development would be fully constructed and occupied by 2031. An overview of the assumptions used in developing the traffic demand for the '2031 Base + Meriton' scenario is provided below.

##### 3.3.1.1 Traffic Demand

The projected incremental and resultant traffic demands generated to/from the Meriton Pagewood development was determined by SLR in accordance with information presented by Arup and/or that presented in industry guidelines like the NSW RMS *Guide to Traffic Generating Developments*. Table 3 summarises the key generation rates adopted for the component land uses.

**Table 3 Meriton Development Trip Rates**

Land Use	TPM	SAT
Child Care	0.7 trips per child	-
Residential (apartment)	0.217 trips per apartment	0.246 trips per apartment
Retail	12 trips per 100sq.m	16 trips per 100sq.m

Table 4 summarises the new traffic generation that SLR Consulting projects will be attributable to the Meriton Pagewood development inclusive of Stages 1 and 2. The calculations incorporate a series of reductions described as follows:

- Vehicle trip *credits* already generated by the existing site use;
- Internal cross-utilisation and drop-in trips associated with the child care and retail uses.

**Table 4 Meriton Development Traffic Demand**

Stage	Land Use	Yield	TPM Peak Hour (vph)			SAT Peak Hour (vph)		
			Total	In	Out	Total	In	Out
1	Child Care	300 placements	210	105	105	-	-	-
	Residential	1,856 units	403	282	121	457	228	228
	Retail	1,000sq.m GFA	120	60	60	160	80	80
	<b>Subtotal</b>		<b>733</b>	<b>447</b>	<b>286</b>	<b>617</b>	<b>308</b>	<b>308</b>
2	Child Care	100 placements	70	35	35	-	-	-
	Residential	2,231 units	484	339	145	549	274	274
	Retail	5,000sq.m GFA	600	300	300	800	400	400
	<b>Subtotal</b>		<b>1,154</b>	<b>674</b>	<b>480</b>	<b>1,349</b>	<b>674</b>	<b>674</b>
<b>Total</b>			<b>1,887</b>	<b>1,121</b>	<b>766</b>	<b>1,965</b>	<b>983</b>	<b>983</b>
Minus existing trips (from 2017 traffic surveys)			-20	-1	-19	-22	-7	-15
Minus retail internalisation discount (75%)			-540	-270	-270	-720	-360	-360
Minus childcare internalisation discount (75%)			-210	-105	-105	-	-	-
<b>Final</b>			<b>1,117</b>	<b>745</b>	<b>372</b>	<b>1,223</b>	<b>616</b>	<b>608</b>

### 3.3.1.2 Traffic Distribution

The traffic distribution adopted by SLR in modelling scenarios #2 and #3 is consistent with that specified by Arup in their traffic assessment dated 7 April 2017. The Arup assessment was based on the regional distribution of other dwelling and employment trips informed by strategic planning projects made by the State and Federal government. It is noted that there are minor discrepancies compared with the Arup reporting due to rounding errors.

The Arup assumptions that are retained by SLR are reproduced in Table 6 overleaf. The assumed distribution below accounts for the peak hour directionality (i.e. inbound/outbound split) of each of the uses.



**Table 5 Meriton Development Traffic Distribution**

Origin/Destination	Model Centroid	TPM		SAT	
		In	Out	In	Out
Wentworth Av (W)	1	35%	16%	25%	25%
Page St (S)	3	3%	3%	3%	3%
Denison St (S)	6	4%	2%	3%	3%
Bunnerong Rd (S)	7	12%	6%	9%	9%
Maroubra Rd (E)	12	4%	2%	3%	3%
Bunnerong Rd (N)	13	5%	2%	4%	4%
Banks Ave (N)	15	4%	2%	3%	3%
<b>Total</b>		<b>67%</b>	<b>33%</b>	<b>50%</b>	<b>50%</b>

### 3.3.1.3 Traffic Profiles

The 15 minute traffic demand proportions presented in Table 6 were used to develop the Meriton Pagewood demand profile for the peak hour period and the two hour modelled period.

**Table 6 2 Hour Traffic Demand Profile**

Thursday PM Model	% of peak hour demand	Saturday Midday Model	% of peak hour demand
4:00PM – 4:15PM	20%	11:15AM – 11:30AM	20%
4:15PM – 4:30PM	20%	11:30AM – 11:45AM	20%
4:30PM – 4:45PM	25%	11:45AM – 12:00PM	25%
4:45PM – 5:00PM	25%	12:00PM – 12:15PM	25%
5:00PM – 5:15PM	25%	12:15PM – 12:30PM	25%
5:15PM – 5:30PM	25%	12:30PM – 12:45PM	25%
5:30PM – 5:45PM	20%	12:45PM – 1:00PM	20%
5:45PM – 6:00PM	20%	1:00PM – 1:15PM	20%
<b>Total</b>	<b>180%</b>	<b>Total</b>	<b>180%</b>

The following vehicle fleet proportions were assumed for all new trips:

- Light vehicles: 98%;
- Heavy vehicles: 2%.

### 3.3.2 Network Development

SLR has reviewed the consultant reports and government planning documents with respect to the nominated road network upgrading that, to date, has been specified and approved (conditioned by Voluntary Planning Agreement). These capacity improvement works are detailed in Section 3.3.2.1.

Additionally, the modelled network for the '2031 Base + Meriton Pagewood' scenario was developed in consideration of the following:

- The proposed internal road network and new access locations to the proposed Meriton development, as documented within the Arup reporting;
- External intersection upgrades proposed as part of the development;
- Minor changes to signal phasing and timing.

### 3.3.2.1 Proposed Intersection Upgrades

#### Wentworth Avenue/Page Street Intersection

RMS provided SLR with plans for the proposed upgrade of the Wentworth Avenue/Page Street intersection. It is understood that this upgrade will be funded by Meriton, and hence, the intersection improvements were coded into the '2031 Base + Meriton' scenario AIMSUN network. That is, these works will be delivered in combination with the assumed Stage 1 and Stage 2 Meriton Pagewood development.

The existing layout and AIMSUN upgrade layout of the Wentworth Avenue/Page Street intersection are shown on Figure 2 below.

**Figure 2 Existing and Proposed Layout: Wentworth Avenue/Page Street Intersection**

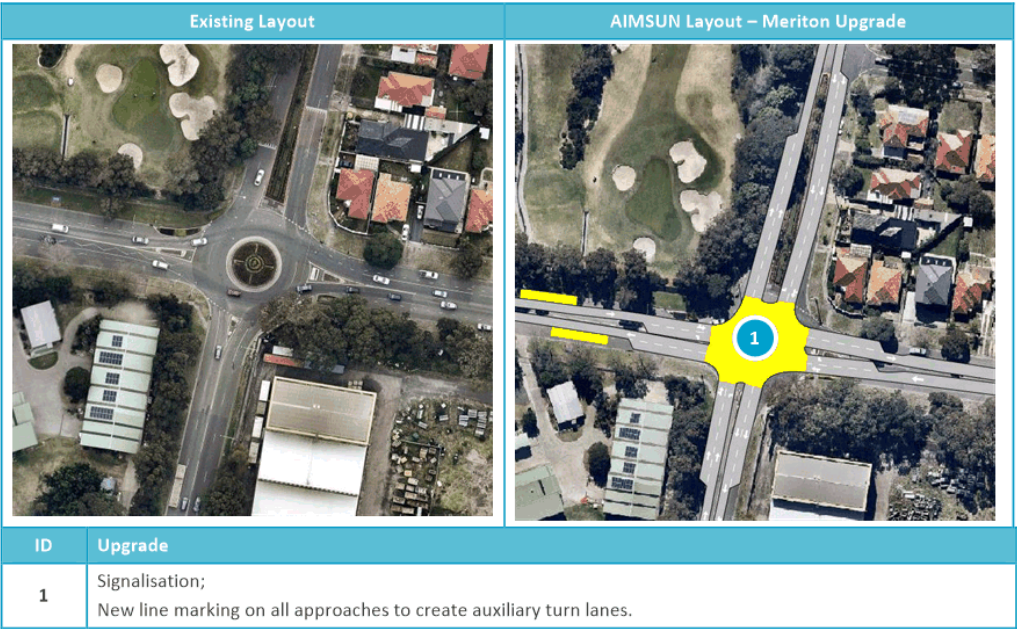


Heffron Road/Banks Avenue Intersection

It is understood Meriton will also fund an upgrade of the Heffron Road/Banks Avenue roundabout to a signalised intersection form, and hence the upgraded intersection was coded into the '2031 Base + Meriton' scenario AIMSUN network. It is noted that the Arup assessment documented a slightly different intersection configuration. SLR initially used the Arup layout; however the intersection performance was sub-optimal. Reflective of the above, a new intersection layout, which can be accommodated within the proposed intersection footprint, was assessed by SLR.

The existing layout and AIMSUN upgrade (SLR amended) layout of the Heffron Road/Banks Avenue intersection are shown on Figure 3 below.

Figure 3 Existing and Proposed Layout: Heffron Road/Banks Avenue Intersection



Bunnerong Road/Heffron Road/Maroubra Intersection

It is understood Meriton will also fund an upgrade of the Bunnerong Road/Heffron Road/Maroubra Road intersection, and hence the upgraded intersection was coded into the '2031 Base + Meriton' scenario AIMSUN network.

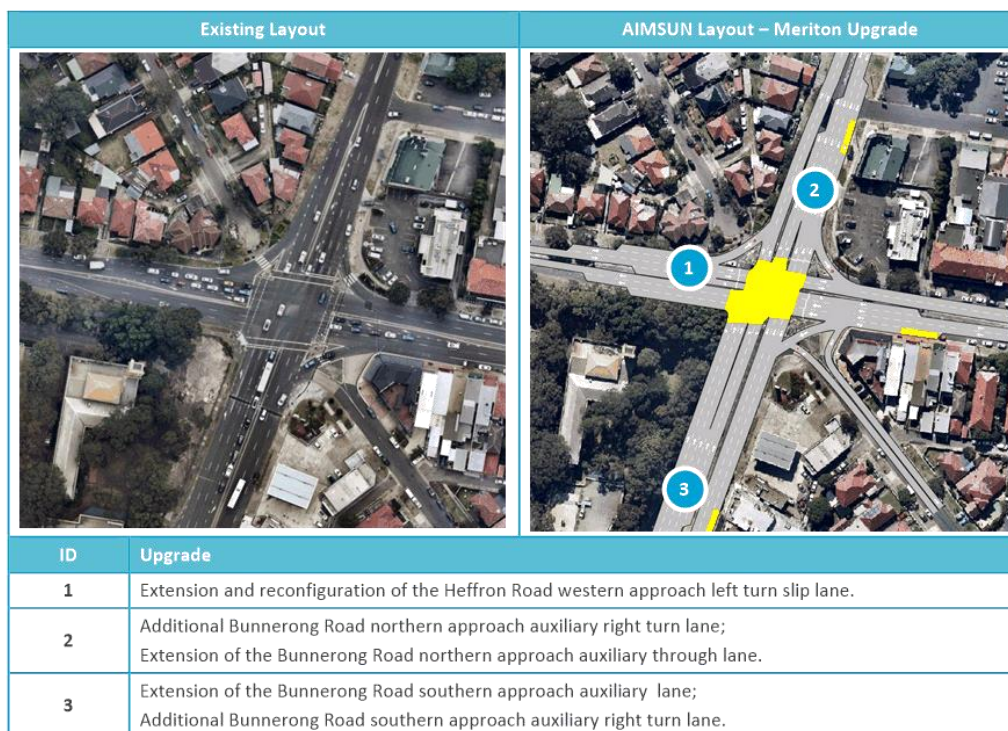
The existing layout and AIMSUN upgrade layout (as documented within the Arup reporting) of the Bunnerong Road/Heffron Road/Maroubra Road intersection are shown on Figure 4 below.



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**Figure 4 Existing and Proposed Layout: Bunnerong Road/Heffron Road/Maroubra Road Intersection**





### 3.3.2.2 Further Changes to the '2031 Base + Meriton' Model

The AIMSUN model network was coded to accommodate the road network and access locations proposed as part of the Meriton development, including signalisation of the Bunnerong Road/Meriton Boulevard intersection. The AIMSUN layout of the Meriton development is presented on Figure 5 below.

Figure 5 Meriton Development Layout



The following is noted in relation to further changes to the coding of the calibrated base model (i.e. in addition to those conducted in the 2031 Base model):

- Signal timing was adjusted at Wentworth Avenue/Page Street intersection to provide enhanced utilisation of the upgraded layout (it is noted that this was not an exhaustive exercise);
- On-street parking was removed for approximately 100m along both sides of the southern Wentworth Avenue approach to the Wentworth Avenue/Page Street intersection. This was carried out as the existing on-street parking was creating congestion in the models.

### 3.4 Base Plus Meriton Pagewood Plus Westfield Eastgardens Scenario

#### 3.4.1 Demand Development

The traffic demand matrices for the subject development were created based assumed development yields documented in Table 1 of this report. An overview of the assumptions used in developing the traffic demand for the '2031 Base + Meriton + Westfield' scenario is provided overleaf.

#### 3.4.2 Commercial Traffic Demand

The traffic demand for the commercial (office) component of the Westfield Eastgardens redevelopment proposed as part of the Planning Proposal was forecast based upon typical rates documented within the *Guide to Traffic Generating Developments* (RMS, 2002). Conservatively, it was assumed that commercial use would generate traffic demand during the Saturday midday peak hour peak period at 50% of the Thursday PM peak period. Reflective of the above, the traffic demand for the commercial component of the development is presented in Table 7 below.

**Table 7 Commercial Traffic Demand Forecast**

Land Use	Yield	Trip Rate	Thursday PM Trips	Saturday Midday Trips
Commercial	25,000sq.m GFA	TPM: 1.2 trips per 100sq.m; SAT: 0.6 trips per 100sq.m.	300vph	150vph

#### 3.4.3 Retail Traffic Demand

The operational analysis of the incremental traffic demand generated by the proposed development requires a series of traffic engineering assumptions to be incorporated as part of the ongoing AIMSUN modelling:

- Confirmation of existing traffic demand and generation rate
- Determination of incremental traffic demand
- Evaluation of likely external traffic distribution.

These assumptions and procedural steps are summarised in the following sections of this report.

##### 3.4.3.1 Existing Traffic Demand

SLR advocates the use of an existing and future site traffic demand representative of an 85th percentile design trading day. The percentile threshold aligns with the approach adopted for the determination of suitable car parking provisions. An 85th percentile approach ensures that demands are well catered for during the majority of the year while recognising that designing infrastructure for the worst case or peak event/s is not a reasonable or sustainable approach. The following four step process has been adopted:

- **Step 1:** Obtain traffic generation survey data to establish local traffic demands
- **Step 2:** Determine the surveyed day/s patronage, i.e. shopping demand comparable to a 12 month period
- **Step 3:** Determine the patronage demand for a representative 85th percentile trading day
- **Step 4:** Apply a scalar factor to increase or reduce the surveyed generation in line with the scalar difference between Step 1 and Step 2.

#### 3.4.3.2 Step 1: Obtain Existing Traffic Generation Survey Data

SLR commissioned Trans Traffic Survey Pty Ltd (TTS) to undertake intersection video surveys on Thursday 7 December 2017 and Saturday 9 December 2017 for the following periods:

- Thursday PM: 16:00 – 19:00;
- Saturday Midday: 11:00 – 14:00.

From this information, it is possible to quantify the existing situation traffic generation on these two days of survey as summarised in Table 8.

**Table 8 Westfield Eastgardens – Existing Traffic Demand Calibration**

Peak Period	Surveyed Traffic Generation
Thursday PM	3,454vph
Saturday Midday	3,855vph

#### 3.4.3.3 Step 2: Determine Survey Day Patronage

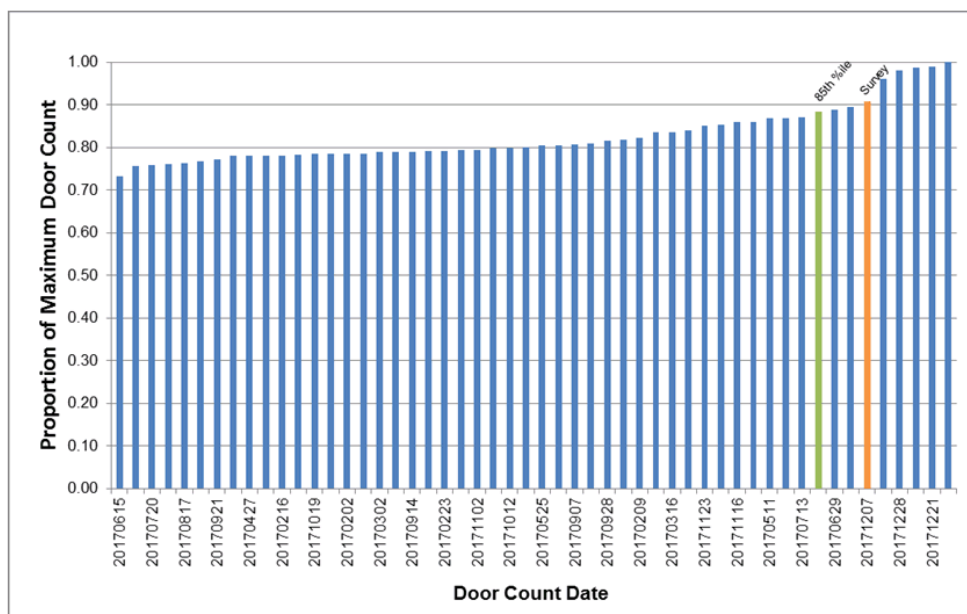
Westfield Centre Management provided annual door count patronage data in order to determine a representative 85th percentile trading day.

Figures 6 and 7 summarise the centre door count patronage data for the Westfield Eastgardens site for a 365 day period of Thursdays and Saturdays respectively throughout 2016/17. The only manipulation of this data is to remove commercially sensitive patronage numbers and recalibrate the Y-axis to a percentage scale of the maximum annual daily demand.

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**Figure 6 Thursday Door Count Data (2017)**



**Figure 7 Saturday Door Count Data (2017)**

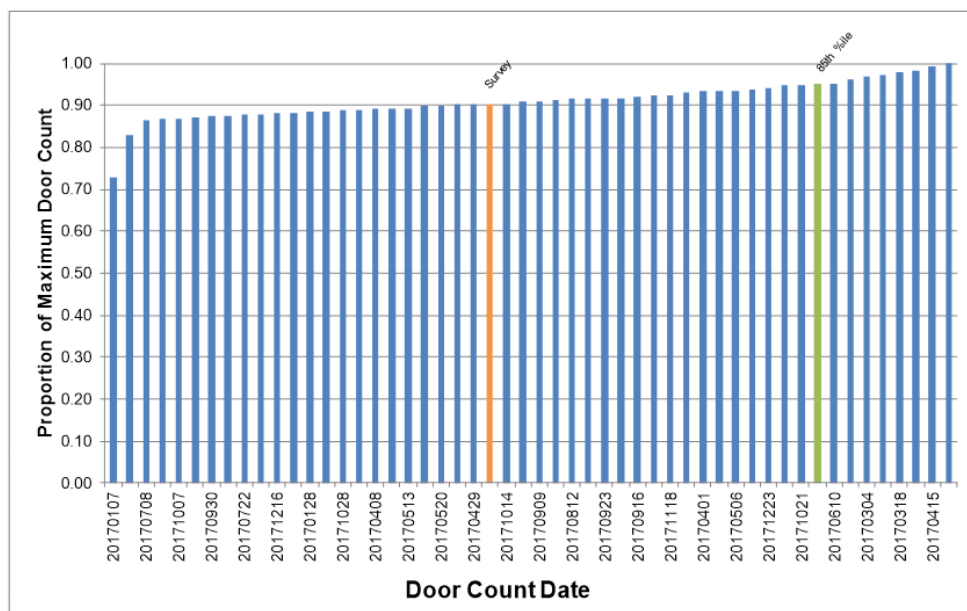




Figure 6 and 7 also denote a comparative view of the survey day patronage and that determined as the 85<sup>th</sup> percentile of Thursdays and Saturdays.

#### 3.4.3.4 Step 3: Determine Percentile Trading Day Conversion Factor

From the Figure 6 and 7 data, it was established that the two survey days were high trading days as would be expected given they were conducted in the first major week of the 2017 December Christmas shopping period. It was established that the survey days were:

- Thursday 7th, 2017 was a 102.5% of the 85<sup>th</sup> percentile trading Thursday
- Saturday 9th, 2017 was 95% of the 85<sup>th</sup> percentile trading Saturday.

#### 3.4.3.5 Step 4: Apply Patronage Scalar Factor to Survey Demand

Table 9 summarises the resultant, scaled 85<sup>th</sup> percentile Westfield Eastgardens traffic generation for both peak hour periods.

**Table 9 Westfield Eastgardens – Existing Traffic Demand Calibration**

Peak Period	Surveyed Traffic Generation	85th %ile Calibration Factor	85th %ile Traffic Generation
Thursday PM	3,454vph	0.975	3,368vph
Saturday MIDDAY	3,855vph	1.052	4,055vph

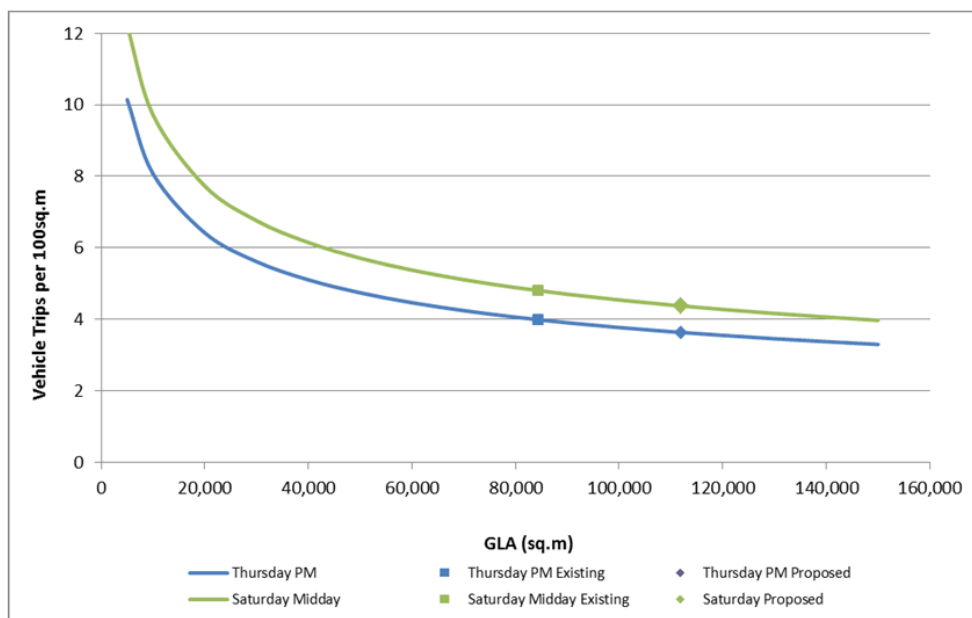
#### 3.4.3.6 Incremental Retail Traffic Generation

SLR advocates the use of the traffic generation decay forecasting method for large retail establishments including shopping centres. This approach is widely recognised by the traffic engineering industry and is referenced in the following guidelines:

- *Land Use Traffic Generation Guidelines*, March 1987 – Director General of Transport, South Australia;
- *Guide to Traffic Generating Developments Version 2.2*, October 2002 – Roads and Traffic Authority, New South Wales;
- *Guide to Traffic Generating Developments – Updated Traffic Surveys, TDT 2013/04a*, August 2013 – NSW RMS;
- *Trip Generation 7th edition*, 2003 – Institute of Transportation Engineers, Washington, USA.

The incremental retail traffic generation has been estimated in accordance with the widely accepted traffic generation decay curve for shopping centres larger than 30,000sq.m. The Figure 8 traffic generation *rate* curve and the Figure 9 traffic generation *total* curve are calibrated using the 85th percentile existing site generation rates documented in Section 3.4.3.5 of this report. This approach ensures that the decay curve is standardised as much as possible to account for local conditions.

**Figure 8 Retail Traffic Demand Decay Curve – Trip Rate**



**Figure 9 Retail Traffic Demand Decay Curve – Total Trips**

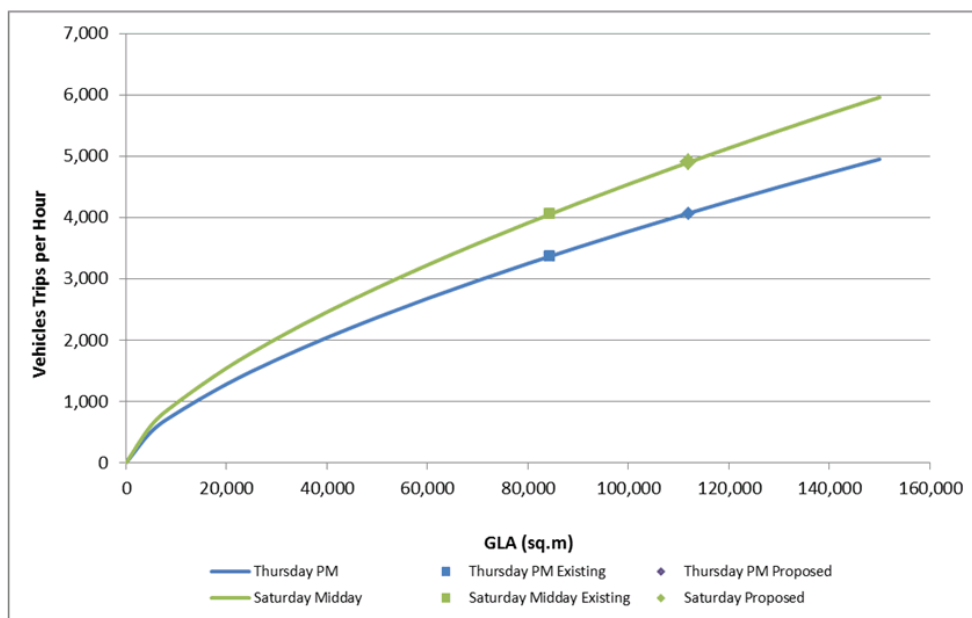


Table 10 summarises the results obtained from Figures 8 and 9.

**Table 10 Westfield Eastgardens – Future Traffic Demand (Retail)**

Scenario	Land Use	Yield (GLA)	TPM		SAT	
			Trip Rate	Trips	Trip Rate	Trips
Existing	Retail	84,401sq.m	3.99 per 100sq.m GLA	3,368	4.80 per 100sq.m GLA	4,055
Proposed		111,901sq.m	3.64 per 100sq.m GLA	4,068	4.38 per 100sq.m GLA	4,898
Incremental Increase			-	+700vph		+843vph

Table 11 summarises the assumptions adopted for the Westfield Eastgardens directional distribution.

**Table 11 Westfield Development Directional Split Assumptions**

Land Use	TPM		SAT	
	In	Out	In	Out
Commercial	20%	80%	50%	50%
Retail	50%	50%	50%	50%

#### 3.4.3.7 Resultant Westfield Eastgardens Demand Summary

Table 12 summarises the resultant traffic demand increase associated with the cumulative retail and office components.

**Table 12 Westfield Development Traffic Demand (Incremental Increase)**

Land Use	Yield	TPM			SAT		
		Total	In	Out	Total	In	Out
Commercial	25,000sq.m GLA	300	60	240	150	75	75
Retail	27,500sq.m GLA	700	350	350	843	422	422
<b>Total</b>	<b>52,500sq.m GLA</b>	<b>1000</b>	<b>410</b>	<b>590</b>	<b>993</b>	<b>497</b>	<b>497</b>
Drop-in trips (19%)		133	67	67	160	80	80
New trips (81%)		867	343	523	833	417	417
<b>Total</b>		<b>1000</b>	<b>410</b>	<b>590</b>	<b>993</b>	<b>497</b>	<b>497</b>

The resultant traffic demand increase does not include any consideration for other cross-utilisation or temporal variations. It does make consideration for drop-in trips which is widely accepted practice. Only undiverted drop-in trips already travelling along the two main fronting roads are incorporated. Diverted drop-in trips are conservatively not incorporated and these trips are assumed as entirely new trips.

A 19% proportion has been adopted for drop-in trips travelling along Wentworth Avenue and Bunnerong Road. That is, 19% of the incremental traffic generated by the proposed expansion is assumed to already travel past the subject site. On commencement of the use, these existing trips will drop-in to the site, thereby generating new turning movements (in and out of site) but reducing through traffic. The drop-in trip reduction is only applied to the retail (shopping centre) component and not the commercial (office) use.

### 3.4.4 Network Development

The Base 2031 + Meriton Pagewood + Westfield Eastgardens traffic scenario was iteratively evaluated such that a suite of possible capacity upgrading works on the external road network could be devised such that the incremental effect of Westfield Eastgardens traffic could be offset, either across the network or at individual intersection locations.

This 'no nett worsening' approach was developed such that sufficient quantitative modelling and evidence could be presented that justified the scope and scale of the nominated improvements. From the three future year scenarios developed by SLR, it is possible to make the following comparisons of network and intersection traffic operations for both peak periods:

- a. How does Meriton Pagewood Stage 1 and 2 development (inclusive of capacity improvements) increase/reduce congestion compared to the Base (No Development) scenario
- b. How does the Westfield Eastgardens redevelopment (inclusive of capacity improvements) increase/reduce congestion compared to the Base + Meriton Pagewood development
- c. How does the combined Meriton Pagewood and Westfield Eastgardens developments (inclusive of capacity improvements) increase/reduce congestion compared to the Base (No Development) scenario.

#### 3.4.4.1 Proposed Intersection Upgrades

In association with the proposed Westfield Eastgardens Planning Proposal, the following capacity improvements have been investigated and are nominated for ongoing consideration and stakeholder discussion:

1. Wentworth Avenue/Banks Avenue/Cornish Circuit – additional turn lanes on the northern and eastern intersection approaches
2. Wentworth Avenue/Denison St/Site – additional turn lanes on eastern and western Wentworth Avenue approaches and reconfiguration of site egress to accommodate two-way traffic movement
3. Wentworth Avenue/Bunnerong Road – addition turn lane on the northern intersection approach
4. Bunnerong Road/Westfield Drive – additional turn lane on the northern intersection approach and improvements to the existing site approach/departure to increase queue storage and reduce weaving conflicts.

The four key intersection improvements are detailed in the following sections and screen shots from the model are included at Appendix C. Civil concepts for these works are still being resolved and may be available in due course during subsequent post-lodgement discussions with stakeholders.

Comparative operational results for the two layouts across the three use scenarios and two peak hour periods are reported in Section 4.

It is noted that these works are generally consistent with that described in the original traffic statement prepared by Colston Budd Rogers and Kafes Transport Review for Planning Proposal for Westfield Eastgardens, dated May 2017.



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It is also noted that whilst these works have been assessed to date, it does not mean that these are the only solution that would be possible should, for any reason, these works be ultimately determined as not feasible or desired by any involved stakeholder. The upgrade type/scale represents only first position of a possible suite of solutions.

#### Wentworth Avenue/Banks Avenue/Cornish Circuit

Figure 10 illustrates the existing layout and upgraded AIMSUN modelled layout and summarises the proposed improvements to the northern and eastern intersection approaches.

**Figure 10 Existing and Proposed Layout: Wentworth Avenue/Banks Avenue/Corish Circuit Intersection**



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### Wentworth Avenue/Denison Street/Westfield Access

Figure 11 illustrates the existing layout and upgraded AIMSUN modelled layout and summarises the proposed improvements to the northern, eastern and western intersection approaches.

**Figure 11 Existing and Proposed Layout: Wentworth Avenue/Denison Street/Westfield Access Intersection**



Wentworth Avenue/Bunnerong Road

Figure 12 illustrates the existing layout and upgraded AIMSUN modelled layout and summarises the proposed improvements to the northern intersection approach.

Figure 12 Existing and Proposed Layout: Wentworth Avenue/Bunnerong Road Intersection

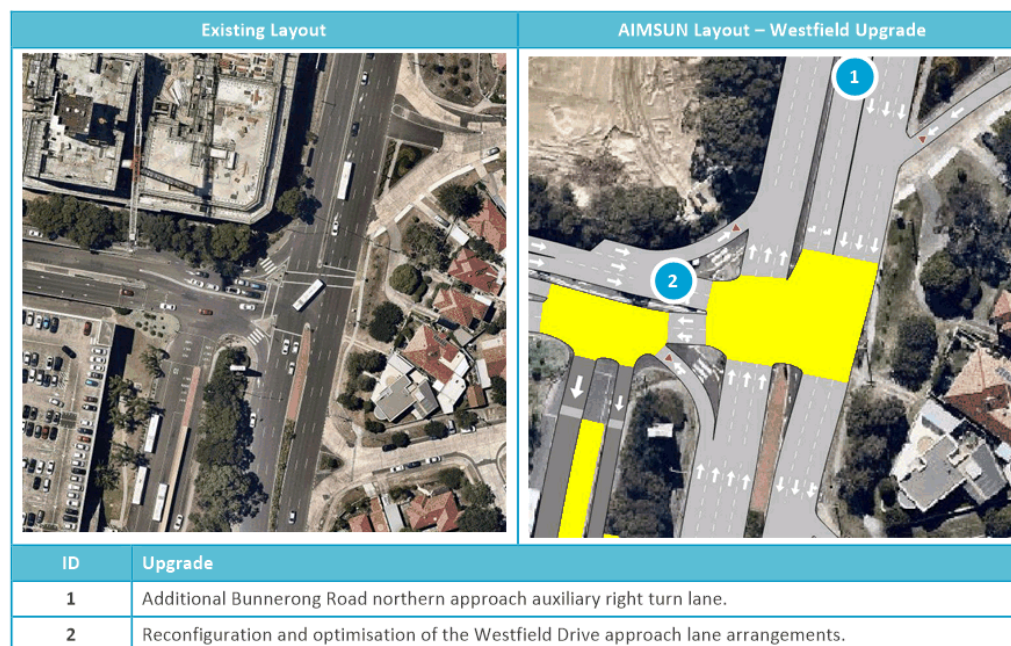




### Bunnerong Road/Westfield Drive

Figure 13 illustrates the existing layout and upgraded AIMSUN modelled layout and summarises the proposed improvements to the northern and western intersection approaches.

**Figure 13 Existing and Proposed Layout: Bunnerong Road/Westfield Drive Intersection**



#### 3.4.4.2 Further Changes to the '2031 Base + Meriton' Model

The following is noted in relation to further changes to the coding of the calibrated base model (i.e. in addition to those conducted in the 2031 Base model):

- Signal timing was adjusted at a selection of intersections,
- Removal of some on-street parking on approach to some intersections.

These changes are considered reasonable and are not unlike those which would be expected to be implemented by Council and/or NSW RMS in due course by 2031 to ensure ongoing operation of the network. Furthermore, sufficiently stable results could not be extracted from the model without these minor revisions.

Most importantly, where minor revisions like those summarised above were made, they were similarly adopted in the other comparative land use scenarios such that direct comparison were possible.



## 4 Modelling Outputs and Results

### 4.1 Model Stability

Tables 13 and 14 summarise the model stability outputs for each of the three scenarios, for the Thursday and Saturday assessment periods respectively.

**Table 13 Model Stability – 2031 Thursday PM Scenarios**

Peak Period	Run	Seed	TPM 2031 Base		TPM 2031 Base + Meriton		TPM 2031 Base + Meriton + Westfield	
			Replication	Travel Time	Replication	Travel Time	Replication	Travel Time
TPM	1	560	<b>23296</b>	<b>1,139.44</b>	28926	1,163.32	34286	1,283.84
	2	28	23298	1,100.53	28927	1,152.25	34287	1,298.32
	3	7771	23299	1,114.27	28928	1,148.98	34288	1,265.56
	4	86524	23300	1,130.39	28929	1,206.14	<b>34289</b>	<b>1,292.76</b>
	5	2849	23301	1,184.12	28930	1,201.42	34290	1,270.88
	6	5321	23302	1,149.48	<b>28931</b>	<b>1,166.09</b>	34291	1,300.41
	7	137	23303	1,146.93	28932	1,194.70	34292	1,393.47
	<b>Average</b>	-	<b>23295</b>	<b>1137.88</b>	<b>28925</b>	<b>1,176.13</b>	<b>34285</b>	<b>1,296.40</b>
	<b>Median</b>	-	<b>23296</b>	<b>1,139.44</b>	<b>28931</b>	<b>1,166.09</b>	<b>34289</b>	<b>1,292.76</b>

**Table 14 Model Stability – 2031 Saturday Midday Scenarios**

Peak Period	Run	Seed	SAT 2031 Base		SAT 2031 Base + Meriton		SAT 2031 Base + Meriton + Westfield	
			Replication	Travel Time	Replication	Travel Time	Replication	Travel Time
SAT	1	560	28840	952.48	28909	1,141.66	30383	1,215.76
	2	28	28841	931.99	<b>28910</b>	<b>1,118.07</b>	30384	1,269.21
	3	7771	28842	953.38	28911	1,120.40	30385	1,184.63
	4	86524	28843	932.02	28912	1,106.33	30386	1,228.07
	5	2849	28844	1,000.57	28913	1,116.40	30387	1,279.99
	6	5321	28845	909.83	28914	1,112.95	<b>30388</b>	<b>1,229.59</b>
	7	137	<b>28846</b>	<b>948.06</b>	28915	1,149.92	30389	1,251.38
	<b>Average</b>	-	<b>28839</b>	<b>946.91</b>	<b>28908</b>	<b>1,123.68</b>	<b>30382</b>	<b>1,236.95</b>
	<b>Median</b>	-	<b>28846</b>	<b>948.06</b>	<b>28910</b>	<b>1,118.07</b>	<b>30388</b>	<b>1,229.59</b>

The Table 13 and 14 results indicate that the seven seeds are generally consistent with the selected median seed.

## 4.2 Network Wide Average Results Summary

Tables 15 and 16 summarise a selection of traffic performance parameters measured across the entire modelled network. These results are extracted from the median seed model run.

**Table 15 Model Results Summary - 2031 Thursday PM (Median model runs)**

Statistic	Base	Base + Meriton		Base + Meriton + Westfield		
		Result	Δ Base	Result	Δ Base	Δ Base + M
<b>Replication</b>	<b>23296</b>	<b>28931</b>		<b>34289</b>		
Vehicle kilometres travelled	23,718	26,461	11.6%	28,315	19.4%	7.0%
Vehicle hours travelled	1,139	1,166	2.3%	1,293	13.5%	10.9%
Average speed (km/h)	26.6	25.8	-2.8%	24.8	-6.9%	-4.2%
Stop time (sec/km)	118	90	-24.0%	94	-20.5%	4.5%
Waiting to enter (vehs)	269	5	-98.1%	1	-99.6%	-80.0%
Input Count	19,993	21,968	9.9%	23,760	18.8%	8.2%

The Table 15 results for the Thursday PM scenario can be interpreted as follows:

- As expected, VKT and VHT obviously increase post development of the Meriton and Westfield sites;
- The modelled capacity improvements delivered in combination with the Pagewood development:
  - Reduce the average Travel Speed compared to the Base;
  - Reduce the average Stop Time compared to the Base;
  - Reduce the number of vehicles waiting to enter the model.
- The modelled capacity improvements delivered in combination with the Westfield Eastgardens development:
  - Reduce the average Travel Speed compared to the Base and Base + Meriton scenarios \*;
  - Reduce the average Stop Time compared to the Base;
  - Reduce the number of vehicles waiting to enter the model.

*\* It should be noted that the average travel speed output for both development scenarios is affected by vehicles moving slower through car park areas and low speed streets compared to the higher average posted speed limit that is modelled as part of the Base year scenario. Additional information pertaining to travel time along external routes that don't include this development delay is presented in Section 4.3.*

**Table 16 Model Results Summary - 2031 Saturday Midday (Median model runs)**

Statistic	Base	Base + Meriton		Base + Meriton + Westfield		
		Result	Δ Base	Result	Δ Base	Δ Base + M
<b>Replication</b>	<b>28846</b>	<b>28910</b>		<b>30388</b>		
Vehicle kilometres travelled	23,434	26,285	12.2%	27,779	18.5%	5.7%
Vehicle hours travelled	948	1,118	17.9%	1,230	29.7%	10.0%
Average speed (km/h)	29.0	27.0	-7.1%	25.5	-12.1%	-5.4%
Stop time (sec/km)	76	83	9.2%	95	24.9%	14.4%
Waiting to enter (vehs)	0	0	inf	0	inf	inf
Input Count	19,224	21,503	11.9%	23,018	19.7%	7.0%

The Table 16 results for the Thursday PM scenario can be interpreted as follows:

- As expected, VKT and VHT obviously increase post development of the Meriton and Westfield sites;
- The modelled capacity improvements delivered in combination with the Pagewood development:
  - Reduce the average Travel Speed compared to the Base;
  - Increase the average Stop Time compared to the Base;
  - No change in the number of vehicles waiting to enter the model.
- The modelled capacity improvements delivered in combination with the Westfield Eastgardens development:
  - Reduce the average Travel Speed compared to the Base and Base + Meriton scenarios \*;
  - Increase the average Stop Time compared to the Base and Base + Meriton scenarios \*;
  - No material change in the number of vehicles waiting to enter the model.

*\* It should be noted that the average travel speed reported for both development scenarios is affected by vehicles moving slower through car park areas and low speed streets compared to the higher average posted speed limit that is modelled as part of the Base year scenario. Additional information pertaining to travel time along external routes that don't include this development delay is presented in Section 4.3.*

**When evaluated across the entirety of the modelled area, it is suggested that the modelled capacity improvements associated with both the Meriton Pagewood and Westfield Eastgardens sites sufficiently offset any incremental demand that they generation on the network.**

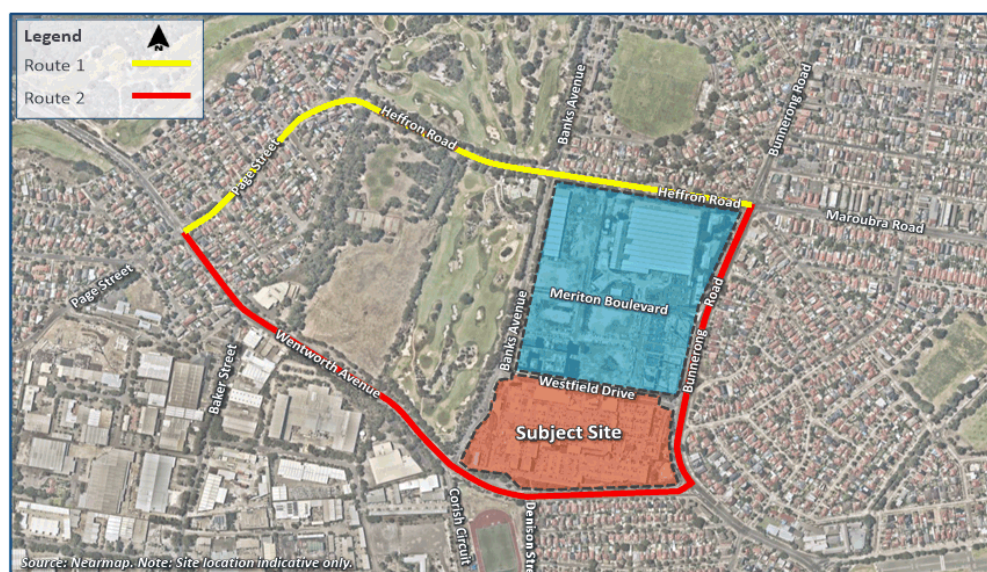
### 4.3 External Travel Route Travel Times

A supplementary review of travel speeds and travel time was completed so as to provide for a more complete view of development impacts associated with both the Meriton Pagewood and Westfield Eastgardens developments.

The approach is based on the external routes introduced previously in the 2017 Base year Model Development and Calibration reporting. Comparing travel times on these routes across the three use scenarios provide a more accurate representation of development impact and capacity upgrading benefit whilst excluding delays and lower travel speeds that occur in development car parks (Eastgardens) and lower order residential streets (Pagewood).

Figure 14 illustrates the two travel routes used for the travel time comparisons.

**Figure 14 Travel Time Routes**



Tables 17 and 18 summarised the comparative travel times output for each of the three use scenarios for the Thursday and Saturday peak hour assessment periods respectively. Figures 15 and 16 overleaf present this same information in a bar chart format.

**Table 17 Travel Time Comparison (Seconds) - 2031 Thursday PM (Median model runs)**

Route	Direction	Base	Base + Meriton		Base + Meriton + Westfield		
			Result	Δ Base	Result	Δ Base	Δ Base + M
Replication		23296	28931		34289		
Route 1	Eastbound	150	263	75%	339	126%	29%
	Westbound	308	212	-31%	169	-45%	-21%
Route 2	Eastbound	197	235	19%	249	26%	6%
	Westbound	368	207	-44%	279	-24%	35%



**Table 18 Travel Time Comparison (Seconds) - 2031 Saturday Midday (Median model runs)**

Route	Direction	Base	Base + Meriton		Base + Meriton + Westfield		
			Result	Δ Base	Result	Δ Base	Δ Base + M
Replication		28846	28910		30388		
Route 1	Eastbound	155	175	13%	224	45%	28%
	Westbound	152	316	108%	213	40%	-33%
Route 2	Eastbound	216	240	11%	262	21%	9%
	Westbound	357	313	-12%	277	-22%	-11%

**Figure 15 2031 Thursday PM Model Scenarios – Travel Time Comparison**

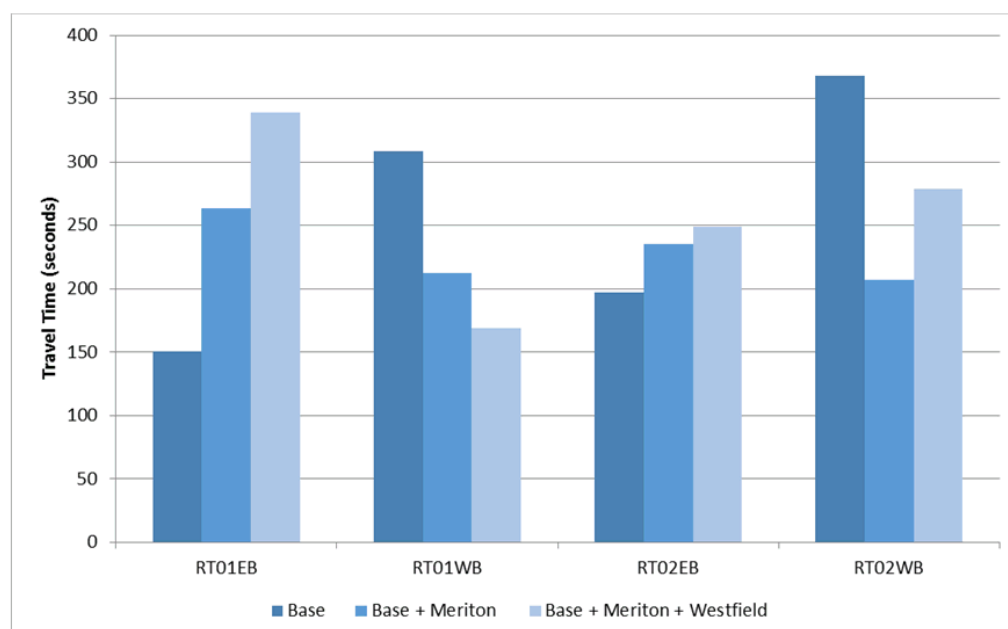
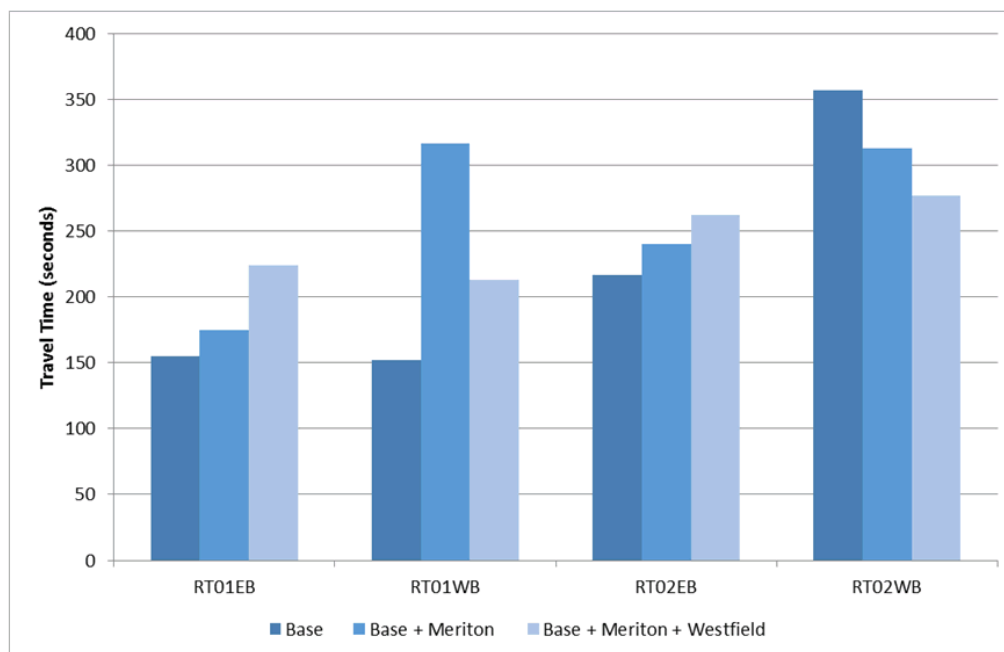


Figure 16 2031 SAT Model Scenarios – Travel Time Comparison



When evaluated across the external travel routes with consideration for both directions of travel and the relative demands, it is suggested that the modelled capacity improvements nominated in association with the Westfield Eastgardens development reasonably offset any additional network congestion that would otherwise arise from the subject redevelopment over-and-above that projected for the (planned) base scenario inclusive of the Meriton development.

#### 4.4 Intersection Results Operations Delay

Tables 19 and 20 summarise the average delay and Level of Service (LOS) traffic performance parameters extracted for each major intersection included in the modelled network. These results are extracted from the median seed model run.

**Table 19 2031 Thursday PM Model Scenarios – Intersection Average Delay Comparison (Seconds)**

ID	Intersection	Base		Base + Meriton		Base + Meriton + Westfield	
		Delay	LOS	Delay	LOS	Delay	LOS
1	Wentworth Avenue/Page Street	37	C	31	C	27	B
2	Wentworth Avenue/Baker Street	16	B	14	A	14	B
3	Wentworth Avenue/Banks Avenue/Cornish Circuit	43	D	43	D	47	D
4	Banks Avenue/Westfield Access (S)	1	A	1	A	2	A
5	Banks Avenue/Westfield Access (N)	2	A	2	A	3	A
6	Banks Avenue/Westfield Drive	20	B	17	B	15	B
7	Banks Avenue/Heffron Avenue	2	A	30	C	28	B
8	Wentworth Avenue/Dennison Street/Westfield Access	20	B	19	B	27	B
9	Wentworth Avenue/Westfield Access	2	A	2	A	2	A
10	Wentworth Avenue/Bus Egress	2	A	2	A	3	A
11	Wentworth Avenue/Bunnerong Road	34	C	26	B	23	B
12	Bunnerong Road/Westfield Drive	9	A	10	A	18	B
13	Bunnerong Road/Meriton Boulevard	0	A	5	A	8	A
14	Bunnerong Road/Maroubra Road/Heffron Road	24	B	26	B	25	B

The Table 19 results for the Thursday PM scenario can be interpreted as follows:

- The modelled capacity improvements delivered in combination with the Pagewood development:
  - Generally maintain similar levels of delay and LOS that would otherwise projected to occur as part of the Base scenario;
  - Delay and LOS is improved/degraded at individual locations, albeit the balance tends to equalise across all 14 locations \*.
- The modelled capacity improvements delivered in combination with the Westfield Eastgardens development:
  - Generally maintain similar levels of delay and LOS that would otherwise projected to occur as part of the Base scenario and Base + Meriton scenario;
  - Delay and LOS is improved/degraded at individual locations, albeit the balance tends to equalise across all 14 locations \*.

\* As was the case for the network wide average Stop Time and Travel Speed, the development scenarios include additional delays experienced at the site egress to a higher proportion that is modelled in the base. These lesser intersection approach typically have less green time compared to the arterial phase present on the fronting road. Accordingly, when development traffic demand increases, so too does the average delay measured across the entire intersection.

**Table 20 2031 SAT Model Scenarios – Intersection Average Delay Comparison (Seconds)**

ID	Intersection	Base		Base + Meriton		Base + Meriton + Westfield	
		Delay	LOS	Delay	LOS	Delay	LOS
1	Wentworth Avenue/Page Street	34	C	37	C	27	B
2	Wentworth Avenue/Baker Street	5	A	6	A	6	A
3	Wentworth Avenue/Banks Avenue/Cornish Circuit	47	D	39	C	46	D
4	Banks Avenue/Westfield Access (S)	2	A	3	A	2	A
5	Banks Avenue/Westfield Access (N)	3	A	4	A	2	A
6	Banks Avenue/Westfield Drive	19	B	11	A	11	A
7	Banks Avenue/Heffron Avenue	2	A	25	B	28	B
8	Wentworth Avenue/Dennison Street/Westfield Access	17	B	17	B	29	C
9	Wentworth Avenue/Westfield Access	1	A	1	A	2	A
10	Wentworth Avenue/Bus Egress	4	A	1	A	3	A
11	Wentworth Avenue/Bunnerong Road	32	C	29	C	23	B
12	Bunnerong Road/Westfield Drive	13	A	12	A	22	B
13	Bunnerong Road/Meriton Boulevard	0	A	11	A	9	A
14	Bunnerong Road/Maroubra Road/Heffron Road	27	B	26	B	26	B

The Table 20 results for the Saturday scenario can be interpreted as follows:

- The modelled capacity improvements delivered in combination with the Pagewood development:
  - Generally maintain similar levels of delay and LOS that would otherwise projected to occur as part of the Base scenario;
  - Delay and LOS is improved/degraded at individual locations, albeit the balance tends to equalise across all 14 locations \*.
- The modelled capacity improvements delivered in combination with the Westfield Eastgardens development:
  - Generally maintain similar levels of delay and LOS that would otherwise projected to occur as part of the Base scenario and Base + Meriton scenario;
  - Delay and LOS is improved/degraded at individual locations, albeit the balance tends to equalise across all 14 locations \*.

\* As was the case for the network wide average Stop Time and Travel Speed, the development scenarios include additional delays experienced at the site egress to a higher proportion that is modelled in the base. These lesser intersection approach typically have less green time compared to the arterial phase present on the fronting road. Accordingly, when development traffic demand increases, so too does the average delay measured across the entire intersection.

Based on the Table 19 and 20 results, it is suggested that the modelled capacity improvements nominated in association with the Westfield Eastgardens development reasonably offset any additional network congestion that would otherwise arise from the subject redevelopment over-and-above that projected for the (planned) base scenario inclusive of the Meriton development.



## 5 Summary and Conclusions

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Scentre Group Pty Ltd (Scentre Group) to undertake transport modelling in relation to the proposed expansion of Westfield Eastgardens, located at 152 Bunnerong Road, Eastgardens.

This report has been prepared to document the modelling and evaluation of traffic impacts and possible road network capacity improvements associated with the Westfield Eastgardens Planning Proposal submitted by Scentre Group. The AIMSUN modelling also incorporates incremental traffic demands and external road works associated with the Meriton Pagewood development, inclusive of the approved Stage 1 and proposed Stage 2.

The purpose of the information detailed herein is to inform decisions regarding the road network impacts and proposed capacity improvements.

This technical report has been prepared to document the microsimulation model development process for the following future year 2031 AIMSUN model scenarios:

- 1) 2031 Base Year = 2017 Calibrated Base Year with annual demand growth;
- 2) 2031 Base Year + Meriton Pagewood (Stages 1 and 2);
- 3) 2031 Base Year + Meriton Pagewood + Westfield Eastgardens.

The following key information is summarised and conclusions made:

- The modelling detailed herein is based on the 2017 Calibrated Base AIMSUN model that has been reviewed by Bayside Council and their consultants and deemed reasonable and fit-for-purpose;
- The key land use, traffic generation and background traffic growth assumptions relied upon herein have previously been reviewed by Council, Cardno and NSW RMS and no comment has been received since the 9 February 2018 meeting as to a contrary approach;
- The cumulative modelling incorporates SLR's understanding of the land use and yields approved and proposed as part of the Meriton Pagewood development inclusive of Stages 1 and 2. This understanding has been relayed to Council and NSW RMS and no comment or contrary information has been provided.
- The cumulative modelling of the subject Westfield Eastgardens Planning Proposal includes the following land uses and yields:
  - Commercial – incremental 25,000sq.m;
  - Shopping Centre (Retail) – incremental 27,500sq.m.
- A series of capacity upgrading works have been modelled and evaluated as reasonable and sufficient in offsetting any incremental traffic congestion that would otherwise result from the proposed Westfield Eastgardens Planning Proposal. The nominated works can be summarised as including:
  1. Wentworth Avenue/Banks Avenue/Cornish Circuit – additional turn lanes on the northern and eastern intersection approaches;
  2. Wentworth Avenue/Denison St/Site – additional turn lanes on eastern and western Wentworth Avenue approaches and reconfiguration of site egress to provide two-way traffic movement;
  3. Wentworth Avenue/Bunnerong Road – addition turn lane on the northern intersection approach;

- 
4. Bunnerong Road/Westfield Drive – additional turn lane on the northern intersection approach and improvements to the existing site approach/departure to increase queue storage and reduce weaving conflicts.
- These capacity upgrades are nominated as an introductory position for the purposes of informing the Planning Proposal. It is noted that civil concepts for this works have not yet been refined and the location, nature and scale of the works could vary subject to ongoing stakeholder consultations.
  - The nominated road capacity improvements have been deemed sufficient in offsetting the Westfield Eastgardens traffic impact, on balance, when evaluated as follows:
    - On a network wide scale across the entire modelled area;
    - At individual intersections;
    - That traffic performance subsequent to the redevelopment of Westfield Eastgardens (and inclusive of nominated capacity improvements) is comparable to, or better than that projected for the Base + Meriton Pagewood development scenario;
    - That traffic performance subsequent to the cumulative development of the Westfield Eastgardens and Meriton Pagewood sites (and inclusive of cumulative capacity improvements) is comparable to that projected for the Base 2031 (No Development) scenario.

## APPENDIX A

### Base Model Development Report

Not Included  
No Change From That Presented in 16 March 2018 SLR Report

## APPENDIX B

### Model Stability Results

Updated From That Presented in 16 March 2018 SLR Report in Response to Cardno Peer Review Comments



Figure 17 2031 TPM Model Stability: Vehicles Inside Model – Base

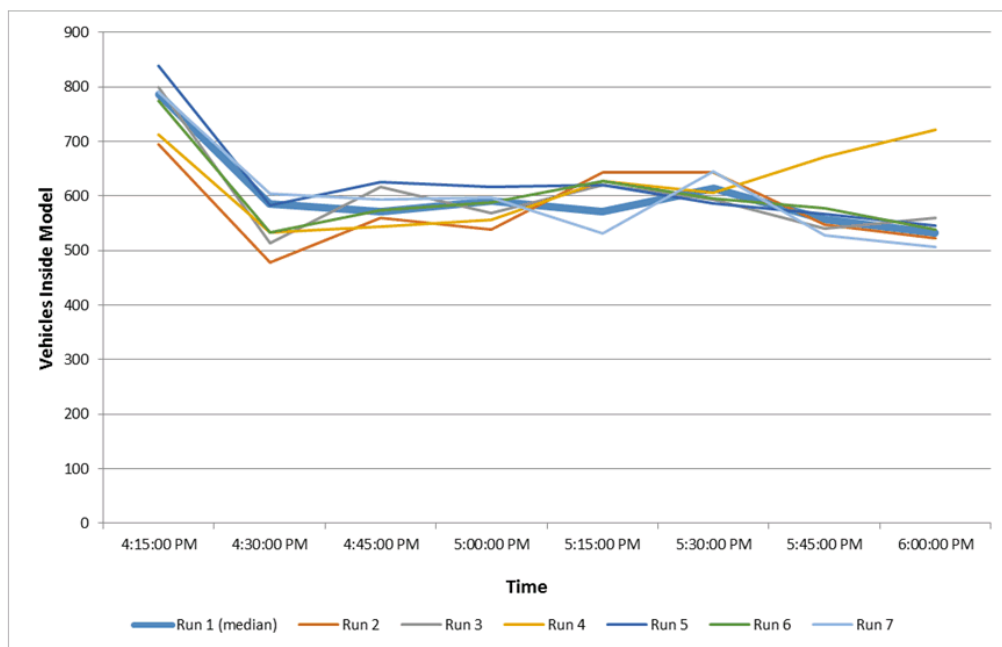


Figure 18 2031 TPM Model Stability: Vehicles Inside Model – Base + Meriton

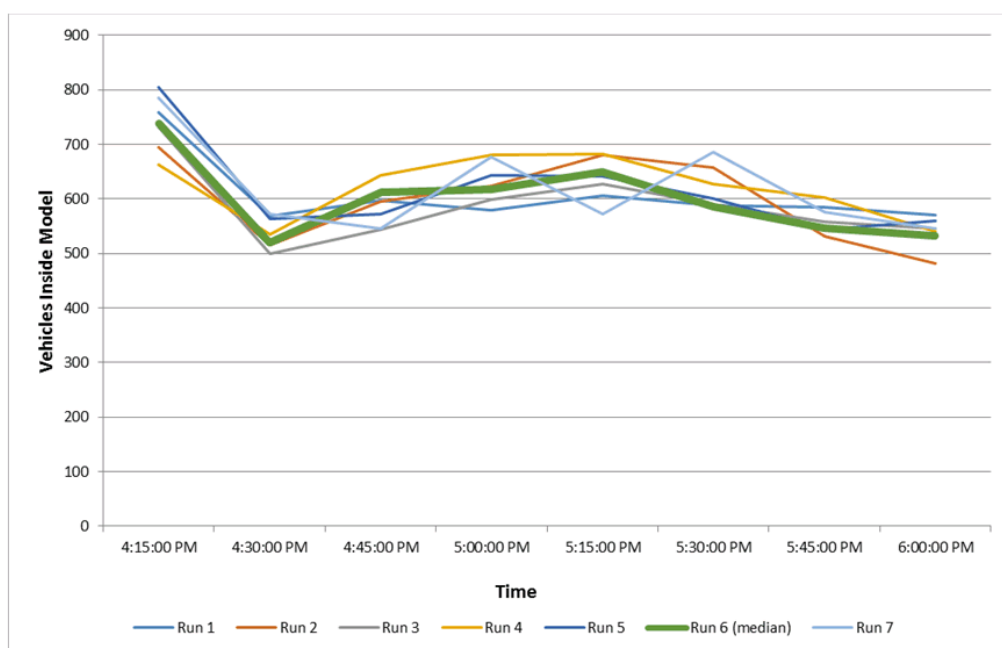


Figure 19 2031 TPM Model Stability: Vehicles Inside Model – Base + Meriton + Westfield

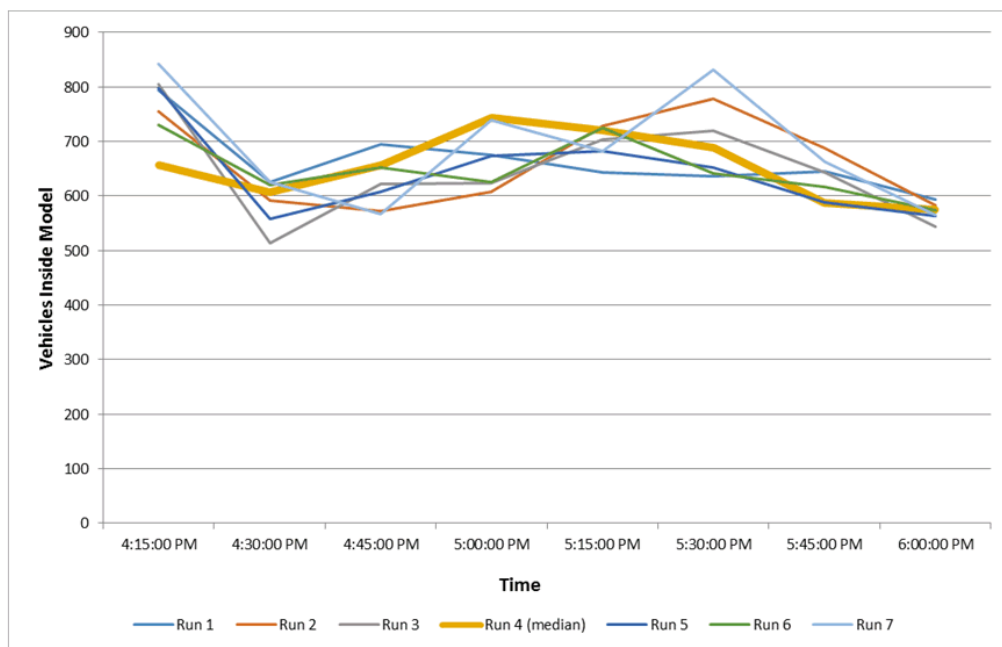


Figure 20 2031 SAT Model Stability: Vehicles Inside Model – Base

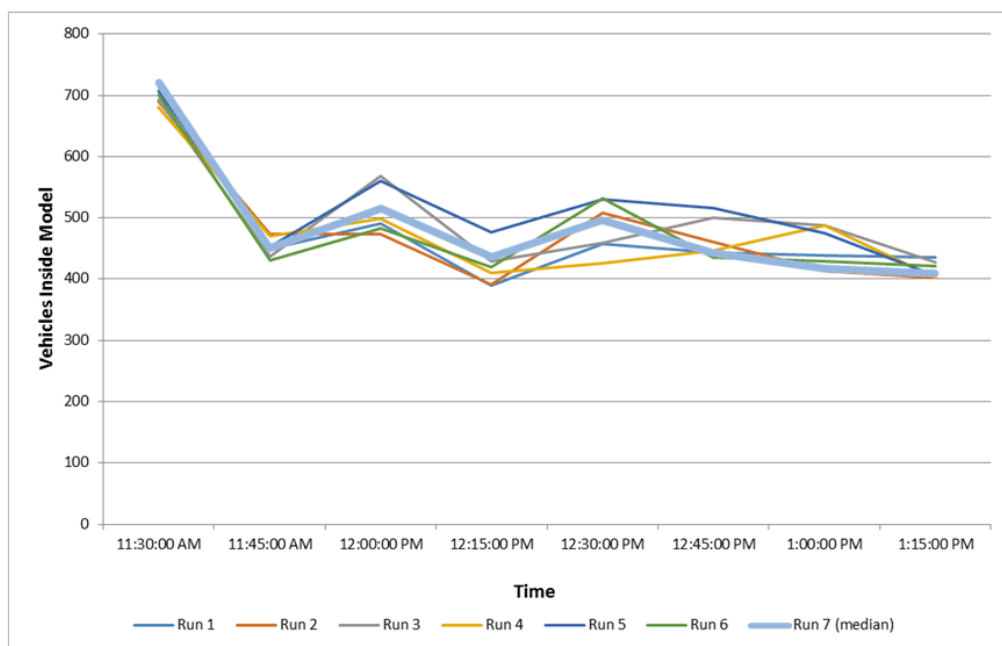


Figure 21 2031 SAT Model Stability: Vehicles Inside Model – Base + Meriton

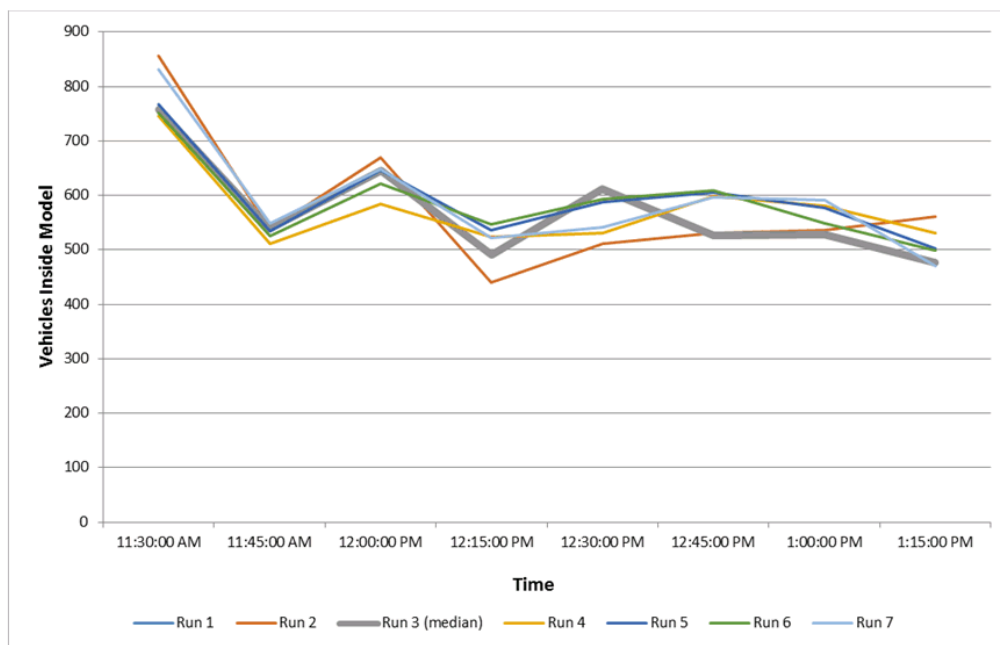
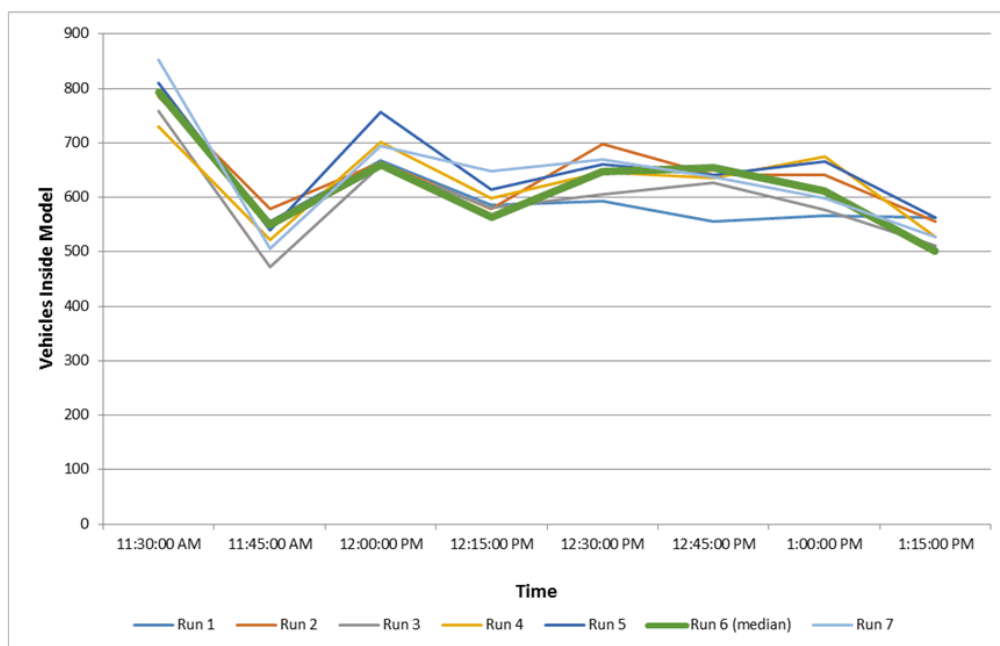


Figure 22 2031 SAT Model Stability: Vehicles Inside Model – Base + Meriton + Westfield



## APPENDIX C

### Modelled Road Network Capacity Upgrades (Westfield Eastgardens)

Not Included  
No Change From That Presented in 16 March 2018 SLR Report



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27 November 2019

620.12132-L02-v1.0 Addendum to Review of Transport Matters 20191127.docx

Scentre Limited  
85 Castlereagh Street  
Sydney NSW 2000

**Attention: Robert Johnston**

Dear Robert

**Westfield Eastgardens  
Planning Proposal  
Addendum to Review of Transport Matters**

**1 Introduction**

**1.1 Context**

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Scentre Limited (Scentre Group) to provide traffic engineering and transport planning advice in relation to the proposed expansion of Westfield Eastgardens, located at 152 Bunnerong Road, Eastgardens.

This addendum letter has been prepared to consider additional transport matters raised by Bayside Council in relation to a Planning Proposal for the expansion of Westfield Eastgardens. The transport matters raised by Council relate to Westfield Drive, a private road located within the Westfield Eastgardens site running along the northern site boundary. This letter should be read in conjunction with the *Westfield Eastgardens Revised Planning Proposal: Review of Transport Matters* ('Transport Review') memorandum prepared by SLR dated 28 February 2019.

**1.2 Council Further Transport Matters**

It is understood that Scentre Group have been working with Bayside Council to refine the Planning Proposal for the expansion of Westfield Eastgardens and develop a draft Development Control Plan (DCP) to provide formal guidance on future development of the site, including direction on transport design matters.

In email correspondence to Scentre Group, Bayside Council raised a number of transport matters relating to Westfield Drive. The key issues raised by Council of relevance from a transport perspective are summarised as follows:

- Pedestrian access from the adjacent Meriton development (i.e. the site located immediately to the north of Westfield Drive) and management of potential pedestrian/vehicle conflicts along Westfield Drive;
- Potential conflicts between pedestrians and loading docks accessed via Westfield Drive;
- Concerns in relation to vehicle speeds along Westfield Drive and the implementation of traffic calming measures to lower vehicle speeds along Westfield Drive.

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To address the above issues, SLR has conducted a review of existing conditions along Westfield Drive, and reviewed a suite of practicable improvement works which could feasibly be implemented at a future stage (i.e. as part of a future development) to mitigate the concerns raised by Council.

## 2 Westfield Drive

### 2.1 Existing Traffic Function

Westfield Drive is a private road located within the Westfield Eastgardens site, running along the northern site boundary between Banks Avenue to the west and Bunnerong Road to the east. The primary function of this private road is to provide service vehicle access to a number of Westfield major tenant (Kmart and Myer) loading docks. Access for vehicles up to 19m Articulated Vehicles (AV) is required to these loading docks.

The existing Westfield Drive carriageway is approximately 6.5m in width, facilitating two-way traffic flow between Bunnerong Road and Banks Avenue. Signage indicates a 40km/h speed limit along the entire length of the road. Although a private road, Westfield Drive caters for general public traffic (i.e. there are no physical access restrictions to prevent this) and also for a number of bus routes in the westbound direction, with a bus stop (Stop ID: 203536) located around 60m east of Banks Avenue.

### 2.2 Existing Pedestrian Provisions

Pedestrian provisions in the vicinity of Westfield Drive are described as follows:

- Southern side of Westfield Drive (i.e. within the subject site):
  - An approximately 1.2m wide footpath is provided between Banks Avenue to the west and the Eastgardens bus interchange on the eastern part of the site. As noted by Council, this footpath crosses a number of loading dock accesses. There is some existing warning signage in the vicinity of the loading dock accesses.
  - A crash barrier separates the footpath from the carriageway along the majority of the length of Westfield Drive. Landscaping is also provided along the majority of the length.
- Northern side of Westfield Drive (i.e. footpath only located within the Meriton site):
  - An approximately 1.5m wide footpath has been constructed along the majority of the length of Westfield Drive between Banks Avenue and Bunnerong Road. Landscaping, a ramp down from the upper car park levels and crash barriers separate the footpath from the carriageway at the eastern end of Westfield Drive.
- Formal pedestrian crossing locations:
  - Western end (i.e. Banks Avenue): A signalised pedestrian crossing is provided between the northern and southern sides of Westfield Drive at the Banks Avenue/Westfield Drive signalised intersection. It is noted that 'Left Turn on Red' (LTOR) is currently permitted at this intersection for vehicles turning left out of Westfield Drive onto Banks Avenue;
  - Eastern end (i.e. Bunnerong Road): A signalised pedestrian crossing is provided between the northern and southern sides of Westfield Drive at the Bunnerong/Westfield Drive signalised intersection, with zebra crossings provided on the left turn slip lanes (i.e. western Westfield Drive approach and southern Bunnerong Road approach).

Reflective of the above, existing conditions along Westfield Drive are mapped on Figure 1.

**Figure 1 Westfield Drive Existing Conditions**



Source: Nearmap. Note, site bounds indicative only.

### 2.3 Existing Westfield Drive Loading Docks

As identified on Figure 1, the existing loading docks accessed via Westfield Drive are provided for the major tenants being Kmart and Myer (note, these loading docks are provided for the exclusive use of these major tenants). Scentre Group has provided the following operational details of the existing Westfield Drive loading docks:

- Kmart has advised the following in relation to the existing usage of their loading dock:
  - The loading dock receives 28 deliveries per week on average (or four deliveries per day averaged across the week). Nine of these deliveries are from the Kmart distribution centre, taking place between 9AM-11AM and 1PM-3PM, with the remainder of deliveries by suppliers;
  - The loading dock has a dedicated manager and all drivers are required to undertake an induction prior to making deliveries to the dock.
- Myer has advised the following in relation to the existing usage of their loading dock:
  - The loading dock receives approximately four deliveries per day (i.e. 28 deliveries per week). One delivery per day is from the Myer distribution centre, taking place between 7AM-12PM, with the remainder of deliveries by suppliers;
  - Myer has a loading dock team leader and all Myer delivery drivers are required to undertake an induction.

The above information indicates that the Kmart and Myer loading docks would be anticipated to receive in the order of eight deliveries per day (i.e. between both tenancies). These deliveries predominantly occur outside of typical commuter peak periods and are undertaken by professional drivers, the majority of whom have undertaken site specific inductions and are highly familiar with the site. It is understood that waste collection is also undertaken from these loading docks, however, in SLR's experience waste collection would only occur up to a few times per week (i.e. less than one collection per day), is typically undertaken outside centre operating hours, where the risk of potential interactions is low.



On the basis of the above, the existing loading dock operational characteristics of and number vehicle movements do not present a significant safety risk to pedestrians along Westfield Drive.

## 2.4 Existing Constraints

The following key constraints are noted in relation to Westfield Drive and consideration of any potential improvements that could be delivered as part of the expansion of Westfield Eastgardens:

- There is no opportunity to increase the width of Westfield Drive and associated footpaths due to the following constraints:
  - Existing built form on the Westfield site;
  - The existing property boundary and existing built form on the Meriton site.
- Westfield Drive will continue to perform an important function for service vehicle access and loading docks for major tenants (Kmart and Myer) as part of existing operations. An expansion of the centre should not result in a material increase in the usage of these loading docks, as exclusive use would be retained by the existing major tenants (i.e. new tenants would not be permitted to use the Kmart and Myer loading docks);
- Fundamentally, Council's concerns relate to an increase in pedestrian demand to/from Westfield Eastgardens due the adjacent Meriton development, which is understood to consist of predominantly residential land uses. The majority of built form on the Meriton site along the Westfield Drive frontage has already been constructed, and furthermore, Scentre Group has no ability to deliver improvement works on the Meriton site;
- SLR and Scentre Group have not been able to identify any requirements/permit conditions for the adjacent Meriton Pagewood Green development to improve pedestrian connectivity between their site and the Eastgardens bus interchange or Westfield Eastgardens as part of the Pagewood Green development approvals.

## 3 Review of Westfield Drive Transport Matters

### 3.1 Overview

SLR has conducted a review of the transport issues raised by Council in relation to Westfield Drive. In order to mitigate the relevant transport issues, SLR has considered a variety of improvement options along Westfield Drive which could be implemented as part of a future Westfield Eastgardens expansion.

### 3.2 Vehicle Speeds Along Westfield Drive

#### 3.2.1 Existing Issues

Council officers have raised concerns over vehicle speeds along Westfield Drive following observations made during site inspections. SLR reviewed traffic survey data provided to Scentre Group by NSW Police from September 2018 indicating an 85<sup>th</sup> percentile vehicle speed of 49km/h (i.e. 9km/h over the posted speed limit) mid-way along Westfield Drive over the duration of the week long surveys.

SLR notes the following in relation to the existing Westfield Drive arrangements:

- The alignment of Westfield Drive is a relatively flat, 370m long straight section between Bunnerong Road and Banks Avenue. There is a minor deflection in the horizontal alignment around 120m west of Bunnerong Road.
- Anecdotal evidence suggests that some non-local traffic uses Westfield Drive, particularly in the westbound direction, as an alternative (i.e. 'rat-run') route to Wentworth Avenue during peak hour periods;
- The existing back-of house arrangements and currently limited pedestrian activity along Westfield Drive provides the feel of a 'vehicle-based' environment, whereby vehicle drivers assume priority over other transport modes, including pedestrians;
- Construction activities and associated car parking on the footpath along the northern side of Westfield Drive (i.e. associated with the Meriton development) likely also discourages pedestrian activity along Westfield Drive, further enforcing the 'vehicle-based' environment.

Based on the above, the 'unrestricted' alignment of Westfield Drive combined with limited pedestrian activity currently creates the feel of a higher speed environment than the existing 40km/h signage indicates. The existing speed environment likely also encourages 'rat-running' by non-local vehicles.

### 3.2.2 Potential Speed Control Improvements

In order to lower the vehicle speed environment along Westfield Drive, the following improvements were investigated:

- Provision of speed control devices to physically restrict vehicle speeds;
- Improvements to pedestrian facilities to encourage pedestrian activities in appropriate locations, whilst keeping in mind the key functions of Westfield Drive for service vehicle access and as a bus route that will be retained as part of the Planning Proposal. Potential pedestrian improvements are discussed in Section 3.3 of this document.

With respect to speed control devices, the available types of controls include horizontal displacement devices and vertical displacement devices. In consideration of the limited road width, existing built form, and continued requirement for access by buses and service vehicles, horizontal displacement devices are not considered to be feasible in this instance. Therefore, vertical displacement devices would need to be implemented to control vehicle speeds along Westfield Drive.

As per Table 7.1 (Description and use of LATM devices) of the Austroads Guide to Traffic Management *Part 8: Local Area Traffic Management* (AGTM08-16), a variety of vertical deflection devices are available which have been shown to be effective in reducing local vehicle speeds, traffic volumes and crash risks. In consideration of the requirement for access by buses and service vehicles, a flat-top road hump with an appropriate profile is typically the arrangement preferred by bus operators and local government authorities in order to minimise bus passenger discomfort.

An example of a suitable flat-top road hump profile for bus routes is included at **Attachment A**, indicating the following profile design requirements:

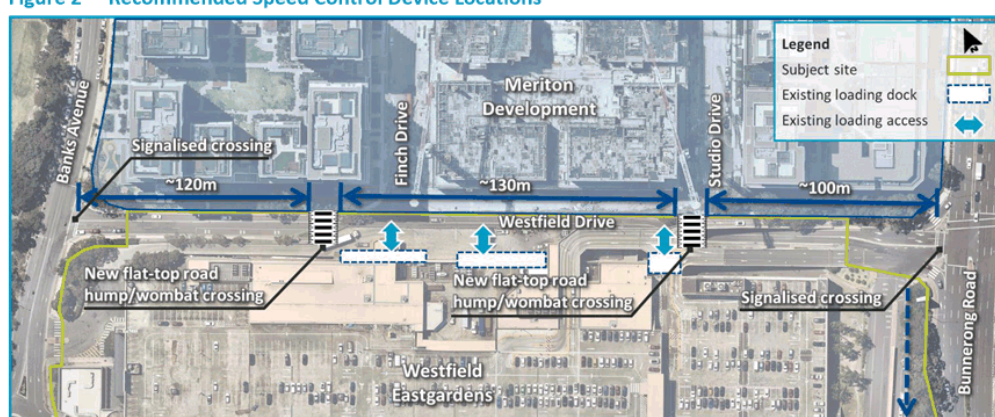
- Maximum hump height: 100 mm;
- Minimum hump length (excluding ramps): 6.0 m for single unit buses and 8.0 m for articulated buses;
- Maximum ramp grade: 1:15.

Further to the above, as discussed in AGTM08-16, a flat-top road hump can be combined with a pedestrian crossing to form a wombat crossing. This is discussed in further detail in Section 3.3 of this document.

To be effective in restricting vehicle speeds to 40km/h, a desirable speed control device spacing of around 100m is typically required. Due to the brownfield nature of the site, locations at which speed control devices could be located are limited. Figure 2 shows the recommended locations for new flat-top road humps/wombat crossings in consideration this desirable spacing and the following constraints:

- Existing access locations (i.e. loading dock accesses and Finch Drive);
- Existing/future footpath locations and pedestrian desire lines.

**Figure 2 Recommended Speed Control Device Locations**



Implementation of new flat-top road humps/wombat crossings will assist in lowering the speed environment along Westfield Drive, reduce 'rat-running' vehicle trips and also create a more pedestrian-friendly environment with improved accessibility between Meriton Pagewood Green and Westfield Eastgardens.

The design of speed control devices should generally be consistent with the Australian Standard AS1742 *Manual of Uniform Traffic Control Devices Part 13: Local area traffic management*, though it is noted that there will be some flexibility in designs given the private ownership of the road. Liaison with bus operators will also be required to ensure designs accommodate design vehicle requirements.

### 3.3 Pedestrian Considerations

#### 3.3.1 Council Concerns

Council have raised the following concerns with regard to pedestrian safety and amenity along Westfield Drive:

- Pedestrians (i.e. construction workers associated with the Meriton development) observed crossing Westfield Drive at informal mid-block locations other than the Banks Avenue or Bunnerong Road signalised crossings;
- Concerns over increased pedestrian use (i.e. associated with Meriton development and Westfield Eastgardens expansion) of the southern footpath in the vicinity of the existing loading dock accesses;

- Council's suggested mitigation to the above matters was provision of a median with fencing along the entire length of Westfield Drive and other measures to direct pedestrians to cross at Banks Avenue and Bunnerong Road;
- Sections of footpath which conflict with Crime Prevention Through Environmental Design (CPTED) principles and have amenity issues.

In relation to the feasibility of a median and pedestrian fencing along the entire length of Westfield Drive, the following is noted:

- To be effective in controlling pedestrian movements, the fencing/median would need to be continuous (i.e. no breaks between Banks Avenue and Bunnerong Road); this is not possible as median breaks are required to provide service vehicle access (i.e. for design vehicles up to 19m AV size) to the existing loading docks. Furthermore, as shown on Figure 3 overleaf, pedestrian desire lines to/from the Meriton development are directly opposite the loading docks (i.e. where median breaks are required), therefore, fencing could not physically be provided where it would be most needed to control pedestrian movements);
- The existing carriageway width is around 6.5m, which is at the minimum width required for heavy vehicle required to pass in either direction. Furthermore, existing built form and property boundaries restrict further widening of Westfield Drive.

Further to the above, SLR considers pedestrian fencing to be undesirable for a number of secondary reasons including:

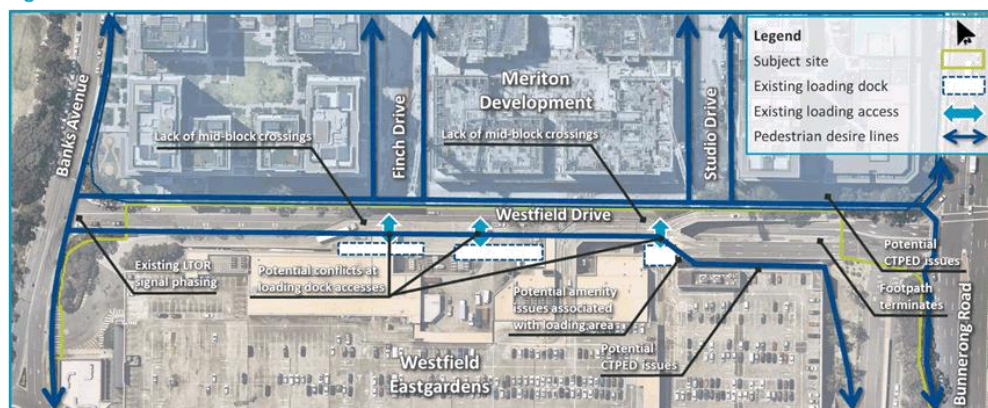
- It is often a poor outcome in terms of amenity and urban design;
- It can become a maintenance burden (e.g. if struck by vehicles), which left unrepaired can negatively impact the amenity and feeling of safety of the area;
- Research indicates the pedestrian fencing can actually be detrimental to pedestrian safety. Generally, the presence of pedestrian fencing indicates a 'vehicle environment' rather than a 'pedestrian environment'. This encourages vehicle drivers to feel as though they have priority in the area, potentially resulting in increased vehicle speeds, and a reduction in pedestrian priority.

In summary, median pedestrian fencing is considered undesirable, as this would likely exacerbate existing speeding issues, and a continuous median suitably located to control pedestrian movements along Westfield Drive is not considered to be technically feasible.

To establish an alternative suite of pedestrian improvements works that could be implemented as part of a future expansion of Westfield Eastgardens, SLR carried out a review of pedestrian desire lines (i.e. existing and future), existing gaps in the pedestrian network, and a review of further potential pedestrian issues along Westfield Drive. Pedestrian desire lines, pedestrian issues identified by Council and other issues identified by SLR are mapped on Figure 3.



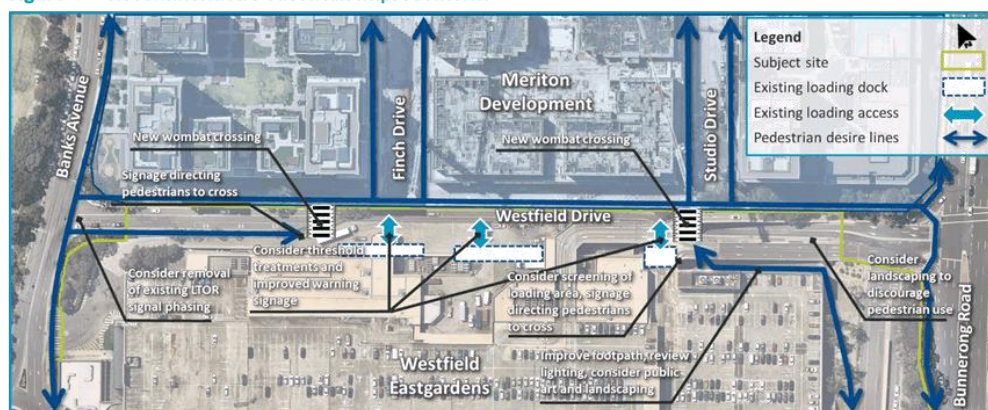
**Figure 3 Review of Pedestrian Desire Lines and Issues**



### 3.3.2 Potential Pedestrian Improvements

In response to the pedestrian issues identified on Figure 3, potential improvements which could achieve Council's desired outcomes with respect to pedestrian safety on Westfield Drive, and which also respect the constraints identified in Section 2.4 of this document, have been investigated and are summarised on Figure 4 below.

**Figure 4 Recommended Pedestrian Improvements**



The recommended improvement works and further investigations to enhance the pedestrian environment along Westfield Drive are summarised as follows (note, only improvements which are not likely to rely on third party property have been considered):

- To improve the safety of pedestrian movements across Westfield Drive, it is recommended that:
  - Wombat crossings be implemented in the indicative locations shown Figure 4, with the dual purpose of reducing vehicle speeds and prioritising pedestrian movements. Further design investigations will be required as part of future development applications including confirmation of sightlines, lighting requirements, and modifications to existing pathways etc.;
  - Consider removal of the existing LTOR signal phasing to improve the safety of crossing movements at the Banks Avenue/Westfield Drive intersections. Note, this was considered as part of the traffic modelling previously undertaken by SLR.
- To reduce the potential for conflicts with service vehicles and pedestrians on the southern side of Westfield Drive, the following is recommended:
  - Wayfinding signage directing pedestrians to cross over to the northern side of Westfield Drive at the new wombat crossings;
  - New threshold treatments and improved warning signage at service access crossing locations.
- To improve pedestrian amenity and security along Westfield Drive, the following should be investigated:
  - Loading and waste storage areas could be screened where appropriate. Low height screening is recommended so that areas are not enclosed (i.e. which could create a personal safety hazard);
  - Landscaping and public art could be used to improve pedestrian amenity along Westfield Drive. Landscaping could also be used to deter undesirable pedestrian movements (e.g. existing buffer kerb between ramps at eastern end of Westfield Drive);
  - Existing lighting and surveillance provisions should be reviewed, particularly at the eastern end of the southern side of Westfield Drive (i.e. to the east of the Myer loading dock).

#### 4 Summary

Based on the forgoing discussion, the following key transport design measures are recommended for consideration within the DCP for the future development of Westfield Eastgardens to address the various transport matters raised by Council relation to Westfield Drive:

1. Provision of wombat crossings at the locations identified on Figure 5 to provide the dual function of reducing the speed environment of Westfield Drive and prioritising pedestrian crossing movements;
2. Wayfinding signage directing pedestrians to cross over to the northern side of Westfield Drive at the new wombat crossings;
3. Warning devices and threshold treatments at pedestrian crossing points of service vehicle access locations along the southern side of Westfield Drive;
4. Further investigation of lighting, surveillance, and amenity improvements including landscaping, public art and screening at appropriate locations.

The above measures recommended for consideration within the DCP are mapped on Figure 5.

**Figure 5 Recommended Pedestrian Improvements for Consideration in DCP**



Should you have any queries in relation to the information contained herein, please do not hesitate to contact the undersigned.

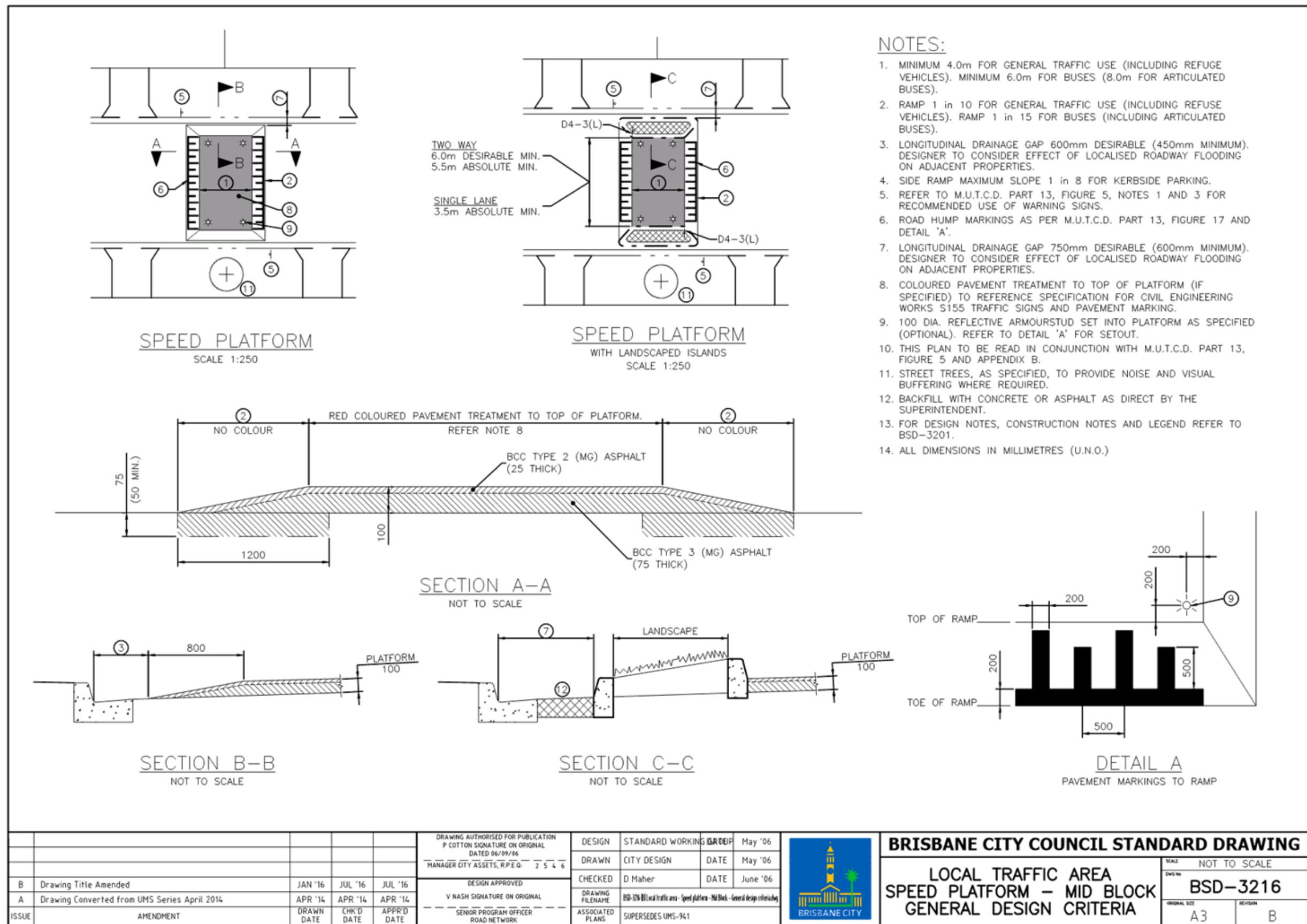
Yours sincerely

CHRIS LAWLOR  
Associate - Transport Advisory

**Attachment A**

**Flat-top Road Hump Example (Suitable for Bus/Heavy Vehicle Routes)**



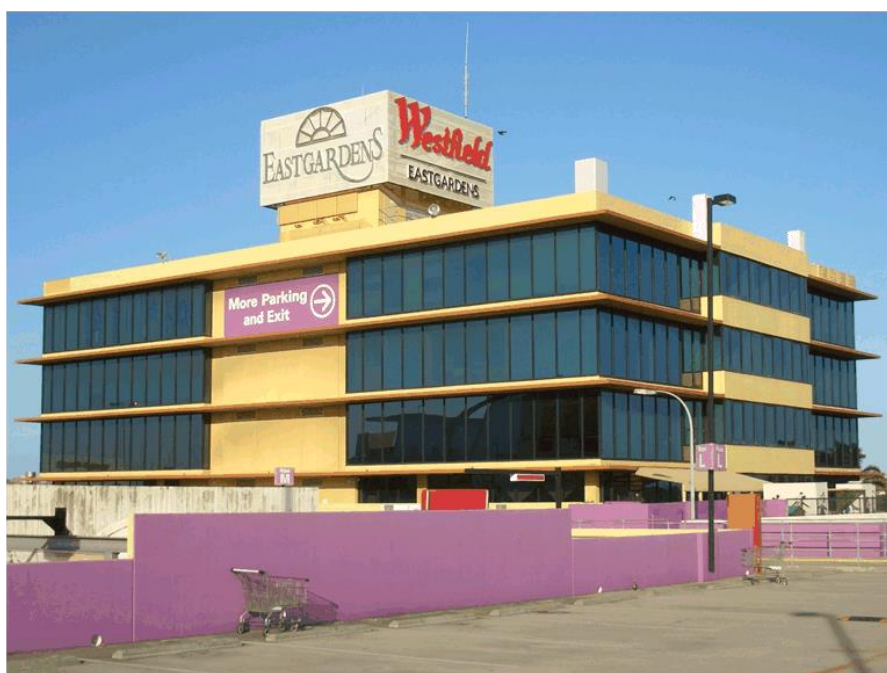


# Planning Risk Assessment Review

## S17/75 Planning Proposal by Scentre Group for Westfield East Gardens

For Bayside Council

2 July 2018



Doc. No.: J-000315-BC-01

Revision: 1



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1	2 July 2018	RR	Corrected site boundaries in figures	-	RR

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### Notation

Abbreviation	Description
ALARP	As Low As Reasonably Practicable
Arriscar	Arriscar Pty Limited
BBLEP	Botany Bay Local Environmental Plan
DA	Development Application
DCP	Development Control Plan
DG	Dangerous goods
F-N	Cumulative frequency- Number of fatalities
FSR	Floor Space Ratio
LSIFR	Location Specific Individual Fatality Risk
m	Metres
m <sup>2</sup>	Square metres
p.a.	Per annum
pmpy	Per million per year



## 1 INTRODUCTION

### 1.1 Background

The Scentre Group operates and manages the Westfield Eastgardens Shopping Centre on behalf of the owner Terrace Tower Group. The site is located at 152 Bunnerong Road, Eastgardens, NSW 2036 (the "Site").

Scentre Group is planning future developments of the East Gardens shopping complex. Even before a development application (DA) can be lodged, the proponent needs the Local Environment Plan as applicable to Botany Bay (BBLEP) to be amended as follows:

- An increase in floor space ratio (FSR) from 1:1 to 1.7:1
- An increase in building height from 26m to Part 34m and Part 70m

On behalf of Scentre Group, Ubris Pty Ltd has submitted an application to Bayside Council for seeking to initiate an amendment of the BBLEP (Ref.1). A planning risk assessment report prepared by Systra Scott Lister has also been submitted by Ubris (Ref.2).

Bayside Council has commissioned Arriscar Pty Ltd to undertake a review of the Planning Risk Assessment report and provide advice in the determination process, focusing on risk and land use safety impacts of an amendment to the BBLEP.

This report summarises the review findings by Arriscar.

### 1.2 The Site

The Westfield Eastgardens shopping centre occupies a site which is bounded by Wentworth Avenue to the south, Bunnerong Road to the east, Westfield Drive to the north and Banks Avenue to the west. A location map is shown in Figure 1.

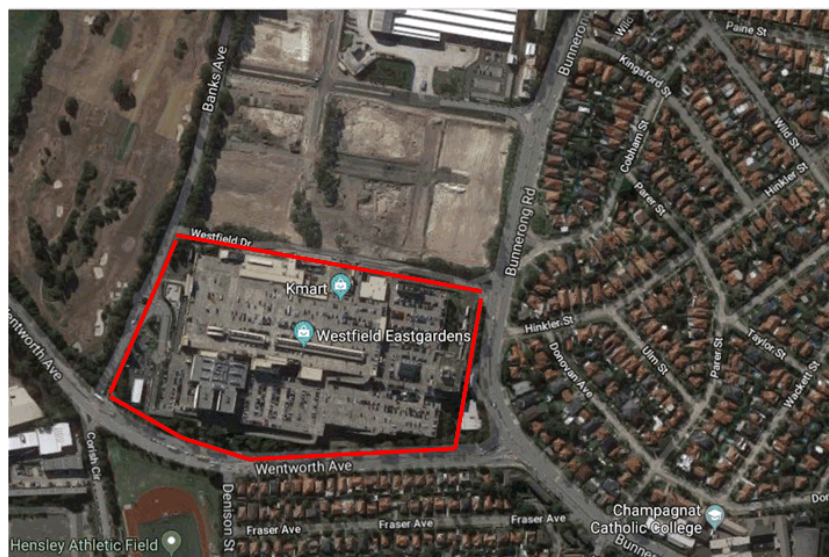


Figure 1: East Gardens Shopping Complex Site location



The site is close to the Botany Industrial Park (BIP) where bulk dangerous goods are stored and handled, and directly opposite the Denison Street/ Wentworth Avenue intersection, which is a major transport route for bulk and packaged dangerous goods from the BIP and from the industrial complex in Port Botany.

## 2 LAND USE PLANNING ISSUES

### 2.1 Zoning

The development is on land zone B3 Commercial Core and there will be no changes in zoning from the application for amendment to the BBLEP.

### 2.2 Consultation Region

A “consultation region” around Botany Industrial Park (BIP) was established by Council due to surrounding land’s proximity to Botany Industrial Park (BIP) and potential for risk from an incident at BIP, in the Bayside Council DCP 2013 (Ref.3). The consultation region is shown in Figure 2 (highlighted blue). The East Garden site is outside the consultation region.

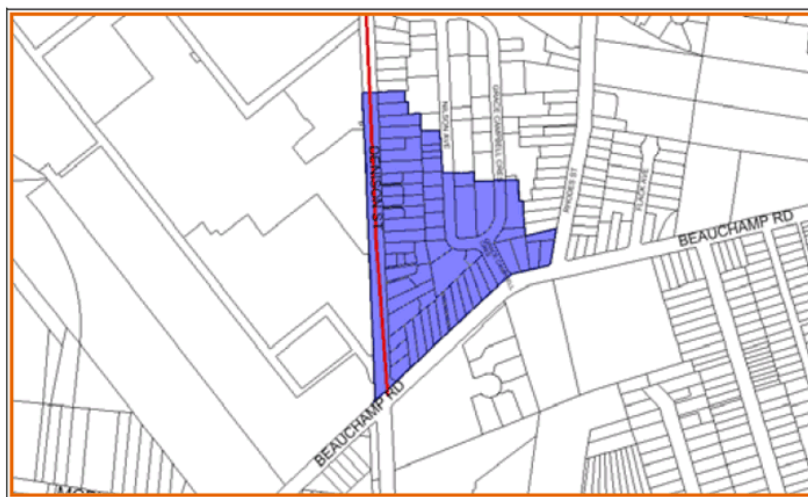
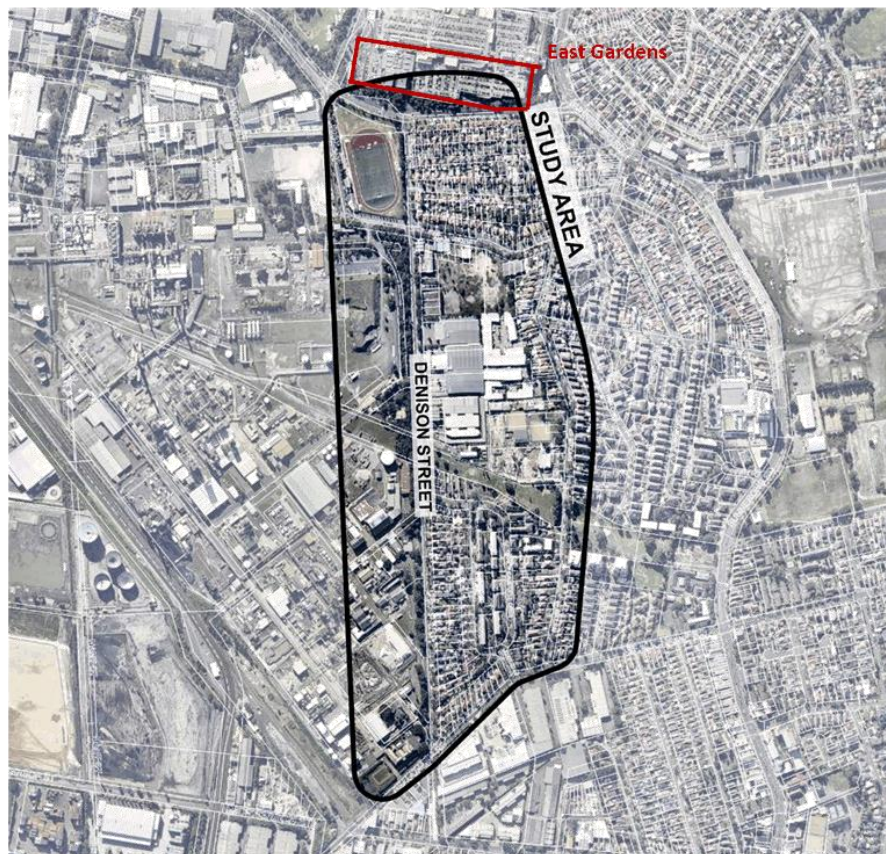


Figure 2: Bayside Council DCP 2013 – Consultation Region

### 2.3 Dangerous Goods Transport in Denison Street

In 2014, Systra Scott Lister prepared a risk assessment study for dangerous goods transport on Denison Street (Ref.4). The study was commissioned by Bayside Council and NSW Department of Planning.

The dangerous goods risk study area is shown in Figure 3.



**Figure 3: Dangerous Goods Transport Risk Study area covering Denison Street**

The dangerous goods transport study area includes the following, that has potential risk effects on East Gardens:

- Intersection of Denison Street and Wentworth Avenue
- Wentworth Avenue abutting East Gardens car park

## **2.4 Land use Planning Review**

In 2016, Arriscar undertook a review of land use safety planning controls due to the proximity of the Botany Industrial Park (BIP) and the transport of Dangerous Goods (DGs) along Denison Street, for Bayside Council.

The risk-based planning control map from Arriscar's review of Planning Controls is shown in Figure 4 (Ref.5).

The East Gardens site falls under Area B in Figure 3.

For Area B3, with respect to commercial developments, Ref.5 recommends the following:





*"The cumulative LSIFR is  $\leq 5$  pmpy for most of this Area (Note: Commercial development is unlikely to be permitted near the intersection of Denison St and Wentworth Avenue where the LSIFR is  $\geq 5$  pmpy).*

*There are existing commercial uses in this Area.*

*Any proposed population intensification will require a societal risk assessment. Consent must not be based on complying with individual risk criteria alone."*

The Council has broadly accepted these recommendations and has implemented them as far as practicable. However, these recommendations have not been formally incorporated as policies in the DCP.

## **2.5 Population Increase in from BBLEP Amendment**

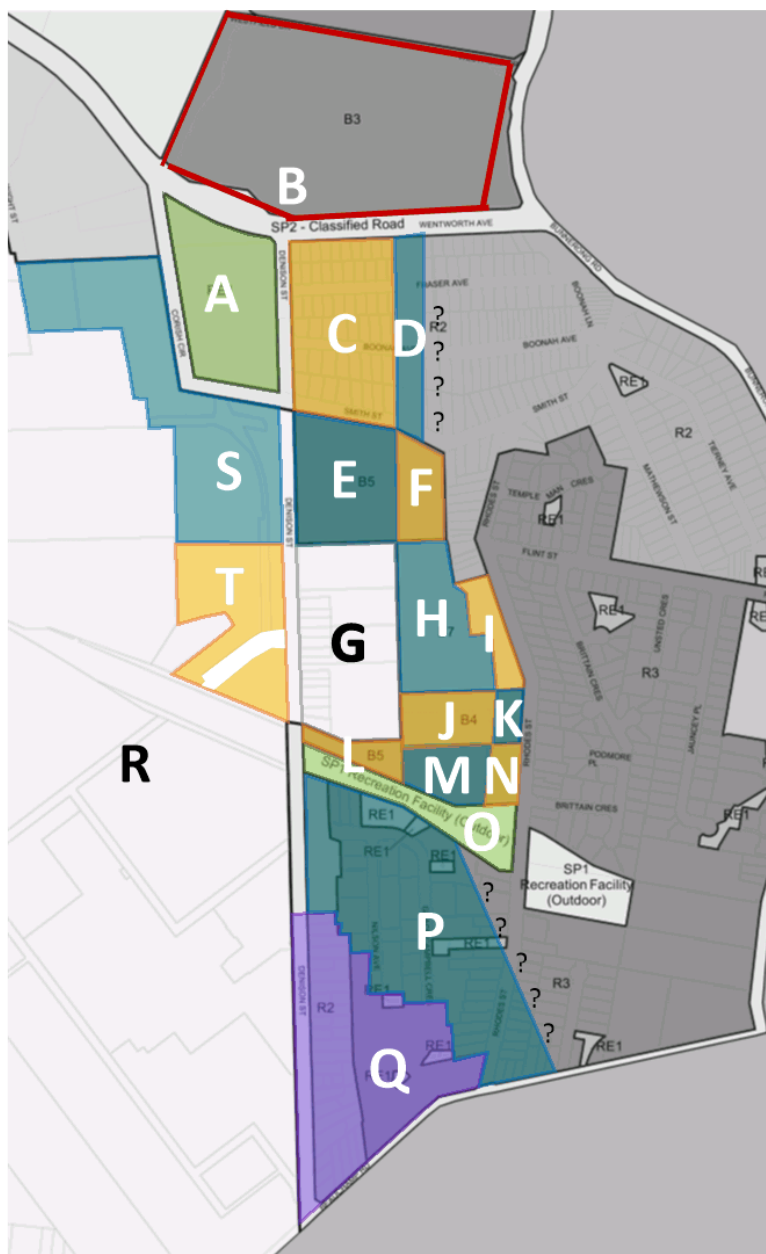
Ref.1 states that the proposed future development of the East Gardens complex by Scentre Group will consist of a mix of commercial and retail development.

The current average population at East Gardens is approximately 3600 persons during shopping hours. With additional development following an increase in floor space ratio and building height, the population is expected to increase by 1640 to a total of 5240.

## **2.6 Planning Risk Assessment**

In line with the recommendation in Section 2.4 above, Systra Scott Lister has prepared a Planning Risk Assessment report (Ref.2) for the Scentre Group to accompany the Planning Justification Report by Ubris (Ref.1).

A review of Ref.2 follows in the next section.



**Figure 4: Risk Based Planning Control Areas**



### 3 REVIEW OF PLANNING RISK ASSESSMENT REPORT

#### 3.1 Overview

The planning risk assessment (Ref.2) broadly covers the following:

- An assessment of the individual risk with respect to risk targets and guidelines in NSW
- An assessment of societal risk from dangerous goods transport on the proposed future development at East Gardens
- Comparison with currently available societal risk criteria, as interpreted by Systra Scott Lister.

The study recommends that the incremental societal risk falls in the 'negligible' risk region of the societal risk criteria and hence the amendment to the BBLEP should not be denied on risk grounds.

#### 3.2 Risk from BIP

Ref. 6 has reviewed the risk contribution from BIP to surrounding land uses based on the BIP risk assessment study (Ref.6) and has concluded that the East Gardens complex falls outside the risk contours specified in the Hazardous industry Planning Advisory Paper (HIPAP) No.4 for commercial developments.

The present review agrees with this observation, and the risk focus would have to be from DG transport only.

The BIP risk contours are reproduced in Ref.2 and not repeated here.

#### 3.3 Risk from Dangerous Goods Transport

##### 3.3.1 Individual Risk

Ref.4 provides the risk to an individual at locations along the Denison Street and Wentworth Avenue, as a result of a DG transport accident resulting in fire/explosion or toxic release. The report assumes that the individual would be outdoors (most exposed individual).

The risk contour is shown in Figure 5 (Re.6).

The risk criteria for risk to development in the vicinity of hazardous industries in NSW is shown in Table 1 (Ref.7):

**Table 1: Individual Fatality Risk Criteria**

Land Use	Criteria (per year)
Hospitals, schools, child-care facilities, old age housing	$5 \times 10^{-7}$
Residential, hotels, motels, tourist resorts	$1 \times 10^{-6}$
Commercial developments including retail centres, offices and entertainment centres	$5 \times 10^{-6}$
Sporting complexes and active open space	$1 \times 10^{-5}$
Industrial	$5 \times 10^{-5}$



The fatality risk applicable to commercial developments is 5 chances in a million per year.

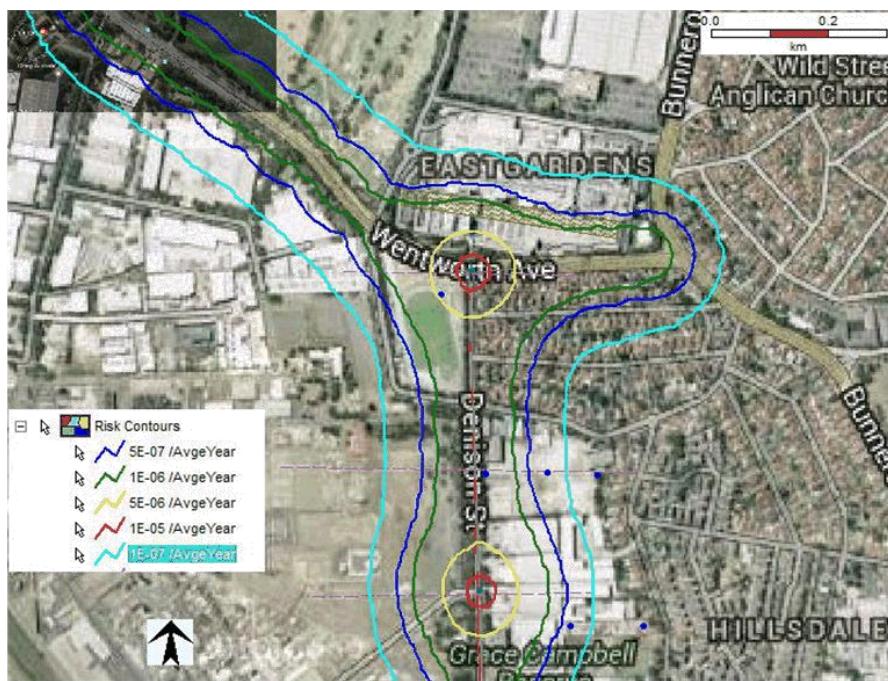


Figure 5: Individual Risk for DG Transport on Denison Street and Wentworth Avenue

It can be seen from Figure 5 that The  $5 \times 10^{-6}$  per year contour extends into the car park of the East Gardens complex but does not affect the buildings.

At this stage, the applicant has asked for an amendment of the BBLEP only and only a broad outline of the likely developments. It is not known if the development may involve changes to the car parking at the corner of Denison Street and Wentworth Avenue. If no changes are proposed within the  $5 \times 10^{-6}$  p.a. contour area, then the existing risk levels for the pre-existing development would not preclude additional developments to the buildings on the site.

The guidance document Hazardous Industry Planning Advisory Paper (HIPAP) No.11 (Ref.8) states:

*"The emphasis in the Transportation Safety Study is on comparative risk assessment, rather than on absolute levels of risk along the route. The general principle should be that no significant increases to existing background risks should be permitted. While individual risk calculations may be appropriate in some circumstances, a societal risk approach is generally more appropriate in the transport risk assessment. It is appropriate to include the population of other road users in the societal risk calculation. Risk criteria are discussed in Hazardous Industry Planning Advisory Paper (HIPAP) No. 4. It should be noted, however, that the individual risk criteria developed in the paper generally relate to risks from fixed installations and judgement should be used in applying them to transport risks."*





### 3.3.2 Societal Risk Criteria

Societal risk is expressed in the form a log-log plot of cumulative frequency (F) versus the a given number of fatalities (N) may be exceeded. The criteria used in NSW is shown in Figure 6.

Figure 6 has three risk regions:

- An upper region where the risk is 'intolerable' and further risk reduction *must* be implemented, without which the development may not be given consent.
- A lower region where the risk is 'tolerable' (sometimes referred to as negligible) and development consent is not expected to be withheld on risk grounds.
- An intermediate region where the risk is tolerable only if the risk is demonstrated to be reduced to 'as low as reasonably practicable (ALARP)'.

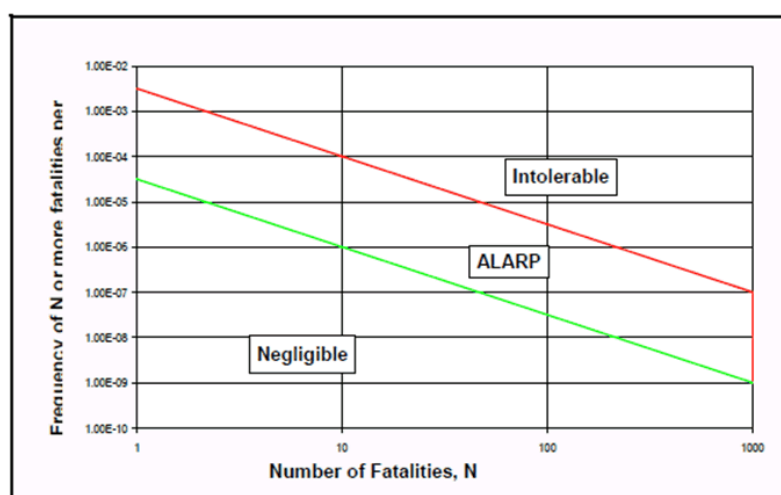


Figure 6: Indicative Societal Risk Criteria

For developments in the vicinity of hazardous facilities, the societal risk criteria suggested in HIPAP No.4 (Ref.7) is:

*"Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas."*

HIPAP No.4, however does not define what is 'incremental risk'. This is pivotal to decision making.

### 3.4 Interpretation of Incremental Risk Societal Risk Criteria

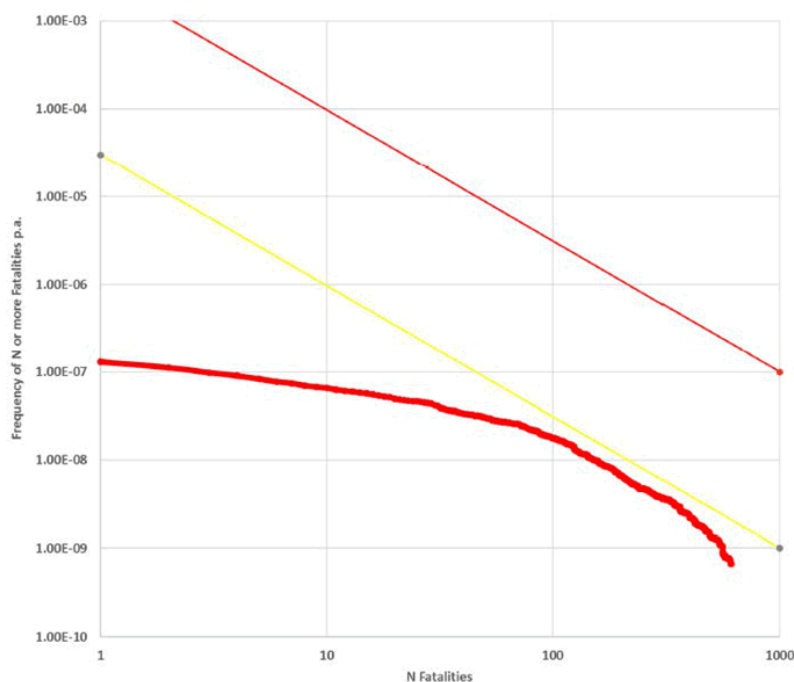
Two possible interpretations are discussed here:

Calculate the risk to the East Gardens future development from DG transport for the expected population increase of 1640 persons and call it 'incremental risk'. Such an approach has been taken in Ref.2, and the F-N curve is shown in Figure 7.



Ref.2 refers to the figure as 'incremental risk', but it is in fact the absolute risk arising from DG transport to the proposed future development at East Gardens.

Since the F-N curves for the proposed development falls in the "negligible" risk area of the F-N curve, Ref.2 claims that the HIPAP No.4 criteria are satisfied and the development is therefore permissible.



**Figure 7: F-N Curve for DG Transport Risk at Denison St and Wentworth Avenue**

The above interpretation has a few shortcomings.

- The risk assessed is the absolute societal risk from DG transport on the proposed future development, and not incremental cumulative risk over and above the existing background risk without the proposed development.
- If Interpretation 1 is accepted, then for every future development in the region, the F-N curve for that development alone can be shown to be in the negligible region, and there would be an overall population creep to an unacceptable level in the area.

#### **Interpretation 2:**

Calculate the cumulative societal risk from BIP and DG transport in the area, as existing. Then calculate the same F-N curve with the proposed future development. The new cumulative risk will show the incremental increase in overall cumulative risk. Arriscar interprets that it is this new cumulative risk showing the incremental increase that HIPAP No.4 refers to. The criteria should apply to the new cumulative risk and not just to the risk to the specific development only.



If interpretation 1 is used, there will be no limit to population growth in the vicinity of hazardous facilities and DG transport, as each development may individually sustain a societal risk below the 'negligible' line. One would never know whether or not the upper line of F-N criteria would be reached.

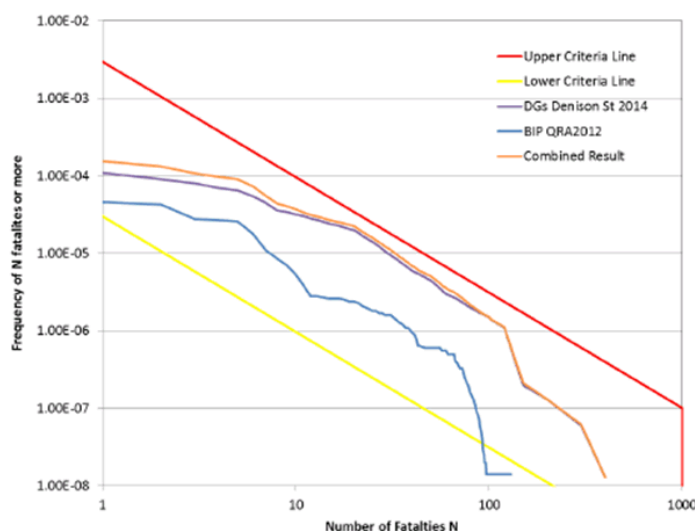
If interpretation 2 is used, the cumulative risk would represent all the developments that occur in the area and the collective population exposed, and not just the specific development proposal. This will tell us how far we are from reaching the upper line, given that the risk is already in the ALARP region, and the criteria suggests a relocation of population.

A clarification is required from the Department of Planning regarding the interpretation of 'incremental risk'.

### 3.5 Cumulative Risk from BIP and DG transport in the area

Let us examine the existing cumulative risk in the area.

Figure 8 shows the F-N curve for the area, showing the contribution from BIP, the contribution from DG transport and the combined contribution (Ref.9).



**Figure 8: FN Curve – Combined BIP QRA and Denison St DG Movements Based on 2014**

The following observations can be made from Figure 7 and Figure 8.

- The main contribution to the cumulative societal risk arises from DG transport.
- Since the risk from the DG transport is the dominant contributor to societal risk, it would be necessary to reassess the societal risk in Figure 8 accounting for the increases in population from the proposed development.



- (c) The existing F-N curve for the area falls in the intermediate or 'ALARP' region. The updated F-N curve with the proposed future development population shall not exceed the upper limit.
- (d) Further, since the F-N curve falls into the ALARP region, based on the risk criteria in HIPAP No.4, *"options should be considered to relocate people away from the affected areas."* In other words, there should be no intensification of population, unless significant risk reduction measures are undertaken.

#### 4 CRITIQUE OF THE PLANNING RISK ASSESSMENT REPORT

The Planning Risk Assessment report has some shortcomings which are highlighted here:

1. The assumptions list does not address assumptions relating to the specific risk assessment. For instance, how is the additional population of 1620 persons distributed in the building, as this has an effect on the risk assessed.
2. Figure 7 shows a maximum of 800 fatalities, whereas Figure 8 shows a maximum of less than 400. The number of fatalities estimated for the East Gardens future development appears excessive, and no details are provided.
3. The Planning Risk Assessment report (Ref.2) was carried out on the basis of the original Planning Justification Report (Ref.10). This report had specified a maximum building height of 34m. However, the Planning Justification Addendum in Ref.1 has specified the new development would be Part 34m in height and Part 70m in height. The high rise building wake may pose a problem in the dispersion of flammable and toxic gases from DG transport accidents, and, depending on the wind direction, may draw the gas towards residential areas in East and South of East Gardens complex. This would also alter the risk profile.
4. Information on the contributors to risk and ranking of the contributors is an important element missing in the report. Without this, risk mitigation measures cannot be identified, as the cumulative risk is already in the ALARP region.
5. There are three important risk mitigation measures listed in Ref.2.
  - All additional retail areas will be positively pressurised from air conditioning systems with elevated intakes as high as possible to minimise ingress of toxic vapours. Such arrangements are assumed to largely protect occupants from the effects of toxic gases arising from accidents on Denison St or Wentworth Ave.
  - The new retail areas to south of the expansion will be generally designed to have storage and back of house activities to the southern side of the building, with the bulk of customers and staff located on the northern side.
  - Construction of new retail areas will have solid steel reinforced concrete walls on the southern sides of the expanded retail areas. Such walls are to have no glazing and no ventilation ports to protect customers from the impacts of flash fires, jet fires and fireballs. Further, such walls will be fire rated to withstand LPG fire radiation of 37kW/m<sup>2</sup> for 15 minutes.

It is noted that the above measures are quoted in the Planning justification Report (Ref.1) and reproduced in the Planning Risk Assessment report (Ref.2). While Ref.2 states that the 'incremental' risk has been assessed based on the above mitigation measures in place. There is no information to judge this.





6. There needs to be a transparent link between a risk reduction measure and the risk contributor, demonstrating how the risk is mitigated by the proposed measure. This is missing as the contributors have not been identified.
7. The societal risk assessed for the future development at East Gardens in Ref.2 is not the incremental risk over and above the existing cumulative risk and hence determination of the BBLEP amendment cannot be made on that basis.

## 5 RECOMMENDATIONS

The following recommendations are made to Bayside Council in determining S17/75 Planning Proposal.

1. Refer to the Department of Planning for an interpretation of 'incremental risk' in societal risk assessment for new developments near major hazard facilities. This will assist in risk criteria compliance with HIPAP No.4.
2. The risk assessment must be updated to account for an increase in building height up to 70m, taking into account the building wake effects in the dispersion calculations. The report must also provide consequence results of incidents at the corner of Wentworth Avenue and Denison Street. Currently Ref.2 does not have consequence calculation results.
3. The existing cumulative F-N curve must be compared with an updated F-N curve including the population from the proposed future development at East Gardens to assess the impact of incremental risk. If the overall F-N curve including the proposed development exceeds the upper limit, the development clearly exceeds acceptable land use safety for the location.
4. The Planning Safety Report must be updated to address (a) risk contributors to the incremental risk and rank them (b) assumed population distribution of the 1640 persons (c) whether the risk was assessed for persons inside and outside the building, and at different levels in the building, and (d) how the risk mitigation in design suggested in Ref.1 have been addressed in the incremental risk assessment.
5. If the updated F-N curve for the area still falls within the ALARP and the incremental risk is deemed marginal, the development cannot be precluded.
6. The emergency response plan for the Westfield East Gardens complex must include response to a dangerous goods transport accident near the intersection of Denison Street and Wentworth Avenue.
7. There must be a public address system in the East Gardens Complex to notify shoppers of the actions to take in the event of a dangerous goods transport accident that may affect the car park on Wentworth Avenue.

## 6 REFERENCES

1. Planning Justification Report Addendum, Westfield East Gardens, Ubris Pty Ltd, March (2018).
2. Westfield East Gardens – Planning Risk Assessment, Systra Scott Lister, Revision 1, 25 May (2017).
3. Botany Bay Development Control Plan (DCP) (2013)
4. Dangerous Goods Transport Study – Denison Street, Botany, Scott Lister (2015)



5. "Review of Planning Controls - Denison Street, Hillsdale", Prepared for Botany Bay City Council by Arriscar Pty Ltd, Report J-000166-REP-RPC, Revision 0, 16 August 2016.
6. Sherpa Consulting Pty Ltd (25 September 2012) *Quantitative Risk Assessment Summary Report Botany Industrial Park* Doc no: 20613-001 Rev 1.  
<http://www.planning.nsw.gov.au/~media/Files/DPE/Reports/quantitativrisk-assessment-summary-report-botany-industrial-park-2012-09-25.ashx>
7. Hazardous Industry Planning Advisory Paper No.4, "Risk Criteria for Land Use Safety Planning", NSW Department of Infrastructure, Planning and Natural Resources (2011)
8. Department of Planning, January 2011, *Hazardous Industry Planning Advisory Paper No 11, Route Selection*, ISBN 978-0-73475-873-6, DOP HAZ\_0014.
9. Scott Lister (July 2015) Addendum to Dangerous Goods Transport QRA, Denison St, Hillsdale  
<http://www.botanybay.nsw.gov.au/files/sharedassets/public/documents/planning-and-development/risk/denison-street-qra-addendum-sm20150518-v01.pdf>
10. Planning Justification Report, Westfield East Gardens, Ubris Pty Ltd, May (2017).