



Amendment GC81

Fishermans Bend- Overarching

Expert Urban Design Evidence

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Instructed by

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On behalf of

Various landowners



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1.0 Introduction

- [1] I am a Principal of town planning and urban design consultants David Lock Associates (Australia) Pty Ltd (DLA). I hold qualifications in architecture and urban design. I have over twenty-five years' professional experience and have practised exclusively in the field of urban design since 1993. Further details of my qualifications and experience are outlined in Appendix A.
- [2] In January 2018, I was instructed by Norton Rose Fulbright, Planning & Property Partners and Russell Kennedy, on behalf of a number of landowners, to provide an independent urban design assessment of Amendment GC81. These landowners and their properties are identified in Appendix B.
- [3] In addition to the Amendment documentation and background documents provided to the parties, I have had the benefit of reviewing the urban design, planning, open space and transport evidence circulated by the Minister for Planning, and Melbourne and Port Phillip City Councils.
- [4] I attended the public briefing on 13 February 2018, and have listened to most of the cross-examination of Ms Hodyl and the presentation of Professor Adams.
- [5] My previous professional involvement in the Fishermans Bend area is summarised in Appendix C. This includes leading the preparation of a Structure Plan for the South Melbourne Industrial Precinct (the area subsequently renamed Montague).
- [6] In addition to the South Melbourne Industrial Precinct (Montague), I have led or been involved in the preparation of strategic plans for numerous urban renewal precincts, including the Sydney Road, Bridge Road and Victoria Street corridors, Highpoint, Forrest Hill, Balaclava, Preston Central, Dandenong Central, South Melbourne Central, St Albans, Darebin High Street and Footscray Central in Melbourne; and the Redfern and Waterloo housing estates, part of Wentworth Point, the Macquarie Park Corridor, St Leonards and the Carter Street Precinct in Sydney.
- [7] My evidence addresses matters of urban structure, street networks, density, built form and siting, and building design. It does not address questions relating to affordable housing, reverse amenity impacts, the selection or construction of planning tools, public infrastructure delivery mechanisms, development contributions, transport or car parking.
- [8] This statement assesses the overarching approach taken in developing the proposed planning framework, and the general urban design provisions. I will provide separate evidence on each precinct which addresses the urban design issues specific to those areas.
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[9] I have organised my overarching assessment of the Amendment as follows:

- **Section 2** provides a summary of my opinion.
- **Sections 3 and 4** outline the key aspects of the context against which I consider the Amendment should be assessed from an urban design perspective, being the role of Fishermans Bend in a metropolitan context and the key opportunities and challenges it presents for urban renewal.
- **Sections 5-8** provide my assessment of the overarching urban structure, density, street network, and built form and design parameters proposed by the Amendment.
- **Section 9** summarises my detailed recommendations.

[10] In order to inform my assessment of the Amendment, DLA undertook some research into the urban design characteristics of best practice urban renewal, with a focus on similar precincts to Fishermans Bend. This research is summarised at Appendix D. While it is by no means comprehensive, it has helped to inform my assessment of the proposed planning framework.

[11] DLA has also undertaken an analysis of alternative forms of high-density development to help inform my opinion about their potential applicability to the Amendment land. This is summarised at Appendix E.

[12] Finally, Appendix F contains a summary of the history of Fishermans Bend, which has also informed my assessment.

[13] I have considered the submissions to the exhibition which relate to my clients' properties, and those with urban design implications identified in submission summaries included in the Minister's Part A submission and other expert witness reports. These have informed my assessment.

2.0 Summary of Opinion

- [14] It is worth repeating just how significant the potential presented by Fishermans Bend is. The huge scale of the area, and its central location forming an extension of the central city, mean that this is an opportunity unlikely to ever be repeated.
- [15] This underlines how important it is to get the planning of this area right.
- [16] I agree that the current controls in the planning scheme are too simplistic, and need to be refined.
- [17] There is much that is right about the proposed planning framework from an urban design perspective: its primary organisation around public transport, its vision for a relatively self-contained community, its proposed urban structure featuring radial boulevards that are also activity spines, its network of public open spaces, the introduction of a much finer-grain street network to encourage walking and cycling, and the vision for diverse development and housing types.
- [18] However, there is also much that I question about the proposed planning framework: the way in which population targets have been used to determine the desired scale of development (rather than the other way around), the reliance on an uncommitted metro line, the notion that all developments in core areas will incorporate both residential and office uses, and the prescriptiveness of some of the provisions.
- [19] Substantial effort has been put into transport and other technical investigations. However, despite the recommendation of the Ministerial Advisory Committee (MAC) for the planning of the area to reflect the scale of the task (Report 1), there appears to have been only one urban designer informing the structuring and massing of development. This task is too important to be left to the ideas and resources of any one urban designer, no matter how good they are.
- [20] One of the consequences of that singular voice appears to be a lack of consideration of multiple scenarios, despite the MAC's recommendation to "*Test a number of macro scenarios that consider various options for the ultimate population, density, mix and servicing requirements*" (page 44 of Report 1). Instead, population targets developed six years ago still form the basis of the planning for the area, and do not appear to have been updated (or their basis reviewed). Nor do alternative approaches to determining the appropriate scale of development appear to have been explored.
- [21] I am concerned that this is a result of compressed timeframes. As noted by SGS' *Best Practice Urban Renewal* report for the Bays Precinct in Sydney (<https://www.sydneyyoursay.com.au/7612/documents/17800>),
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“Where planning and delivery time frames for major renewal projects are unrealistically compressed it is likely that the project rationale and objectives may be misguided. City building can-not be put ‘on fast forward’ or made to fit an electoral or development cycle for example ... A rigorous planning process involves the development and evaluation of multiple possible future options.”

- [22] There appears to be no funding commitment to the proposed underground metro line, despite the MAC’s recommendation that *“An early in principle decision on the timing and route/s of the tram network, and any future Metro line through the Area is critical and must precede further decisions about possible development yield and density outcomes and fine grain neighbourhood planning.”* (Recommendation 13, Report 1). However, it is fundamental to the proposed planning framework—particularly the notion of a major employment node at Sandridge.
- [23] I have based my assessment on the assumption that the metro line will go ahead, as it is an integral part of the planning for the area. Clearly, if it does not proceed, there would need to be a major reappraisal of the employment expectations and, potentially, the residential density.
- [24] Even if it is assumed that the metro line will be built, there remains uncertainty about which alignment will be adopted. This calls into question the proposed provision of 4,000 jobs in Wirraway (the same number as Montague, and only 33% less than Lorimer). (Interestingly, the proposed maximum densities in Wirraway do not appear to reflect the potential for a metro station, being less than the proposed maximum densities in both Lorimer and Montague, neither of which are proposed to have a station.)
- [25] I consider that the approach that has been taken to set the scale of development at Fishermans Bend, based on pre-set population targets, is fundamentally flawed. While the Minister for Planning has submitted that the figures of 80,000 residents and 40,000 jobs are not targets but rather *“informed expectations”*, the critical fact is that they have determined the residential density controls, so they act to limit the amount of housing growth that can be accommodated within the urban renewal area (irrespective of the rate of development).
- [26] I accept the Minister’s submission that *“The adoption of a population target, express or implied, is a necessary tool for the orderly and effective planning of an area. The absence of defined expectations about the likely or desirable future population of an area undermines the ability to make non-arbitrary decisions about the level of infrastructure that is required to*

support the population.” However, the calculation of such targets should be based on the capacity of the area, not dictate it.

- [27] The proposed FAR and height controls need to be reviewed to ensure the contribution of the renewal area to Melbourne’s growth is optimised. In my view, the process for determining the appropriate scale of development should start by designing a desired built form character for each area that balances amenity outcomes and provision for growth, with estimates of the resulting floor area used to inform infrastructure planning. The reverse process that has been adopted is a case of the tail wagging the dog, which has resulted in wastefully conservative densities in places.
- [28] The Wirraway non-core area provides the most glaring example of the flawed nature of this approach. The way in which the total floor area has been determined and then distributed across the Amendment land (with a sharp drop-off in density outside the employment cores) has resulted in a built form density in the non-core area of Wirraway of only 2.1:1, and an average population density for the whole of Wirraway of only 187 residents per hectare, well below the predominant range of 250-350 people per hectare found in comparable inner city precincts. I do not consider that this optimises the contribution of Wirraway to accommodating Melbourne’s growth. (Nor is it necessary in order to achieve ‘family-friendly housing’.)
- [29] It is entirely appropriate for a planning framework for an urban renewal area to be selective about or shape development forms to achieve good planning and urban design outcomes. However, given the imperative to house our growing population, those choices should not needlessly constrain development.
- [30] The *Best Practice Urban Renewal* report for the Bays Precinct also recommends “*Avoid overly prescriptive controls: Block planning, envelope controls and desired outcomes should be preferred over highly detailed prescriptive controls. In other words the plan should not be the design. Renewal projects take place in timeframes of up to 20 years. Overly prescriptive plans lack flexibility to respond to emerging technological advancements or global trends and can be hamstrung by conflicts arising in the detailed design process.*” And “*Within pre-determined building envelopes and broad controls, private sector development should be allowed to explore built form possibilities. This can help foster local distinctiveness; encourage design innovation and further architectural vernacular.*”
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- [31] This is consistent with DLA’s research into successful urban renewal projects, which indicates that planning frameworks need to be flexible to respond to evolving circumstances and the individual conditions of each site and developer. The simplicity of prescribing outcomes (such as the quantity of non-dwelling floor area in each development) is appealing from an assessment perspective, but it may preclude good, if not better outcomes. The challenge of formulating a planning mechanism that ensures certainty of outcome without fixing the design solution should not deter us from exploring flexible controls.
- [32] My experience is that development that mixes shops, office space and residential accommodation is rare. Shops are frequently mixed with offices or with residential space, but offices and residential uses are rarely found in the same building, perhaps in part because of the need for distinct identities, and separate car parking and vertical access. Therefore, the most likely form of a mixed-use precinct with notable proportions of both residential and employment space is separate retail/ office and retail/ residential buildings. Forrest Hill and the Como complex, both in South Yarra, are examples of this.
- [33] This raises the question of whether the proposed requirement for all development in core areas to incorporate office space is too rigid, and whether an alternative strategy—such as defining the land use outcomes to be achieved across an area, but allowing developers to negotiate how they are delivered—might be more successful.
- [34] I support the use of density controls to foster built form flexibility and diversity, provided they are carefully calibrated with the building envelope controls to balance this outcome with provision for growth. However, it appears that the site testing is insufficiently robust to confirm that density and building envelope controls are appropriately calibrated.
- [35] I also support the types of built form control proposed, in general. However, I consider that they require refinement, and that some aspects of them are too prescriptive.
- [36] In summary, the opportunity presented by Fishermans Bend is to both create a great place that sets a benchmark for high quality urban development, and make a significant contribution to housing Melbourne’s growth. It is not clear that the proposed planning framework optimises community benefit in terms of both of these goals. I consider that the particular character choices made, a desire for ‘extreme diversity’ and a commitment to unsubstantiated population targets, have been given too much weight, at the detriment of providing homes for Melburnians.

[37] While I consider that some parts of the proposed planning framework are sufficiently sound to be introduced into the planning schemes, I consider that others require much more work before this can occur.

[38] I provide detailed recommendations in section 9.

3.0 The Role of Fishermans Bend

3.1 Providing for growth

- [39] Metropolitan planning policy for Melbourne is set by Plan Melbourne. Plan Melbourne identifies that *“Melbourne will need 1.6 million new homes over the next 35 years”*. It adopts the compact city model, noting that *“It is unsustainable to keep expanding Melbourne’s outer-urban growth areas”* and identifying the benefits of creating a more compact, sustainable city as *“profound”*. Direction 2.1 is to *“Manage the supply of new housing in the right locations to meet population growth and create a sustainable city”*. Direction 2.2 goes further, declaring *“Deliver more housing closer to jobs and public transport”*.
- [40] Policy 2.1.2 is *“Facilitate an increased percentage of new housing in established areas to create a city of 20-minute neighbourhoods close to existing services, jobs and public transport”*. Plan Melbourne notes that since 2014, around 70% of new housing has been in established areas. It urges that *“Melbourne must build on this current trend”* (towards more development in established areas).
- [41] However, the intensification of established areas is balanced with the proposition that *“Growth needs to be planned and managed in a way that maintains the city’s liveability”*. This leads to a recognition that *“Areas in and around the central city offer significant urban renewal opportunities to develop as new places for people to live and work ...”* because *“Maximising development opportunities of these precincts will minimise the need to increase residential densities in other parts of the city”*. These opportunities include urban renewal precincts such as Fishermans Bend.
- [42] Therefore, Policy 2.2.2 is *“Direct new housing and mixed-use development to urban renewal precincts and sites across Melbourne”*. Plan Melbourne goes on to note that *“Urban renewal precincts will be major sources of medium- and higher-density mixed-use development”*.
- [43] Plan Melbourne also notes that *“There is a need to find ways to give the market some flexibility to maximise development opportunities. For instance, additional development rights could be granted in exchange for the provision of additional amenity in the central city and other key urban renewal and structure plan areas.”*
- [44] Plan Melbourne identifies each of the Lorimer, Montague, Sandridge and Wirraway precincts as major and priority urban renewal precincts. It also identifies the Employment Precinct as a National Employment and Innovation Cluster, and as a place of State significance that will be the focus for investment and growth.



Map 4

Key features in and around Melbourne's central city



Plan Melbourne Map Extract

[45] The directions of Plan Melbourne are supported by State planning policy at clause 11.06 of the SPPF, which encourages “Major Urban-Renewal Precincts in and around the Central City to deliver high-quality, distinct and diverse neighbourhoods offering a mix of uses ... (and) high amenity mixed-use neighbourhoods that offer a range and choice of housing and other

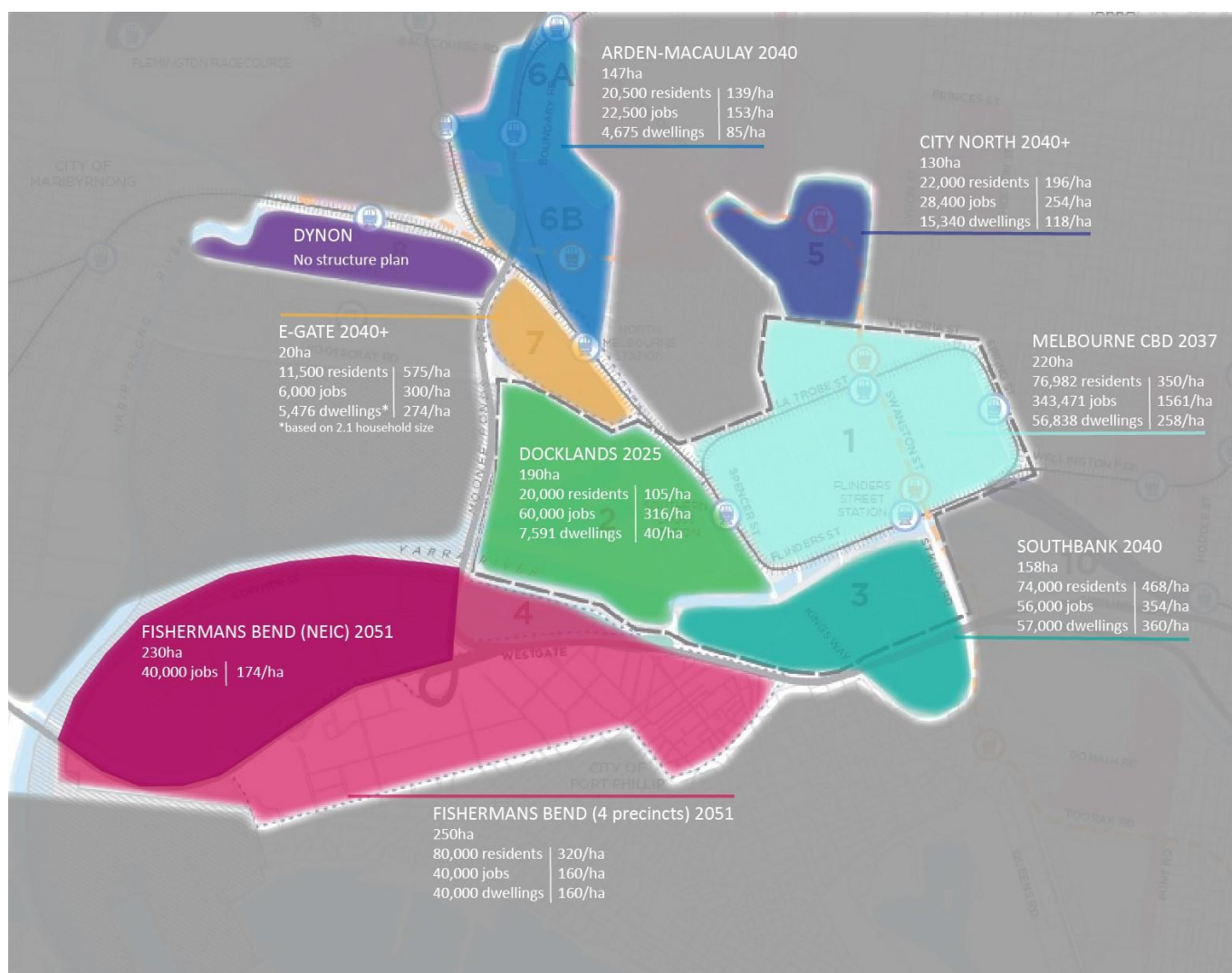
services". It directs new housing and mixed-use development to urban renewal precincts, and seeks the creation of *"20 minute neighbourhoods close to existing services, jobs and public transport ... that give people the ability to meet most of their everyday needs within a 20 minute walk, cycle or local public transport trip of their home"*.

- [46] The Melbourne MSS identifies the need to direct urban growth into specific areas of the City to protect the valued characteristics of other, 'stable' areas (clause 21.04-1). Fishermans Bend is one of the areas where growth is directed.
- [47] Similarly, the Port Phillip MSS states *"Meeting the demand for new housing must be carefully managed to protect the heritage, neighbourhood character and amenity of established residential areas, and the economic capacity of activity centres ... Strategic redevelopment sites and precincts (such as former industrial areas now zoned for mixed use and the Fishermans Bend Urban Renewal Area) provide the key opportunity to accommodate a large proportion of Port Phillip's new housing growth."* (clause 21.04-1).
- [48] The Melbourne MSS identifies Fishermans Bend as part of the 'expanded Central City'.
- [49] The vision within Port Phillip's MSS seeks (among other things) *"A city of distinct neighbourhoods where an understanding of local character and heritage is an important element of a sustainable future"* (clause 21.01-1). It also states *"The City of Port Phillip continues to play an important role in providing well designed additional housing to accommodate population growth and this is one of the primary ways in which the city can contribute to reducing the effects of climate change, by providing alternatives to urban sprawl. A major challenge related to this is ensuring housing choices remain diverse, affordable and easy to access by sustainable means of transport."* (clause 21.02-1).
- [50] Both MSSs include Fishermans Bend Urban Renewal Area statements (at clauses 21.13-3 and 21.06-8 respectively). These provisions reference the Fishermans Bend Strategic Framework Plan, July 2014 (amended September 2016) and provide general strategies consistent with it in support of the urban renewal of Fishermans Bend.
- [51] The proposed revisions to the Port Phillip MSS include a statement that *"Port Phillip has a key Activity Area in the Fishermans Bend Urban Renewal Area. This area will transition from an industrial area to a genuine mixed use environment with a residential and commercial focus. In particular, the Sandridge precinct is identified as an area suitable for significant commercial development to support the central city economy. Clean*
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industrial uses that adequately address potential amenity impacts will continue to be support [sic.] in the urban renewal area.” (clause 21.04-3).

- [52] In summary, State and local planning policy clearly identify the need to accommodate substantial growth without damaging the liveability, amenity and character of established residential suburbs. Fishermans Bend is identified as a significant opportunity to address this need. For this reason, Plan Melbourne seeks the *maximisation* of development opportunities within Fishermans Bend. However, this must be balanced against the need to deliver high quality urban places (see clause 15.01-1).
- [53] Plan Melbourne’s ‘Aspirational scenario’ is that the Inner Metro area (which includes Fishermans Bend) will provide for an additional 230,000 dwellings in the period 2015-2051. Recent plans for the other major development and urban renewal precincts in the Inner Metro region, and their planned capacity for new housing, are as follows:

Precinct	Planned additional dwellings	Period	Source
CBD	31,500	2017-2037	http://melbournepopulation.geografia.com.au/ http://www.melbourne.vic.gov.au/about-melbourne/research-and-statistics/city-economy/census-land-use-employment/pages/clue.aspx
Southbank	43,000	2010-2040	http://www.melbourne.vic.gov.au/building-and-development/urban-planning/Pages/transforming-southbank-boulevard.aspx http://www.melbourne.vic.gov.au/SiteCollectionDocuments/southbank-structure-plan-2010.pdf
Docklands	9,250	-2025	http://www.melbourne.vic.gov.au/SiteCollectionDocuments/access-docklands-strategy.pdf Assuming 1.3 persons per household, as per Southbank
E-gate	8,850	-2040	http://www.melbourne.vic.gov.au/SiteCollectionDocuments/access-docklands-strategy.pdf Assuming 1.3 persons per household, as per Southbank
Dynon			
Arden-Macaulay	10,900	2011-2040	http://www.melbourne.vic.gov.au/SiteCollectionDocuments/arden-macaulay-structure-plan-2012.pdf
City North	5,800		http://www.melbourne.vic.gov.au/building-and-development/urban-planning/local-area-planning/Pages/city-north-structure-plan.aspx
TOTAL	109,300		



Urban renewal areas in inner Melbourne, with their size and planned capacity

[54] This suggests that by approximately halfway to 2051, about half of the dwellings needed by then will be provided by the other urban renewal precincts (not including Fishermans Bend). However, it is not clear whether they will be built out (or largely built out) by then or whether they will still have capacity to provide for further growth.

[55] This leaves a potential shortfall of approximately 120,000 dwellings to be provided in Fishermans Bend and other incremental opportunities within the Inner Metro region.

[56] The recently-published Infrastructure Australia report *Future Cities: planning for our growing population* concluded that its ‘centralised higher density city’ scenario performed best on all but one category, including public transport mode share access to jobs via public transport, access to hospitals, schools and green space. This scenario is based on 20% of growth being accommodated in greenfield areas, compared with the 30% target in Plan Melbourne. Therefore, if this scenario is pursued, even more growth would need to be accommodated in the CBD and inner suburbs.

Table 10: Melbourne – Centralised High Density scenario – population by planning subregion

Planning subregion	Reference Case (2015)	Centralised High Density scenario (2046)	Percentage change
Central	520,000	1,090,000	111%
Eastern	1,070,000	1,490,000	40%
Northern	900,000	1,540,000	71%
Southern	1,230,000	1,810,000	48%
Western	750,000	1,320,000	76%
Total population	4,460,000	7,260,000	63%

Note: Population rounded to the nearest 10,000. Percentage change is calculated using more detailed underlying data and then rounded.

Future Cities: planning for our growing population (Infrastructure Australia) Figure 10

[57] Professor Adams suggests that we do not need to maximise density in Fishermans Bend because there is ample capacity in other parts of metropolitan Melbourne to accommodate growth, particularly in activity centres and along tram lines (see <http://www.transformingaustraliacities.com.au/wp-content/uploads/Transforming-Australian-Cities-Report.pdf>). I support Professor Adams’ vision. However, much of that capacity is being stymied by current planning controls, principally due to concerns about changes to character. In my view, we ought to make the most of the opportunity presented by Fishermans Bend to contribute to meeting Melbourne’s housing needs, rather than relying upon the capacity Professor Adams refers to being unlocked in the future.

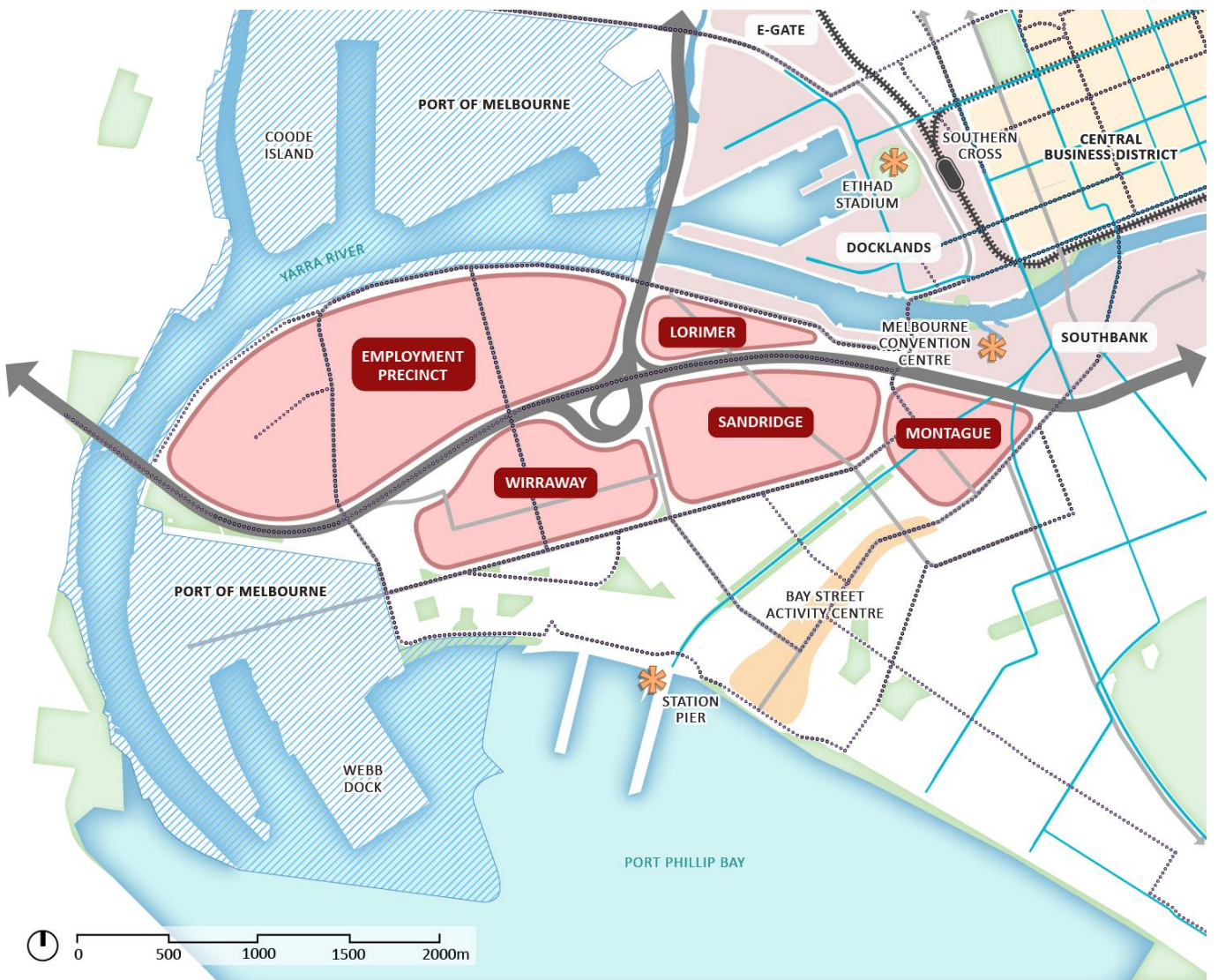
3.2 Vision

- [58] Plan Melbourne seeks to maintain and reinforce Melbourne’s qualities as a distinctive and liveable city with quality design and amenity, including higher standards of higher-density housing.
- [59] Since the rezoning of Fishermans Bend to the CCZ in 2012, a number of documents have been released to guide its redevelopment. Each of these has built on the previous work to some degree and provides an overarching vision for the urban renewal area and desired future characters for each precinct.
- [60] The 10 Strategic Directions outlined in the draft 2013 Vision build on and support the 9 principles identified in Plan Melbourne. These have been refined to 8 Sustainability Goals which inform a series of objectives and strategies in the latest (2017) draft Fishermans Bend Framework.
- [61] All of these documents have been based on:
- Sustainable and active transport
 - Medium-high density
 - Mixed use
 - Distinct neighbourhoods
 - Diverse housing types
 - Walkable neighbourhoods
- [62] The estimated population has been relatively consistent at around 80,000 residents (although some early explorations included a 60,000 *dwelling* scenario). The estimated number of jobs has risen from 40,000 to 60,000 and now 80,000, through the inclusion of the Employment precinct within the urban renewal area (though only 40,000 of these jobs are intended to be delivered by the Amendment land).
- [63] The land use and built form vision has transformed over the last six years, partly in response to changes in the proposed public transport network—particularly in relation to underground rail. However, the promotion of new activity centres along the Plummer Street/ Fennell Street civic spine, in the centre of Lorimer and along Buckhurst Street in Montague, has remained relatively constant. Further, the principle of a 4-storey limit along the southern edge of the renewal area (albeit varying between mandatory and discretionary) and very tall buildings (either unlimited or up to 40 storeys in height) in the northern part of the Amendment land have remained relatively constant (noting that the area of very tall buildings has grown west and shrunk back again). In between, the proposed maximum heights have variously ranged up to 18 and 30 storeys.

- [64] Local policies within each planning scheme (at clauses 22.27 and 22.15— Employment and Dwelling Diversity within the Fishermans Bend Urban Renewal Area) support the provision of more 3 bedroom dwellings and 6% affordable housing for new development. However, specific visions or preferred character statements for the individual Fishermans Bend precincts have not yet been introduced into local policy.
- [65] In summary, the vision for the Amendment area is for a relatively self-contained neighbourhood in which people of all household types can live, work, learn and play in diverse, distinctive and inviting environments.

4.0 Opportunities and Challenges

- [66] At first glance, Fishermans Bend presents an enormous opportunity to accommodate growth on the doorstep of the CBD. Its size and centrality, combined with relatively underdeveloped land affected by relatively few amenity, character or heritage constraints, offer a scale of development potential that is unparalleled in inner Melbourne. When compared with other inner Melbourne urban renewal areas such as City North and Arden Macaulay, Fishermans Bend is not only much larger, but it is not hindered by character values or amenity concerns within or immediately surrounding it to anywhere near the same degree.
- [67] However, a second glance reveals a number of significant challenges that need to be overcome if this opportunity is to be realised. Not least of these is that the area is surrounded and dissected by major barriers to movement—the West Gate Freeway and the Yarra River and associated port land, both of which have few crossings, and the adjacent low-rise residential neighbourhood of Port Melbourne, which has significant character and heritage values. This will limit the integration of the renewal area with the surrounding urban context.
- [68] As a result, it is critical that Fishermans Bend has a high level of self-containment to maximise the ability for its inhabitants to meet their needs without having to leave the area, to avoid major congestion problems and to minimise the need for huge investments in transport connections to the surrounding area. The patterns of land use, density and movement will play a fundamental role in supporting self-containment. At a high level, self-containment requires a balance of homes and jobs, sufficient density to support a wide range of jobs and services, the introduction of a much finer-grain street network to facilitate walking and cycling, and the introduction of excellent local public transport services.
- [69] However, excellent, high-capacity connections to the surrounding area will still be needed—particularly to enable people from outside Fishermans Bend to access its jobs, if it is to fulfil its role as a business location of metropolitan (if not national) significance, but also to enable its residents to have access to a broader range of jobs (especially in the CBD and Docklands). The renewal area has excellent access to the motorway network via the West Gate Freeway and CityLink, and Montague has good access to the CBD by light rail. However, the minimal public transport services in the other three precincts will need to be substantially enhanced.



LEGEND			
	PRECINCT BOUNDARIES		CBD
	FISHERMANS BEND PRECINCTS		LANDMARK
	MAJOR URBAN RENEWAL PRECINCT		PUBLIC OPEN SPACE
	PORT OF MELBOURNE		ACTIVITY CENTRE
	TRAM LINE		ARTERIAL ROAD
	BUS ROUTE		RAILWAY
	FREEWAY		TRAIN STATION

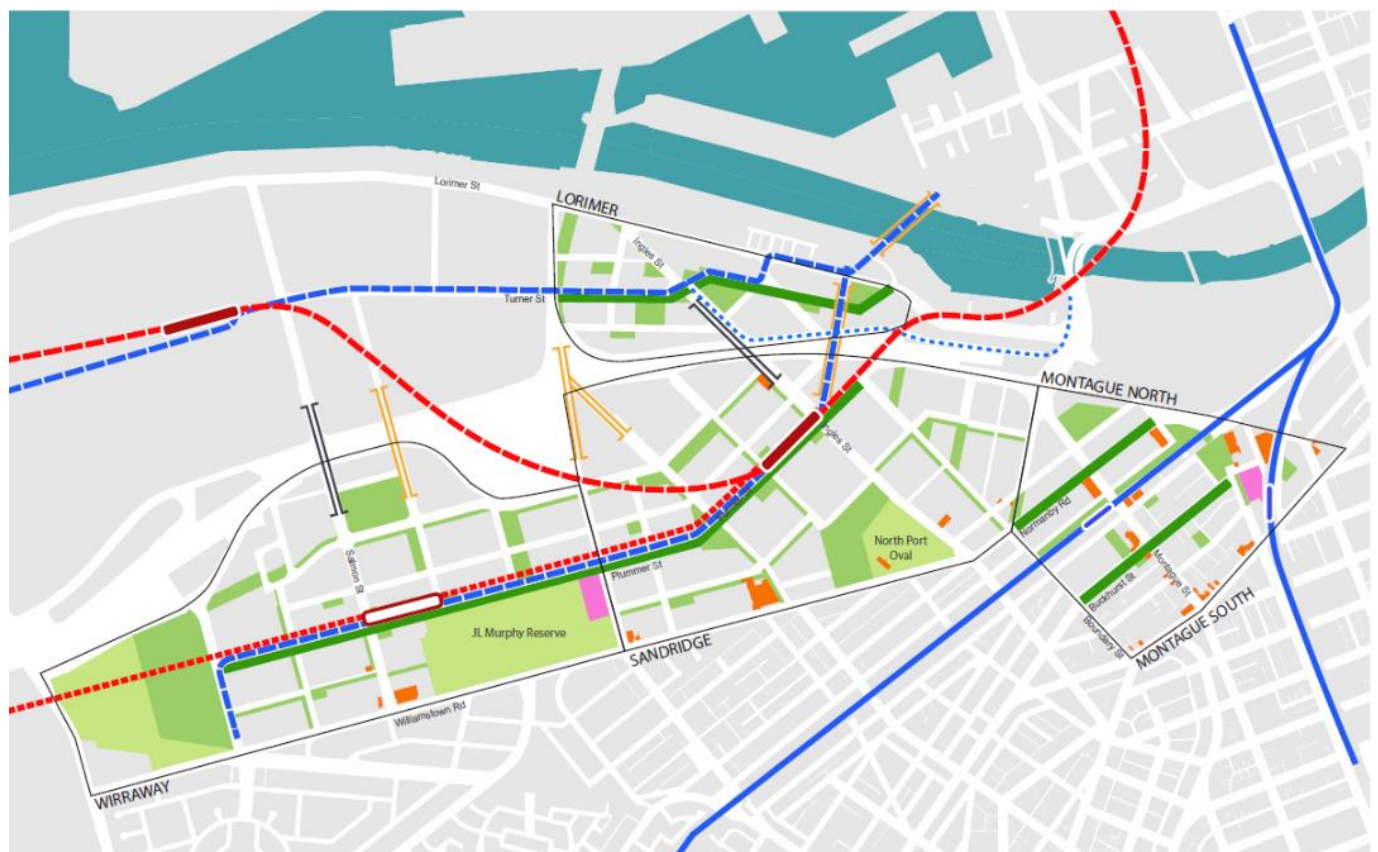
Fishermans Bend Urban Context

- [70] Although it is not hampered by character and amenity concerns, development within Fishermans Bend is not free of constraint. Contamination and ground conditions add significant costs and influence the form of development—most notably, foundation types and the viability of basements. The flat and low-lying nature of the land brings a risk of flooding and exposure to sea level rise. The overhead power transmission lines create visual blight, as might a future elevated freight rail line. Existing industry and port activities will inhibit sensitive uses and generate freight traffic which detracts from the area’s appeal for residential uses. There are few trees to add visual amenity, and pedestrian and cycling infrastructure is poor.
- [71] The transformation of the area from an industrial precinct to a successful mixed-use district will require a fundamental reconfiguration of its street network and the addition of significant community infrastructure. The private ownership of most of the land, its high value and its fragmented ownership in some places (likely resulting in incremental development), will make the introduction of new public infrastructure challenging.
- [72] However, there are some existing features which can be capitalised upon to contribute to a unique sense of place, including the fine-grain subdivision and building pattern in Montague South and heritage buildings dotted around the area.
- [73] In summary, while Fishermans Bend presents a tremendous opportunity to deliver on the directions of Plan Melbourne in relation to accommodating growth and strengthening the economic base of the city, its development will require some significant challenges to be overcome. It is critical that the planning framework confronts these challenges.

5.0 Assessment—Urban Structure

5.1 Introduction

- [74] This section assesses the proposed urban structure of the Amendment land—the high-level patterns of movement, land use, open space, density and built form, and the relationships between them.
- [75] The proposed planning framework seeks to establish an urban structure based on the following elements:
- An underground metro rail line, with two stations within the broader Fishermans Bend area expressed by greater densities and taller buildings, along with a requirement for commercial uses in the Amendment land
 - A principal east-west spine through the areas north and south of the West Gate Freeway respectively, each defined by a wider ‘boulevard’ cross-section containing a tram route and strategic cycle route and, within the Amendment land, edged with active retail frontages, reinforced by education and community hub investigation areas, and protected from vehicle crossovers
 - Two principal north-south corridors along Salmon Street and Ingles Street, with the latter extended to the base of the Bolte Bridge, reinforced by bus routes
 - Two additional commercial precincts with active retail frontages in Montague, one of which terminates in the new Ferrars Street primary school and community hub
 - A grid of linear open spaces, generally offset from the spines identified above, and punctuated by a number of large parks



- Proposed block structure
- Existing green open space
- Proposed open space (squares / parks)
- Heritage buildings
- Proposed school sites*
- Proposed metro line and stations (preferred location)**
- Alternate metro line and station**
- Existing tram lines
- Proposed tram lines
- Alternate tram route
- Existing bridge (vehicle, cycling and pedestrian access)
- Proposed bridge (no vehicular access)
- Boulevards / key civic spines

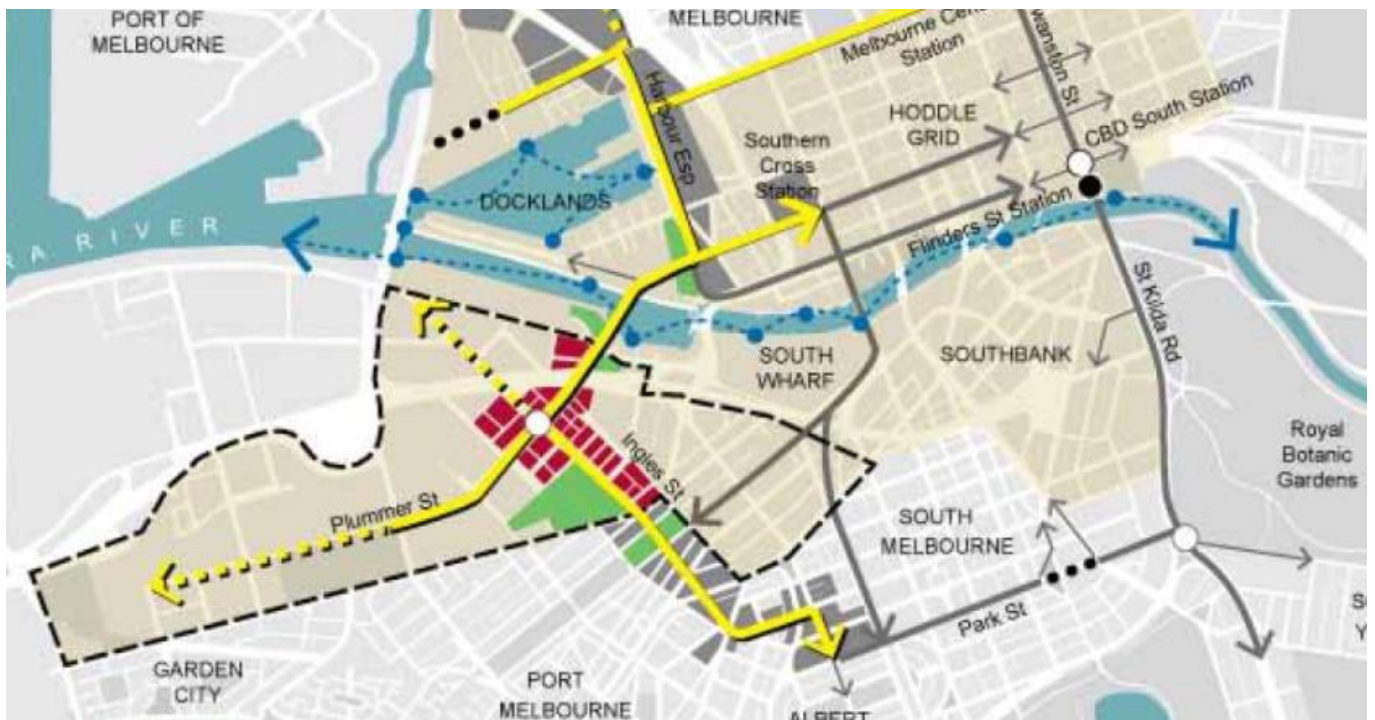
Urban Design Strategy Figure 4

5.2 Public transport integration

- [76] The proposed urban structure is fundamentally underpinned by the proposed public transport network. This represents sound integration of land use and transport. The introduction of major new public transport services is also consistent with DLA's research into successful urban renewal projects (see Appendix D).
- [77] DLA's research also found that successful urban renewal projects are typically within the heart of a city or form logical extensions of a city centre. This leverages existing movement networks to enable people to get to and from the renewal area easily. The proposed organisation of Fishermans Bend around public transport arteries leading directly into the CBD is consistent with this best practice.
- [78] However, there appears to be no funding commitment to the proposed underground metro line, despite the Ministerial Advisory Committee's Report 1 (October 2015) recommending an *"An early in principle decision on the timing and route/s of the tram network, and any future Metro line through the Area is critical and must precede further decisions about possible development yield and density outcomes and fine grain neighbourhood planning."* (Recommendation 13). The proposed metro line is fundamental to the proposed planning framework—particularly the notion of a major employment node at Sandridge.
- [79] I have based my assessment on the assumption that the metro line will go ahead, as it is an integral part of the planning for the area. Clearly, if it does not proceed, there would need to be a major reappraisal of the employment expectations and, potentially, the residential density.
- [80] Mr Kiriakidis states (at page 63) that *"there remains uncertainty around the timing and sequencing of infrastructure delivery and the potential challenges raised by a lack of transport infrastructure provision, particularly in the short and medium term. These uncertainties introduce questions around maintaining a connected, liveable and prosperous community which are fundamental to the achievement of the Vision for the precinct."*
- [81] This raises the question of whether the proposed controls are premature. However, it is not within my expertise as an urban designer to comment on this, as it is essentially a transport planning question.
- [82] Even if it is assumed that the metro line will be built, there remains uncertainty about which alignment will be adopted. I note that the Urban Design Strategy prefers the northern alignment, which would mean there

is no station in Wirraway. I assume that the reason for this is that the success of the Employment precinct will rely on rail-based accessibility.

- [83] The PwC Fishermans Bend Economic and Transport Infrastructure Study states (at page vi): *“Delivery of a train alignment through Sandridge and the Employment Precinct would provide service for public transport demand under the 80% sustainable transport target at 2051 (Scenario 1 and 2) – this would not be the case if the train were delivered to Wirraway (Scenario 3).”* And (at page 41): *“Compared with the Scenario 2 outcome, Scenario 3 would only increase employment by a net of 100 jobs (compared to the Base Case). Wirraway would receive a small uplift in jobs from receiving the train. However, this would be marginal compared to the loss in jobs in the Employment Precinct (1,000) from not being connected to the train.”*
- [84] The Fishermans Bend Integrated Transport Plan states (at page 13) that *“A final decision on the western station should be informed by the broader feasibility of the underground rail connection.”*
- [85] Mr Kiriakidis’ evidence notes (at pages 45-46) that *“the ITP provides an acknowledgement that the southern alignment offers slightly better performance. Based on my experience, the addition of another 20,000 jobs in the northern precinct could counter-balance results to the extent that the northern rail alignment is more favourable ... This exercise indicates that further analysis should be completed in relation to the impact of the additional 20,000 jobs in the employment precinct may have on the preferred rail station and the two-short-listed heavy rail alignment options.”*
- [86] This calls into question the proposed provision of 4,000 jobs in Wirraway (the same number as Montague, and only 33% less than Lorimer—see Table A.2 on page 108 of the Urban Design Strategy). Interestingly, the proposed maximum density in Wirraway does not reflect the potential for a metro station at FARs of only 4.1:1 in the core area and 2.1:1 in the non-core area, which are less than the proposed maximum densities in both Lorimer and Montague, neither of which are proposed to have a station.
- [87] The 2013 draft Vision identified the potential for a tram route from Park Street in South Melbourne to Sandridge Station, and beyond to Lorimer (in addition to the proposed Fennell Street/ Plummer Street tram—see yellow arrows in diagram below). This would provide greater public transport accessibility for the renewal area, and the Sandridge employment node in particular. It is not clear why this option has not been continued.



Draft Vision (2013) Figure 15

5.3 Street hierarchy

[88] The proposed planning framework identifies a road function hierarchy (see below). However, this is distinct from the primary public transport, pedestrian and cycling hierarchy, which focuses on the civic spines of Turner Street and Plummer/ Fennell Streets, and is identified by wider road reserves, strategic cycle corridors and a prohibition on crossovers.

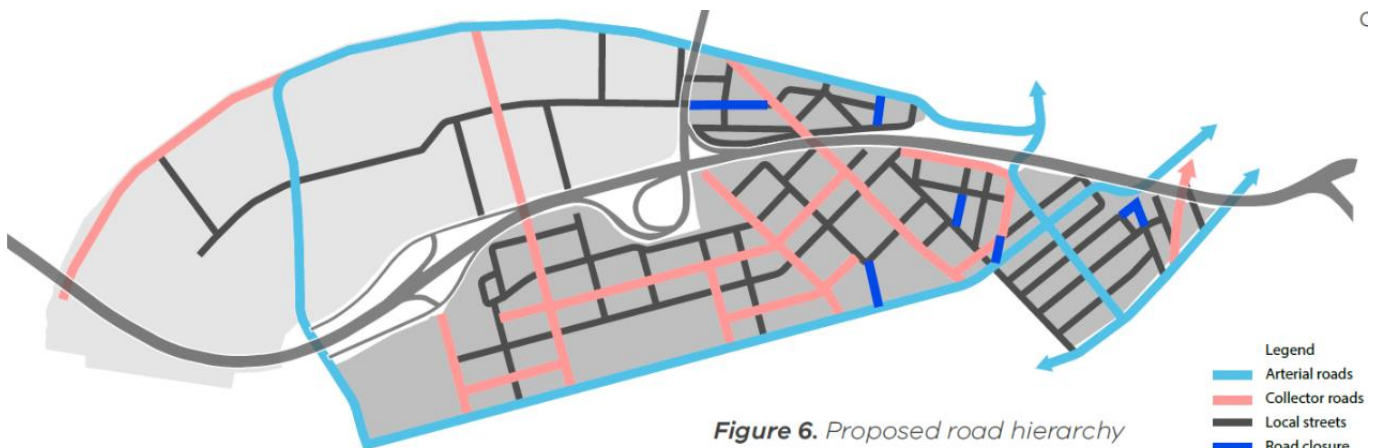
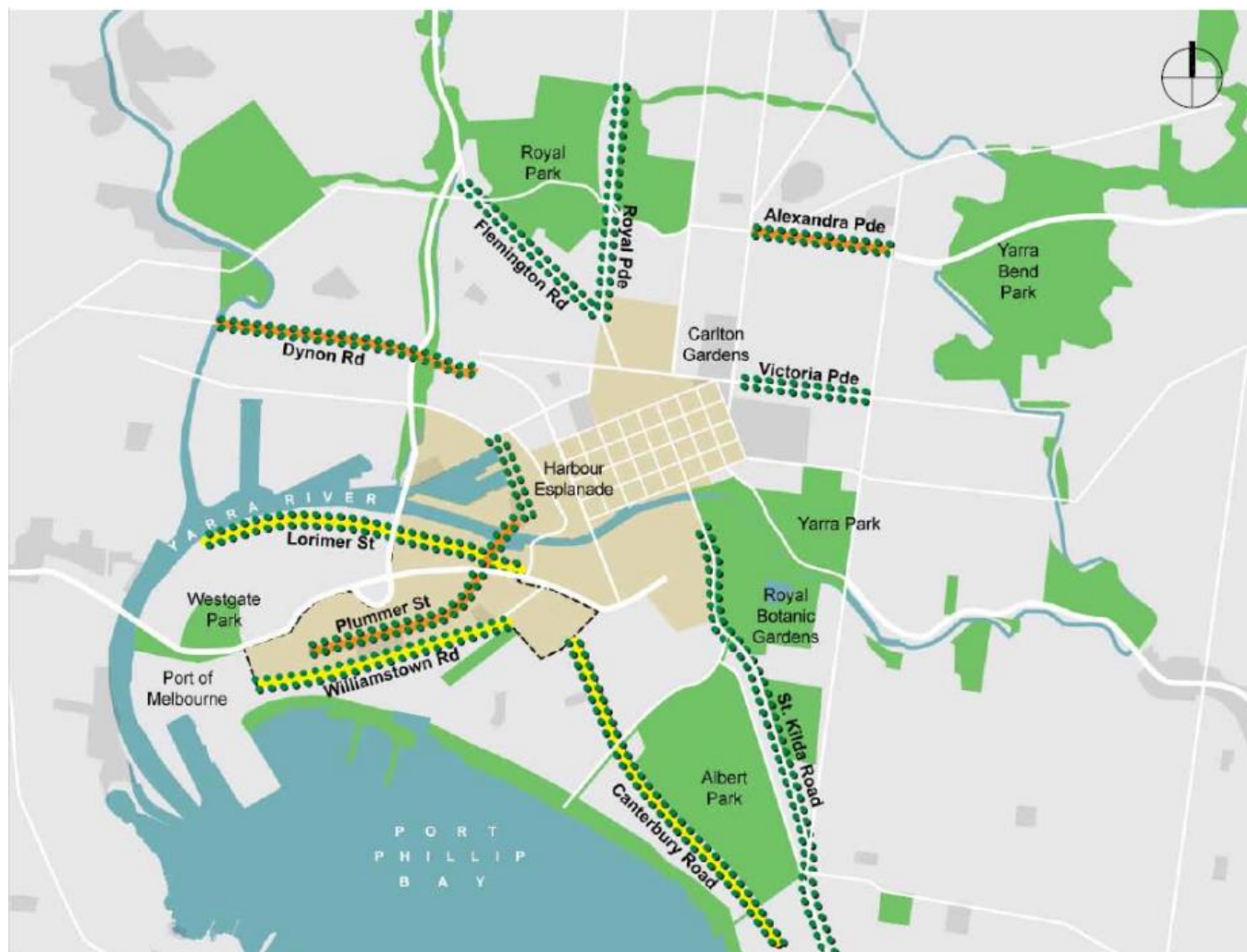


Figure 6. Proposed road hierarchy

Draft Fishermans Bend Framework Figure 6

- [89] Plummer Street, Fennell Street and Turner Street will be the widest streets at 36-40m, while Salmon and Ingles Street will continue to be relatively wide streets. This will reinforce the intelligibility of the overall urban structure.
- [90] The creation of a 'civic spine' along Plummer and Fennell Streets that connects the Amendment land to the CBD will reinforce its role as an extension of the Central City. It will also provide a memorable boulevard that contributes to the identity of the area, and reflects the foundational morphology of inner Melbourne, as shown below.



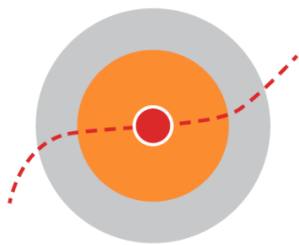
Draft Vision (2013) Figure 19, illustrating the way in which the proposed Lorimer (now Turner Street) and Plummer/ Fennell Street boulevards reflect Melbourne's foundational morphology of radial boulevards

5.4 Land use and built form intensity

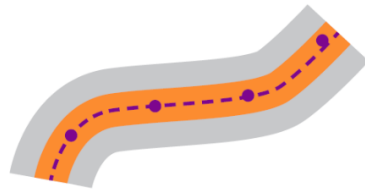
- ^[91] The planning framework defines ‘core’ and ‘non-core’ areas. Core areas are permitted to have greater dwelling density (typically around twice that of non-core areas in the same precinct) and as much non-dwelling floor area as can be contained within the building height and setback parameters. However, they are required to have a minimum amount of non-residential, employment-generating floor area, and active frontages. Some activity centre uses (such as supermarkets and cinemas) require a permit to be located in non-core areas, and dwellings require a permit to be located in core areas. (However, office uses—other than bank—are ‘as-of-right’ in all of the Amendment land.)
- ^[92] I support the principle of mixed-use development and, in particular, planning for a significant number of jobs in the urban renewal area. This is consistent with the findings of DLA’s research into best practice urban renewal (see Appendix D). As mentioned earlier, the success of this precinct will rely on a high degree of self-containment. Balancing the number of trips into and out of the area for work will also help to get maximum value from public transport infrastructure and services.
- ^[93] I also support planning for activity centres (comprising both community and commercial uses) to contribute to the ability for residents and workers to meet their needs locally and to contribute to a sense of community.
- ^[94] The Urban Design Strategy explains how the core areas have been defined as follows (page 44):

The extent of each core activity area has been informed by:

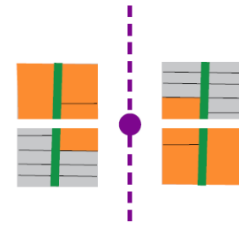
- *The vision for each precinct, e.g. Buckhurst Street in Montague is clearly identified as an activity street creating a new community heart and local centre*
- *Walkable catchments in each precinct from public transport nodes - the extent and shape of the catchment will vary depending on the level of service provision proposed (see figures 21 and 22)*
- *Existing context, to exclude developments that do not support high levels of activity, for example, existing townhouse developments in Sandridge, and the need to provide a degree of buffer to existing, adjacent low-scale, residential precincts to the south.*



Sandridge: 5 minute walk from train node



Wirraway and Lorimer: Generally blocks fronting tram corridors. As Lorimer is only 400m metres wide at the widest point, this includes the whole precinct



Montague: Generally large sites within blocks fronting proposed civic spines/local centres (supported by adjacent tram services)

Urban Design Strategy Figure 21

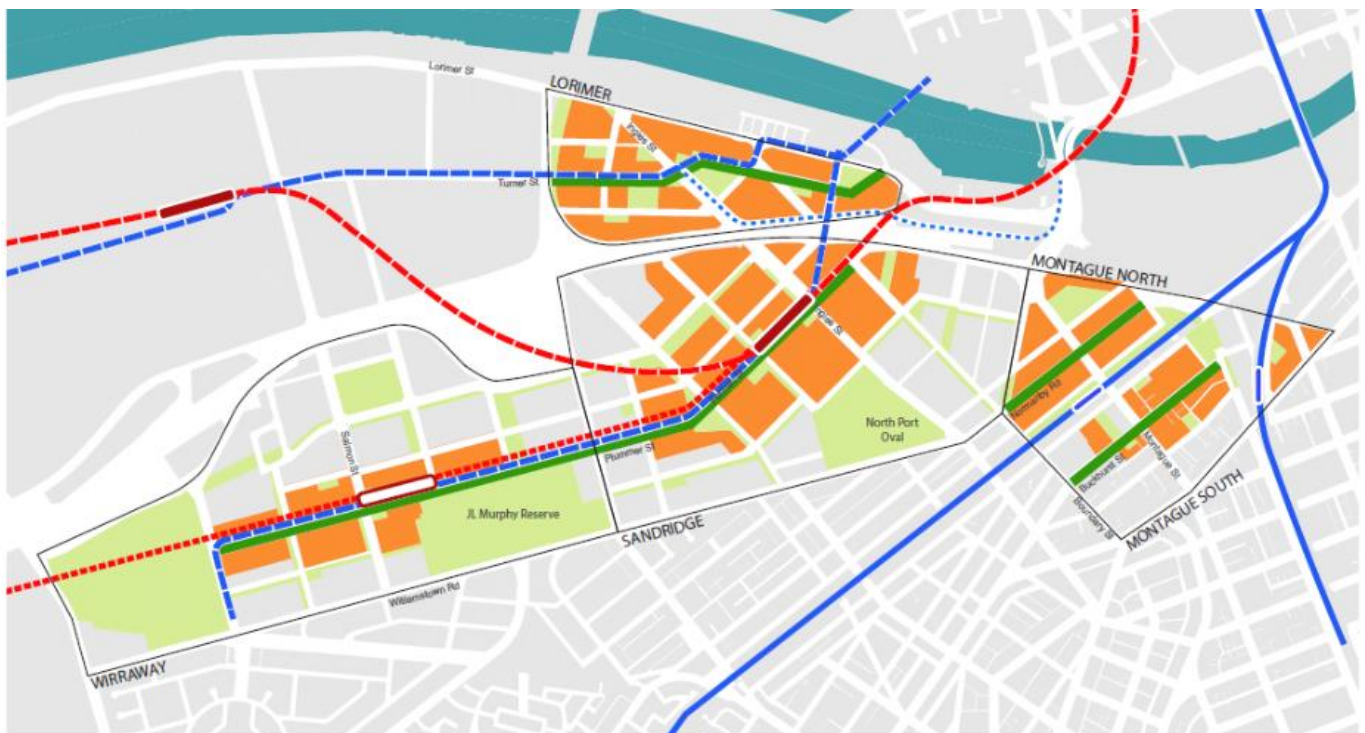


Figure 22: Proposed location of activity centres on public transport nodes in Fishermans Bend

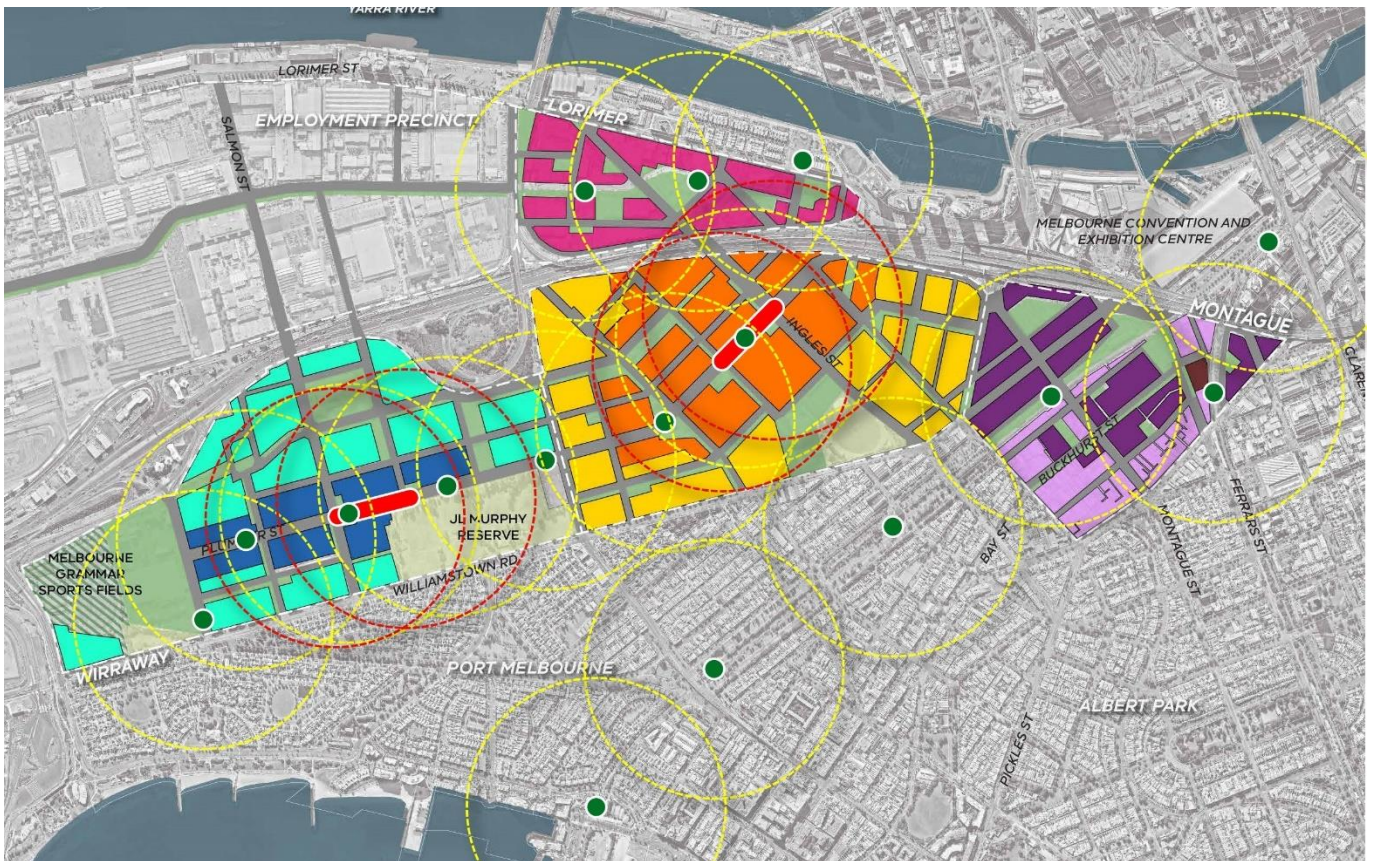


Urban Design Strategy Figure 22

- [95] The development of nodes of greater land use and built form intensity will reinforce the intelligibility of the urban structure, by creating punctuations that align with the movement pattern and retail activity along the primary east-west boulevards.
- [96] The planning framework requires all development within core areas to incorporate non-dwelling floor area equivalent to approximately $\frac{1}{4}$ of the maximum residential floor area in Montague, $\frac{1}{3}$ in Lorimer and $\frac{1}{2}$ in Sandridge and Wirraway. This is intended to generate the 40,000 jobs sought in the Amendment area.
- [97] The basis for the overall quantity of non-dwelling floor area is clear, and the rationale for its distribution across the four precincts is presumably based on the proposal for metro stations at Sandridge and Wirraway. However, if a station is not built at Wirraway, I consider that it would be unreasonable to expect a greater proportion of development in the Wirraway core to be non-dwelling than in the Lorimer and Montague cores, which would then have better public transport accessibility.
- [98] I note that Mr Milner's evidence (at paragraph 135) questions the credibility of every building in a core area being mixed use, and instead proposes that the precinct structure planning should identify areas required to be predominantly employment and those to be predominantly residential. He supports the notion of transferable development rights to facilitate this outcome (paragraph 137).
- [99] My experience is that development that mixes shops, office space and residential accommodation is rare. Shops are frequently mixed with offices or with residential space, but offices and residential uses are rarely found in the same building, perhaps because of the need for distinct identities and separate car parking and vertical access. Therefore, the most likely form of a mixed-use precinct with notable proportions of both residential and employment space is separate retail/ office and retail/ residential buildings. Forrest Hill and the Como complex are examples of this.
- [100] This raises the question of whether the proposed planning framework is too rigid, and whether an alternative strategy of defining the land use outcomes to be achieved across an area, but allowing developers to negotiate how they are delivered, might be more successful. However, I will leave that to others better qualified to advise.
- [101] Ms Hodyl's evidence proposes refined considerations for the assessment of applications which seek to delay or reduce the provision of commercial floor area. I support these refinements, although I suggest that the biggest issue with small sites is their ability to incorporate separate

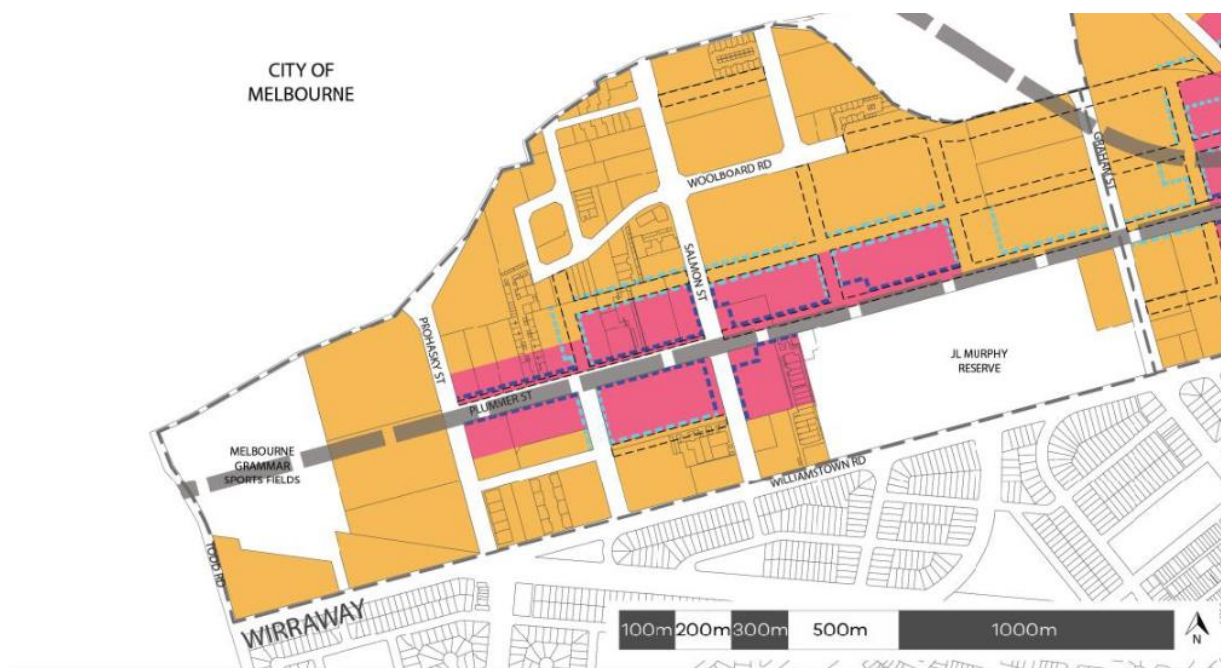
vertical access to commercial and residential space in a relatively small-footprint building, rather than their ability to deliver a critical mass of commercial floor area.

- [102] I consider that the criteria that have guided the definition of core areas are appropriate. However, I question their application. In particular, I do not understand why exactly the same extent of land has been identified for both activity centres/ employment uses and greater residential density. At face value, this seems to be purely for administrative simplicity.
- [103] The Urban Design Strategy notes that “*The size of these core activity areas should be directly related to the degree of public transport service provision proposed*” (page 44). I agree. However, the Wirraway and Montague core areas only extend 100-250m from their public transport nodes, whereas the Sandridge core extends much further (perhaps reflecting its proposed metro station) and the Lorimer core occupies the whole of the precinct. The proposed core extents may be sufficient to accommodate the employment space sought in each precinct, but there is no reason for the extent of higher residential density to be so limited.
- [104] The relatively small extent of the Montague and, particularly, the Wirraway core from a residential density perspective is exacerbated by the rigid and abrupt nature of the change in density between core and non-core areas. All of the Amendment land will be well served by public transport if the proposed rail and tram routes are built (and, arguably, even if the metro line is not). So it is unclear why the density should drop off so ‘sharply’ one block from Plummer Street, one block south of Fennell Street and about 200m south of the Montague Street light rail stop—or, indeed, in the section of Plummer Street between the Wirraway and Sandridge cores. All of these areas will still be very well served by public transport as shown below.



400m (approx. 5 minute) walkable catchments from proposed train stations (red) and existing and indicative tram stops (stops in green, catchments in yellow)

[105] Plummer Street is approximately 220m from the southern edge of Wirraway, and approximately 250m from Rocklea Drive/ Woolboard Road. These are eminently walkable distances from a tram service and activity centre along Plummer Street. Therefore, I question the appropriateness of halving the density and reducing building heights by approximately 2/3 at these proximities to Plummer Street. (This is not a comment on the built form principle of stepping down towards the Garden City, which I discuss in section 8.4.)



- LEGEND**
- Primary active frontages
 - Secondary active frontages
 - Core activity
 - Non-core activity
 - Proposed streets and setbacks
 - Precinct boundary
 - Potential metro alignment



- LEGEND**
- 15.4m (mandatory)
 - 23m
 - 35.8m
 - 61.4m
 - 80.6m
 - Unlimited
 - 15.4m (discretionary)
 - 20.4m
 - 42.2m
 - 67.8m
 - 99.8m
 - Proposed public open space
 - New roads and setbacks
 - Precinct boundaries

Winewise Job Work

CCZ Map 1 and DDO Map 2

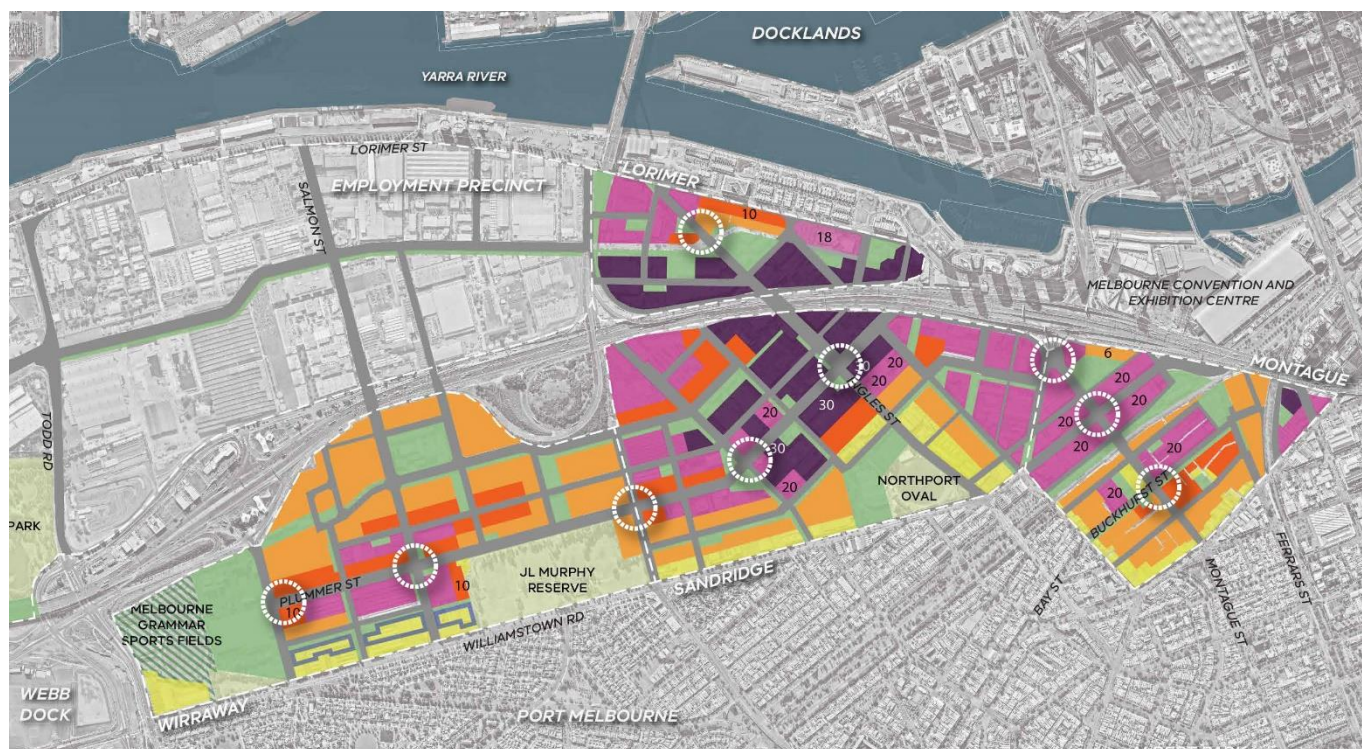
- [106] Although it is common for activity centres to incorporate higher residential densities, it is also common for them to be surrounded by higher residential densities, rather than the residential density dropping off immediately at the edge of the activity centre. Indeed, this is encouraged by State planning policy at clause 11.03-2.
- [107] I appreciate that the extent of the core areas has been determined in part to ensure sufficient employment-generating floor area, to achieve the jobs target, and it may not be appropriate to extend or ‘feather’ the cores beyond their proposed extent because this would notionally result in too much employment floor area and too few dwellings. However, I can think of no urban design or planning reason why the land use and density patterns need to be precisely the same. For example, the area of higher density could extend beyond each employment/ activity centre core—particularly given the generally excellent proposed public transport accessibility—and potentially transition down more gradually away from the edges of each of these cores.
- [108] Notably, the exemplar projects reviewed in DLA’s research into best practice urban renewal (see Appendix D) typically have little variation in density within them, presumably recognising the relative uniformity of both accessibility and opportunity to accommodate growth.
- [109] Increasing the maximum density outside the core areas will increase the total floor area and the number of dwellings and residents. However, as discussed in section 6, I do not understand why the total number of residents needs to be limited as proposed.
- [110] I also question the application of the criteria for determining core areas in some of the precincts. I will discuss this further in my precinct evidence.

5.5 Community hubs

- [111] The draft Framework proposes to deliver a primary school-based education and community hub, an arts and cultural hub, and a sport and recreation hub in each precinct; a health and wellbeing hub in Lorimer and Wirraway; and a secondary school-based education hub in Wirraway. Investigation areas for these facilities are identified, generally collated with parks.
- [112] In addition to providing services for the new communities, this will add to their sense of place and community. Therefore, I support the proposed community hubs from an urban design perspective (although I note that the timing and mechanisms for their delivery are unclear).

5.6 Built form

- [113] In general, the pattern of proposed building heights will reinforce the legibility of the area by emphasising the major employment node around the proposed Sandridge Station, and the other activity centres. However, this clarity is blurred in eastern Sandridge, where the heights remain high outside that precinct's core.
- [114] The proposed planning framework does not identify locations for landmark buildings or significant civic uses. This represents a missed opportunity to further reinforce the legibility of the area. Ideally, these should be located at stations and major intersections to reinforce the movement hierarchy. Potential locations for landmark buildings and significant civic uses are identified below.



Potential locations for landmark buildings and civic uses

- [115] I note that Recommendation 6 of the Ministerial Advisory Committee's Report 1 (October 2015) includes: "Consideration should be given to requiring a design competition for landmark sites as occurs in Sydney and other major cities."

5.7 Identity

^[116] Successful urban renewal typically seeks to create a distinct and memorable identity by capitalising on what is special about the renewal area, or introducing major new attractions, as illustrated by the exemplar projects summarised in Appendix D.

^[117] Fishermans Bend's proximity to jobs, services and amenities is certainly a significant attribute to be capitalised upon in determining its future identity. However, apart from some heritage fabric, it has relatively little in the way of unique or attractive features within its boundaries. It is flat, segregated from the Yarra River and Port Phillip Bay, and has relatively limited existing open space or trees. Therefore, there is a need to introduce new features to contribute to a unique identity for the renewal area as a whole, and for each precinct.

^[118] The planning framework proposes to create identity through:

- The creation of memorable boulevards along Fennell/ Plummer Streets, and Turner Street.
- The creation of a series of new parks and the upgrading of existing parks, to create memorable spaces (discussed further in section 5.8 below). In particular, the primary boulevard through the Amendment land is punctuated by open spaces, which will contribute to a memorable journey.
- The creation of a major business precinct around Sandridge Station.
- The development of a series of local activity centres and community hubs.
- The establishment of leading practice sustainability standards.
- The protection of heritage fabric and seeking its adaptive reuse.
- Policy that encourages *"a materials palette and building finishes that respond to the industrial context and social history of the area."*

^[119] A catalyst project is also proposed for the former Holden Motors site, although this is not within the Amendment area.

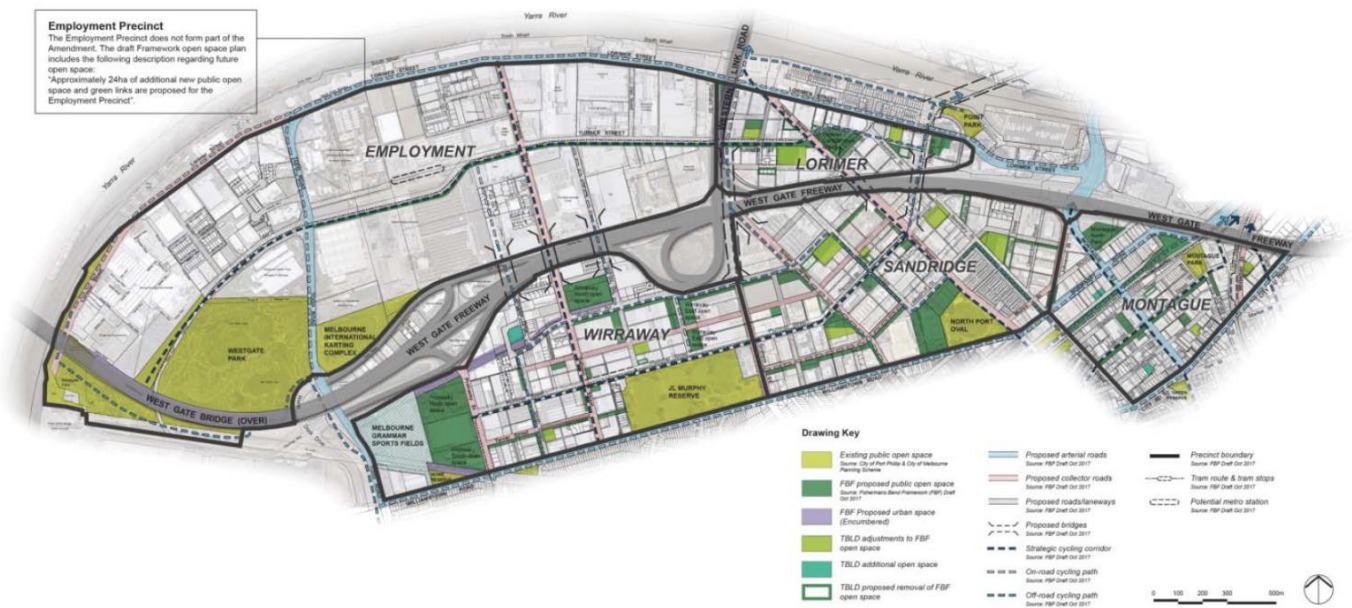
^[120] The proposed Port Phillip MSS contains a strategy to *"Protect and encourage adaption of industrial heritage buildings in the Fishermans Bend Urban Renewal Area"* because *"Port Phillip's industrial heritage is an important contributor to understanding the history of the area."* (21.05-1). While I do not have the expertise to comment on the heritage values of specific properties, I support the principle of adaptive reuse of heritage fabric to contribute to the identity of the area (and, potentially, provide

floor area for different uses than are typically accommodated in new buildings).

- [121] The historic roles of the area—for example, relating to Aboriginal activities (including fishing), defence, the gold rush, sand extraction and glass manufacturing, port activity, car and aircraft manufacturing, and immigration (see Appendix F)—are a key part of its identity, which should be celebrated in the design of the public realm and, potentially, visitor attractions. The former rail line (now the 109 light rail route) and Sandridge Station provide another element of the area’s history that could inform its new identity.
- [122] There is scope for the State or local governments, or indeed the private sector, to introduce major new attractions such as significant civic, retail, education, health, tourism, entertainment or recreation uses that would contribute to a unique identity for Fishermans Bend. There is also scope for iconic buildings to be developed that will add to the memorability of the urban environment. This includes public buildings such as the stations and community hubs, but also private development.
- [123] However, as noted above, the proposed planning framework misses the opportunity to identify select locations for landmark buildings that could enhance the area’s identity.

5.8 Open space

- [124] The planning framework establishes a network of public open space. This network provides for a diverse range of spaces that are linked to each other and which provide good accessibility to open space from all parts of the renewal area.
- [125] The proposed open space network can be traced back to ‘key moves’ in the 2013 draft Vision and has been informed by more detailed thinking since.
- [126] Although the pattern of open space does not reinforce the urban structure, it will reinforce the identity of each precinct by providing memorable open spaces that are associated with local communities.
- [127] The Fishermans Bend Public Space Strategy demonstrates that the proposed open space network will deliver open space within an easy 200m walk of all residents and workers. I consider that this is an appropriate benchmark to set.
- [128] I note that Ms Thompson’s evidence recommends some refinements of the network to ensure easy access to open space for all residents and workers. I assess each of these in my precinct evidence.
-



Ms Thompson’s evidence, Figure (v) Adjusted public open space layout

[129] The existing and proposed open space represents 21% of the Amendment land (51ha), or 17% if the linear parks are excluded (42ha). This is within the range of standards for the amount of public open space as a percentage of total land area cited in the Fishermans Bend Public Space Strategy. It only represents approximately 4m² per resident and worker combined, which is below most standards cited in the Public Space Strategy. However, this figure excludes Westgate Park, which is accessible from the western end of Wirraway, and the open spaces proposed in the Employment precinct, which will also be accessible from the northern edge of the Amendment land. Further, I note that parts of the Amendment land are relatively close to the Yarra River, and parks and the foreshore at Garden City. (The figures above also exclude private communal open spaces.)

[130] Further, given that the peak periods of use by residents and workers are unlikely to overlap, I consider that it is legitimate to consider the rate of provision for each user group separately. The existing and proposed open space within the Amendment land represents 6.4m² per resident including linear parks, or 5.3m² per resident without. Ms Thompson calculates that her recommended network would provide 13.3m² per resident taking the whole renewal area into account, and 6.6m² if residents and workers are combined.

- [131] These figures fall within the range of measures cited in the Public Space Strategy. This suggests that the planning framework provides sufficient public open space.
- [132] In any event, I note that Ms Thompson states (on page 25 of her evidence) that *“there is no industry accepted evidence base to support a minimum quantity of open space in high density precincts. The more recent World Health Organisation Report on open space in high density precincts, published in 2016 did not reference the 9 sqm per person, and reinforced instead the importance of accessibility to open space for all ...”*
- [133] The proposed DDOs contain mandatory overshadowing requirements, which generally seek to protect district and precinct parks (two in Wirraway and one each in Lorimer and Sandridge) from additional shadow between 11am and 2pm at the winter equinox, and to protect neighbourhood parks from additional shadow between 11am and 2pm at the spring equinox (with some adjustments due, presumably, to the alignment of the street grid). The DDOs also protect the southern Plummer Street footpath and the properties on the southern side of Williamstown Road from additional overshadowing between 11am and 2pm at the spring equinox.
- [134] I support the protection of solar access to these spaces on these dates. The four larger parks are of sufficient importance to the renewal area to warrant winter protection.
- [135] However, I do not support the mandatory nature of these controls. There is no reason why a performance-based approach cannot be taken, allowing a judgement to be made as to whether any additional shadow will unreasonably detract from the amenity of the space. I note that this approach was adopted in the Central City (see Melbourne DDO10) except for a handful of spaces of metropolitan importance (the Yarra River corridor, Federation Square, City Square, State Library Forecourt, Shrine of Remembrance, Bourke Street Mall and Boyd Park). I do not consider that any of the proposed parks warrant the same level of mandatory protection as these spaces.
- [136] I note that one submitter has questioned the credibility of the ‘highline’ proposal for a linear park alongside the 109 light rail route. It is true that this will rely on relocating or decking over a tram depot. However, I consider that it is appropriate for a plan such as this to be ambitious about opportunities to provide good open space (and other) outcomes. No doubt the New York High Line park appeared equally if not more unlikely on first consideration.

[137] I hold a similar view about the pedestrian and cycle bridges proposed across the West Gate Freeway and Yarra River. These will be technically challenging and expensive. However, I consider that it is appropriate to be exploring major interventions such as these for a renewal area of this scale, particularly given its isolation from the urban context to the north.

[138] However, the challenge of creating these links and delivering the proposed open space network emphasises the importance of developing a clear and credible funding plan.

5.9 Summary

[139] In summary, I consider that the proposed planning framework establishes a sound urban structure for the Amendment land.

[140] However, I consider that the following aspects of the Amendment should be reviewed:

- The proposed number of jobs in the Wirraway core, based on a firmer position in relation to the provision of a metro station.
- The potential for a tram route from Park Street in South Melbourne, as suggested in the 2013 draft Vision.
- The feasibility of the expectation that most development in core areas can incorporate significant areas of employment *and* residential space.
- The extent of higher density areas, independent of the extent of activity centres/ employment nodes—in Wirraway, Sandridge and Montague.
- The potential to identify appropriate locations for landmark and civic buildings.
- The mandatory nature of the overshadowing controls.

6.0 Assessment—Density

6.1 Introduction

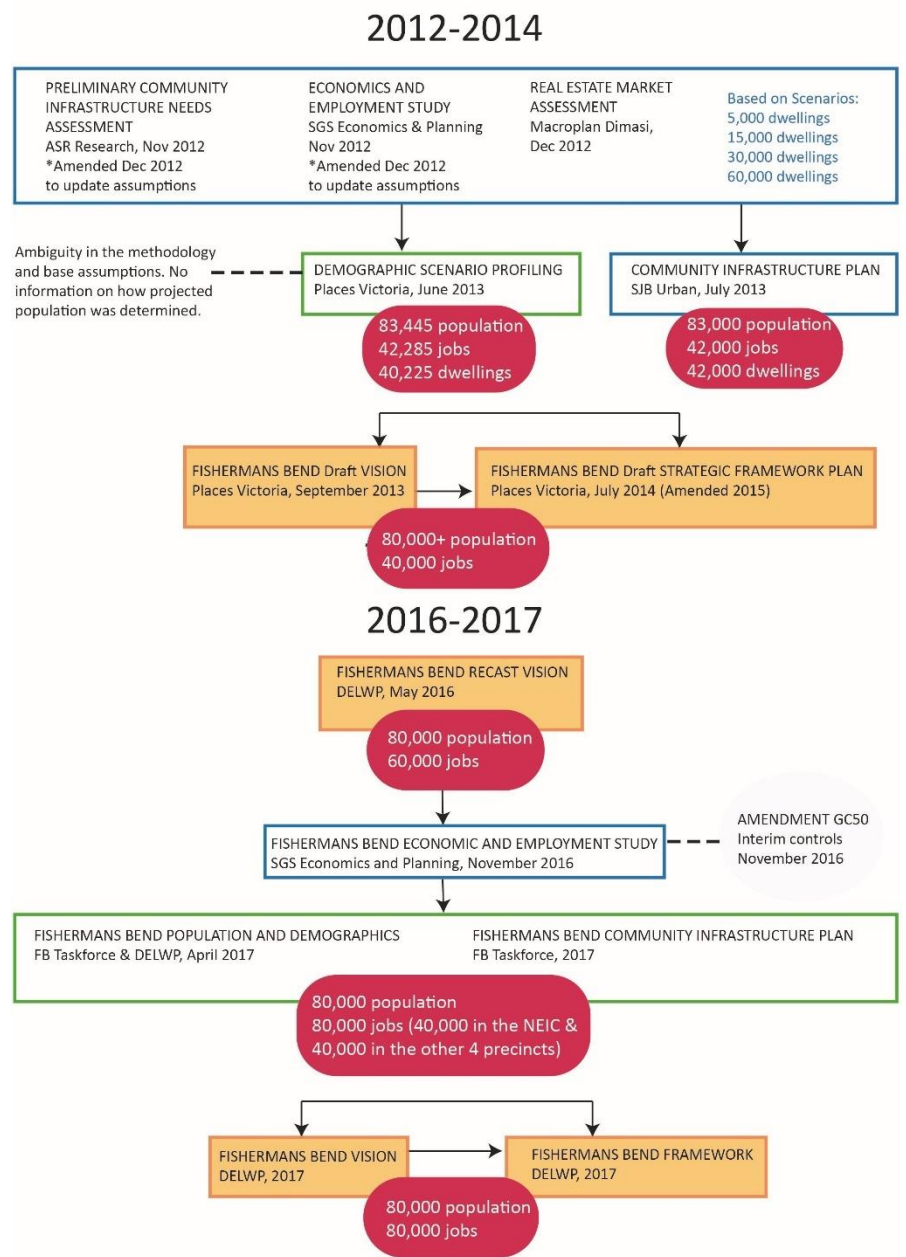
^[141] The proposed planning framework is built on a foundation of restricting development to overall resident and worker population targets, through density limits. (Although the proposed controls do not directly limit *non-dwelling* floor area, the proposed height and setback controls are designed to generally match the maximum allowable density, thereby effectively limiting the overall density of development. This is a departure from the Urban Design Strategy, which is based on limiting development to avoid exceeding the population targets.)

^[142] The proposed targets of 80,000 residents and 40,000 jobs date back to the 2013 draft Vision, itself based on a series of reports undertaken in 2012 and underpinned by 2011 census data. A series of population scenarios were considered at this time, including one—60,000 dwellings—which exceeds the selected target. It is not clear from the reports why the targets of approximately 40,000 dwellings (delivering a resident population of 80,000) and 40,000 new jobs were selected as the preferred scenario.

^[143] Resident and worker population targets are found in the following background documents:

- Economics and Employment Study, November 2012 (SGS Economics and Planning)
- Preliminary Community Infrastructure Needs Assessment (PCINA), November 2012 and Addendum, December 2012 (ASR Research)
- Real Estate Market Assessment, December 2012 (Macroplan Dimasi)
- Fishermans Bend Demographic Profiling, June 2013 (Places Victoria)
- Community Infrastructure Plan, July 2013 (SJB Urban)
- Economics and Employment Study, 2016 (SGS Economics and Planning)
- Fishermans Bend Population and Demographics, 2017 (DELWP in collaboration with the Taskforce)
- Fishermans Bend Community Infrastructure Plan, 2017 (Taskforce)

[144] These documents have informed the strategic plans for the renewal area, as shown in the diagram below:



Resident and worker population scenarios in Fishermans Bend documents

- [145] However, none of these documents provides a rationale to support the targets on which the proposed planning framework is based.
- [146] Recommendation 1 of the Ministerial Advisory Committee's Report 1 (October 2015) is: "**Refresh and redefine the Vision** – Using the 2013 Draft Vision for Fishermans Bend as a baseline, articulate and define the economic, social and environmental vision for the Area in the context of wider capital city planning and the changes in the economic and policy settings which have impacted on Fishermans Bend since the original rezoning." The report goes on to recommend that this work "Test a number of macro scenarios that consider various options for the ultimate population, density, mix and servicing requirements" (page 44). This predates both.
- [147] The Employment precinct was subsequently added to the urban renewal area, leading to an increase in the overall jobs target to 80,000. However, the resident population target has not changed over the last six years. It is not evident that the population targets have been reviewed in the light of changes in policy settings (such as the 2014 and current versions of Plan Melbourne, which updated growth projections for Melbourne) or new census data since 2012/13, or that alternative scenarios have been considered.
- [148] Clearly, Fishermans Bend is Melbourne's most significant singular opportunity to provide for sustainable growth, and this is strongly supported by State and local policy. Therefore, its development ought to be optimised.
- [149] As the framework proposes to restrict development based on the population targets (albeit that it provides for some additional growth), and its built form and infrastructure planning is directly linked to them, the validity of these targets is critical to the strategic basis of the Amendment.
- [150] Given the imperative to accommodate growth, I consider that the following key questions need to be answered in relation to the proposed targets and resulting density limits:
- Are density limits an appropriate form of planning control?
 - If so, are the proposed density limits strategically justified?
- [151] In order to inform a consideration of these questions, I have assessed each of the arguments put forward in the Amendment documents for the proposed density limits.
- [152] My understanding is that the Urban Design Strategy was based on the targets, and its preparation did not include a detailed interrogation of

their rationale. The Strategy provides an assessment of five alternative planning control scenarios (at section 2.3.1). Uncapped population or worker targets were rejected on the basis that the densities would be “very high” and would “likely” exceed transport capacity. The basis for these conclusions is not provided (although numerous comments are made about density in other parts of the document, which I discuss below).

[153] At page 43, the Strategy sets a goal to “*keep densities below 500 people per hectare within each precinct (approximately 250 dwellings per hectare)*”. Again, a detailed basis for this is not provided.

[154] In any event, the Strategy does not consider alternative targets, despite acknowledging the strategic imperative to accommodate growth (and consider countervailing factors) (at page 48): “*New development will need to balance the strategic imperative to accommodate growth in Fishermans Bend, while considering the impacts on these surrounding neighbourhoods in regards to density, character and scale of development.*”

[155] The Minister’s Part A submission says:

The residents target is based on several factors, including:

a. The aspirations for the precinct described in Plan Melbourne, with the precinct expected to play an important role in housing Melbourne’s growing population;

b. Benchmarking dwelling density for an inner-city mixed use and liveable precinct, both against local and international examples;

c. Estimation of the development practicalities of delivering additional dwellings year on year to 2050;

d. The ability of the utility, roads, public transport and other infrastructure elements to cater for growth;

e. The need to balance the creation of communities, jobs and entertainment with the need to provide public open space, preserve heritage and celebrate culture; and

f. Delivery of a Green Star certified sustainable community.

These factors, coupled with the many background reports summarised in the draft Framework and the earlier work by Places Victoria in 2012 and 2013 ... have contributed to arriving at the optimal population of 80,000 residents by 2050.

[156] Similarly, the Minister’s response to submissions (Document 98) states:

The number of residents is based on a number of factors:

The aspirations for the precinct described in Plan Melbourne (2017).

What is a reasonable number of residents to cater for Melbourne's growing population.

Balancing the requirements of growth and dwelling density for an inner Melbourne mixed-use precinct with urban design and development principles to provide a high amenity and liveable urban renewal precinct.

Ensuring a range of densities across the four precincts to provide for a viable extension to the CBD, and a transition to established lower density areas.

The ability of the utility, roads, public transport and other infrastructure elements to reasonably cater for the growth.

The need to create communities, jobs, and entertainment whilst reflecting the building and cultural heritage of Fishermans Bend.

Delivering a Green Star sustainable community.

Background reports summarised in the draft Framework and earlier work by Places Victoria undertaken in 2012–13 (available on the web site: www.fishermansbend.vic.gov.au) contributed to development of the population target of 80,000 residents by 2050.

^[157] Ms Hodyl's evidence contains similar justifications.

^[158] Mr Bates' evidence (paragraph 11, Addendum 1) states that the targets are based on the Vision. That simply shifts the question to whether the Vision is appropriate.

^[159] The arguments put forward for the density limits can be organised under the following headings:

1. Infrastructure capacity
2. Amenity
3. Desired character
4. Transition to established areas
5. Built form diversity

6. Benchmarks
7. Sustainability
8. New public realm delivery
9. Land valuation certainty
10. Development rate

6.2 Infrastructure capacity

[160] The risk of development exceeding infrastructure capacity is advanced as an argument for resident and worker population targets, and for them to be translated into density controls to ensure that those targets are not exceeded.

[161] The Minister's response to submissions (Document 98) states that "*The Floor Area Ratio needs to be mandatory to ensure the population and the proposed infrastructure provision align.*"

[162] The Urban Design Strategy repeatedly raises concerns about the ability of infrastructure to cope with high densities:

... it is the number of people living in a particular area, using the streets, parks, schools, libraries and other services, that affect the overall experience of density and the degree to which it may feel congested or crowded or to which service provision may feel insufficient. (page 20)

... extremely high residential densities creating a significant deficit of public transport, open space and community infrastructure to support this many people. (page 34)

... the overall average FAR required to deliver the population targets for Fishermans Bend is 3.4:1. If Fishermans Bend developed at an average FAR above 10:1, the population targets would be significantly exceeded and there would be insufficient infrastructure to support this growth. (page 41)

Residential densities at levels that can support the viability of local businesses but which are not too high to cause congestion or overcrowding. (page 46)

[163] The Strategy also notes that "*... infrastructure is expensive to fund. Increasing the number of residents far above the preferred population level is also likely to result in an increased funding deficit.*" (page 19).

- [164] These arguments imply that the proposed infrastructure will be at full capacity with the proposed population and is fixed, with no ability to be increased if necessary to service a greater population. Although the infrastructure planning has clearly proceeded on the basis of the population targets, I am not aware of any evidence that it is so finely tuned to them or cannot be relatively easily expanded. On the contrary, it seems unlikely that the tolerances of the proposed transport and utilities infrastructure are so tight that no additional people can be contemplated, or that additional community facilities cannot be provided.
- [165] In relation to public transport capacity, Mr Kiriakidis' evidence notes (in response to concerns that the planning framework does not consider the maximum potential development in terms of 100% build out and FAU) that "... *transport planning flexibility allows for variations in the number of frequency of services on the planned network. I am confident that this in-built flexibility can accommodate changes to land use outcomes ... I am satisfied that there is flexibility in the proposed transport system to respond to changing and increasing levels of population and employment beyond the planned 2050 horizon.*" (pages 69 and 77).
- [166] It is notable that most of the streets in the Amendment land are already 30m wide, and a number are proposed to be further widened. This is wider than the typical street widths in most comparable renewal areas, offering greater opportunity to provide for street-based movement—particularly given the opportunity to allocate their space in a way that responds to the proposed split between different street-based travel modes. Further, the plans for a relatively self-contained community and for 80% of trips to be undertaken by public or active transport will maximise the space-efficiency of street-based movement (noting that pedestrians, cyclists and public transport take up far less road space per capita than cars).
- [167] I am not aware of any evidence that the utility services planned will be at capacity with the target populations, and unable to be upgraded. Nor is any argument advanced that it would not be possible to increase the provision of community infrastructure to cater for an increased population.
- [168] Ms Thompson's evidence is that the primary standard for the provision of open space should be accessibility, rather than quantity. Therefore, the challenges of providing additional open space do not warrant a precise limit on density.
- [169] In summary, the planned infrastructure does not appear to provide a basis for the proposed limit on population and densities in the Amendment

land. It may well be able to cater for an increased population or be upgraded if required (and the increased level of development could form the basis of a mechanism to fund the additional infrastructure, if necessary).

[170] I do not dispute that good planning involves predicting the likely population and planning for a commensurate level of infrastructure. However, I consider that the infrastructure should be planned in response to the desired scale of development, not the other way around (particularly given the strategic imperative to accommodate growth at Fishermans Bend).

6.3 Amenity

[171] Amenity and liveability concerns are advanced as a reason to limit population and density. For example, the Urban Design Strategy states (at page 46) that *“The residential densities within approved and proposed developments in the Lorimer and Montague (North) precincts are very high and are likely to compromise liveability ... the overall population densities will need to be carefully managed to ensure that there is not an overdevelopment of the area, resulting in the loss of amenity, congestion and a poor quality public realm.”* And (at page 74): *“to ensure that residential densities aren’t too high which could cause significant congestion and diminish private and public amenity.”*

[172] However, if a density of 8.1:1 is considered to result in an acceptable amenity in the core of Sandridge, then why would the same density not result in an acceptable density in other parts of the Amendment land? The proposed FAR in much of Wirraway is only a quarter of that, at 2.1:1, which results in a density of 73 dwellings per hectare, well below the Urban Design Strategy’s benchmark of 250. This suggests that the rationale for the density limits (at least everywhere other than the Sandridge core) is to do with public transport accessibility (discussed above) or character choice (discussed below) rather than amenity.

[173] Importantly, in her evidence to the Panel, Ms Hodyl states that amenity impacts can be managed through building envelope, rather than density controls: *“Localised amenity impacts, such as overcrowding, loss of privacy, access to sunlight and daylight can be effectively managed through the building envelope controls.”* (paragraph 109). Therefore, provided appropriate building envelope controls are in place, it is not necessary to limit population and density for amenity reasons.

[174] This is confirmed by *Lessons from Higher Density Development* (2016), a study for the Greater London Authority (https://www.london.gov.uk/sites/default/files/project_2_3_lessons_fro

[m_higher_density_development.pdf](#)), which notes that there are no intrinsic issues with higher density developments, but internal and external amenity issues require more thought to deal with as density increases.

6.4 Desired character

- [175] The desired character is put forward as an argument to control density. For example, Recommendation 8 of the Urban Design Strategy is *“Establish a diversity of character areas and a varied skyline through a range of proposed densities and height limits within each neighbourhood. These should be driven by the established vision for each area.”* The Strategy states (at page 77): *“The FAR controls must be aligned with the overall urban design character outcomes desired for each of the precincts.”*
- [176] This is reinforced by SGS’ *Best Practice Urban Renewal* report for the Bays precinct in Sydney, which says *“Local distinctiveness, derived from the street pattern, services, landscape, climate and socio-cultural idiosyncrasies (among others) should be embedded in the vision for renewal projects in order to create identity and engender community acceptance.”*
- [177] However, the desired character in a brownfield renewal area such as this is largely a choice from innumerable options, rather than a logical conclusion as it might be in an established area with character values to respond to. I consider that the desired character of each part of Fishermans Bend should be significantly informed by the strategic imperative to accommodate growth.
- [178] That is not to say that all parts of the renewal area should have the same character. I support the creation of areas of distinct character. However, *substantial* differences in density or character are not necessary to ensure a distinctive sense of place in each neighbourhood.
- [179] Notably, the Urban Design Strategy indicates (at pages 68-69) that all high-density housing typologies can deliver densities of at least 4:1. This confirms that different character types can be achieved without reducing the density significantly below that figure.
- [180] Interestingly, the character of many higher density places recognised as good models is relatively uniform (for example, L’Eixample in Barcelona).
- [181] Therefore, I do not consider that substantially reducing the density of a neighbourhood purely on character grounds is a responsible way to respond to Melbourne’s strategic planning imperatives.

[182] This is particularly pertinent in Wirraway, where a relatively low density of 2.1:1 is proposed outside the core area, and the primary reason appears to be a character choice and/or the notion of family-friendly housing (more on that later). The southern edge of Wirraway is also affected by the desire to transition to the established neighbourhood beyond. However, this only affects a small proportion of the non-core land in Wirraway.

[183] I have identified alternative models of higher density development to that proposed in the non-core areas of Wirraway, Sandridge and Montague, which would increase their density (substantially, in the case of Wirraway) while maintaining a distinctive character and providing high quality living environments (see Appendix E).

[184] In summary, while I agree that the desired character for an area can be measured in part by its density, I do not consider that the character choices that have been made strike the right balance between achieving a distinctive sense of place in each neighbourhood and providing for growth.

6.5 Transition to established areas

[185] The Minister's response to submissions states that the density provisions are partly justified by a need to transition to neighbouring, established areas. I accept this in principle. However, I query the shallow angle of that transition (see section 8.4 below).

[186] In any event, as noted above, this transition only affects a small proportion of the Amendment land, so it should not dictate the overall population targets or density limits across the majority of the area.

6.6 Built form diversity

[187] The desire for built form diversity is another reason advanced to support density controls. It is suggested that the combination of density and built form controls provides flexibility for developers to arrange their development in multiple ways, resulting in a more diverse environment.

[188] The Urban Design Strategy says:

A clearly identifiable city image is well-formed and remarkable. Complexity and variation in the design of buildings and spaces within a precinct can give an area its own unique character at a neighbourhood scale, and create an interesting city skyline. This can also assist with way-finding as variety creates points of interest that are memorable and which help people orientate themselves in a neighbourhood. (page 48)

While the mandatory built form controls consider amenity issues through height and setback provisions, they don't sufficiently support the creation of a varied, interesting urban environment that has a strong identity and clear legibility. Instead, uniform and repetitive design responses are the result of building designs that seek to maximise yield within the potential prescribed building envelope. (page 52)

Within the defined built form envelope, the potential gross floor area as allowed by the FAR control can therefore be designed to deliver a variety of built form outcomes. (page 98)

- [189] (See also page 21 of the Strategy and paragraphs 119 and 165 of Ms Hodyl's evidence.)
- [190] The notion of built form diversity has been translated into the proposed local policy (under Design Excellence) as "*Encouraging variation in the design of buildings and spaces, to create a unique city image and assist in way-finding*".
- [191] I accept the desire for a diverse urban environment as a valid character choice. It is also a feature of many successful urban renewal areas. Further, I accept that density controls are a valid technique for fostering diverse built form, particularly where they have a 'loose fit' with building envelope controls.
- [192] Building envelope controls, alone, tend to result in buildings which fill that envelope. This not only results in relative uniformity of built form, but it also discourages modulated building forms. This is often appropriate in an established area, where there is a desire for development to reinforce aspects of a relatively uniform existing built form character. However, Fishermans Bend presents the opportunity to establish a new character that features built form diversity.
- [193] However, any density control in combination with a 'loose fit' building envelope will foster diverse built form. This aspiration does not justify the particular density limits proposed, particularly in the context of the strategic imperative to provide for growth in Fishermans Bend. In other words, higher density limits would encourage diverse built form equally well, provided the building envelope controls (principally height) are adjusted accordingly.
- [194] Therefore, the density controls should be based on the scale and character of development sought, rather than the other way around.

- [195] Further, it is important to consider just how ‘loose’ the fit is between a density control and building envelope. The Urban Design Strategy says (at page 98): *“In general, the proposed FAR controls easily fit within the designated built form control.”* However, Ms Pearson’s evidence states that 6 of 29 properties in Lorimer (or 4 with revised tower parameters) cannot achieve the maximum possible floor area within the building envelope and other parameters. I understand that Ms Hodyl has assumed that the preferred maximum height would be breached in cases such as this, and she notes in the caption to Figure 16 of her evidence that additional height will add to diversity. That suggests that the preferred maximum height may need to be reviewed.
- [196] In contrast, another part of Ms Hodyl’s evidence implies that on some sites there is not a *“close alignment between the potential yield enabled through the FAR and the potential building envelope”* (paragraph 116). Assuming the proposed building envelopes deliver acceptable amenity outcomes, this means that the proposed density control unnecessarily limits the capacity of those sites to deliver growth.
- [197] It is critical that the difference between the maximum floor area enabled by the density and building envelope controls on each site strikes the right balance between fostering diversity and optimising provision for growth. Too little difference, and there will be little diversity. Too much, and growth will be unnecessarily stymied.
- [198] In Addenda 2 of Ms Hodyl’s evidence (paragraph 12), she notes an assumption that residential towers can have depths of 12-26m. This is at odds with my experience and the evidence of Ms Pearson, who adopts 15m as a minimum. In her evidence to the Melbourne C270 panel, Ms Buckeridge of Hayball architects stated that 18m is a minimum depth for very tall towers.
- [199] Further, in Appendix A of her evidence, Ms Hodyl appears to have modelled some very deep plan podia—in particular, see 501 Williamstown Road, 99-111 Lorimer Street and 880-884 Lorimer Street. Although it is presumably contemplated that these podia will contain car parking, a low parking rate is proposed, so the majority of this floor area is likely to be office space. I question whether these depths are viable if natural daylight is to be provided.
- [200] This calls into question whether the site testing undertaken by Ms Hodyl is accurate enough to ensure that the fit between the density and built form controls is just right.
- [201] Ms Hodyl goes on to say (at paragraph 118) *“Together the FAR and the height limits therefore support the design of a diverse built form character*
-

across each precinct and within individual large sites. In effect, the controls are focused on orchestrating a degree of diversity across each precinct and within larger sites. This is done without constraining the overall development potential needed to deliver the population targets.” This suggests that diversity has been prioritised over the provision for growth, because the population target can still be reached.

[202] It is worth noting, too, that diversity in the built environment can be achieved in a range of ways and need not rely on substantial variation in built form, as illustrated in the photos of Barcelona and Amsterdam below.



Built environment diversity within relatively consistent built form in Barcelona and Amsterdam (bottom right)

[203] The Urban Design Strategy says (at page 31) that continuing with the current interim controls “*Could result in poor city image with unvaried skyline.*” However, the proposed maximum building heights will ensure a varied skyline, irrespective of density controls. Further, city skylines are viewed in perspective, not elevation as shown on page 53 of the Strategy.

This means that buildings that are closer appear taller and buildings that are further away appear lower, creating inherent variation.

[204] Lack of built form diversity is said to result in low housing diversity. I am aware of research that the proportion of family friendly dwellings (3 bedrooms or more) decreases as height increases (*Lessons from Higher Density Development* (2016), a study for the Greater London Authority).

[205] However, I consider that density controls are a very 'blunt instrument' for ensuring housing diversity, which can be ensured through more direct controls. I discuss the notion of 'family-friendly housing' in section 8.5 below.

[206] In summary, I support the use of density controls to foster built form diversity, provided they are carefully calibrated with the building envelope controls to balance this outcome with provision for growth. However, this approach does not justify the particular density limits proposed. The density controls should be based on the scale and character of development sought, rather than the other way around. Nor does it appear that the site testing is sufficiently robust to confirm that density and building envelope controls are appropriately calibrated.

6.7 Benchmarks

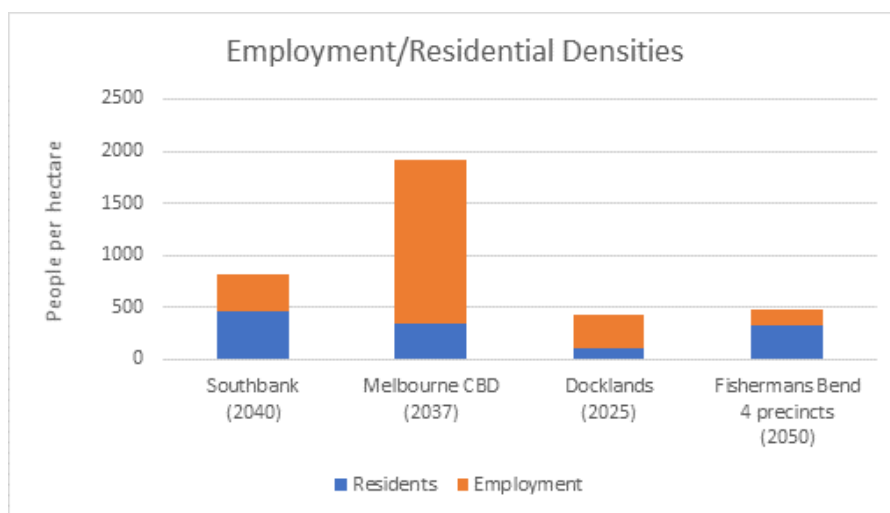
[207] A series of established and planned urban places have been considered as part of the justification for the proposed density, including other parts of inner Melbourne (the Hoddle Grid, Southbank, Docklands and Arden Central) and inter-state and international examples (Green Square in Sydney, Kowloon, Manhattan Island and L'Eixample in Barcelona).

[208] In particular, Ms Hodyl's evidence compares the residential densities of these places, resulting in a conclusion that the proposed "*average of 323 people per hectare is broadly aligned with other high density city areas*" (paragraph 105). The residential density of the comparison places is somewhere between 250 and 350 residents per hectare (gross), with Docklands and Hong Kong outliers at 126 and 430 respectively.

[209] However, provided that appropriate levels of infrastructure are provided (including street widths), I consider that it is the *built form density* that influences the amenity of the public and private realms, not the residential density *per se*. While the residential density of the places cited may be relatively consistent, their built form densities vary considerably due to differing levels of non-residential floorspace.

[210] For example, compared with the 33% of floor area proposed to be occupied by non-dwelling uses in the Amendment land, 81% of floor area

in the Hoddle Grid and 62% in Southbank is dedicated to employment uses (see page 34 of the Urban Design Strategy). (This is corroborated by Figure 10 in Mr Bates' evidence, which indicates that 85% of the people in the CBD are employees.) This means that their *built form density* is 2-3 times that proposed in the Amendment land. Presumably the proportion of employment floorspace in Manhattan and Hong Kong are similarly varied from that proposed in Fishermans Bend, although information is not provided on this.



Residential and employment densities in comparison locations
(Data sourced from Southbank Structure Plan,
<http://melbournepopulation.geografia.com.au/areas/CLSA01>,
<https://data.melbourne.vic.gov.au/d/74ie-t67y/visualization>, ACCESS DOCKLANDS
A Strategy FOR THE DOCKLANDS TRANSPORT NETWORK, March 2013,
<https://www.melbourne.vic.gov.au/SiteCollectionDocuments/access-docklands-strategy.pdf>)

- [211] Therefore, the residential density comparisons are of little use in understanding the effects of density on the amenity of the area. And if the amenity of the comparison places is said to be acceptable, then that suggests that a much higher built form density would be acceptable at Fishermans Bend.
- [212] The comparison with Green Square (Sydney) in the Strategy (page 31) also fails to take account of the significant differences between the way FAR is proposed to be defined and the way that FSR (Floor Space Ratio) is defined in NSW. FSR is based on a definition of GFA that excludes common circulation areas such as lifts and stairs, vehicle access and car parking areas, terraces and balconies, and the external wall thickness. This results

in a total area between external facades approximately $\frac{1}{3}$ greater than that which would result from the same FAR number.

[213] This comparison also ignores the fact that most of the Amendment land is closer to the CBD than Green Square is to the Sydney CBD. And it omits reference to the non-residential floor space at Green Square, which is significant and results in a total population density of 900 people per hectare in the town centre:

Development Potential - Green Square and Wa

Study Area	Green Square Urban Renewal Area
Overall Study Area	278 ha
Residential	53,000 residents
Commercial	22,000 jobs
Study Area Population Density	270pp/ha

Core	Green Square Town Centre
Core Area	13.74 ha
Overall Floor Space	444,000m ²
FSR Gross	3.23:1
Maximum Height	28 storeys
Average Height	12 storeys
Open Space Area	1.4 ha
Residential	272,000m ²
	3,487 units @ 78m ² /unit
	6,626 residents @ 1.9pp/dw
Employment	172,000m ²
	5,733 jobs @ 30m ² /job
Core Population Density	899pp/ha

[214] Ms Hodyl’s evidence states (at paragraph 115) “When comparing the proposed FARs to other central city contexts, it is clear that these are commensurate with areas that support a similar scale of growth (see Figure 5). The proposed FARs in the Urban Design Strategy are actually higher than most other central city precincts, including the Sydney CBD.” However, the part of the Amendment area proposed to be at the highest density (8.1:1) is only a relative small part of its total area, and a significant proportion of the area is proposed to have maximum densities only half that or less. No analysis is provided of what proportion of Green

Square, Central Sydney or the Perth CBD have densities at each step in the range, to enable a more useful comparison. The misleading comparison with Green Square density controls discussed above also causes me to question whether the figures used for Sydney and Perth are accurate comparators.

[215] Further, because of the ground conditions in Fishermans Bend, it is typically unviable to accommodate much or any car parking in basements. I am not aware that this is the case in the comparison places, further weakening their value as comparisons.

[216] In summary, the density comparisons do not provide a useful basis for determining densities at Fishermans Bend. Although there is value in analysing the success of other urban places, this requires much more detailed analysis to ensure the comparisons are valid, and a larger sample size.

6.8 Sustainability

[217] The Minister's submission puts forward the delivery of a Green Star sustainability community as an argument for the proposed density limits.

[218] I have reviewed the Green Star – Communities rating tool, and not found any aspect of it that seeks to limit density *per se*. In contrast, its encouragement of public and active transport relies on higher densities.

[219] A media release on the Green Building Council of Australia website titled 'Breaking through the barriers to urban density' states "*What we must do is to ... demonstrate clearly the benefits of urban density to both Australia's natural environment and its people.*" And a report on the 11th annual Green Cities conference quoted speakers on density as follows:

Denser cities could lead to better, more sustainable cities ...

... density was "inevitable" but didn't need to be scary ...

... good density brings with it vibrant street life, access to transport and jobs, and better places for people ...

"Rather than seeing density as a second choice, we should be looking at density as the vehicle" to make our cities better as they grow ...

a denser future was "undeniable" – but that it needed to be shared equitably.

"People like living in dense areas ..."

The panellists agreed it was time to “reframe the debate” about density.”

[220] It is clear that the laudable aspiration for a sustainable community does not, in itself, lead to the proposed population or density limits.

6.9 New public realm delivery

[221] The Urban Design Strategy (at page 35) indicates that when applied to the gross site area, FAR controls are a suitable mechanism for delivering new streets, lanes and public open space by ensuring there is no loss of yield. Further, it says that they can provide a basis for other community benefits such as affordable housing. This is reinforced on page 21, which also refers to benefits such as greater housing diversity and retention of heritage buildings.

[222] The proposed FAU regime is an extension of this principle.

[223] This appears to confirm that the proposed density controls are not intended to control the effects of built form on amenity, but instead are used as a way to link the infrastructure demands generated by the scale of a development to the provision of that infrastructure. Otherwise, how can a higher density and bigger built form enabled through the FAU mechanism continue to have an acceptable impact on the public realm, simply because it contains a public benefit such as a school or affordable housing?

[224] In other words, even if density controls are an appropriate mechanism for delivering and funding public infrastructure (about which I am not expert to comment), their use as a basis for an FAU regime detracts from their value in controlling built form.

6.10 Land valuation certainty

[225] Ms Hodyl’s evidence refers (at paragraph 186) to the benefit of density controls in providing certainty for land valuation and avoiding land speculation. This is also referred to in the Minister’s Part B submission.

[226] I am not an expert in this area. However, I have not seen any detailed analysis of this proposition.

[227] I note that a reasonable degree of certainty can be provided through built form controls.

[228] In any event, while the use of density controls for this reason may be warranted, this does not justify the particular density limits proposed.

6.11 Development rate

[229] The Minister's submission suggests that the practicalities of delivering additional dwellings year on year to 2050 should limit the capacity of the renewal area.

[230] Again, I am not an expert in development economics. However, I note that while there may be a limit to the rate at which accommodation is developed in Fishermans Bend, this ought not to limit its ultimate capacity. It would not be prudent to assume that Melbourne will stop growing at 2051, and cease to require any more housing or jobs.

[231] Therefore, it is unclear why the rate of development should inform the proposed densities.

6.12 Summary

[232] The discussion above seeks to inform consideration of the following questions:

- Are density limits an appropriate form of planning control?
- If so, are the proposed density limits strategically justified?

[233] In summary, my findings are that:

- The planned infrastructure does not appear to provide a basis for the proposed limit on population and densities in the Amendment land. Infrastructure should be planned in response to the desired scale of development, not the other way around.
- Provided appropriate building envelope controls are in place, it is not necessary to limit population and density for amenity reasons.
- The character choices that have been made do not strike the right balance between achieving a distinctive sense of place in each neighbourhood and providing for growth.
- The proposal to transition to neighbouring, established areas should not dictate the overall population targets or density limits across the majority of the area.
- While I support the use of density controls to foster built form diversity, this does not justify the particular density limits proposed. The density controls should be based on the scale and character of development sought, rather than the other way around. Nor does it appear that the site testing is sufficiently robust to confirm that density and building envelope controls are appropriately calibrated.
- The density comparisons provided do not provide a useful basis for determining densities at Fishermans Bend.

- The aspiration for a sustainable community does not, in itself, lead to the proposed population or density limits.
- Even if the density controls are a valid mechanism for delivering and funding public infrastructure, their use as a basis for an FAU regime detracts from their value in controlling built form.
- While the use of density controls for this reason may be warranted, this does not justify the particular density limits proposed.
- It is unclear why the rate of development should inform the proposed densities.

[234] This demonstrates that while density controls may have some utility in Fishermans Bend in principle, there does not appear to be a sound basis for the particular density controls that are proposed. As a result, I consider that the fundamental approach that has been taken to set the scale of development at Fishermans Bend is flawed.

[235] In essence, the approach that has been followed appears to have been:

1. Establish target resident and worker populations
2. Translate to total GFA
3. Plan infrastructure based on the total GFA
4. Distribute GFA according to public transport accessibility and desired character
5. Convert GFA to a density limit in each area

[236] In other words, the proposed density limits are fundamentally based on the overall population targets, rather than an assessment of the optimum level of development in each area that balances amenity considerations with the need to provide for growth.

[237] This is illustrated by Ms Hodyl's recommendation (number 7 in her evidence) to *reduce* the density in the core of Sandridge in order to ensure that the target resident and worker populations are not breached, in response to an agreement with a submission that the extent of the Montague core should be increased.

[238] The Wirraway non-core area provides the most glaring example of the flawed nature of this approach. The way in which the total GFA has been distributed across the Amendment land has resulted in highly varying densities, with a built form density in the non-core area of Wirraway of only 2.1:1, and an average population density for the whole of Wirraway of only 187 residents per hectare, well below the predominant range of

250-350 people per hectare found in comparable inner city precincts. This also translates to a net density of 146 dwellings per hectare of developable land, which is less than half of the density of all but one of the nine award-winning developments referred to in the Urban Design Strategy (see pages 60-62). Notably, all but one of these award-winning developments incorporates communal open space of at least 20% of the site area, despite being more than twice the density limit proposed for the non-core area of Wirraway.

- [239] The proposed variation in density across the Amendment land from 2.1:1 to 8.1:1 is quite different to the relatively uniform densities found in the exemplar urban renewal projects summarised in Appendix D, and does not reflect the fact that the whole of the Amendment land is proposed to have good public transport accessibility.
- [240] According to Figure 36 in the Strategy, the proposed maximum FAR of 2.1:1 is at the bottom of the range of densities that can be provided by narrow infill, row, courtyard, perimeter block and hybrid developments. Each of these residential development types can achieve densities of at least 4:1. This is confirmed by DLA's analysis of higher density built form models at Appendix D. Therefore, the low density cannot be justified by a preference for one of these built form models. DLA's analysis also indicates that a density of close to 4:1 can be achieved with a maximum height of 7 storeys and generous central courtyards, only marginally above the preferred maximum height of 6 storeys that applies to most of this area.
- [241] This means that the development potential of 38 hectares of developable land in an urban renewal area on the doorstep of the CBD, where policy directs higher densities, is proposed to be limited to something more akin to medium density for no other reason than to avoid exceeding a resident population target for which there does not appear to be a clear rationale.
- [242] Increasing the density for the non-core area of Wirraway from 2.1:1 to 4:1 would provide approximately an additional 5,500 dwellings, and increase the overall population density for the precinct to 337 residents per hectare (within the range of densities of the comparable inner city precincts). This is not to say that 4:1 is necessarily the correct figure, but merely to illustrate the potential benefit of higher densities. It may also be that a design-led process to determine the density for the other areas would result in higher densities, and provision for more growth.
- [243] Therefore, I consider that the proposed FAR controls need to be reviewed.
- [244] In my view, the process for determining the appropriate scale of development should proceed along the following lines:
-

1. Design a desired built form character for each area that balances amenity outcomes and provision for growth
2. Estimate the likely floor area that will result from the desired character, over time (and, potentially, translate this to density controls)
3. Translate the floor area to total resident and worker populations
4. Adjust the built form characters if necessary to achieve an appropriate balance between dwellings and jobs
5. Plan infrastructure based on the estimated populations

^[245] In other words, I consider that the process should start with a decision about the optimum built form, and this should determine the density and infrastructure, rather than the other way around. The approach that underpins the Amendment is a case of the tail wagging the dog.

^[246] Having determined the appropriate built form and density, this should not be compromised by mechanisms to deliver and fund public infrastructure or encourage more employment floor area.

7.0 Assessment—Street network

7.1 New streets

- ^[247] The proposed planning framework seeks to introduce a network of new streets and laneways. This will create a more permeable and legible movement network, which will encourage people to walk and cycle. It will also reduce the size of development parcels, providing a closer connection between buildings and the public realm, which will enhance their identity and sense of address.
- ^[248] The proposed block sizes are generally consistent with those in the CBD. This is consistent with DLA's research into successful urban renewal precincts (see Appendix D).
- ^[249] The proposed CCZ schedules require the new streets to be generally in accordance with the alignments shown on its maps. I support the flexibility this provides to refine street alignments in response to specific development proposals. (However, this should not be taken as a comment on the appropriateness or otherwise of the proposed delivery mechanism.)

7.2 Laneways

- ^[250] The proposed CCZ schedules also require laneways generally in accordance with its maps. However, the maps do not show laneways.
- ^[251] Instead, the proposed local policies encourage new streets, laneways and pedestrian connections no more than 100m apart or 50m in core areas or within 200m of public transport routes, and specifically through sites of more than 3000m². I support the flexibility provided by the planning framework for laneway alignments to be determined when developments in the block are designed. (For example, the laneways shown in Figure 30 of the Urban Design Strategy parallel to and just north and south of Plummer Street are unlikely to be easily incorporated in the development of those properties.)
- ^[252] In her evidence, Ms Hodyl recommends that the policy be amended to a separation of 50-70m in core areas, and only in one direction. I support this change. The resulting 'grain' of laneways will still create a highly permeable pedestrian network, while providing more flexibility for larger footprint developments.
- ^[253] New lanes are encouraged by the policies to align with existing and proposed streets, laneways and paths, and to provide access to existing or proposed public transport stations and routes. They are encouraged to enable straight views through the block, be open to the sky, allow for the

planting of trees, and have active frontages in core areas. In general, I support this provisions.

[254] The Urban Design Strategy acknowledges that laneways perform an important servicing role, “*keeping vehicular movements off key pedestrian streets*”. I agree. For this reason, I recommend that the policy which seeks tree planting be modified to exclude service lanes.

[255] I note that the proposed policies refer to 9 metre and 6 metre laneway cross sections. However, these do not appear to be provided anywhere within the proposed planning provisions.

7.3 Crossovers

[256] The CCZ schedules identify a number of roads where crossovers are prohibited unless no other access is possible (Map 2). I recommend that the wording of this provision be extended to say “*or the provision of a crossover on the road will cause less disruption to the pedestrian, cycle and other transport networks than any alternative*”, to provide for situations where an alternative may be available but nonsensical.

7.4 Summary

[257] In summary, I support the introduction of new streets and laneways generally as proposed. However, I recommend that the policy which seeks tree planting be modified to exclude service lanes, and the CCZ provision regarding crossovers be refined. There is also a need to ‘tidy up’ the drafting of the provisions to remove references to missing information.

8.0 Assessment—Built form and design

8.1 Building heights

- [258] The current controls contain mandatory maximum heights ranging from 4 to 40 storeys.
- [259] The Amendment proposes a pattern of maximum building heights ranging from 4 storeys to unlimited height, which largely reflects the urban structure discussed in section 5. I understand that these heights have essentially been derived by identifying the total floor area needed to deliver the population targets and distributing it according to public transport and activity centre accessibility, and the desired future character (designed to deliver ‘family-friendly housing’ in selected places). Except in certain locations—where the heights are adjusted to ensure solar access to key parks and streets, and to provide an acceptable transition to neighbouring areas—the maximum building heights do not appear to have been established for amenity reasons.
- [260] The Urban Design Strategy summarises the rationale for the way in which the floor area has been translated into differing heights (at page 90): *“proposed detailed building heights ... are determined by the preferred character and desired mix of building typologies in each precinct, site context (in particular adjacent low rise areas) and overshadowing controls”*.
- [261] The Strategy contains the following elements of rationale for some of the building heights:
- Outside of the core area [of Sandridge] a range of 6 - 24 storey development is supported to encourage a diversity of housing and create variety of character areas throughout this large precinct.*
- Tower developments are still supported in Montague North, however the overall heights have been reduced to align with revised density targets and to increase the amount of sunlight reaching the southern side of streets, particularly Normanby Road, to support the creation of a high-quality civic spine.*
- North of the [Lorimer] parkway, [buildings] are limited in height to align with the revised population targets and to maximise the amenity of the Lorimer Parkway space and the new fine grain network of laneways.”*
- [262] These examples confirm that the heights are strongly influenced by the overall population and density sought, rather than purely amenity or character outcomes.

- [263] The fundamental role of the population targets in determining heights is illustrated by Ms Hodyl's recommendation (number 10) for 123 Montague Street to be increased to 18 storeys. If 18 storeys is an acceptable height for this property, why is it not acceptable for all the other properties in the block (bounded by Montague, Buckhurst, Ferrars and Thistlethwaite Streets) to also be 18 storeys? It cannot be for character or amenity reasons, or it would not be appropriate for 123 Montague Street to reach that height either. Presumably, the answer is that to increase the heights on all properties in the block would result in too much floor area, which would threaten the population targets.
- [264] I do not seek to give advice in relation to the proposed mechanisms for delivering and funding new public realm. However, I note that Ms Hodyl's recommendation in relation to 123 Montague Street also highlights a flaw in the proposed mechanism for funding open spaces, because it results in a need for much greater height and a much higher density for the developable area of the site, disrupting the broader pattern in the block.
- [265] I support the principle of relating density (and, therefore, building height) to public transport and activity centre accessibility. I also support the principle of restricting development to ensure adequate solar access to key parts of the public realm. I discuss this further in my precinct evidence.
- [266] However, I query the significant variation in the scale of development proposed across the renewal area. For example, the non-core areas have densities and heights which are only about half those in the associated core areas. This is quite different to the exemplar urban renewal areas my office has investigated (see Appendix D), which typically have relatively consistent building heights.
- [267] The proposed planning framework divides the Amendment land into areas of podium-tower development (pink and purple in the map overleaf), and areas of low-mid rise development (yellow, orange and red). This is consistent with DLA's research into successful urban renewal projects, which tend to incorporate buildings of 2-7 storeys and high-rise towers (say 15+ storeys), with few buildings at a height between these ranges—possibly due to wind and other effects of mid-rise and broad buildings.
- [268] I discuss each of these areas below.

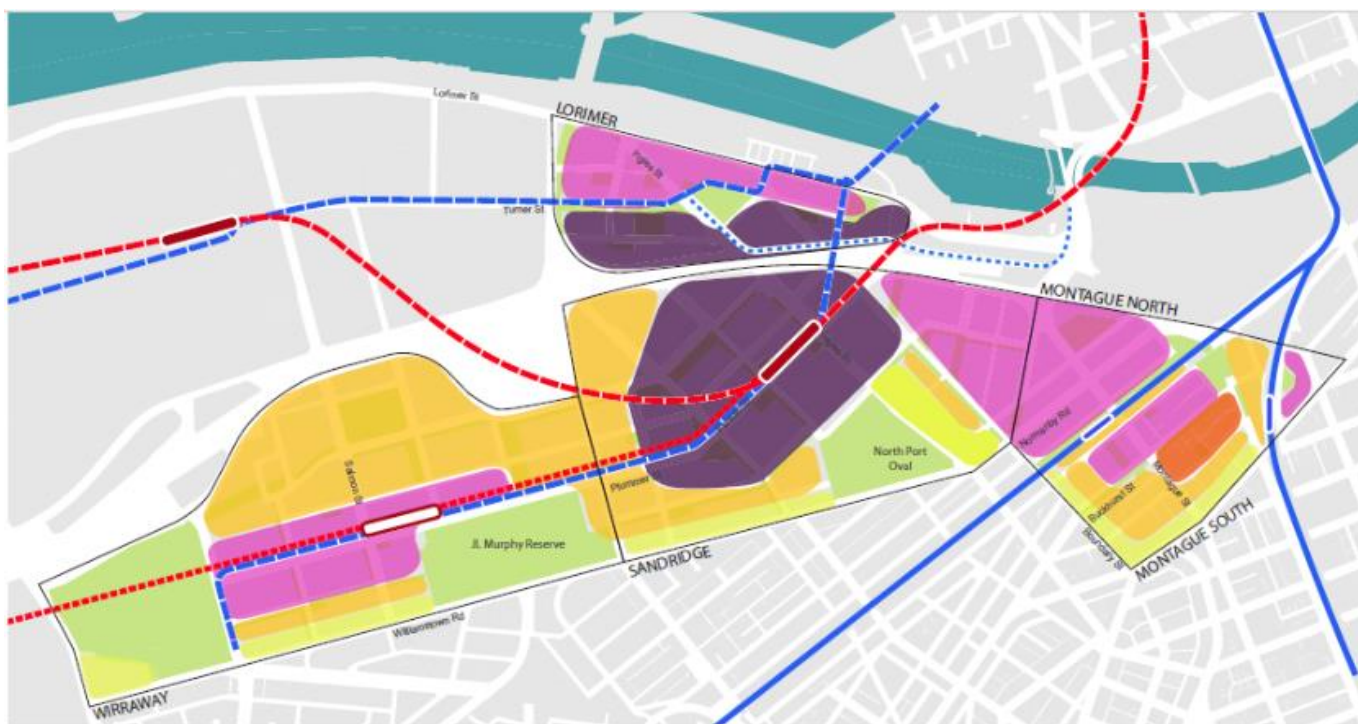


Figure 42: Proposed built form strategy

- Low rise - 4 storey mandatory height limit to Williamstown Road, Boundary Road and City Road to provide a transition to low-scale neighbourhood to the south
- Low-mid-rise to support a diverse range of family-friendly housing, including infill, courtyard and perimeter block developments
- Mid-rise (Montague) to provide a greater intensity of development in the core area, while enabling an appropriate transition from the interface areas of Montague South
- Hybrid developments - Towers with mid-rise infill development - to encourage smaller scale tower developments that support family-friendly living and higher levels of amenity within the public realm
- Tower development - Unlimited heights to promote commercial development and the highest densities of activity. Unlimited heights along the northern edge of the freeway where amenity impacts are not as likely.
- - - Proposed metro line and stations (preferred location)
- - - Alternate metro line and station**
- Existing tram lines
- - - Proposed tram lines

Urban Design Strategy Figure 42

8.2 Building heights—podium-tower areas

- [269] Podium-tower format development is proposed in Lorimer, the core areas of Montague, Sandridge and Wirraway, and the non-core area between the Sandridge and Montague cores. This reflects the emerging character of Lorimer and Montague (largely in the form of approved development) and that of the surrounding areas (Yarra’s Edge and Southbank). It also enables density to be optimised.
- [270] The proposed maximum heights of buildings in these areas generally range from 12 to 24 storeys. Exceptions to this include two small areas of 10 storeys at the edge of the Wirraway core, and 30 storeys and unlimited heights in the heart of the Sandridge core. The proposed maximum heights represent a reduction compared with the current controls in the northern part of Lorimer, Montague North, the central part of Montague South, the northern part of Wirraway and immediately north of J.L. Murphy Reserve; and an increase in height generally in Sandridge.
- [271] The proposed pattern of heights reflects public transport and activity centre accessibility, as noted above. In particular, the proposal for podium-tower format development in Sandridge (except around North Port Oval) reflects the proposal for a metro station there. I support this as a way of capitalising on the greater accessibility the station will provide, particularly for employment uses.
- [272] I note that five of the approximately 20 properties in Montague North (and one property at the near edge of Sandridge) already have permits for buildings of around 40 storeys in height. Similarly, the land between Gladstone and Buckhurst Streets is dominated by approvals for 27-30 storey podium-tower developments. Therefore, I would argue that ‘the horse has bolted’ in relation to the appropriateness of the podium-tower format in this area, which has already begun to establish a new character.

[277] I do not consider that podium-tower developments necessarily result in inactive street facades. While a number of such developments have been built in Southbank and the west end of the CBD, in particular, there are also examples of podium-tower developments with well activated ground floor facades.

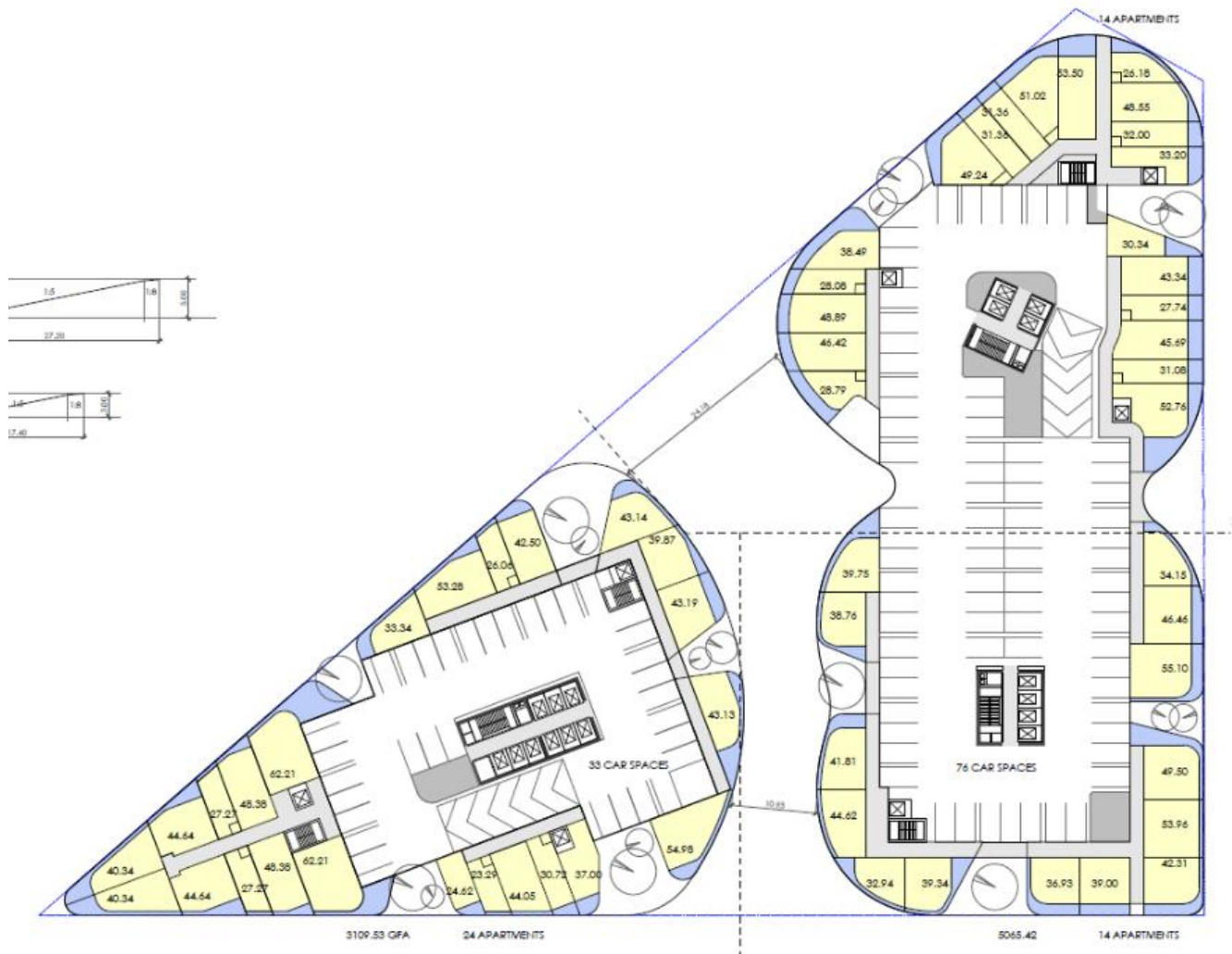


Active-fronted podiums

[278] The plans below for 2-28 Montague Street and 80 Munro Street, South Melbourne (in Montague North) illustrate how activated podiums can be achieved.



Proposed Ground Floor Plan, 2-28 Montague Street and 80 Munro Street, South Melbourne (Montague North) (Cox Architecture)



Proposed Level 1-4 Plan, 2-28 Montague Street and 80 Munro Street, South Melbourne (Montague North) (Cox Architecture)

[279] However, it is true that podium-tower developments tend to be larger, resulting in a coarser building grain, in turn creating a less diverse built environment and a poorer mix of businesses. This places an onus on strong requirements for laneways (see section 7.2 above) and fine-grain facades (see section 8.9 below), and the exploration of mechanisms to foster a rich mix of local businesses.

[280] The images below illustrate how a large development can be designed to provide a fine-grain façade.



Proposed street façade of an approved development for 1-57 Wellington Street and 71-77 Victoria Parade, Collingwood (Cox Architecture)

[281] I discuss the appropriateness of the specific proposed maximum tower heights in my precinct evidence.

[282] In summary, I support the proposed locations for podium-tower development.

8.3 Building heights—low-mid rise areas

- [283] Low-mid rise development is generally proposed in the non-core areas of Wirraway, Sandridge and Montague (except between the cores of Sandridge and Montague, as noted above). I support the proposal for alternative models of higher-density built form in these areas to create characters that are distinct from the podium-tower format development in the core areas. However, I consider that the density should still be optimised within these alternative built form types, to maximise their contribution to growth.
- [284] The proposed maximum heights of buildings in the low-mid rise areas are 6 storeys in Wirraway and 8 storeys elsewhere (except for a small area of 12 storeys at the northern edge of the Wirraway core, and 4 storeys at the southern edge of the Amendment land to contribute to a transition in height to the low-rise neighbourhood beyond). These heights do not reflect an existing, emerging or surrounding character (except for the 8-storey approvals in Thistlethwaite Street), nor do buildings in these areas need to be limited to these heights for amenity reasons.
- [285] Therefore, it appears that the densities and building heights in these areas—particularly the non-core part of Wirraway—have been reduced to fit within the overall population targets, rather than because these are the maximum scale of development that could result in good amenity outcomes. As discussed in section 6, I do not consider that the population targets provide a robust justification for the density or scale of development in the Amendment land.
- [286] The proposed heights in the low-mid rise areas deliver a significantly lower density than podium-tower development. I consider that the proposed maximum heights in these areas should be reviewed to determine whether they optimise the provision of growth within the proposed mid-rise built form types.
- [287] Given that all parts of the Amendment land will have excellent public transport access (assuming at least the proposed light rail lines are built), it is difficult to understand why there needs to be such a variation in density and height between the core and non-core areas, provided distinctly different characters can be delivered. For example, the southern edge of Wirraway is only approximately 220m from Plummer Street, and it is only approximately 250m from Plummer Street to Rocklea Drive/Woolboard Road. These are eminently walkable distances from a tram service and activity centre along Plummer Street. Therefore, I question the appropriateness of halving the density and reducing building heights by approximately $\frac{2}{3}$ at a distance of only about 50-100m from Plummer

Street (and even fronting Plummer Street either side of Graham Street). This is not a comment on the built form principle of stepping down towards Garden City, south of Williamstown Road, which I discuss below.

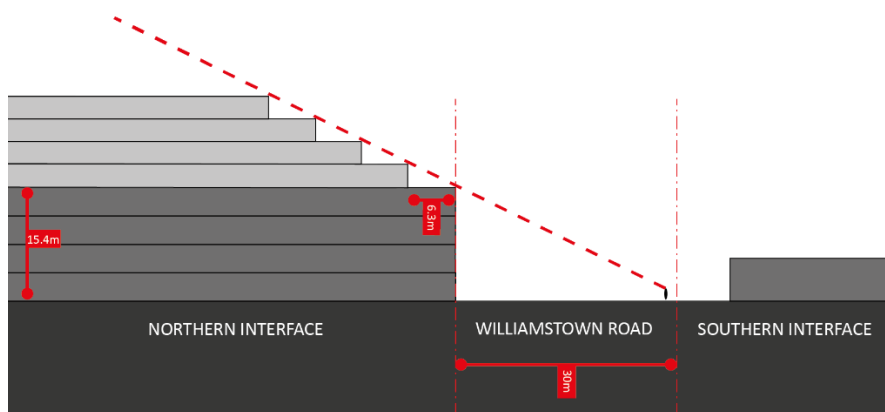
- [288] It is entirely possible to conceive of built form character types that would be distinct from the podium-tower areas and create high quality places while also providing for more growth than what is proposed. For example, DLA's investigation into alternative higher-density built form models (see Appendix E) demonstrates that the 'Barcelona' model delivers a significantly increased density (up to an FAR of approximately 4:1—almost twice that proposed in the non-core area of Wirraway) within a height of 7 storeys, while providing 'family-friendly housing'.
- [289] However, other built form models that deliver this level of density without adopting a *conventional* podium-tower format rely on some towers up to approximately 18 storeys high on street corners, separated by low-medium rise street wall forms. These models deliver a more diverse built form environment, while maintaining excellent public and private amenity (including generous central open spaces within each block). Density controls may present a useful mechanism for managing the overall form of this type of development to ensure that the heights do not encourage *conventional* podium-tower development.
- [290] Notably, although the same broad character outcome is sought in Wirraway, it has a maximum height only $\frac{3}{4}$ of that in the other low-mid rise areas. I assume that this is because of a desire for 'family-friendly housing' as indicated in the Urban Design Strategy (at page 88): "*The primary focus of Wirraway is to support family-friendly housing.*" I discuss this further below.
- [291] In summary, I support the proposal for mid-rise, higher-density built form in the non-core areas of Wirraway, Sandridge and Montague. However, I recommend that the proposed maximum heights in these areas be reviewed to enable development types that can deliver greater density while still delivering high quality public and private amenity, and 'family-friendly' housing.

8.4 Low-rise southern edge

- [292] The current controls contain a mandatory maximum height of 4 storeys along the southern edge of the Amendment land. This is proposed to be retained in the new planning framework, albeit with a reduced depth from the southern boundary west of North Port Oval.

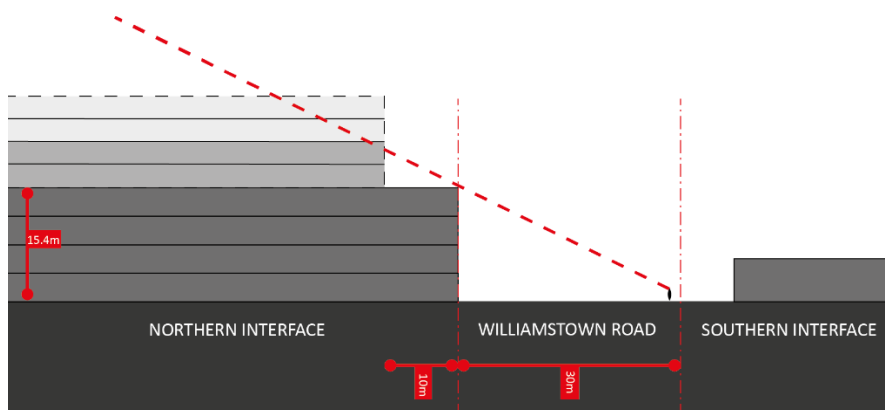
- [293] The rationale for the reduced building heights is to create a transition between the taller buildings proposed within the Amendment land and the existing lower scale areas to the south.
- [294] There are a number of different conditions that existing along the length of this southern edge:
- Williamstown Road, which is a 30m wide main road, has sporadic trees in a central median, and is lined by predominantly 2 storey heritage dwellings and residential buildings on the south side
 - Two sections of Williamstown Road—between Bridge Street and Derham Street, and between Raglan Street and Ross Street—which are zoned MUZ and occupied by industrial buildings on the south side—the latter including 550 Williamstown Road, which has a permit for a 6-storey apartment building (see http://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/vic/VCAT/2015/1708.html?context=1;query=550%20Williamstown%20Road;mask_path=au/cases/vic/VCAT)
 - A short section of Normanby Road, which is a 30m wide main road and is lined by industrial buildings (in the IN1Z) on the southeast side
 - Boundary Road, which is a 20m wide local street, and is largely lined with 1-2 storey dwellings on the south side, some of which are affected by the HO, and a 3-4 storey apartment building east of Garton Street
 - City Road west of Montague Street, which is a 30m wide main road, and is lined on the southeast side by a pub, a local park and an eclectic mix of 1-2 storey dwellings
 - City Road east of Montague Street, which is a 30m wide main road, lined on the southeast side with 2-storey commercial buildings and a service station in the IN1Z
- [295] Given the highly varying conditions of this southern edge, it is surprising that the same built form response has been adopted along its length.
- [296] It is unclear why development is limited to 4 storeys on the north side of Williamstown Road when there is a permit for a 6-storey building on the south side at 550 Williamstown Road (see http://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/vic/VCAT/2015/1708.html?context=1;query=550%20Williamstown%20Road;mask_path=au/cases/vic/VCAT), which is much closer to the low-rise hinterland.
- [297] The section below illustrates the proposed maximum heights fronting Williamstown Road in dark grey. It shows the sightline from someone standing on the southern footpath, and illustrates additional floor levels in
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light grey that could be accommodated below this sightline—in other words, levels which would not be visible from directly across the street, and which would be largely hidden in oblique views.



Section through southern edge on Williamstown Road

- [298] This demonstrates that the proposed mandatory 4-storey height on Williamstown Road would unnecessarily limit the provision for growth on properties along its north side. The requirement need not be mandatory to achieve the outcome of a transition—or, it need not be mandatory for anywhere near the depth proposed.
- [299] Therefore, I recommend that the mandatory 4-storey maximum building height be replaced with 4-storey maximum street wall height and a requirement for a 10m (and the 'underlying' maximum height to the north be applied). This will ensure that any additional levels are sufficiently set back to avoid any unreasonably visual impact on the south side of Williamstown Road. This is illustrated below.



Recommended section through southern edge on Williamstown Road

- [300] Although there are sections of Williamstown Road and Normanby Road occupied by industrial buildings on the south side, which are less sensitive from a character and amenity perspective, I consider that the requirement I have recommended above should be maintained in these locations to create a consistent built form edge.
- [301] Given that the properties are much smaller on the northeast side of Boundary Road, I support the proposal to define properties with a lower maximum height.
- [302] However, City Road is a wide, main road, with generally less sensitive uses on its southeast side. Therefore, I recommend that the approach I have proposed above for Williamstown Road be applied to the City Road edge too.
- [303] In summary, I support the proposal to transition building heights at the southern edge of the Amendment land. However, I recommend that on Williamstown Road, Normanby Road and City Road, the mandatory 4-storey height limit be replaced with a discretionary maximum 4-storey street wall height, and a discretionary minimum 10m setback above.

8.5 Housing diversity

- [304] The proposed planning framework seeks to provide a diverse range of housing types. I support this ambition.
- [305] Recommendation 17 of the Urban Design Strategy is *“Ensure that there is sufficient supply of midrise housing, with adequate access to private outdoor green spaces to support family-friendly neighbourhoods, particularly in Wirraway and Sandridge.”* The Strategy goes on to say that *“This can be achieved by designating areas within Wirraway and Sandridge that are suitable for a 6-8 storey height limit. This should be paired with a requirement for a minimum amount of communal green open space, preferably on ground (30% is supported by industry best practice) to support the delivery of a family-friendly housing typology such as a courtyard or perimeter block housing.”*
- [306] The link between building height and family-friendly housing is also made in *Lessons from Higher Density Development* (2016), a study for the Greater London Authority, which notes that the proportion of family friendly dwellings (3 bedrooms or more) decreases as height increases. It also notes that residents living in courtyard housing tend to have a greater feeling of community and the highest satisfaction ratings.
- [307] The requirement for different types of higher density development in the podium-tower and low-mid rise areas will contribute to achieving this

outcome. However, the ambition for family-friendly housing in the non-core areas of Wirraway and Sandridge need not preclude the types of development summarised in Appendix E which incorporate towers in the corners of blocks, because the family-friendly housing can be provided in the low-mid rise buildings overlooking a central open space, with other forms of housing in the towers accessed separately. The proposed local policy only requires 30% of the dwellings in developments of 300 dwellings or more in Wirraway (which Ms Hodyl recommends reducing to 100), and 20% in Sandridge, to have 3 bedrooms, leaving the majority as potentially 'non-family friendly' and able to be accommodated in towers.

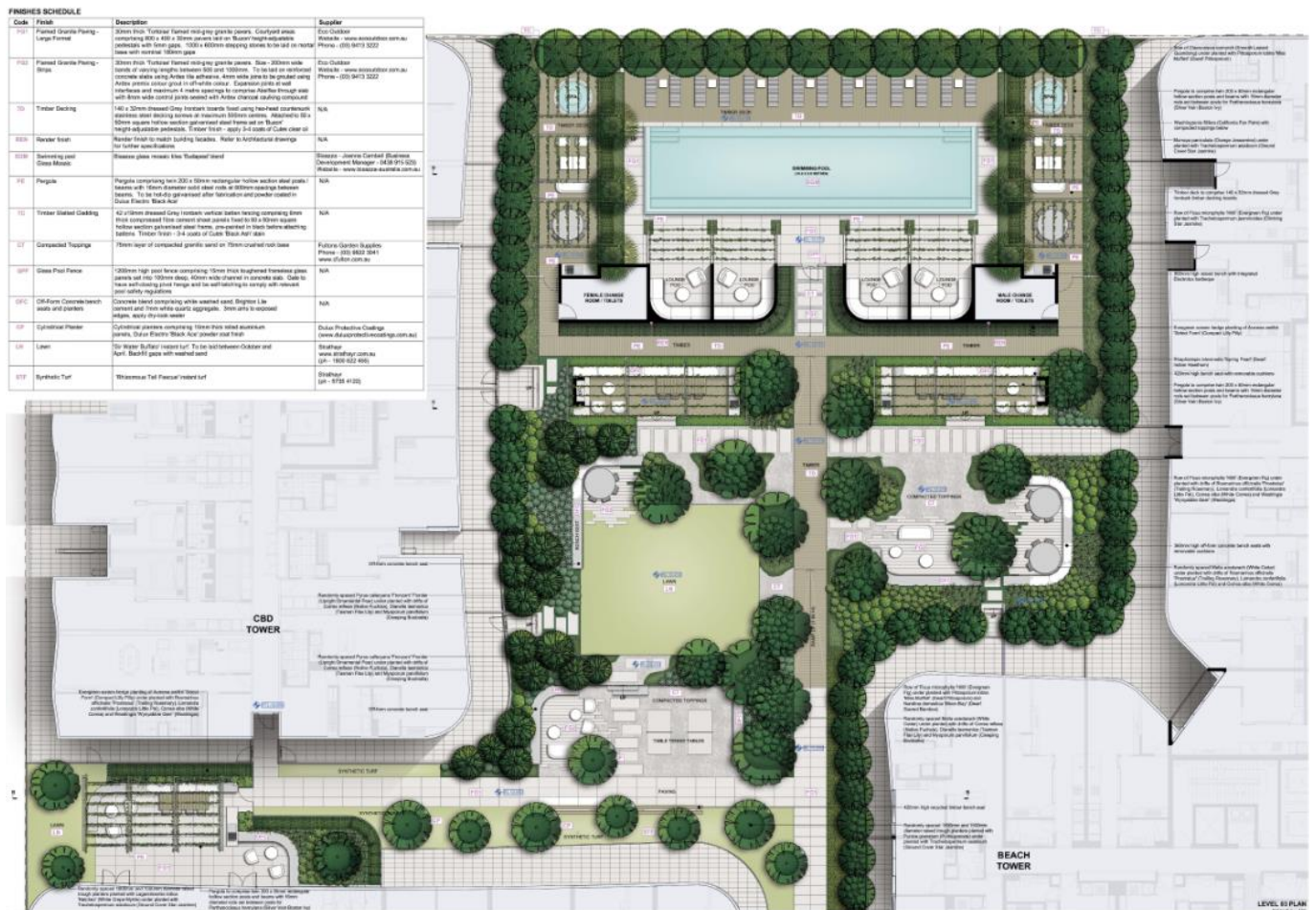
[308] The Urban Design Strategy sets out the following additional characteristics of 'family-friendly housing'. These include the following characteristics that are addressed by this Amendment:

- Dwelling size (number of bedrooms and living room size)
- Dwelling adaptability
- The provision of communal open space that can be directly surveilled by parents of playing children
- Easy access to schools, child care and parks

[309] Dwelling size is addressed by the proposed local policy and adaptable buildings are addressed by the proposed DDO schedules.

[310] The proposed Port Phillip DDO contains a discretionary requirement for the non-core areas of Sandridge and Wirraway seeking a maximum site coverage of 70%, with the remaining 30% to be used for ground level outdoor or communal open space or landscaping. My interpretation of the Urban Design Strategy is that the purpose of this control is to support 'family-friendly housing'.

[311] I accept that communal open space is desirable to support family-friendly housing. However, there is no reason why communal open space and landscaping cannot be provided on the roof of lower levels containing car parking or commercial floor area. Indeed, podium-top open space is likely to be sunnier. There are numerous examples of podium-top gardens, including the approval for 320 Plummer Street.



Podium-top communal open space approved at 320 Plummer Street, Port Melbourne (Wirraway) (Jack Merlo Design)

- [312] The 30% measure appears to be derived from an analysis of nine award-winning residential projects (see page 63 of the Urban Design Strategy). Notably, more than half of these projects have 100% site coverage, but all but one contain communal open space. This confirms that communal open space need not be provided at ground level.
- [313] I do not consider an analysis of nine projects to be sufficiently thorough to justify the proposed requirement. (And, in any event, four of the nine projects have a communal open space area that represents less than 30% of the site area.)
- [314] Clause 58.03-2 requires apartment developments with 40 or more dwellings to provide a minimum area of communal open space of 2.5m² per dwelling or 250m², whichever is the lesser. This requirement applies

to any apartment development, and may not represent a sufficient standard for developments containing 'family-friendly housing'. However, I consider that more thorough analysis is required to determine the minimum communal open space requirement for family-friendly housing.

- [315] Further, this requirement appears to apply irrespective of the use proposed. I note that office is an 'as-of-right' use in non-core areas. I do not consider that an office development should be required to provide communal open space.
- [316] Therefore, I recommend that the site coverage control be replaced with a requirement for any development incorporating dwellings to provide communal open space at any level up to the height of the street wall. Further, I recommend that more work be undertaken to determine an appropriate level of provision.

8.6 Street wall heights

- [317] The current controls contain a mandatory maximum street wall height of 20m (excluding architectural features and building services).
- [318] The proposed DDOs contain the following mandatory maximum street wall heights:
- 15.4m (4 storeys) on streets or laneways with a width of 12m or less
 - 23m (6 storeys) when forming part of a building higher than 38m (10-11 storeys), on streets with a width greater than 12m
 - 30m (8 storeys) when forming part of a building no higher than 38m (10-11 storeys), on streets with a width greater than 22m
- [319] Non-habitable architectural features not more than 3m in height are excluded from the above requirements. Presumably, this would allow the street wall to be extended up to include a parapet, which could act as a balustrade to a terrace above the street wall.
- [320] Given the potential for very tall buildings in some places, I support the principle of limiting street wall height to maintain good public realm amenity. In general, I support the proposed changes in street wall height compared with the current controls. In her evidence, Ms Hodyl notes (at paragraph 167) that "*Introduction of the additional opportunity to increase the maximum street wall height up to 8 storeys (for building 10 storeys or lower and on streets 22 metres or wider) (will) support a greater range of building typologies and enable greater amount of development yield on narrow sites than is allowed by the current controls.*" I agree with this and support its introduction.

- [321] In her evidence, Ms Hodyl has recommended converting the proposed 15.4m mandatory maximum street wall height on streets and lanes with a width of 12m or less to discretionary, and introducing a new mandatory maximum height of 23m (variously numbered as Recommendation 12 and 14). This is because she says limiting the height to 15.4m *“is not always required (refer Appendix A). In some circumstances increasing the street wall height to 6 storeys results in an acceptable outcome as it creates a street wall that provides a sense of enclosure without visually dominating the street or laneway or creating a canyoning effect.”* (paragraph 185).
- [322] Where a site is on the corner of two streets (or a street and a laneway) with different maximum street wall heights, the DDOs state that the higher height applies. Ms Hodyl recommends that this requirement be clarified by stipulating that the extent of the ‘return’ of the street wall along the secondary street be limited to 30m (Recommendation 24).
- [323] I support these refinements.
- [324] I support the principle of better relating street wall heights to street widths in order to maintain a reasonable sense of openness and access to daylight, sunlight and sky views. This is consistent with the references to street wall height to street width ratios of 1.5-2:1 being the maximum considered ‘best practice’, in both the Comparative Planning Controls Report and Synthesis Report which formed background material to Amendment C270 to the Melbourne Planning Scheme (Central City Built Form controls). The Panel which considered the introduction of Melbourne DDO10 via C270 agreed with the proposition of relating street wall heights to street widths (see pages 125-126), although I note that the Minister did not accept this recommendation.

[325] The existing and proposed street widths, and the associated proposed maximum street wall heights and resulting ratios (level of enclosure), are summarised below:

Street width	Proposed maximum street wall height	Street wall to street width ratio	Example existing streets
40m (with proposed widening)	23m (6 storeys)*	0.6:1*	Fennell, Lorimer, Turner
36m (with proposed widening)	23m (6 storeys)*	0.6:1*	Plummer
30m	23m (6 storeys)*	0.8:1	Numerous
22m	23m (6 storeys)	1:1	Proposed only
20m	23m (6 storeys)	1.2:1	Gladstone, Munro, Rocklea, Tarver, Thistlethwaite, Woodruff
18m	23m (6 storeys)	1.3:1	Proposed only
12m	15.4m (4 storeys)**	1.3:1**	Proposed only

* The maximum street wall height is increased to 30m (8 storeys) if the overall building height is no more than 38m (10-11 storeys). Apart from one section of Lorimer Street and one section of Plummer Street, the proposed maximum building heights along Lorimer, Turner, Fennell and Plummer Streets exceed 38m, so this option is unlikely to be taken up in those streets. However, it may be taken up in the 30m wide streets, resulting in a street wall height to street width ratio of 1:1.

** Ms Hodyl recommends converting this requirement to discretionary and introducing a mandatory maximum street wall height of 23m, which would result in a street wall height to street width ratio of 1.9:1.

[326] (Woodgate Street is approximately 15m wide. However, it lies alongside a light rail line which gives it an inherent sense of openness.)

[327] This demonstrates that while the Amendment proposes a better relationship between street wall height and street width than the current controls, this principle has been applied in a fairly ‘coarse’ manner, leaving a wide variation in street wall height to street width ratios.

[328] I consider that it is appropriate for the wider and narrower streets and lanes to have notably different characters—the former being more open and the latter more enclosed—and that different levels of amenity are an acceptable outcome of this. In particular, it is more important to have solar access on the footpaths in the main streets, warranting a lesser street wall height in general, so that sunlight can reach the opposite footpath between towers. In other words, the street wall height to street width ratio should vary between wider and narrower streets.

[329] However, I consider that it is unnecessary to limit street wall height in streets with a width of 30m or more to 23m (6 storeys). This results in

relatively weak spatial definition of these streets and is not necessary to ensure sunlight can reach the opposite footpath at the September equinox. Therefore, I recommend that the maximum street wall height in these streets be increased to 30m.

- [330] The proposed DDOs do not contain *minimum* street wall heights. Spatial containment—a sense of enclosure—is a critical element of good urban places. Street walls that are too low do not provide the spatial definition required for a memorable place.
- [331] The Melbourne C270 Comparative Planning Controls Report states that most of the comparison city centres have minimum street wall heights. It identifies a street width to street wall height ratio of 1-1.5:1 (i.e. a street wall height to street width ratio of $\frac{2}{3}$ -1:1) as being ‘best practice’ and the Special Character Areas report identifies a ratio of 0.5-2:1 as “*good urban design*”. I note that Moreland DDO18 (Sydney Road and Upfield Corridor) includes minimum street wall heights.
- [332] The existing and proposed street widths in the Amendment land range from 12m to 40m (Lorimer, Turner and Fennell Streets are currently 30m wide and proposed to be widened by 10m). (The laneways appear to be sought by the proposed local policies to be 6m or 9m wide, which means that a single storey street wall will be sufficient to ensure reasonable spatial definition.)
- [333] Therefore, I consider that there should be a minimum street wall height requirement ranging from 2 storeys in the 12m wide streets to 5 storeys in the 40m wide streets.
- [334] Drawing these recommendations together, I propose the following range of minimum and maximum street wall heights by street width:

Street width	Recommended street wall height
≥30m	15-30m (approx. 4-8 storeys)
20-22m	11-23m (approx. 3-6 storeys)
≤18m	7.5-23m (approx. 2-6 storeys)

- [335] This is generally consistent with the maximum street wall heights in the cities compared in the Melbourne C270 Comparative Planning Controls Report, which range between 19m and 28m (excluding Sydney, where the maximum is 45m). Notably, most streets in the comparison city centres of Chicago, Auckland, Sydney and Perth are only approximately 20m wide. (In New York, most avenues are approximately 30m wide and most streets are approximately 20m wide.) The wider streets in the Amendment land

have greater capacity for street-edge building scale without compromising public realm quality. I also note that the Melbourne C270 Daylight Modelling report indicates that it is building separation which most influences the level of daylight in the street. This explains why Melbourne's main streets have plenty of daylight, even when they have tall buildings alongside.

^[336] I consider that greater street wall height is appropriate on main street corners due to the greater sense of openness created by intersecting streets, the legibility benefits of marking main street corners and the visual interest created by diversity in the built environment. This approach is adopted in the CBD via DDO10, and led to the approval of a 15-storey building on the corner of Plummer and Prohasky Streets (at 320 Plummer Street).



Approved building on corner of Plummer Street and Prohasky Street, Port Melbourne (Elenberg Fraser)

- [337] The principal streets are all 30m or more wide. I consider that on the corners of two principal streets, the maximum street wall height may be increased to 60m (17-18 storeys). This will express the urban structure and contribute to a more diverse built environment.
- [338] My observation is that approximately 60m high buildings rising sheer from the street boundaries on the corner of two main streets in the CBD (e.g. at the corner of Collins and William Streets), do not create an uncomfortable sense of enclosure or noticeably poor daylight.
- [339] However, some properties extend some distance from a main street corner (or could be amalgamated with an adjoining property to do so). I consider that 80m high street walls for an extended length of a main street would be too enclosing, resulting in poor public realm amenity.
- [340] Therefore, I recommend limiting 60m street wall heights to a distance of 30m along each street frontage.
- [341] The Amendment does not currently require any stepping down in height where a building directly abuts a park, except for shadow reasons. In her evidence to the Panel, Ms Hodyl recommends a preferred maximum building wall height of 15.4-23m where a site directly abuts a park (Recommendation 20). This is because she says (at paragraph 202): *“The 3d modelling demonstrates that a building wall height of 4-6 storeys creates an appropriately scaled interface to these park locations.”*
- [342] Parks benefit from spatial definition like streets. However, this needs to be balanced with a greater desire for solar access. In general, I consider that the built form at the edge of an open space should be at least $\frac{1}{3}$ of its width to achieve sufficient spatial definition while avoiding an uncomfortable sense of enclosure.
- [343] Most of the proposed parks are less than 69m wide, so a 23m high building wall will provide sufficient spatial definition. However, there are a small number of properties which directly abut open spaces that are wider than 69m, where I consider a taller building wall would be appropriate:
- 11 Montague Street, which abuts Montague North Park, which is approximately 90m wide. I consider that the development along the northern edge of this property could have a building wall on the boundary of the park up to 30m (8 storeys) high. I note that this would only cast a shadow approximately 23m across the park at the September equinox—approximately $\frac{1}{4}$ of its width (and the proposed shadow requirements would preclude additional shadow from any upper form).

- 501 Williamstown Road (the Bunnings site), which abuts the expanded North Port Oval park, which is over 200m wide. I consider that future development of this property could have a wall at the park edge up to the maximum building height limit (noting that that is currently proposed to be 29.4m [8 storeys]). Given its position at the southwest corner of the park, it will have minimal shadow impact.
- 339 Williamstown Road, 422 Plummer Street and 477 Graham Street, which directly abut J.L. Murphy Reserve, which is approximately 220m wide. I consider that future development of these properties could have a wall at the park edge up to the maximum building height limit (noting that that is currently proposed to range from 15.4 to 35.8m [4-10 storeys]). Given their position at the ends of the park, this will have minimal shadow impact.

^[344] In summary, I recommend the following range of minimum and maximum street wall heights by street width:

Street width	Recommended street wall height
≥30m	15-30m (approx. 4-8 storeys)
20-22m	11-23m (approx. 3-6 storeys)
≤18m	7.5-23m (approx. 2-6 storeys)

^[345] I recommend that the maximum street wall height on the corners of two principal streets be increased to 60m (17-18 storeys). However, I recommend limiting 60m street wall heights to a distance of 30m along each street frontage.

^[346] I recommend the following taller building walls on parks:

- 11 Montague Street—30m (8 storeys) abutting Montague North Park.
- 501 Williamstown Road—as per the maximum building height limit abutting the expanded North Port Oval (currently proposed to be 29.4m [8 storeys]).
- 339 Williamstown Road, 422 Plummer Street and 477 Graham Street—as per the maximum building height limit abutting J.L. Murphy Reserve (currently proposed to range from 15.4 to 35.8m [4-10 storeys])

Mandatory controls

[347] Numerous submissions have raised concerns about the mandatory nature of some of the proposed controls. The Minister (Part B) says mandatory controls are justified because:

the circumstances of Fishermans Bend are indeed exceptional, not to say unique:

(a) First, Fishermans Bend is a declared Project of State Significance under Part 9A of the Act;

(b) Second, the vision for Fishermans Bend is for a series of distinctive precincts, each with their own character. For each precinct, this distinctive character has to be created, because it does not presently exist;

(c) Third, due to the early rezoning of Fishermans Bend in 2012 to the highly permissive CCZ control, parts of Fishermans Bend – Montague in particular – are already coming under significant development pressure.

[348] Planning Practice Notes 59 and 60 state that discretionary controls combined with clear design objectives are the preferred form of height and setback controls, and mandatory controls will only be considered in exceptional circumstances and where it can be demonstrated that discretionary controls will not achieve the desired outcome or could result in an unacceptable built form outcome. Exceptional circumstances include sites of recognised State significance where building heights can be shown to add to the significance of the place. Fishermans Bend has been identified as being of State significance and the public realm amenity created by controlling building heights is a key part of its existing and future significance as an attractive place to live, work and recreate.

[349] The Practice Notes go on to state that mandatory controls should only be applied where:

- the provision is strategically supported
- the provision is appropriate to the majority of proposals
- the provision provides for the preferred outcome
- the majority of proposals not in accordance with the provision will be clearly unacceptable
- the provision will reduce administrative costs

- [350] The Practice Notes indicate that, even where these circumstances exist, a mix of discretionary and mandatory controls is most likely to be appropriate.
- [351] I consider that, provided they are amended in accordance with my recommendations above, the proposed maximum street wall heights are strategically supported and provide for the preferred public realm amenity outcome. The mandatory nature of the maximum street wall heights would also reduce administrative costs by lessening disputes.
- [352] I consider that (if amended in accordance with my recommendations) they would be appropriate to many proposals because they take into account both the typical infill site and main street corner circumstances. However, a proposal that is over the proposed maximum street wall heights will not necessarily be unacceptable. For example, a development of a large site may incorporate a street wall height which generally conforms with the proposed maximum but is punctuated by an occasional exceedance of it. This would contribute to the diversity sought by the Urban Design Strategy. Notably, in contrast with almost every other place in Melbourne where planning controls limit street wall height, there is no consistent existing character in the Amendment land which the proposed street wall height limit seeks to respect or reference.
- [353] In summary, I do not consider that enough of the 'tests' set out in the practice notes are met to warrant mandatory maximum street wall heights. Given the 'blank canvas' nature of the Amendment land, I do not consider that the conditions exist to limit design flexibility in this way.
- [354] The DDO contains the following performance outcomes:
- *Create a street wall that does not overwhelm the street and allow for views to sky.*
 - *Enable adequate daylight, sunlight and sky views in the street or laneway.*
- [355] I support these outcomes, and consider that they would form useful guidance for the design and assessment of applications to exceed the proposed maximum street wall heights.
- [356] However, the mandatory maximum street wall heights are presumably considered to achieve these outcomes, particularly given that they relate street wall height to street width. Therefore, if they are to remain mandatory, then I do not consider that it is necessary to also include the performance outcomes.

8.7 Tower street setbacks

^[357] The current controls contain a mandatory minimum setback above the street wall height of 10m.

^[358] The proposed DDOs reduce this to:

- 3m (mandatory) and 5m (preferred) for buildings up to 30m (8 storeys) high
- 5m (mandatory) and 10m (preferred) for buildings 30-68m (8-20 storeys) high
- 10m (mandatory) for buildings more than 68m (20 storeys) high (except 5m adjacent WGF, Citylink overpasses, or existing tram corridors)

^[359] I support the principle of increasing setbacks as the overall building height increases, to ensure the tower and street wall are clearly distinct from each other and the tower does not dominate the street.

^[360] I also support the proposed combination of discretionary and mandatory setbacks, because the tower setback is not the only technique for achieving the outcomes sought. For example, Melbourne DDO10 (Central City) provides for 'modified' tower floorplates that do not present a façade parallel with the street to encroach within the preferred 10m setback (provided they do not result in an increased floor area). Differing facade treatments can also help to distinguish a street wall and tower, and lessen the 'visual weight' of the tower.

^[361] Further, if the setbacks were only mandatory, a nonsensical situation would arise where a building can exceed 30m by a storey or two (for example, where the preferred maximum height is 35.8m), but to do so would mean the whole tower has to be set back twice as far from the street.

^[362] In relation to the mandatory nature of some of the proposed tower street setback requirements, I have already noted that Fishermans Bend has been identified as being of State significance, providing the exceptional circumstance that warrants consideration of mandatory controls. For the reasons outlined above, I consider that the proposed mandatory tower front setback control is strategically supported and provides for the preferred outcome.

^[363] Having reviewed the typical lot depths, I consider that the proposed tower street setbacks are appropriate to the majority of proposals, because they will not preclude an efficient tower floorplate. The mandatory nature of

the minimum street wall setbacks would also reduce administrative costs by lessening disputes.

^[364] Although, for example, a 4.9m setback to the leading edge of an elliptical tower would not necessarily be clearly unacceptable, on balance I consider that the benefits of a mandatory control in terms of certainty and administrative simplicity outweigh any potential benefits of a purely discretionary control.

^[365] The DDOs contain the following performance outcomes:

- *Create a distinct street wall effect and avoid dominating the view from the street.*
- *Enable adequate daylight, sunlight and sky views in the street, laneway or lower levels of development*
- *Ensure upper levels of mid-rise buildings are visually recessive*

^[366] I support these outcomes, and consider that they form useful guidance for the design and assessment of applications to encroach within the preferred minimum street tower setback.

8.8 Tower side and rear setbacks/ building separation

^[367] The current controls contain mandatory minimum side and rear setbacks above the street wall height of 10m (which can be measured from the centreline of an adjoining laneway) and mandatory minimum tower separation distances of 20m.

^[368] The proposed DDO contains the following mandatory side and rear setback requirements:

Building height	Side & rear setback	Tower separation
<23m (6 storeys)	6m	12m
23-30m (7-8 storeys)	9m	18m
>30m (8 storeys)	10m	20m

^[369] The setbacks can be reduced for walls without habitable room windows or balconies to 3m for buildings up to 30m (8 storeys) high and 5m for buildings of 30-68m high (9-20 storeys). They can also be reduced to 5m adjacent to the West Gate Freeway, Citylink overpasses or existing light rail corridors.

- [370] In her evidence to the Panel, Ms Hodyl recommends amending the wording of the side and rear setback requirements: *“Changing the wording from ‘habitable rooms or balconies’ to ‘habitable rooms or balconies with primary outlook’ would make the application of the control more explicit. This would enable designers to include side windows onto habitable rooms without triggering an unnecessary increase in the setback distance.”* (paragraph 182). I agree with this recommendation.
- [371] I assume that the purpose of the side and rear setback requirements is to ensure good internal amenity, equitable development potential on adjoining properties and, perhaps, good public realm amenity (by maintaining gaps between towers for sky views, sunlight and a sense of openness).
- [372] I support the principle of tower side and rear setback and separation controls for these reasons. I also support the introduction of lesser side and rear setbacks for ‘mid-rise’ buildings, compared with the current controls, because the tower separation needed to ensure good amenity reduces with the height of the building, particularly in terms of visual amenity from both the public and private realms.
- [373] However, tower setback and separation controls directly affect the ability of a property to be developed above podium height and, if it can be, the total floorspace that can be achieved. Therefore, the proposed tower side and rear setback and separation controls need to strike an appropriate balance between amenity and growth outcomes. I consider that it is important for these controls to be the least restriction necessary to ensure the minimum acceptable internal and public realm amenity standards are met, so that development is not unnecessarily constrained. The key question is whether the proposed controls strike the right balance.
- [374] It is not clear why the side and rear setback requirements operate in ‘steps’, rather than a more gradual increase as building height increases. For example, Melbourne DDO10, introduced via Amendment C270 following much debate at the Panel hearing, requires towers to be setback a minimum of 5 metres or 6% of the total building height, whichever is greater. This avoids unnecessary reductions in potential floor area where a building is just over a setback threshold. As proposed, a 24m high building has the same setback requirement as a 30m high building, and a 31m high building has the same setback requirement as a 60m high building.
- [375] Ms Hodyl justifies the proposed side and rear setback controls in part by stating (at paragraph 187) that they will not prevent the realisation of the

population targets. However, as outlined above, I query the use of the population targets as the basis for this Amendment.

^[376] The scale of the proposed side and rear setback requirements are well in excess of the tower setbacks adopted in most other recently-introduced planning provisions in Melbourne, as shown below.

Planning control	Side and rear setback requirement up to a height of 27m	Side and rear setback requirement above a height of 27m	Discretionary/ mandatory
Melbourne DDO10	5m	5m or 6% of the total building height, whichever is the lesser*	Mandatory, except up to a height of 80m where the proposed building abuts an existing, approved, proposed or potential neighbouring building, and where it abuts a property that cannot be developed above the street wall height
Port Phillip DDO26	4.5m		Discretionary, except mandatory in selected sub-precincts
Stonnington ACZ1	4.5m	10m	Discretionary
Monash DDO12	5-6m	5-6m	Discretionary
Manningham ACZ1	4.5-5m side 4.5-8m rear	4.5-5m side 4.5-8m rear	Discretionary Discretionary

* A 5m setback would meet the 6% requirement up to a height of 83m

^[377] The Moonee Valley ACZ1 contains a 25m tower separation requirement for buildings over 45m high in Precinct 9 (the Racecourse land).

^[378] The proposed controls are generally aligned with Moreland’s local policy at clause 22.07. However, this is a generic policy that applies to any development of five or more storeys in that municipality, and is not mandatory. I do not consider that the same balance between provision for growth and amenity outcomes should be adopted in Melbourne’s biggest urban renewal area, on the doorstep of the CBD.

^[379] I assume that a 6m side and rear setback requirement has been adopted for walls with habitable room windows or balconies up to podium height because new development will typically occur adjacent to industrial buildings that are built to the common boundary for several levels, or new

buildings with podia that are up to 6 storeys high built to the common boundary. I consider that this is an appropriate scale of setback.

[380] The Urban Design Strategy states (at page 94) that above 20 storeys, the “*key driver (of tower separation) is ensuring that sufficient daylight and sunlight reach street level and lower building levels between towers*”.

[381] However, it is not clear why the proposed setback requirements increase so ‘rapidly’ as a building rises above podium height, compared with the requirements in other renewal precincts in Melbourne, particularly given the strategic imperative to accommodate growth in Fishermans Bend.

[382] Given that all development above 23m is required to have a side or rear setback of at least 3m to a height of 30m and 5m above (if the façade wall does not contain habitable room windows or balconies), continuing the 6m setback requirement from below would achieve a minimum tower separation of 9m up to a height of 30m, 11m above that, or 12m between facing apartments.

[383] A minimum 12m tower separation between facing apartments would ensure that no privacy screening is required, adopting the ResCode overlooking parameter of a horizontal distance of 9m. This is a good outcome where apartments in adjacent towers face each other, because it ensures their internal amenity is not impeded by screening. A 12m separation will also ensure adequate visual amenity.

[384] Therefore, I consider that this is sufficient separation up to a height of around 36m. Above that, setbacks should increase gradually to 10m at a height of 100m. A control could easily be formulated linking these two benchmarks in a similar vein to Melbourne DDO10, for example:

- A minimum setback of 6m up to a height of 36m
- A minimum setback of the square root of the total building height between a height of 36m and 100m

[385] These setbacks would be at least as generous as the majority of similar controls in Melbourne. Therefore, it can be assumed that they will result in acceptable internal amenity (and equitable development opportunities). They are also more generous than the controls that apply in the Hoddle Grid, whose public realm quality is most important. Therefore, it can also be assumed that the resulting public realm amenity would be more than acceptable.

[386] Notably, the vast majority of tower side and rear setback controls in Melbourne are discretionary. The primary justification for the mandatory nature of the proposed side and rear setback requirements is equitable

development. At paragraph 173 of Ms Hodyl's evidence, she says "If mandatory controls are not put in place, it is highly likely that development will be built too close to the boundary."

[387] I disagree. The last few years of planning decisions indicates that planning authorities are now adept at understanding the concept of equitable development and applying it sensibly without the need for mandatory controls. The Port Phillip C107 Panel addressed this matter, resulting in discretionary equitable setback provisions (except where a consistent 4.5m setback is part of the existing character along St Kilda Road and Queens Road).

[388] There are a number of reasons for side and rear setbacks to be discretionary. Lot sizes vary considerably within Fishermans Bend. This means that lots of differing width commonly abut each other. Where two properties of unequal width abut each other, it may be inequitable for them to provide the same contribution to the appropriate tower separation. In this case, the equitable solution may be that each site contributes a setback to the combined separation that is in proportion with its site width relative to the combined width of the two sites.

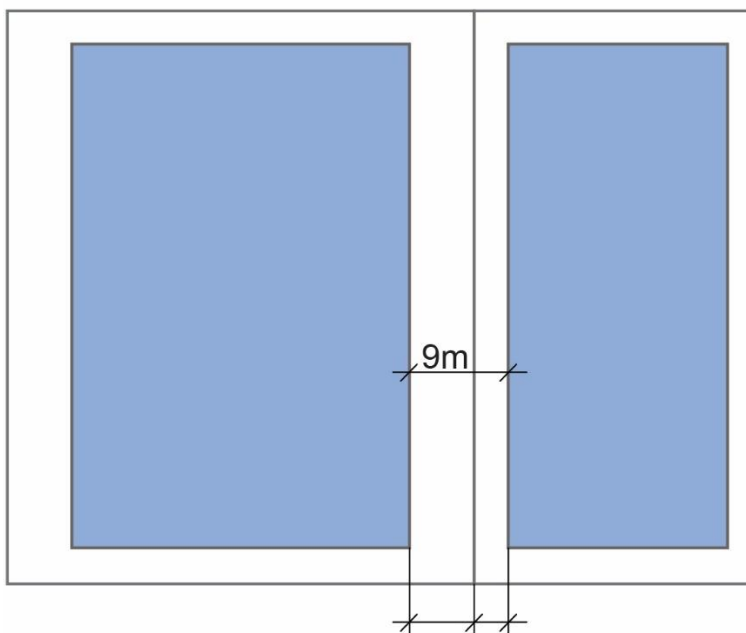
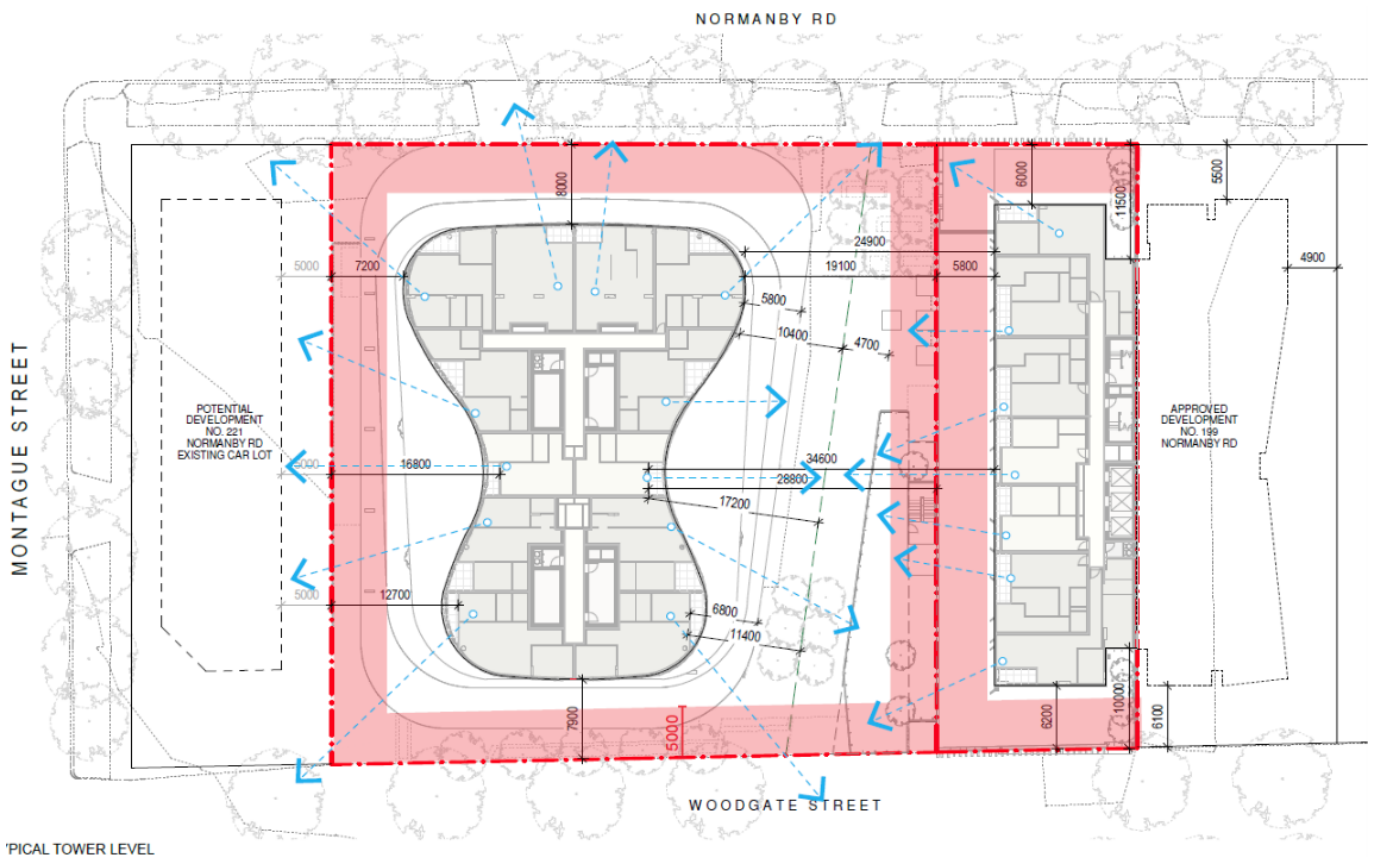


Diagram showing side setback proportional to lot width

[389] This is particularly the case where the narrower property is less than approximately 30m wide, in which case a requirement for a 6m setback from each side would probably render it undevelopable. This is illustrated by the applications for two neighbouring properties at 203-205 and 207-217 Normanby Road. The former is approximately 20m wide, while the latter is approximately 70m wide. As a result, the proposal for 207-217 Normanby Road provides a setback from the common boundary which is more generous than required by the current or proposed controls, allowing a lesser setback on 203-205 Normanby Road. However, the combined setbacks result in a tower separation of 24.9m (see below).

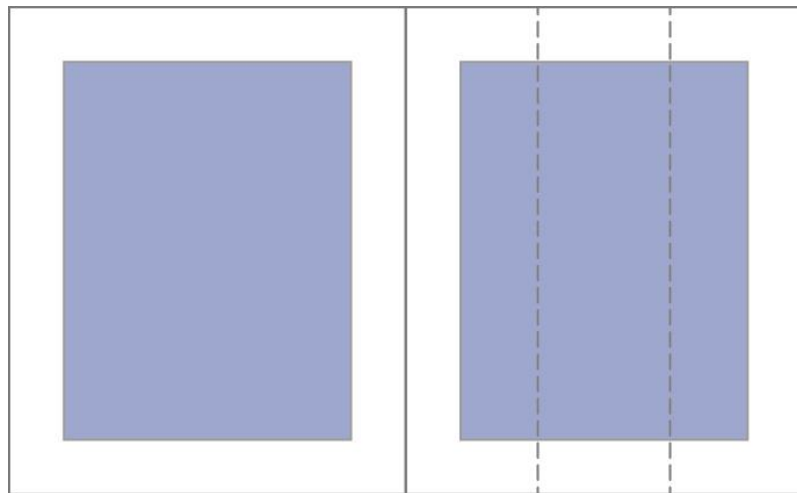


Typical tower floor plan of proposed developments at 207-217 Normanby Road (left) and 203-205 (right) Normanby Road, alongside approved tower footprint for 199 Normanby Road (Hayball)

[390] There are other variables that need to be taken into account too. For example, where one property is only developed to podium height or lower, and is strata-titled or has heritage values to the extent that it is

unlikely to be redeveloped, it is unnecessary to setback a neighbouring development in order to provide a separation between towers.

- [391] Where lots have a width of around 30m or less, the only way in which they can be economically developed above podium height is if they are built to one or both side boundaries, with all accommodation facing the street and the rear. In such a situation, 2-3 narrow lots built in this way have the same impact on the amenity of the street as the development of one wider lot.



Matching impacts on public realm amenity of development on a wider lot and 3 narrower lots

- [392] An example of this is 203-205 Normanby Road, which is approximately 20m wide, and which adjoins a property to the east with an approval for a tower that abuts the common boundary between the two properties (see drawing on previous page). I understand that the neighbouring development proposal was designed and approved with the specific intention that development at 203-205 Normanby Road could abut it, creating a single, amalgamated tower form approximately 11m wide.
- [393] The inappropriateness of mandatory side setback controls was recognised by the Panel which considered Amendment C107 to the Port Phillip Planning Scheme (St Kilda Road North). That Panel's report concludes (at page 37) that the objectives *behind the proposed requirements for mandatory side setbacks* "have merit, however they are not readily applied in an environment where ... sites are narrow and where imposition of this provision would restrict the allowable width and would prevent the construction of a building." The report goes on to say that:

The Panel believes that a precinct-wide separation distance is not warranted or practical because it would:

Make narrow sites undevelopable

Restrict the development capacity of irregularly shaped sites to the wider part of the site

Require a side setback even if it is adjacent to a blank wall of an existing building on all or part of a side boundary

Not allow discretion to consider other innovative design solutions such as semidetached buildings.

At page 38, the Panel report says “In [some] cases, the construction to at least one side boundary is logical.” It concludes that “Discretionary 4.5 metre side and rear setbacks are a good baseline to commence assessing the degree of actual separation required to achieve relevant design objectives.”

[394] Given that there may be alternative design responses which would enable developments to contribute to urban growth while still ensuring good internal and public realm amenity, I consider that the tower separation and side and rear setback requirements should be discretionary. The alternative outcome is that narrower properties cannot be developed above podium level unless they can be consolidated with neighbouring properties. I do not consider that this is an acceptable outcome in a precinct of such strategic importance to metropolitan growth objectives.

[395] In the event that the side and rear setback control is made discretionary, the DDO should contain guidance about the circumstances in which lesser setbacks may be acceptable.

[396] In summary, I recommend revising the side and rear setback requirements to a minimum of 6m up to a height of 36m, and a formula above that which results in gradually increasing setbacks as the building rises to 10m at a height of 100m (such as the square root of the height). I also recommend that these controls be discretionary, with clear guidance as to how that discretion will be used.

8.9 Detailed design

- [397] The proposed DDO contains a series of detailed design requirements to do with active frontages, adaptable buildings, building finishes, floor-to-floor dimensions and landscaping. I support these requirements, which are important to ensure an inviting public realm.
- [398] However, I query the need for 1.5m deep soil, as my understanding is that most tree roots only extend approximately 800mm below the soil surface.
- [399] Professor Adams raises a concern about how sea level rise will be accommodated, and the risk that it will result in blank walls at street level. The Gravity Tower in Montague Street illustrates the challenge created by the need to address flooding. I consider that further work is required to identify design solutions that do not preclude genuinely active frontages.

9.0 Recommendations

^[400] I have provided a summary of my opinion in section 2.

^[401] My specific recommendations are below:

1. REVIEW THE PROPOSED NUMBER OF JOBS IN THE WIRRAWAY CORE, BASED ON A FIRMER POSITION IN RELATION TO THE PROVISION OF A METRO STATION.

2. REVIEW THE POTENTIAL FOR A TRAM ROUTE INTO THE AMENDMENT LAND FROM PARK STREET IN SOUTH MELBOURNE, AS SUGGESTED IN THE 2013 DRAFT VISION.

3. REVIEW THE FEASIBILITY OF MOST DEVELOPMENT IN CORE AREAS INCORPORATING SIGNIFICANT AREAS OF EMPLOYMENT AND RESIDENTIAL SPACE AND, IF NECESSARY, DEVELOP AN ALTERNATIVE MECHANISM FOR ENSURING THE DELIVERY OF EMPLOYMENT FLOORSPACE.

4. ESTABLISH REVISED DENSITY AND HEIGHT CONTROLS BASED ON A DESIRED BUILT FORM CHARACTER FOR EACH AREA THAT BALANCES AMENITY OUTCOMES AND PROVISION FOR GROWTH (INDEPENDENT OF POPULATION TARGETS/ ESTIMATES AND THE EXTENT OF ACTIVITY CENTRES/ EMPLOYMENT NODES), AND CAREFUL CALIBRATION TO ENSURE SUFFICIENT FLEXIBILITY TO FOSTER DIVERSE BUILT FORM OUTCOMES WITHOUT UNNECESSARILY STYMYING GROWTH. ENSURE THAT THIS IS NOT COMPROMISED BY MECHANISMS TO DELIVER AND FUND PUBLIC INFRASTRUCTURE OR ENCOURAGE EMPLOYMENT.

5. REPLACE THE MANDATORY 4-STOREY HEIGHT LIMIT ON WILLIAMSTOWN ROAD, NORMANBY ROAD AND CITY ROAD WITH A DISCRETIONARY MAXIMUM 4-STOREY STREET WALL HEIGHT, AND A DISCRETIONARY MINIMUM 10M SETBACK ABOVE.

6. IDENTIFY APPROPRIATE LOCATIONS FOR LANDMARK AND CIVIC BUILDINGS.

7. CONVERT THE OVERSHADOWING CONTROLS TO DISCRETIONARY PROVISIONS.

8. REPLACE THE SITE COVERAGE CONTROL IN THE NON-CORE AREAS OF WIRRAWAY AND SANDRIDGE WITH A REQUIREMENT FOR ANY DEVELOPMENT INCORPORATING DWELLINGS TO PROVIDE COMMUNAL OPEN SPACE AT ANY LEVEL UP TO THE HEIGHT OF THE STREET WALL.

9. UNDERTAKE FURTHER WORK TO DETERMINE THE APPROPRIATE LEVEL OF PROVISION OF COMMUNAL OPEN SPACE IN 'FAMILY-FRIENDLY HOUSING' AREAS.

10. AMEND THE STREET WALL HEIGHT CONTROLS TO DISCRETIONARY PROVISIONS AS FOLLOWS:

STREET WIDTH	STREET WALL HEIGHT
≥30M	15-30M (APPROX. 4-8 STOREYS)
20-22M	11-23M (APPROX. 3-6 STOREYS)
≤18M	7.5-23M (APPROX. 2-6 STOREYS)

11. INCREASE THE MAXIMUM STREET WALL HEIGHT ON THE CORNERS OF TWO PRINCIPAL STREETS TO 60M (17-18 STOREYS) UP TO A DISTANCE OF 30M ALONG EACH STREET FRONTAGE.

12. PROVIDE FOR THE FOLLOWING BUILDING WALL HEIGHTS ON PARK BOUNDARIES:

11 MONTAGUE STREET—30M (8 STOREYS) ABUTTING MONTAGUE NORTH PARK
501 WILLIAMSTOWN ROAD—AS PER THE MAXIMUM BUILDING HEIGHT ABUTTING THE EXPANDED NORTH PORT OVAL
339 WILLIAMSTOWN ROAD, 422 PLUMMER STREET AND 477 GRAHAM STREET— AS PER THE MAXIMUM BUILDING
HEIGHT ABUTTING J.L. MURPHY RESERVE

13. IF THE MAXIMUM STREET WALL HEIGHT CONTROLS REMAIN MANDATORY, DELETE THE PERFORMANCE OUTCOMES.

14. REVISE THE SIDE AND REAR SETBACK REQUIREMENTS TO A DISCRETIONARY MINIMUM OF 6M UP TO A HEIGHT OF 36M, AND A FORMULA ABOVE THAT WHICH RESULTS IN GRADUALLY INCREASING DISCRETIONARY SETBACKS AS THE BUILDING RISES TO 10M AT A HEIGHT OF 100M, WITH CLEAR GUIDANCE AS TO HOW THE DISCRETION WILL BE USED.

15. MODIFY THE POLICY WHICH SEEKS TREE PLANTING IN LANEWAYS TO EXCLUDE SERVICE LANES.

16. AMEND THE WORDING OF THE CROSSOVER PROHIBITION PROVISION IN THE CCZ SCHEDULES TO PROVIDE FOR SITUATIONS WHERE AN ALTERNATIVE CROSSOVER LOCATION MAY BE AVAILABLE BUT NONSENSICAL.

17. REVIEW THE NEED FOR 1.5M DEEP SOIL (COMPARED WITH A SHALLOWER DEPTH).

18. UNDERTAKE FURTHER WORK TO IDENTIFY DESIGN SOLUTIONS TO ADDRESS THE RISK OF FLOODING THAT DO NOT PRECLUDE GENUINELY ACTIVE FRONTAGES.

Appendix A: Summary of Evidence & Personal Details

Name and Address

Mark Peter Sheppard
Principal
David Lock Associates (Australia) Pty Ltd
2/166 Albert Road
SOUTH MELBOURNE VIC 3205

Qualifications

- Recognised Urban Design Practitioner (Urban Design Group, UK), 2014
- Corporate Member of the Planning Institute of Australia, 2008
- MA Urban Design, Oxford Brookes University, UK, 1992
- Diploma Urban Design, Oxford Brookes University, UK, 1992
- Bachelor of Architecture, University of Auckland, NZ, 1990

Professional experience

- Director, David Lock Associates (Australia), 1997 to present
- Urban Designer - Associate, David Lock Associates, UK, 1993 – 1997
- Architectural Assistant, Sipson Gray Associates, London, UK, 1990 – 1993
- Architectural Assistant, Kirkcaldy Associates, Auckland, NZ, 1988 – 1990

Area of Expertise

I have over twenty years' experience in private practice with various architecture and urban design consultancies in New Zealand, England and Australia, and have practised exclusively in the field of urban design since 1993. I am the author of '*Essentials of Urban Design*' (CSIRO, 2015).

Expertise to prepare this report

I have been involved in the design and assessment of numerous activity centre and urban infill projects in Victoria. These have included:

- Structure Plans for the South Melbourne Industrial Precinct, Preston Central (2007 National PIA Urban Planning Award), Highpoint, Forrest Hill, Wheelers Hill and three urban villages in Moreland;
- Urban Design Frameworks for Darebin High Street (2004 National PIA Urban Design Award), Highpoint, Central Dandenong, South Melbourne, Carlisle Street Balaclava, St Albans and Footscray;

- Built form controls for the Brunswick Major Activity Centre, Port Melbourne and Ormond Road, Elwood;
- Numerous independent urban design assessments of development proposals to inform panel and VCAT hearings; and
- Urban design advice in relation to development proposals for numerous sites in Fishermans Bend, as summarised in Appendix C.

Other significant contributors

I was assisted in the preparation of this report by Susan Mitchell, Jaime Parsons and Amy Ikhayanti of David Lock Associates.

Instructions which define the scope of this report

I have been requested to give expert evidence in relation to urban design aspects of the proposed planning provisions.

I am engaged by various landowners, listed at Appendix B, and have received written instructions from Norton Rose Fulbright, Planning & Property Partners and Russell Kennedy including various documents relating to the Amendment.

Facts, matters and assumptions relied upon

- Inspection of the subject site and surrounding area; and
- Review of planning controls and policies affecting the area.

Documents taken into account

- Amendment GC81 documentation (including the draft Framework)
- Submissions to the Amendment exhibition
- Background documents, including:
 - Fishermans Bend Urban Renewal Area Draft Vision, September 2013 Prepared by: Places Victoria
 - Fishermans Bend Strategic Framework Plan July 2014, Prepared by MPA
 - Fishermans Bend Strategic Framework Plan July 2014 Amended April 2015
 - Fishermans Bend Recast Vision The next chapter in Melbourne's growth story Draft for consultation, May 2016
 - Fishermans Bend Framework The next chapter in Melbourne's growth story Draft for consultation, DELWP 2017
 - Fishermans Bend Population and Demographics, 2017 Prepared by: DELWP in collaboration with the Taskforce.
 - Fishermans Bend Demographic Profiling, June 2013 Prepared by: Places Victoria
 - Preliminary Community Infrastructure Needs Assessment (PCINA), November 2012, Prepared by: ASR Research
 - Addendum to Preliminary Community Infrastructure Needs Assessment (PCINA), December 5 2012 Prepared by: ASR Research
 - Community Infrastructure Plan, July 2013 Prepared by: SJB Urban
 - Fishermans Bend Community Infrastructure Plan, 2017 Prepared by: The Taskforce
 - Economics and Employment Study, November 2012 Prepared by: SGS Economics and Planning
 - Fishermans Bend Economic and Employment Study, 2016 Prepared by: SGS Economics and Planning Engaged by: Places Victoria
 - Urban Design Strategy, 2017 Prepared by Hodyl + Co
 - Real Estate Market Assessment, December 2012 Prepared by: Macroplan Dimasi Engaged by: Places Victoria
 - Existing Land Budget, February 2013) Prepared by: GHD/Places Victoria
 - Fishermans Bend Public Space Strategy, 2017 Prepared by: Planisphere
 - Fishermans Bend Integrated Transport Plan, 2017 Prepared by: Transport for Victoria

- Arterial Road Connection Feasibility Study, June 2013 Prepared by: Parsons Brinckerhoff
 - Light Rail Options Assessment, May 2013 Prepared by: Aurecon
 - Traffic Survey, July 2013 Prepared by: GHD
 - Walking and Cycling Report, July 2013 Prepared by: GTA Consultants
 - Transport Issues and Opportunities Study, December 2012 Prepared by: AECOM Australia
 - Metro Rail Technical Feasibility Study, July 2013 Prepared by: Raylink
 - Life on the Bend: Fishermans Bend Social History Study, 2017 Prepared by: Context
 - Fishermans Bend Social History Resources: A Guide, 2017 Prepared by: Context
 - Heritage Study, June 2013 Prepared by: Biosis
 - Fishermans Bend Heritage Study, 2016 Prepared by: Biosis
 - Historical Account, June 2013 Prepared by: Biosis
 - Fishermans Bend Aboriginal Cultural Values Interpretation Strategy, 2017 Prepared by: Extent
- Statements of evidence and slide presentations provided on behalf of the Minister for Planning and Melbourne and Port Phillip City Councils
 - Urban renewal and higher density housing research, including:
 - Lessons from Higher Density Development (2016), Three Dragons et al
 - Best practice urban renewal (2014), SGS Economics & Planning
 - Future Cities: planning for our growing population (2018), Infrastructure Australia
 - Various correspondences relating to the proposed amendment

Summary of opinions

Refer to Sections 2 and 9 of this statement.

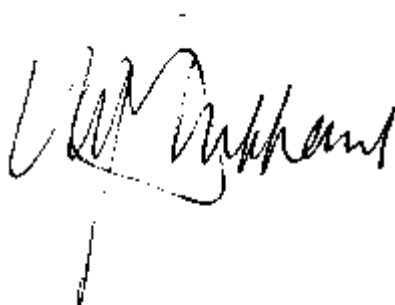
Provisional Opinions

There are no provisional opinions in this report.

Questions outside my area of expertise, incomplete or inaccurate aspects of the report

This report is complete and accurate to the best of my knowledge.

I have made all the inquiries that I believe are desirable and appropriate and confirm that no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

A handwritten signature in black ink, appearing to read 'M Sheppard', with a vertical line extending downwards from the bottom of the signature.

Mark Sheppard

Appendix B: Parties Retaining Me

The table below lists the parties who have retained me to provide this evidence, and their properties within the subject land.

Submitter No.	Party	Property/ies
LORIMER		
71	Costa Fox Developments Pty Ltd	111 Lorimer Street, Docklands
79	W.W. Sidwell investments Pty Ltd	870 Lorimer Street, Port Melbourne
104	Springbank Properties Pty Ltd	162-188 Turner Street, Port Melbourne
130	VCHQ2 Pty Ltd	880 & 884 Lorimer Street, Port Melbourne
162	Lorimer Place Owners Corporation	Lorimer Place Owners Corporation (Lorimer Street)
196	Belsize Nominees	351 Ingles Street Port Melbourne
MONTAGUE		
87	Lie Properties Pty Ltd	187-197 Normanby Road, Southbank
90	Gurner 2-28 Montague Street Pty Ltd	2-28 Montague Street South Melbourne & 80 Munro Street, South Melbourne
91	E133 Property Development Pty Ltd	30-38 Thistlethwaite Street, South Melbourne
94	Thousand Degree Pty Ltd	91-93 Montague Street, South Melbourne
95	Lutkas Pty Ltd	203-205 Normanby Road, Southbank
96.1	Gladyslake Pty Ltd	248-254 Normanby Road, South Melbourne
96.2	Ausun Property CBD Pty Ltd	256-262 Normanby Road, South Melbourne
96.3	D.W. Keir Pty Ltd	264-270 Normanby Road, South Melbourne
120	Perpetual Normanby Pty Ltd	228-232 & 234-238 Normanby Rd, Southbank
131.1	The Jane Property Group	134-150 Buckhurst Street, South Melbourne
131.2		166-168 Buckhurst Street, South Melbourne
173	EPC Pacific Pty Ltd	123 Montague Street, South Melbourne
207	Normanby Road Developments Pty Ltd	235-239 & 241-243 Normanby Rd, South Melbourne
SANDRIDGE		
131.3	The Jane Property Group	469-471 Williamstown Road, Port Melbourne
131.4		32-38 Fennell Street & 50-60 Bertie Street, Port Melbourne
182	Lateral Estate Pty Ltd	118 Bertie Street, Port Melbourne
242	Core Complex Pty Ltd	1 Fennell Street, Port Melbourne
250	Salvo Property Group/ Legal entity: SPG operations Pty Ltd	60 - 82 Johnson Street, South Melbourne

WIRRAWAY

131.5	The Jane Property Group	332 Plummer Street & 21 Smith Street, Port Melbourne
150	Frank Walker/Sel Reklaw Pty Ltd	541 Graham Street, Port Melbourne
217.1	Third Street Pty Ltd	320 Plummer Street, Port Melbourne
217.2		365-391 Plummer Street, Port Melbourne
217.3		17 Rocklea Drive, Port Melbourne

OTHER

149	Goodman	N/A
175	CitiPower	N/A

The map overleaf identifies the location of all of these properties.



LEGEND

PRECINCT BOUNDARIES	PUBLIC OPEN SPACE
FISHERMANS BEND PRECINCTS	FREEWAY
NORTON ROSE	ARTERIAL ROAD
PLANNING & PROPERTY PARTNERS	
RUSSELL KENNEDY	

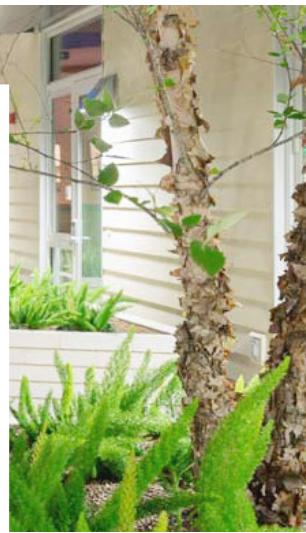
Location of my clients' properties, labelled by submitter number and coloured by my instructing solicitors

Appendix C: Previous Professional Experience in Fishermans Bend

STRATEGIC PLANNING	WHEN	WHO FOR	ROLE
South Melbourne Industrial Precinct Structure Plan	2011	City of Port Phillip	Project leader
Fishermans Bend Strategic Transport Peer Review	2016	GTA Consultants	Urban design input

URBAN DESIGN ADVICE/ EVIDENCE	WHEN	WHO FOR
179 Gladstone Street, South Melbourne	2012-13	Bill Holden
320 Plummer Street, Port Melbourne	2014-2016	Third Street Pty Ltd
365 Plummer Street, Port Melbourne	2014-2016	Third Street Pty Ltd
2-4 Buckhurst Street, South Melbourne	2015	Gibson Property Corporation
245-249 Normanby Street, South Melbourne	2015	BEG Developments
13-35 Thistlethwaite Street, South Melbourne	2015	Circa Property Group
476-480 City Road and 51-59 Thistlethwaite Street, South Melbourne	2015	Spec Property
166-168 Buckhurst Street, South Melbourne	2015-16	Mogprop Management Pty Ltd
150-160 Turner Street, Port Melbourne	2016	150 Turner Street Pty Ltd
51-65 Buckhurst Street, South Melbourne	2016	Tani Corp Pty Ltd
202-214 Normanby Street, South Melbourne	2016	Resling Pty Ltd
37-47 Thistlethwaite Street, South Melbourne	2016	Jopsal Pty Ltd
339 Williamstown Road, Port Melbourne	2016	Acer Capital Melbourne Pty Ltd
17 Rocklea Drive, Port Melbourne	2016-17	Third Street Pty Ltd
253 Normanby Road, South Melbourne	2016-17	R Corporation
134-142 Ferrars Street, South Melbourne	2017	Sungard Availability Services Vic DC1 Pty Ltd
18-22 Salmon Street, Port Melbourne	2017	Armsby Architects
112 Salmon Street, Port Melbourne	2017	Aquaino Pty Ltd
118 Bertie Street, Port Melbourne	2017	Lateral Estate

Appendix D: Best Practice Urban Renewal



Fishermans Bend

Urban Renewal Case Studies & Lessons

David Lock Associates
March 2018



Introduction

Purpose & Methodology

This work was undertaken as part of the early background research to inform urban design evidence in relation to Amendment GC81).

The aim is to better understand how urban renewal of a relatable scale and nature has been undertaken in other cities and if existing meta research has arrived at any noteworthy conclusions.

The focus has been mainly on urban design elements and high level strategic urban planning. Other matters, such as infrastructure, have only been addressed in as much as they relate to urban design and strategic planning.

From the desktop research into existing reports and of the selected urban renewal projects, a series of commonalities have emerged. These have been found to be key to the success of most of the case studies analysed and, therefore, may usefully inform the planning and future development of Fishermans Bend. These are contained in the learning section of the report.

Selection Criteria

The following parameters were used in shortlisting urban renewable case studies that are both potentially enlightening and somewhat applicable to Fishermans Bend. However, no exact comparison exists with regard to Fishermans Bend as each city and urban renewal opportunity is place specific.

The case study selection criteria were as follows:

- The area is as large as possible (ideally over 100ha),
- In close proximity to a city centre,
- Generally with access to river and/or sea front,
- Mostly brownfield sites,
- Ideally mixed use,
- Have been in development for at least 15 years,
- Have been identified by built environment professionals and/or in literature as best practice,
- As much as possible, they have a distinguishing element (e.g. governance, open space, etc.).

Fishermans Bend

To provide some context, below are key figures and points about the existing infrastructure and uses of Fishermans Bend:

Location

Central city location.
Lorimer is 900m to Docklands & 1.5km to CBD

Area

480ha
279ha, excluding the National Employment and Innovation Cluster (NEIC)

In comparison, the CBD is 201ha.

Uses

Predominantly industrial brownfield sites.
Contaminated land due to industrial uses.

Open Space

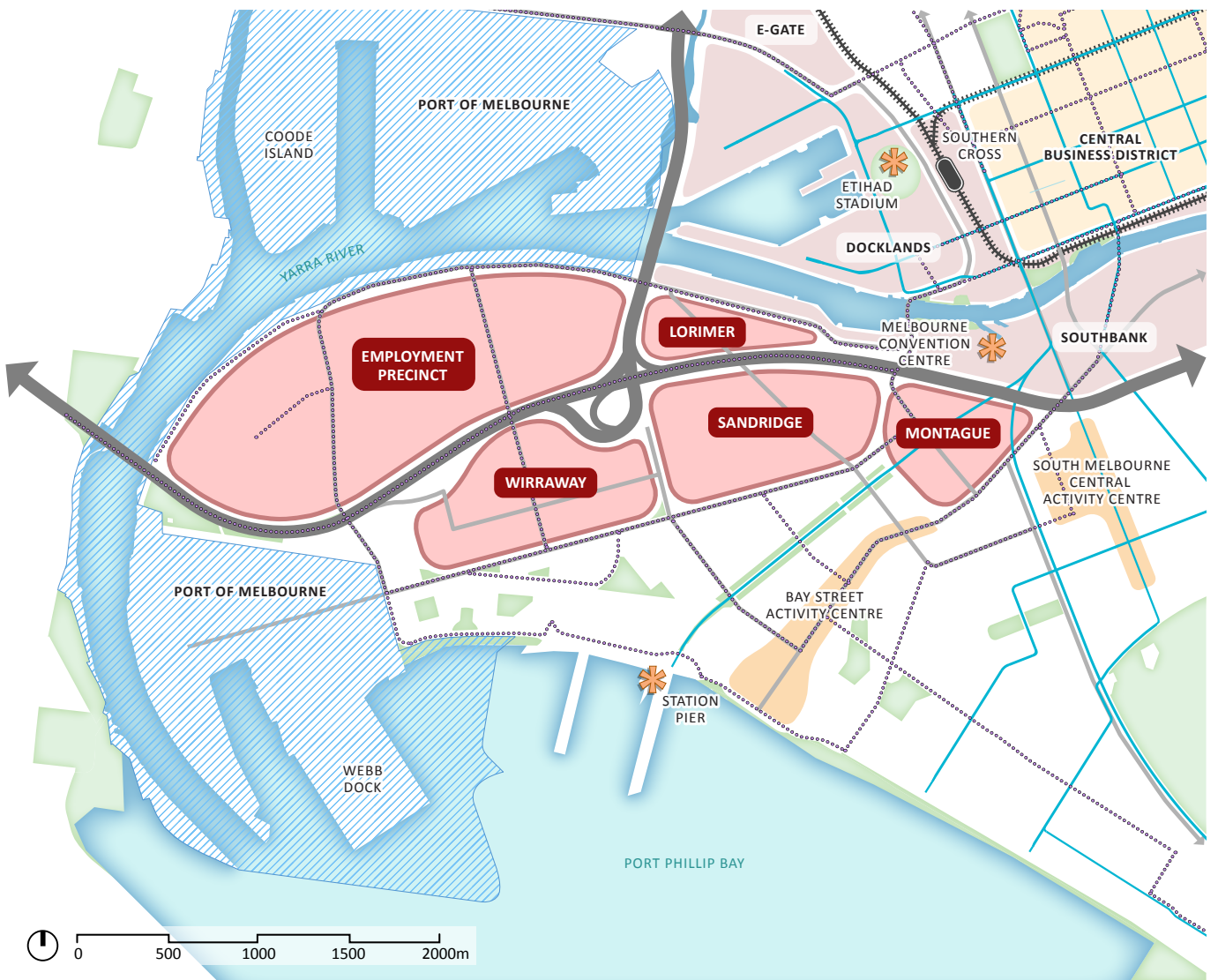
Two large public parks

Movement


Area is split north-south by the West Gate Freeway, which acts as a significant barrier for north-south movement.

Public Transport

No metro or tram services, except two light rail routes in Montague. Otherwise, only buses.



LEGEND

- | | | | |
|--|---|---|---|
|  PRECINCT BOUNDARIES |  CBD |  TRAM LINE |  FREEWAY |
|  FISHERMANS BEND PRECINCTS |  LANDMARK |  BUS ROUTE |  ARTERIAL ROAD |
|  MAJOR URBAN RENEWAL PRECINCT |  PUBLIC OPEN SPACE |  RAILWAY |  TRAIN STATION |
|  PORT OF MELBOURNE |  ACTIVITY CENTRE | | |

Case Studies

HafenCity

Location

Hamburg, Germany

Area

157ha

Status

Ongoing, over 50% Complete

Lead Organisation

Free and Hanseatic City of Hamburg

Ownership

Public, small parcels and blocks of land are only sold to developers after a one-year planning permit process.

Uses

- Residential
- Commercial
- Civic (Maritime Museum, Elb Philharmonic)
- Education (University)

Open Space

- North south orientated squares
- Waterfronts
- Currently 3 parks completed

Movement

- 11 Bridges link across the Zollkanal and to the historic city.
- East-west wide streets with generally narrower north-south.

Public Transport

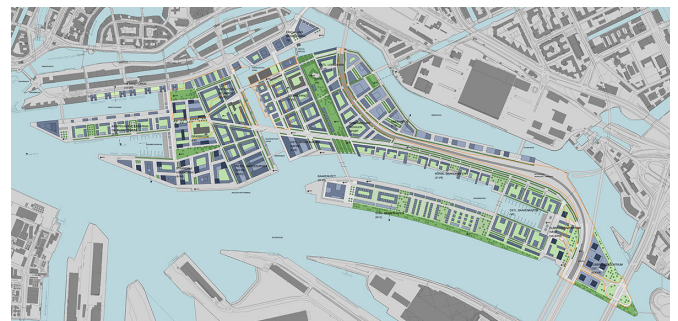
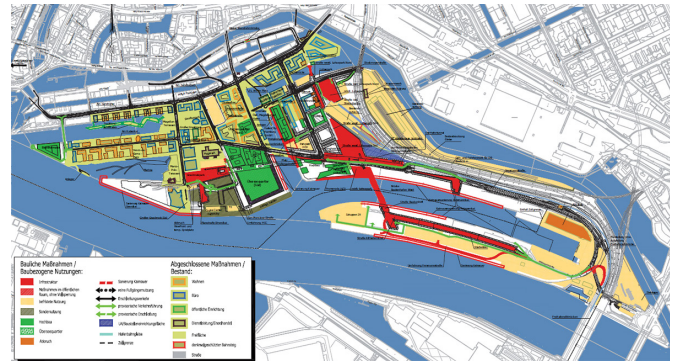
- Two metro stations and buses.
- Pedestrian environment appears acceptable.

Built Form

- "Close-grained and diverse mix of uses"
- Mostly linear long blocks of approx. 7 storeys.
- Mix of red-brick buildings with some modern office blocks.
- Some ground floor activation.

Anchors

- Elb Philharmonic
- University



Source: City of Hamburg

Lessons Learnt

- Revision of the density targets and masterplan as it is completed from west to east.
- Conservation of the heritage building stock and adaptive reuse.
- Consistent design guidelines to create a cohesive street environment.
- Early investment in public transport by the City.

Ria Bilbao

Location

Bilbao, Spain.
Along the west bank of Nervion Estuary.

Area

Multiple sites, total area approx. 90 ha.
Abandoibarra is ~35ha (location of the Guggenheim).

Status

Mostly complete, but some projects in the old city are still ongoing.

Lead Organisation

Ria Bilbao 2000.
Organisation is comprised of Railway companies, public land development company, Port Authority, Basque Government, Bizcay Province, City of Bilbao, City of Barakaldo.
Currently self funded.

Ownership

Mostly public.

Uses

Depends on the intervention area.
Abandoibarra is an extension of the business centre with offices, a large shopping centre and key civic facilities (Guggenheim Museum and the Euskalduna Conference Centre).
Ametzola is a mostly residential as it is about re-stitching the area by building over the railway.
Miribilla and Morro are mostly new housing.

Open Space

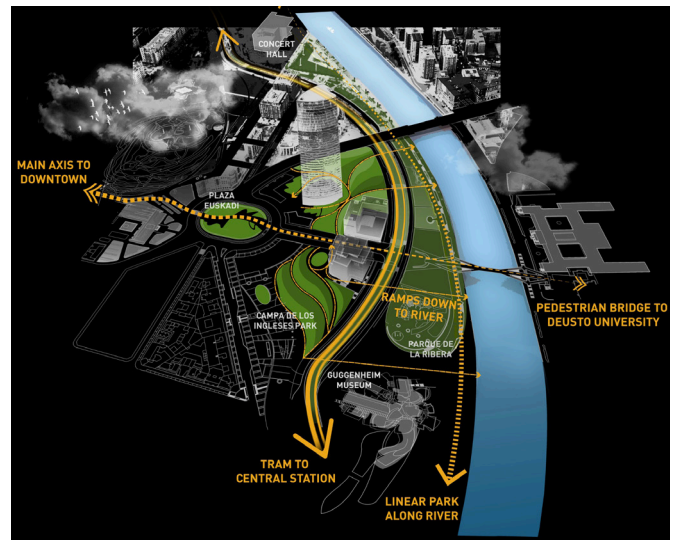
Large riverside parklands and riverwalk.

Movement

Mostly extensions of the existing city, with grids of streets.
Good pedestrian access and improving cycle infrastructure.

Public Transport

The metro was constructed at the same time to rejuvenate the whole centre.
Abandoibarra has light rail along the spine.
In addition bus routes provide connection to other areas.



Source: Balmori Associates

Built Form

Mostly perimeter blocks of 7 storeys with ground floor commercial.
Some contemporary towers in Abandoibarra.

Anchors

Guggenheim Museum, Euskalduna Conference Centre

Lessons Learnt

Using sale of uplifted land to partially finance the project.
Public commitment to water and land remediation.
The lead organisation integrates all the key landholders and stakeholders so they have a common interest.
Each precinct/area is treated independently to ensure that its local context and issues are addressed.
Significant up-front public investment including building the Guggenheim Museum for ~230 million AUD.

Western Harbour (Bo01 Precinct)

Location

Old shipyards in Malmo, north of the old town centre

Area

110ha

Status

Ongoing, over 50% Complete aim to be completed by 2035.

Lead Organisation

Vastra Hamnen ('The City of Tomorrow'), led by Malmo City Council.

Ownership

Land used to belong to Kockums and SAAB, but 2/3 has been purchased by Malmo City Council. The rest appears to be private.

Uses

Residential
Offices
Education.
In the newer stage they provided 60% affordable rentals

Open Space

Network of parks and publicly accessible waterfronts and canals.
Numerous tree-lined avenues.

Movement

Grid structure with several major avenues, with limited connections to the town centre (only 3).
Very active transport friendly

Public Transport

Adjacent to the Central station, less than 100m.
A pool of shared electric cars and gas powered buses provide local transport.

Built Form

Mostly perimeter blocks with some row housing, with some SOHO.
Predominance of 4 storeys.
Some of the older shipyard buildings are being preserved.



Source: Jonathan Perrin

Anchors

Malmo University (Universitetsholmen).
The Calatrava Turning Torso tower is an architectural landmark, references the shipyard crane.

Lessons Learnt

The 'power' to capture people's imagination with catalyst demonstration projects like Bo01 (it means to dwell), an urban sustainability showcase for the European Home Exhibition 2001.
Use as many developers and architects as possible (Bo01 had over 30 architectural firms); this has led to a rule by which a maximum of 25 buildings can share the same design.
Heavy investment in high end landscape architecture with Scaniaplatsen and Scaniaparken being the 'crown jewels'.
100% renewable energy on-site generation set as an aim from the beginning.
Green points system to encourage developers to provide open space within their lots.

OMY (Otemachi Marunochi Yurakucho)

Location

Central Tokyo to the east of the Imperial Palace

Area

111ha

Status

Mostly complete, no specified end date.

Lead Organisation

Complex PPP arrangement with the Advisory Committee, formed by private developers, municipalities and rail companies, providing coordination and oversight.

Ownership

Mostly private except the JR railway corridor and station (note that it is still a for profit company).

Uses

Mostly offices but with an increased residential component. It also has an important entertainment and retail component around Tokyo Station.

Open Space

Focus on the avenues, like Gyoukou-dori, and the new Tokyo Station forecourt plaza.

Movement

Excellent, full integrated into the central grid and with the high-way system. Acceptable active transport options.

Public Transport

Tokyo Station, one of the three main stations, is at the heart of the precinct. Significant upgrades and restoration is part of the renewal process.

Built Form

Mostly podium and tower, international style. Height of several towers exceeds 100m. Some heritage buildings in particular the so called redbrick buildings from early 20th (e.g. Tokyo Station)

Anchors

Tokyo Station and the International Forum (1995).



Lessons Learnt

Value the existing character.

Focus on creating better streets

Bring more residential population but also provide internationally competitive office space.

FAR transferable rights from Tokyo Station to other areas.

Bras Basah

Location

Bugis, Singapore
Selegie Rd to Beach Rd

Area

95ha

Status

Ongoing, mostly complete

Lead Organisation

Urban Redevelopment Authority, Singapore.

Ownership

Private and public, very fragmented.

Uses

Office & retail
Residential
Hotel
Entertainment
Civic
Education
Parks & open space.

Open Space

Albert and Waterloo Streets were pedestrianised, many pocket parks.

Movement

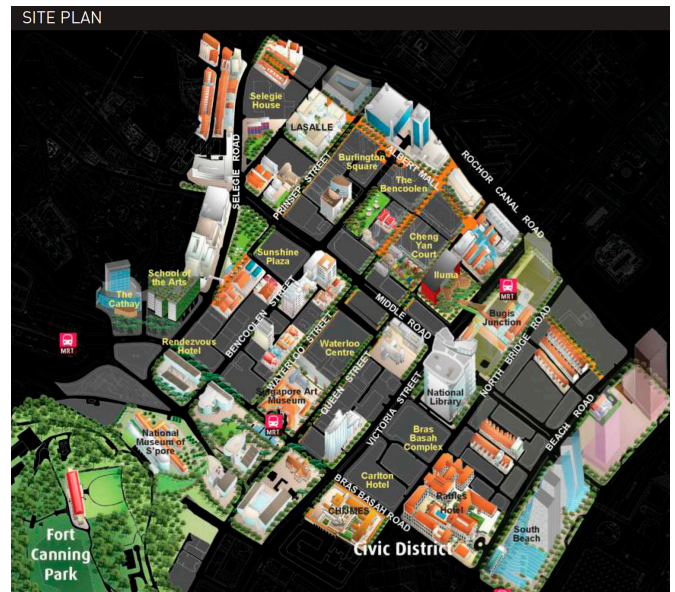
Pre-existing part of the city, fully integrated grid network. Mostly excellent pedestrian environment, little in terms of cycle infrastructure.

Public Transport

MRT (i.e. metro) at Bugis Junction was the starting point.

Built Form

Preservation of the shop-tops.
Glass canopy over traditional streets to improve environment (i.e. Bugis Street).
Contemporary education and office facilities, mostly towers.
Great variation in height from 2 storeys to well over 50m.



Source: Urban Redevelopment Authority Singapore

Anchors

Art education & Institutions
National Library
National Museums.

Lessons Learnt

Waterloo Street re-imagined as Singapore's 'art belt'.
Adaptive re-use of 1850s schools as museums and trendy retail area.
Collaborative and using the theme of Arts & Culture to anchor the renewal.

London Docklands

Location

Old shipyards and associated docks in central London mostly along the northern river shoreline.

Area

1,370ha

Status

Complete.

Lead Organisation

London Docks Urban Development Corporation, a quango in operation from 1981 until 1998.

Ownership

Port Authority, Greater London Council, five borough councils, British Rail, British Gas and Central Electricity Generating Board.

Uses

Offices & Shopping Centres
Residential
Education (Thames Gateway Campus)
ExCel London Convention Centre

Open Space

Some parks (e.g. Stave Hill Ecological Park) and preservation and improvement of the wet docks.

Movement

Mostly curvilinear street structure reflecting the river bends with main arterial roads running parallel to the riverbanks.
All are pedestrian friendly but permeability is limited.

Public Transport

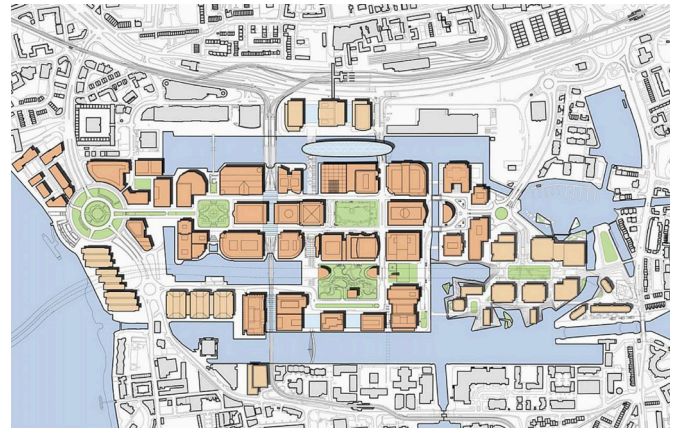
The Docklands Light Railway, Jubilee Line in 1999.

Built Form

Some of the older shipyard buildings were preserved and converted into apartments.
Mostly are 3-4 storeys, with rows of 2-3 townhouses.
Large international style towers in Canary Wharf.

Anchors

O2 Millenium Dome, ExCel London.



Source: SOM

Lessons Learnt

Creation of an Enterprise Zone in the Isle of Dogs led to the office boom of what later became Canary Wharf (London's second CBD)
Half of the public investment was in public transport.
The London City Airport provided a new air transport hub.

Lessons from Case Studies

PLANNING CONTEXT



AREA

All case studies are smaller in area than Fishermans Bend (even the largest is only 25% of Fishermans Bend), except for the massive London Docklands, which is the longest running urban renewal and is not a cohesive project.

POST-INDUSTRIAL

Most occur in disused industrial land in a situation of local declining population and employment opportunities, mostly related to a move to a post-industrial or information-creative economy.

These industrial sites facilitate development because they are generally large and with minimal land fragmentation. Many present significant contamination issues.

LONG TERM PLANNING

Many of these projects started in the 80s and 90s. Their timeframes are measured in decades and the strategic urban planning and infrastructure approaches reflect this.

Related to the above is that the governance bodies and processes are generally structured to be self sustaining after an initial formation and capital investment period.

MOVEMENT



PUBLIC TRANSPORT

Early provision of public transport creates confidence in the project. It is a key means to attract developers, businesses and residents.

It also minimises issues with congestion in areas that were generally not meant to accommodate high population densities.

INTEGRATION

These projects, where they are new business or residential areas, are conceived as logical extensions of their respective city centres (e.g. Bilbao, London Docklands) or as revitalisation of an existing urban 'heart' that had declined or not adapted to change (e.g. Bras Basah, OMY)

The projects are mostly 'stitched' into the existing city through extending streets and movement linkages. This is accomplished even if it requires the construction of costly infrastructure such as bridges and tunnels (e.g. HafenCity).

BUILT FORM



VARIETY OF BUILT FORM OUTCOMES

Some of the most innovative examples create a variety in built form outcomes by engaging multiple developers and architects. This is particularly notable in Western Harbour, Malmo where developers are obliged to change the architectural design every 25 buildings.

TYPOLOGIES

Built form typologies reflect the wider city context. A point in case is the new residential quarters in Bilbao which generally follow the classical perimeter blocks of the rest of the city.

BUILDING HEIGHT & DENSITY

The buildings are mostly 2-7 storey townhouse or blocks, or rise to towers (defined in this case as > 10 storeys). There appear to be few buildings between these heights.

High density buildings, to maximise the value of the land and its utilisation. Most examples have relatively uniform densities throughout the sites except where there is pre-existing built form heritage that it to be preserved.

SUBDIVISION

Some of the case studies, in particular those that are public sector driven, subdivide the land into lots that are smaller than or equal to existing city block sizes.

The goal is to encourage design and development diversity through finer grain SGS indicated that the super-lot structure of Melbourne's Docklands redevelopment was a failing.

PUBLIC REALM

A great unifying design force and a strong attractor. As a result it is frequently delivered very early in the process and used to 'market' the area for investment (e.g. Tokyo Station forecourt and Gyoukou-dori avenue in OMY, Scaniaparken Western Harbour, River parks along Abandoibarra).

The type and design language of the public realm varies greatly from project to project but they mostly try to leverage an existing natural landscape feature, such as a river or sea front, and key streets or confluences. Sometimes they use existing heritage built form as a the backdrop (e.g. Tokyo Station forecourt).

HERITAGE & CHARACTER

Preservation and adaptive reuse are used as place character 'building' elements, often as the basis for 'branding' the area. This is a very deliberate strategy in the case of Bras Basah in Singapore with the refurbishment of the shop-top houses.

SUSTAINABILITY

Some have targets for reducing their environmental impacts. Particularly noteworthy is Malmö's Western Harbour which aims to be powered 100% by renewable energy.

USES & ACTIVITY



MIXED USE

A predominance of mixed use precincts, most likely to create diversity and have flexibility in delivery. It has the added advantage of minimising the travel distance between businesses and their clients and/or workers.

AFFORDABILITY

Only the European examples actively discuss this, and only Malmö, HafenCity and Bilbao have made a concerted effort in the form of targets/quotas.

It is mostly indicated in the research that when there are existing businesses and residents these are mostly displaced by the renewal process as it increases land values (e.g. London Docklands).

CATALYSTS

Landmark projects, in particular civic buildings, generate interest and activity which, in turn, can catalyse the urban renewal process.

Signature projects in the case studies include the quintessential example of The Guggenheim Museum in Bilbao by architect Frank Gehry and the Elbphilharmonie in Hamburg by architects Herzog & de Meuron. Other approaches include to create an alternative urban design approach like the characteristic precincts of Bo01 in Malmö and Waterloo Street in Singapore.

STAGING



PUBLIC INVESTMENT

Early public investment in land remediation, public transport, open space and landmark projects (e.g. The Bilbao Guggenheim is often fundamental in kick starting the renewal process.

These investments are often seen as too risky by the private development sector but once these perceived barriers have been removed large private investment frequently follows.

PARTICIPATION

They all have a lead and/or coordinating planning body; when there are private landowners they should be an integral part of composition (e.g. Bilbao and OMY). SGS refers to this as creating 'shared value'.

FLEXIBILITY

Planning and development phasing tends to be flexible to better adapt to change during the decades-long urban renewal process. In addition, staging nearly always tries to minimise up-front private sector costs.

Many of the examples focus on the process and governance to achieve the vision and aims but are flexible on the means and timing.

STAGED

All the examples progress the masterplan in stages, that is, land is not released all at the same time so as to learn and adapt.

This allows the growth to be more organic and resilient, and may minimise loss of land value through oversupply. SGS identified that it can also serve to minimise the up-front cost requirements.

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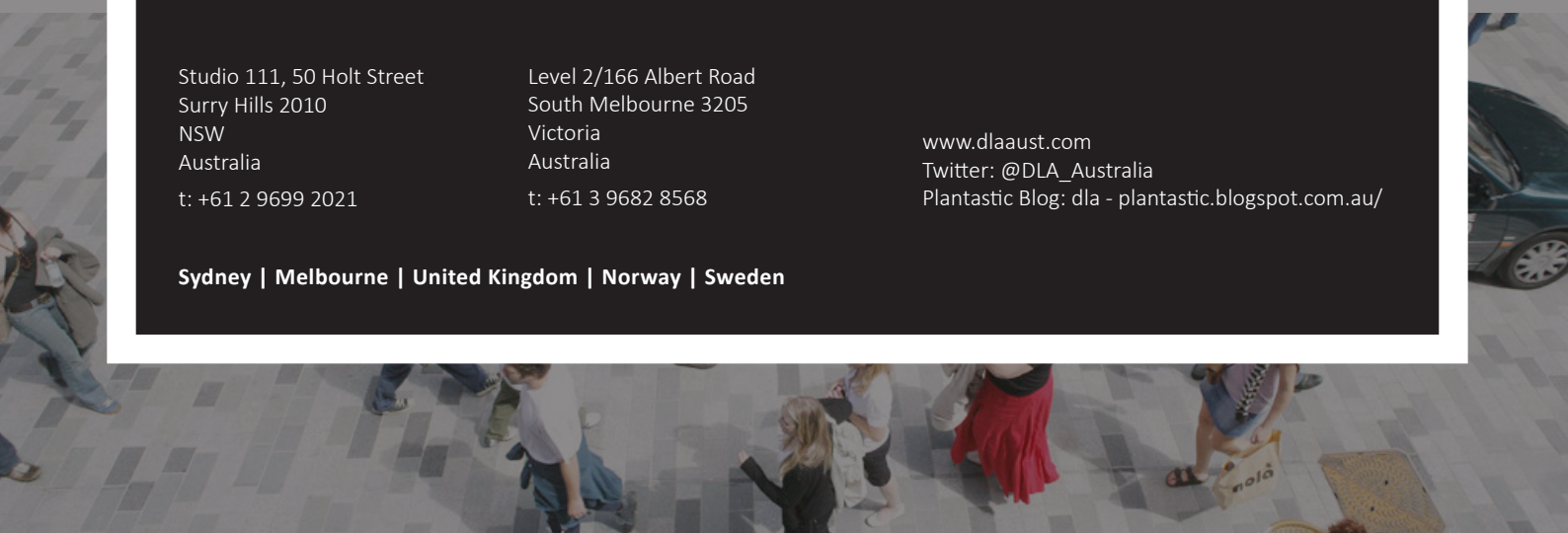
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Appendix E: High Density Built Form Models

Three high density, low-mid rise built form models have been tested to identify their potential applicability to the non-core areas in Fishermans Bend. These are referred to as Barcelona, Vancouver and Hybrid.

(The Tokyo ‘super block’ model (e.g. in Shirakawa) was also considered, but found not to be applicable due to its lack of communal open space, shadowing and narrow streets.)

Each of the three selected models has been applied to one site in each non-core area to test their relevance and inform an understanding of their advantages and disadvantages. Sites have been chosen that represent typical block dimensions in each area, and where there are no or few built or approved higher density developments. These are identified overleaf.

The following elements of each model have been analysed to determine their advantages and disadvantages.

ELEMENT	ANALYSIS
FAR	What density can be achieved?
Street network	Does it provide good permeability?
Streetscape character	Does it provide an attractive streetscape?
Public realm amenity	Does it provide sunny streets, and a balance between openness and spatial definition?
Communal open space	Does it provide good communal open space within each block?
Internal amenity	Does it provide good internal amenity in terms of sunlight, daylight, privacy and outlook?

The analysis concludes that all three models have potential application in Fishermans Bend. All perform well in terms of the elements identified above—importantly, including generous central communal open space areas—and deliver a higher density than that proposed in the non-core areas (except the Vancouver model in Montague). The densities proposed by the Amendment and the potential densities using these models are summarised below:

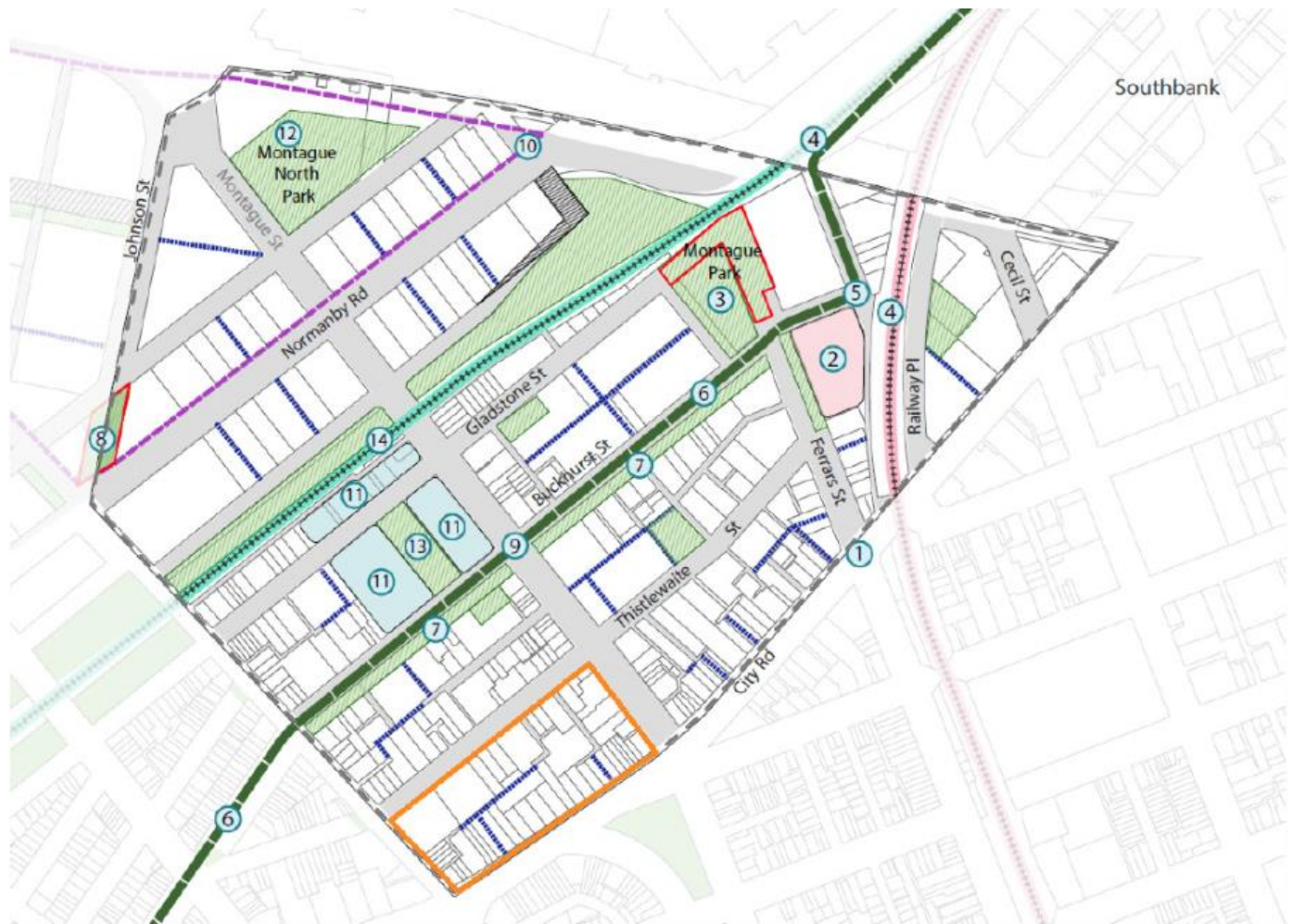
	Montague	Sandridge	Wirraway
Amendment GC81	3.0:1	3.3:1	2.1:1
Barcelona model	3.8:1	4.0:1	3.6:1
Vancouver model	2.5:1	4.3:1	3.2:1
Hybrid model	3.5:1	5.4:1	3.4:1

Montague non-core site tested

Width: 83-105m

Length: 234-237m

Area: 2.3ha



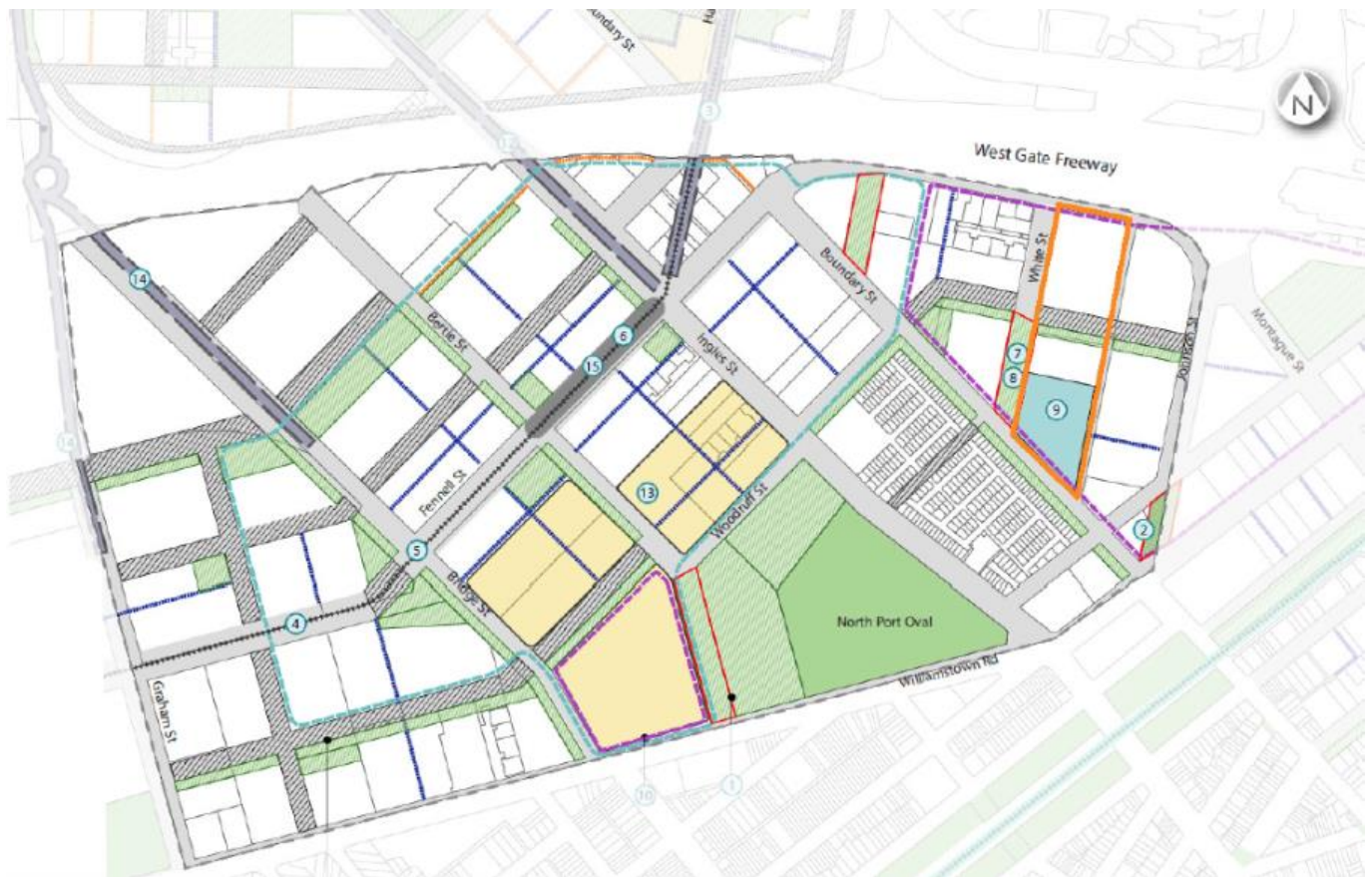
Site selected for testing (orange outline)

Sandridge non-core site tested

Width: 83m

Length: 270-330m

Area: 2.5ha



Site selected for testing (orange outline)

Wirraway non-core site tested

Width: 490-260m

Length: 667m

Area: 20.2ha



Site selected for testing (orange outline)

Barcelona Model (L'Eixample)—Perimeter block

<https://goo.gl/maps/yy95cNSHsh22> (Google Maps)



(Source: Google Images)

KEY ATTRIBUTES

- Dimensions—regular squares of ~125m x 125m
- Main streets approximately 26m wide
- Secondary streets approximately 18m wide
- Wider intersections by chamfering (approx. 20m in length) of all buildings fronting
- Boundary-to-boundary slab blocks
- Interior communal courtyards ~50m x 50m
- Building depth approx. 20m
- Buildings are double-loaded (i.e. interior and exterior aspects)
- Building heights generally 6-7 storeys
- Ground floors typically occupied by retail and office
- Upper floors typically apartments, sometimes offices

APPLICABILITY

- The perimeter block configuration may be too square for Sandridge and Montague non-core
- It will work in the larger blocks of Wirraway

ADVANTAGES

- Highly regular and permeable street network
- Can readily lend itself to large interior courtyards
- All buildings can have active ground floor uses
- No requirement for equalisation mechanism because all properties have the same height

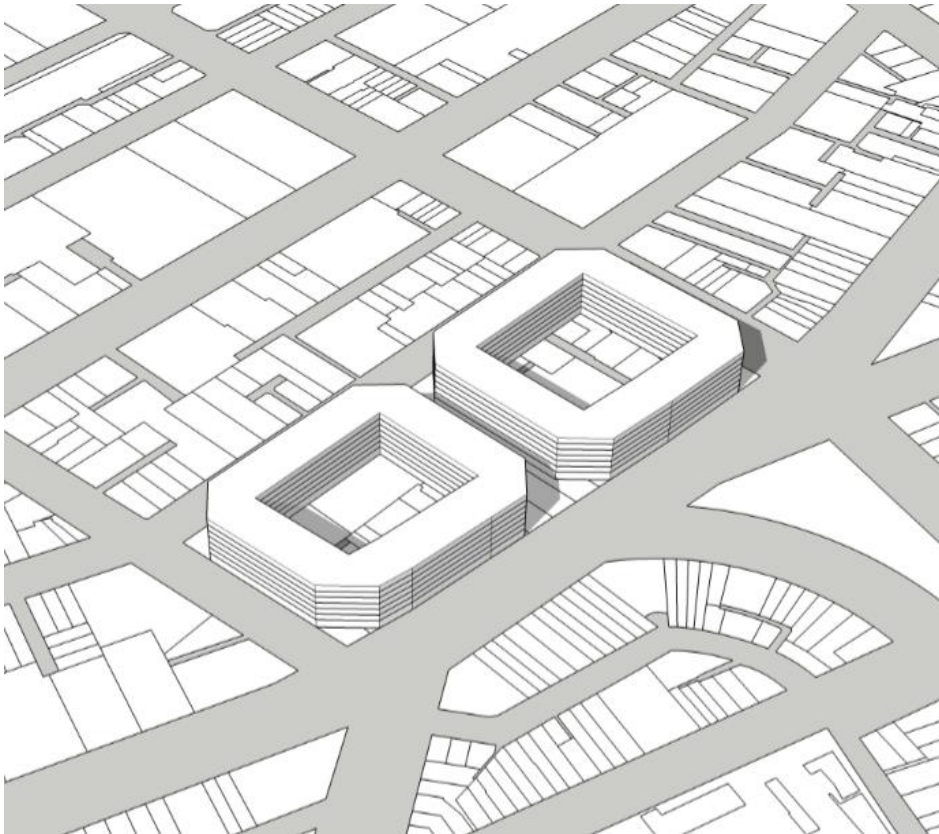
DISADVANTAGES

- Few apartments have dual aspect
- Somewhat inflexible geometry—can be partly alleviated by using half blocks (i.e. triangles)
- Requires some amalgamation

FINDINGS

FAR	3.6-4:0—more than proposed density limits (particularly in Wirraway)
Street network	Good permeability—streets every 90-100m
Streetscape character	Very cohesive and well defined
Public realm amenity	Good solar access and sense of openness due to relatively low heights
Communal open space	Large communal open space within each block, with good solar access, well-separated from the public realm
Internal amenity	Relatively low heights and internal courtyard ensure good access to sunlight, daylight, outlook and privacy Approx. 25-40% south facing apartments

Montague – Barcelona model



Montague

Block Size (sqm) 22,400

Amendment CG81

Proposed FAR 3.0:1

Proposed GFA (sqm) 67,200

Barcelona model

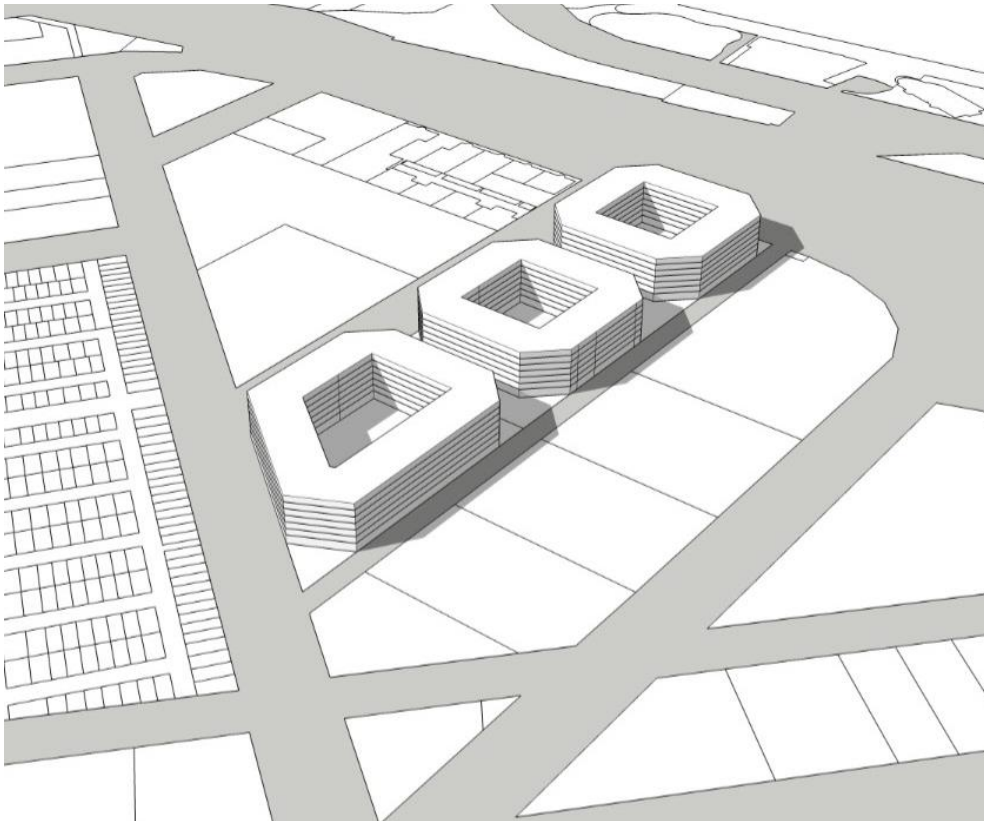
Building footprint (sqm) 12,168

Building height 7

GFA (sqm) 85,176

FAR 3.8:1

Sandridge – Barcelona model



Sandridge

Block Size (sqm) 25,500

Amendment CG81

Proposed FAR 3.3:1

Proposed GFA (sqm) 84,150

Barcelona model

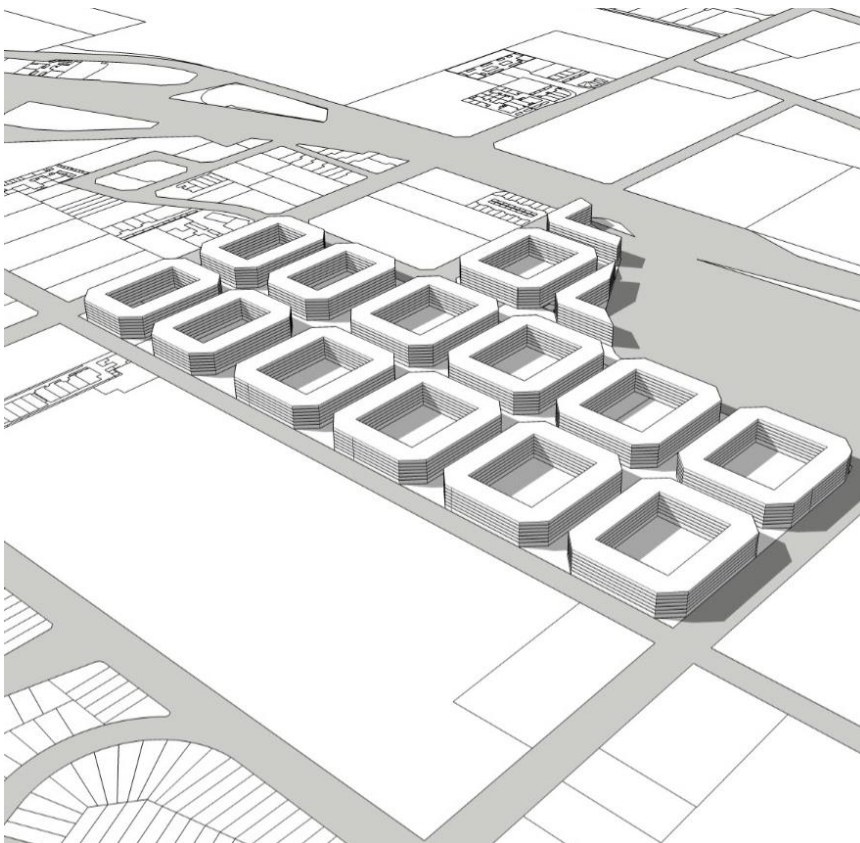
Building footprint (sqm) 14,627

Building height 7

GFA (sqm) 102,389

FAR 4.0:1

Wirraway – Barcelona model



Wirraway

Block Size (sqm) 199,726

Amendment CG81

Proposed FAR 2.1:1

Proposed GFA (sqm) 419,429

Barcelona model

Building footprint (sqm) 89,661

Building height 7

GFA (sqm) 627,627

FAR 3.1:1

4 westernmost blocks

Site area 46,135

GFA (sqm) 166,334

FAR 3.6:1

Vancouver model—Point towers and terrace walls

<https://goo.gl/maps/5hACAPZDQr92> (Google Maps)



(Source: Google Images)

KEY ATTRIBUTES

- Dimensions – regular rectangles 140m x 40m
- Main Streets run E-W and are approx. 28m wide
- Secondary streets run N-S and are approx. 18m wide
- Buildings are normally of two types within the block
 - Point towers along the short side of the block:
 - Frequently setback at the front (approx. 6-10m)
 - Most towers are about 30 storeys in height (the example block has 37 storeys)
 - Most of the towers appear to be residential outside the business district
 - Terrace-townhouses along the long side of the block:
 - Built to boundary or very close (1-2m)
 - 2-3 storey walk-ups
 - Up to 15m in depth and approx. 6-10m street frontages
 - Dual aspect
 - Mostly residential but sometimes retail
 - Normally associated with large private open space at the ground or first level

APPLICABILITY

- Will work in non-core Montague and Sandridge, by pairing blocks back-to-back
- Will require a reversal of where the towers front onto in Montague, as they will address the main streets instead of the secondary
- Requires lower heights in Montague due to sensitivity of context, reducing density
- Depending on location of new mid-block streets it may be able to be applied to Wirraway

ADVANTAGES

- Provides potential for family-friendly housing in the form of townhouses
- Street amenity impacts of the towers are minimised on the main streets
- Minimises site coverage which results in large green spaces in the centre of the block
- Excellent internal amenity

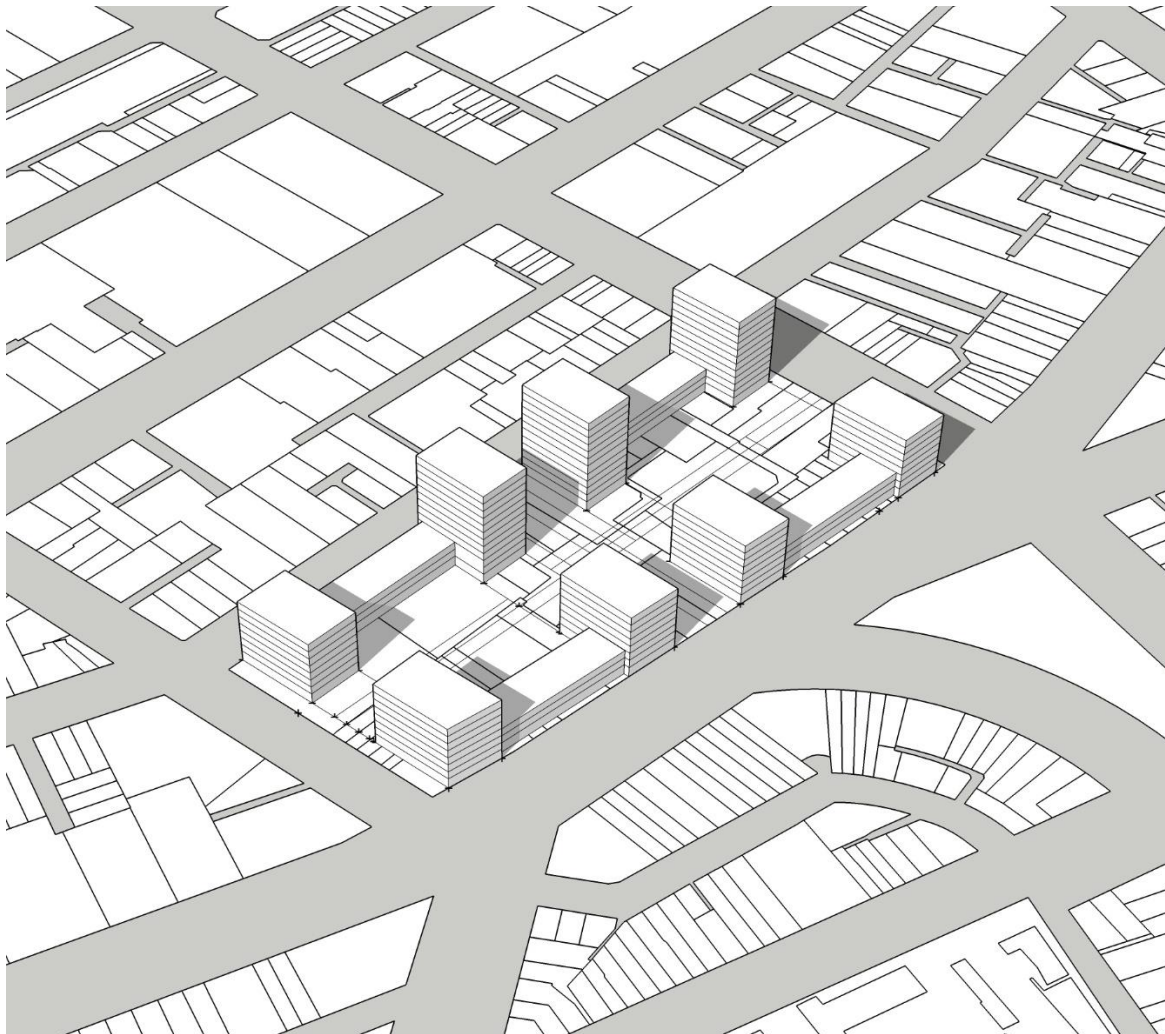
DISADVANTAGES

- Density is highly dependent on delivering tall point towers
- Mix of uses is slight when compared to the other models, which may lead to less active streets

FINDINGS

FAR	2.5-4.3—more than proposed density limits (particularly in Wirraway), except in Montague where the need for lower heights makes this model less relevant
Street network	Good permeability—streets every 140m
Streetscape character	Diverse built form with towers limited to corners, presenting narrow edge to main streets, and able to be varied in height (although this affects density) Potential for low activation to main streets due to primary frontage by terrace houses
Public realm amenity	Good solar access and sense of openness due to relatively low heights, with tower shadows passing quickly along the street
Communal open space	Large communal open space within each block, with good solar access, well-separated from the public realm
Internal amenity	Mainly low heights and internal courtyard ensure generally excellent access to sunlight, daylight, outlook and privacy Relatively small proportion of south-facing dwellings Tower separation and positioning ensures sufficient solar access to the apartments on 22 September, however, terrace houses on the southern side may suffer overshadowing from neighbouring towers

Montague – Vancouver model



Montague

Block Size (sqm) 22,400

Amendment CG81

Proposed FAR 3.0:1

Proposed GFA (sqm) 67,200

Vancouver model

Building footprint (3 storey) 3,388

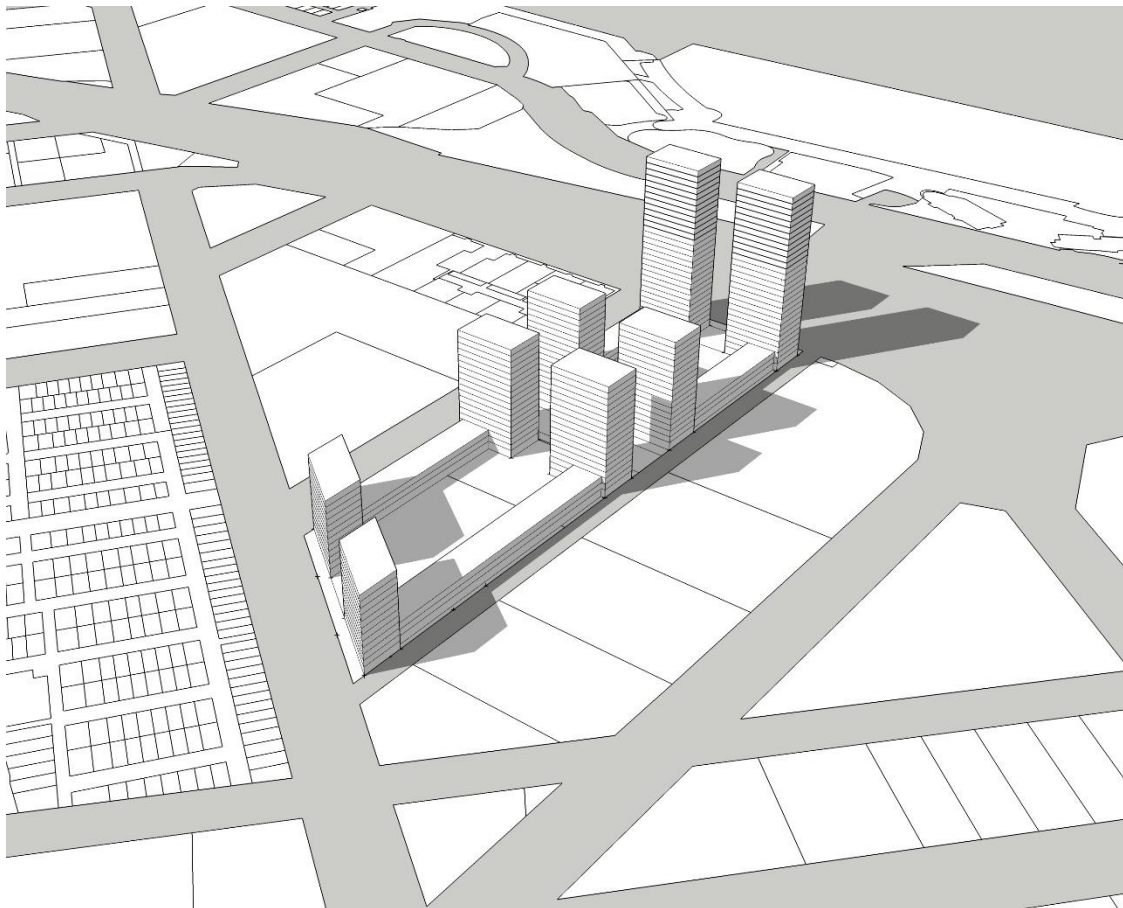
Building footprint (8 storey) 3,019

Building footprint (12 storey) 1,800

GFA (sqm) 55,916

FAR 2.5:1

Sandridge – Vancouver model



Sandridge

Block Size (sqm) 25,500

Amendment CG81

Proposed FAR 3.3:1

Proposed GFA (sqm) 84,150

Vancouver model

Building footprint (3 storeys) 5,329

Building footprint (12 storeys) 1,182

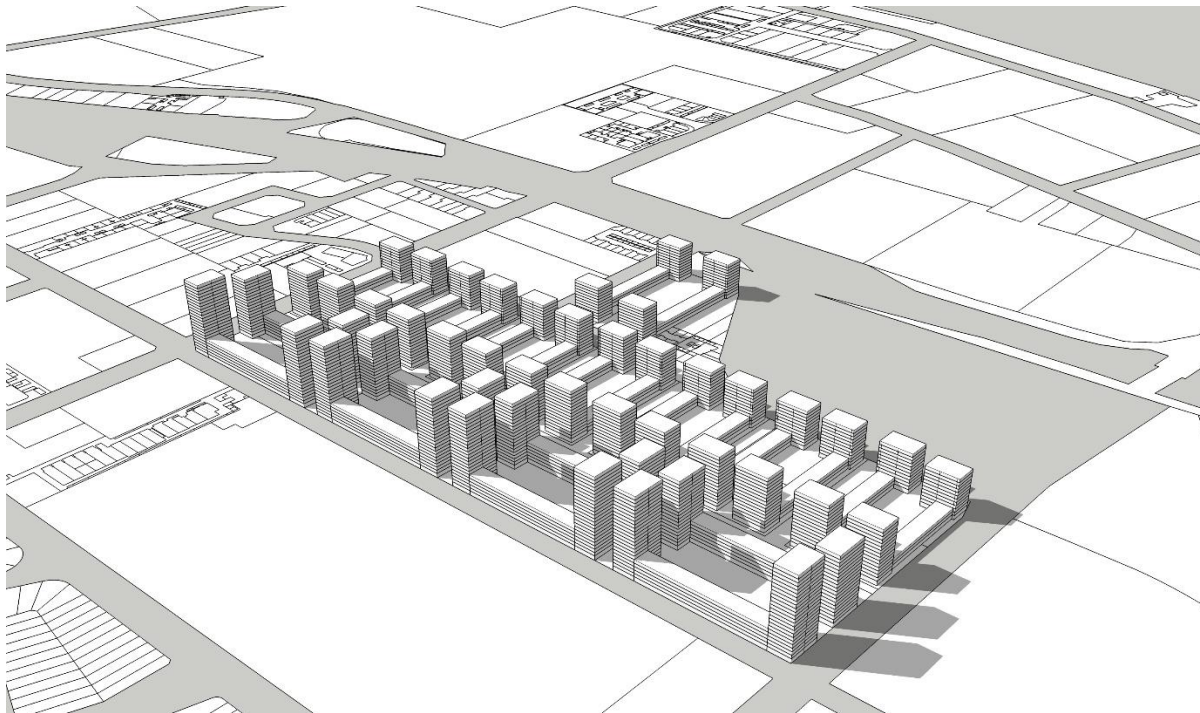
Building footprint (18 storeys) 2,400

Building footprint (30 storeys) 1,205

GFA (sqm) 109,521

FAR 4.3:1

Wirraway – Vancouver model



Wirraway

Block Size (sqm) 199,726

Amendment CG81

Proposed FAR 2.1:1

Proposed GFA (sqm) 419,429

Vancouver model

Building footprint (3 storeys) 23,782

Building footprint (6 storeys) 13,843

Building footprint (12 storey) 10,800

Building footprint (16 storey) 8,400

Building footprint (20 storey) 4,800

Building footprint (24 storey) 4,800

GFA (sqm) 629,604

FAR 3.2:1

Hybrid model—perimeter block with point towers

<https://goo.gl/maps/vs3Fzytr1fF2> (Google Maps)



(Source: Google Images)

The example used is East Village, the project identified in the Urban Design Strategy (see page 60) as an award-winning project warranting emulation.

KEY ATTRIBUTES

- Dimensions vary, but are mostly orthogonal (East Village dimensions are approx. 95/95/100/116m)
- Main Streets generally run N-S and are approx. 22m wide
- Secondary streets generally run E-W and are approx. 18m wide
- Central courtyard with built form breaks that provide a 'glimpse' from surrounding streets into the communal space
- Buildings are normally of two types within the block:
 - Taller, thinner blocks or towers
 - Generally at one or more corners with the long side along a wider street
 - Built to boundary
 - Building depth approx. 20-23m
 - Double loaded (i.e. interior and exterior aspects)
 - Building length approx. 40m
 - Frequently a gap between ends of buildings to provide a view between the street and central courtyard
 - Building height varies greatly but mostly above 10 storeys (the example has a northeast tower that is 13 storeys and a southwestern one of 10 storeys)
 - Predominant use is residential, but the ground floor can be activated with commercial uses and towers could conceivably be used for offices

→ **Longer blocks that partially or completely wrap a block**

Built to boundary

Building depth generally 20m

Double-loaded

Building length typically approx. 40m

Average building height 6 storeys with a recessed 7th storey

Mostly residential uses, sometimes with ground floor active commercial uses

APPLICABILITY

- Will generally work in areas where the parcels are irregular and there is a desire to achieve a potential FAR higher than the classic perimeter block
- Requires lower heights in Montague due to sensitivity of context, reducing density
- Wirraway, in particular along Plummer Street, offers a good opportunity to implement the model as it will deliver a strong street wall with higher corner defining blocks

ADVANTAGES

- More flexible in adapting to different lot configurations
- Can provide good communal open space in the central space
- Because of the different building types it can provide a greater variety of built form outcomes

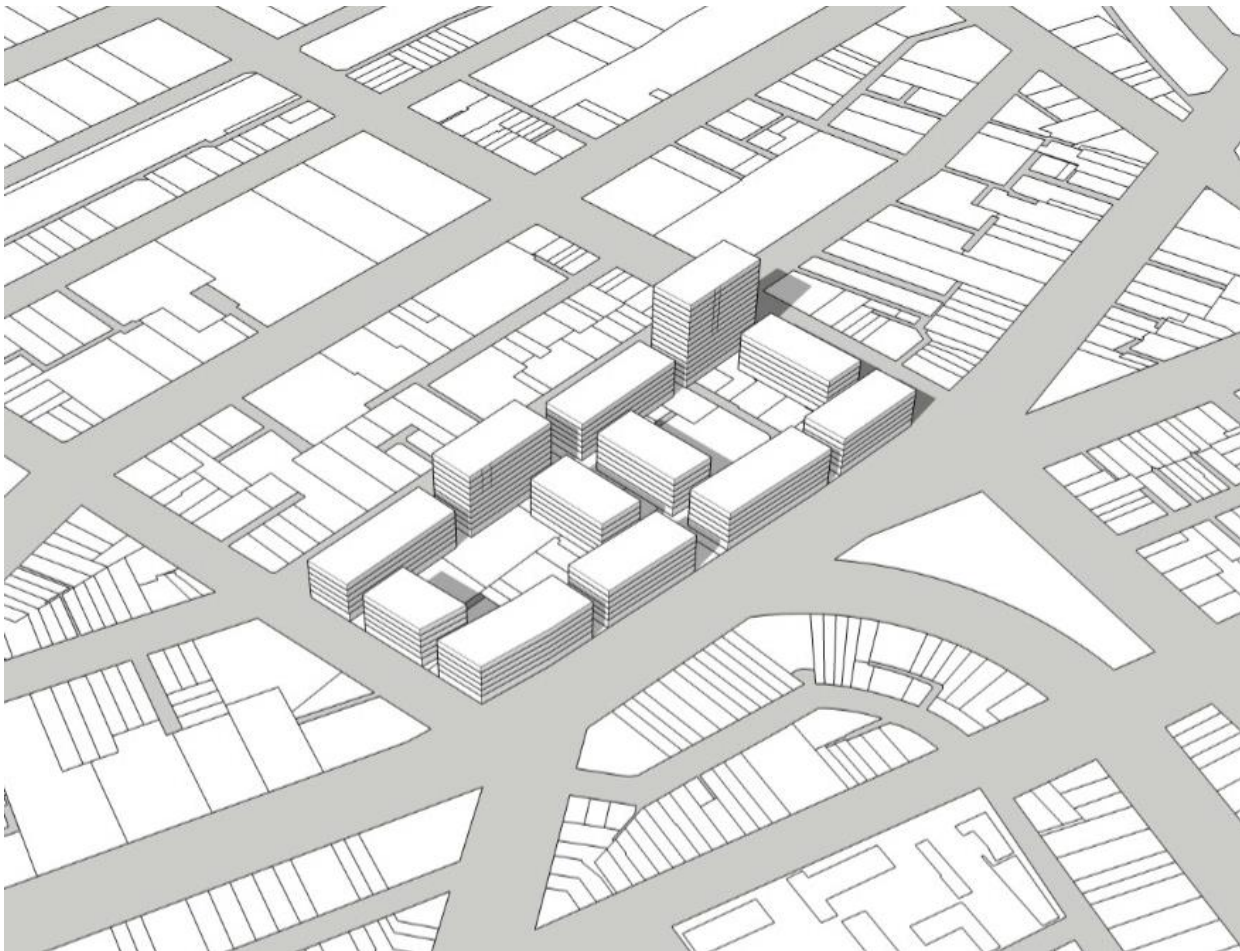
DISADVANTAGES

- The taller elements of the block can potentially overshadow the central courtyard
- There may be interface and building separation issues between the different building types

FINDINGS

FAR	3.4-5.4—more than proposed density limits (particularly in Wirraway)
Street network	Good permeability—streets every ~100m
Streetscape character	Strong street definition creating memorable streets and spaces, with diverse built form; towers limited to corners and able to be varied in height (although this affects density)
Public realm amenity	Good solar access and sense of openness due to generally mid-rise heights; need to orientate taller buildings to ensure shadows slender and pass quickly along the street
Communal open space	Large communal open space within each block, well-separated from the public realm, but solar access can be compromised where towers on two corners
Internal amenity	Mainly moderate heights and internal courtyard ensure good access to daylight, outlook and privacy Approx. 25-40% south-facing dwellings N-S tower alignment ensures sufficient solar access to the apartments on 22 September, however mid-rise height buildings can have compromised solar access

Montague – Hybrid model



Montague

Block Size (sqm) 22,400

Amendment CG81

Proposed FAR 3.0:1

Proposed GFA (sqm) 67,200

Barcelona model

Building footprint (6 storey) 9,352

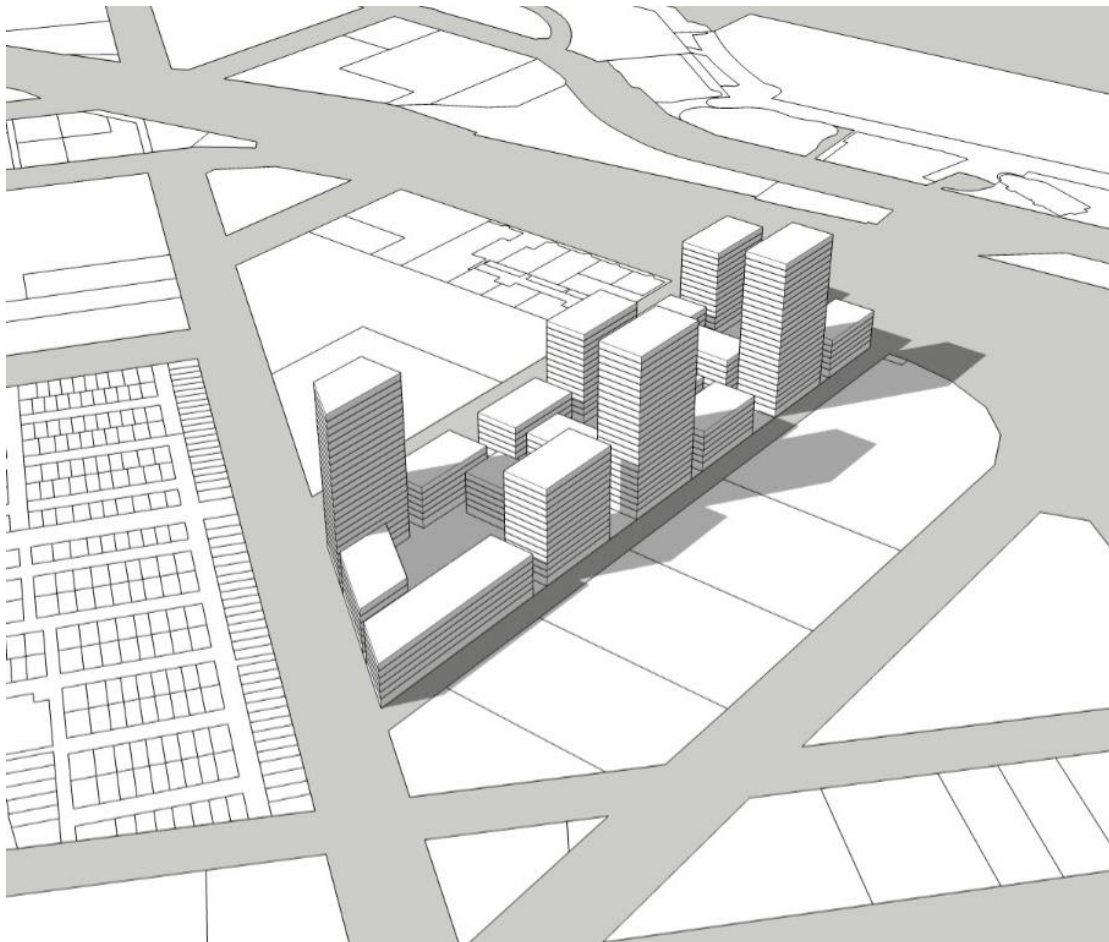
Building footprint (10 storey) 900

Building footprint (14 storey) 900

GFA (sqm) 77,712

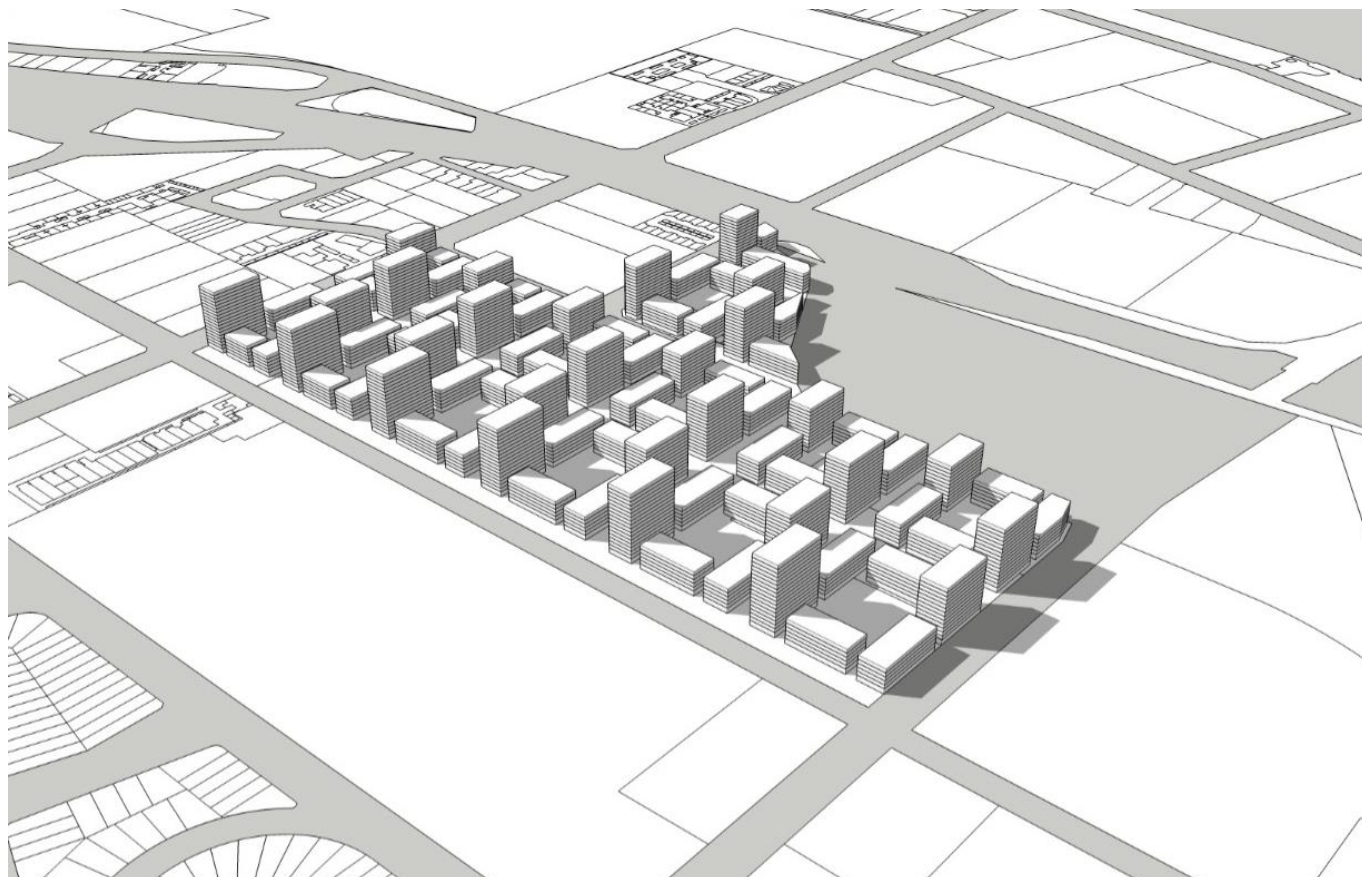
FAR 3.5:1

Sandridge – Hybrid model



Sandridge	
Block Size (sqm)	25,500
Amendment CG81	
Proposed FAR	3.3:1
Proposed GFA (sqm)	84,150
Hybrid model	
Building footprint (6 storey)	8,931
Tower footprint (14 storey)	2,115
Tower footprint (24 storey)	2,251
GFA (sqm)	137,220
FAR	5.4:1

Wirraway – Hybrid model



Wirraway

Block Size (sqm) 199,726

Amendment CG81

Proposed FAR 2.1:1

Proposed GFA (sqm) 419,429

Barcelona model

Building footprint (6 storey) 52,103

Building footprint (12 storey) 5,808

Building footprint (14 storey) 5,363

Building footprint (16 storey) 7,308

Building footprint (18 storey) 5,333

GFA (sqm) 670,318

FAR 3.4:1

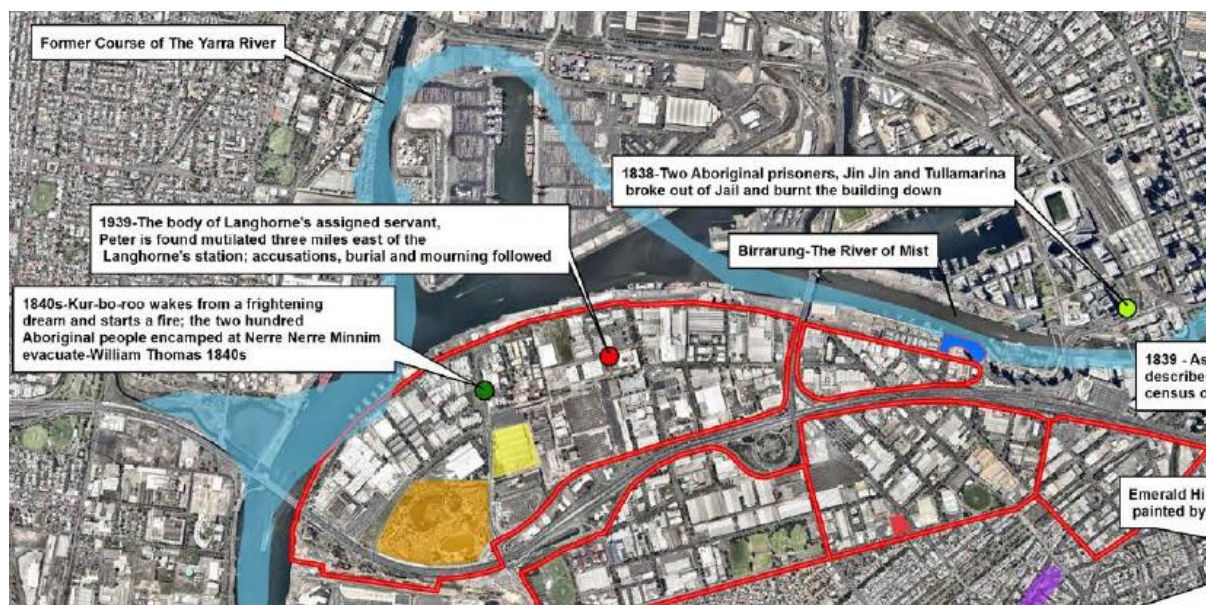
Appendix F: History of Fishermans Bend

Summary

- Geology/terrain had major influence on evolution of development pattern – largely marshland/swamp/sand ridges – good fishing spot for Indigenous & early settlers (hence ‘Fishermans’).
- Much of Aboriginal history lost due to changes to the river mouth since settlement.
- Natural environment depletion (removal of vegetation & reclamation of land) led to ‘drab & depressing area/barren wasteland’ suited to industrial purposes.
- 19th century working class area associated with the growth of the Port of Melbourne and port/shipping activity
- Yarra river realignment in 1930s for shipping canal & dock – sharp bend (from which ‘Fishermans Bend’ derives) removed and ‘Coode Canal’ constructed
- Key transport features:
 - Airfield (west) – abandoned when Essendon opened
 - Trainline (Sandridge Pier to Flinders) – converted to light rail ~1980s

Fishermans Bend Aboriginal Cultural Values Interpretation Strategy, 2017

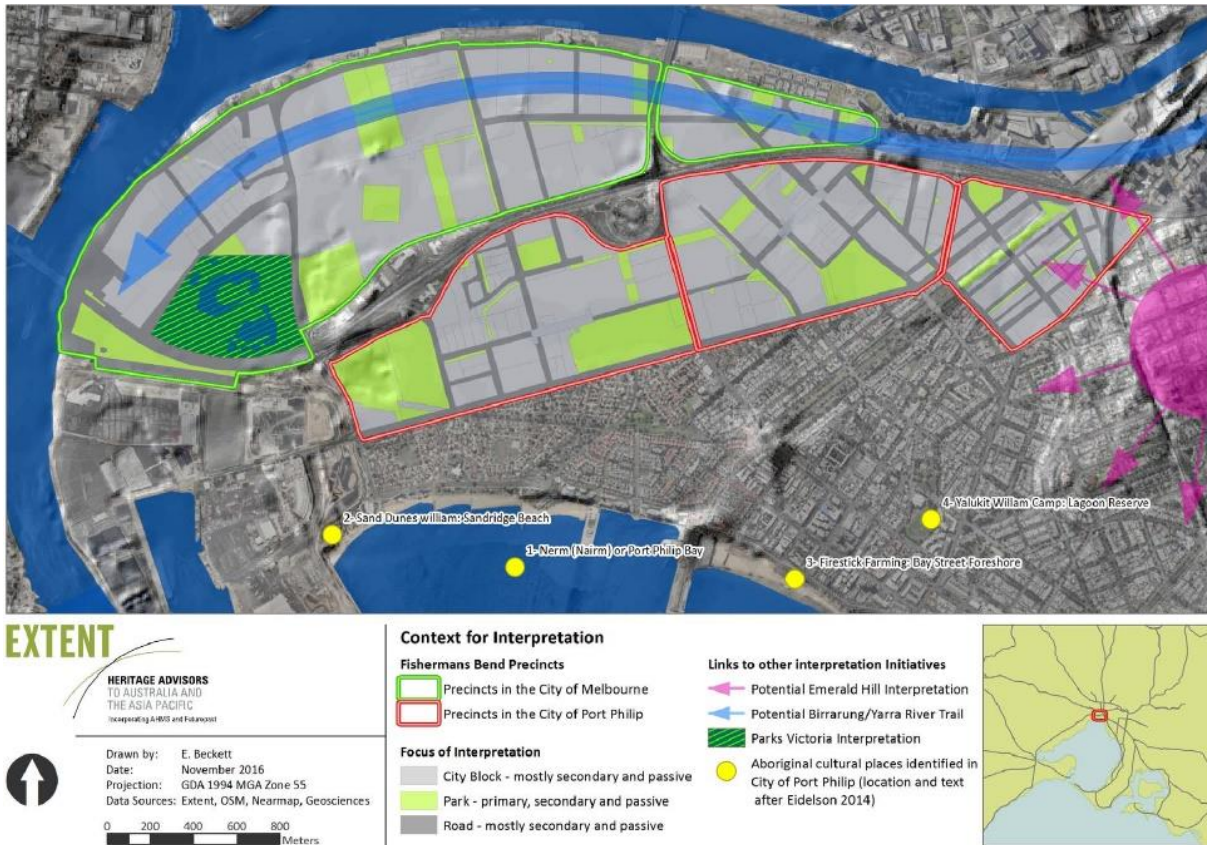
- The landscape of Fishermans Bend has changed dramatically, including the realignment of the Yarra River (‘Birrarung’)
- The skeletal remains of Aboriginal people were unearthed fairly regularly
- From the 1860s to the 1890s, there were considerable earthworks in the area
- Key mapping details (see overleaf):
 - Former Yarra alignment
 - Potential Birrarung/ Yarra River trail along Employment & Lorimer precincts
 - Body of Langhorn’s servant is found (green dot below map)



Fisherman's Bend Cultural Values Assessment

- Study Area
- 4 April 1839-The Port Phillip Native Corroboree
- 14 March 1839-Location of William Thomas's census
- 15-19 September 1839-The Body of Langhorn's servant is found
- 25 April 1838-Tullamarina
- 1840-Emerald Hill Corroboree
- c.1840s-200 Aboriginal Evacuation
- 19th century-William Barak
- Former Line of Hobsons Bay
- Emerald Hill Corroboree Site
- Former Course of the Yarra 19th Century
- Former GM Holden Apprentice Training Facility
- GM Holden
- Lagoon Reserve
- Perce White Reserve
- Point Park
- Westgate Park

Aboriginal cultural values mapping for Fishermans Bend



Potential 'Birrarung' river trail

**Summary of Heritage Study, 2012 (Biosis) and Life on the Bend:
Fishermans Bend Social History Study, 2017**

- 1830s: City Road originally thought to be an Aboriginal route and likely local Aboriginal guides showed the first settlers this route late 1830s.
- 1850s: Fishermans Bend was strategic location for defense (gun-rafts; Sandridge Pier gun ranges etc & training location for WW1
- 1854: Train line constructed:
 - 1st line ran for 3.6km between Sandridge Pier (railway pier at Sandridge, Port Melbourne) & Flinders St including sharply skewed timber trestle bridge over the Yarra.
 - North Sandridge (North Port) and Montague rail stations opens 1866 & 1883.
 - 2nd line turned off main Sandridge railway soon after Flinders St terminus & extended 4.8km to Fitzroy St station.
 - Train line converted to light rail in 1987
- 1873: Steam ferries (various operated until 1978 when Westgate Bridge opened)
- 1860s: Swampy, poor standards of hygiene municipal manure depot (est. 1864); noxious trades established; slaughter yards etc
- 1860s-1880s: Gold rush – urban growth around Hobsons Bay Railway & ‘Emerald Hill’ (now South Melbourne)
- 1988: Tramway approval along Williamstown Rd approved, but never undertaken.
- 1890s-1900s: Sand quarries (hence ‘Sandridge’) brought Melbourne glass manufactures. Noxious trades Ingles & Boundary St. Port Melbourne abattoir in Lorimer St (1861 and rebuilt in 1899 and closed 1975).
- 1912: Port Melbourne Council sought future housing designation at FB but protected as future Port land.
- 1930s: GMH factory/woolstores around Plummer St due to growing exports/timberyards/airstrip
 - Large scale land reclamation and shipping canal post 2nd world war – area lost natural character.
 - ‘Montague’ centred around Montague train station: notorious slum settlement, low lying, flooding prevalent

- 'Slum Reclamation & Housing Act 1938' facilitated the clearance of majority of houses and residents relocated. Area converted to industrial.
- 1935: Government airport opened – abandoned after Essendon opened
- 1950s post war: Accommodation & employment of migrant workers. GMH & aircraft factories expanded and other manufactures, resulting in major concentration of automotive industry. Aircraft runways became popular motor racing tracks
- 1952: Bonegilla Migrant Camp – opened in FB for new migrants (Greece, Italy and other war torn Euro countries). No buildings survived on this site
- 1960s: Kraft factory (Vegemite)
- 1984-85: Westgate Park (original sand mine (lake) and partial aerodrome).
- 1990-2018: most dramatic changes primarily due to:
 - Redevelopment of Bayside pier
 - Former railyards & industry became Beacon Cove

Some of these elements are illustrated in the figures below.



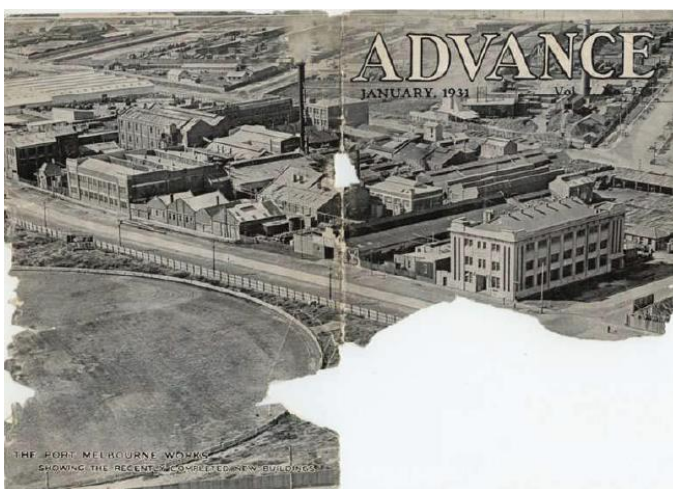
Figure 19: Plan showing 'Proposed Ship Canal', 1850, prepared by bridge-builder David Lennox, which shows the existing roads/tracks leading from Melbourne to Sandridge and to the crossing point on the Yarra, opposite Williamstown (source: Miles Lewis 1983, *An Industrial Seed-bed*, p. 47)

1850: Proposed ship canal



Figure 16: Jika Jika and Melbourne, c. 1851-52, showing the road connecting Sandridge and Melbourne. There appears to be a ridge line through Fishermans bend, which may have approximated an early route to the Williamstown crossing point (source: Vale Collection, Map Collection, State Library of Victoria)

1851-52: Settlement pattern and road (boggy and difficult to travel through terrain)



1856: Kitchen & Sons soaps Ingles St (aka Apollo Candle factory) established; current day: Kitchen & Sons factory site (google shot), original building only to remain

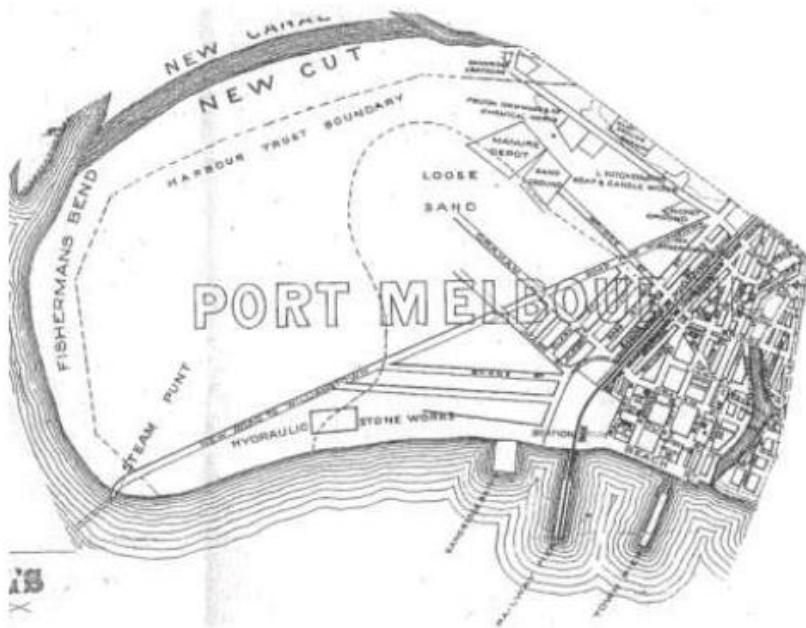


Figure 9: Sands & McDougall Port Melbourne Map 1887 - note spelling of Fishermans Bend and area of 'loose sand'

1887: New Yarra alignment & sand quarrying areas.

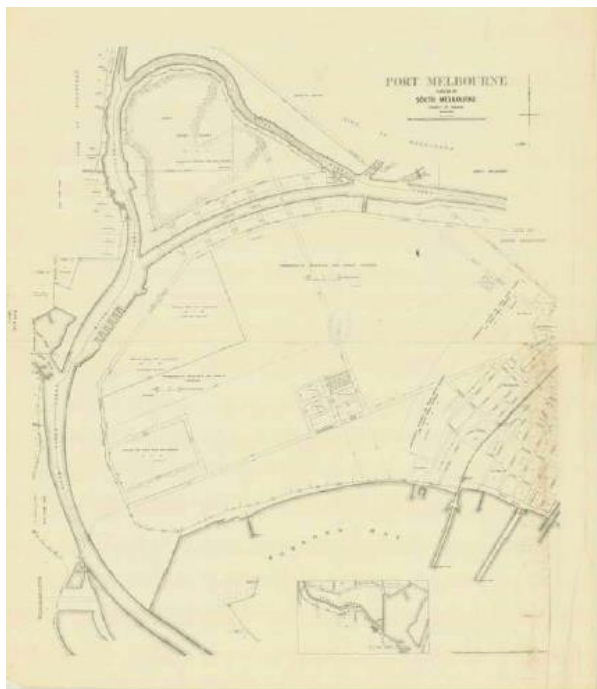


Figure 22: Plan of Port Melbourne Parish of South Melbourne 1914.

1914: Shipping canal & existing Yarra alignment

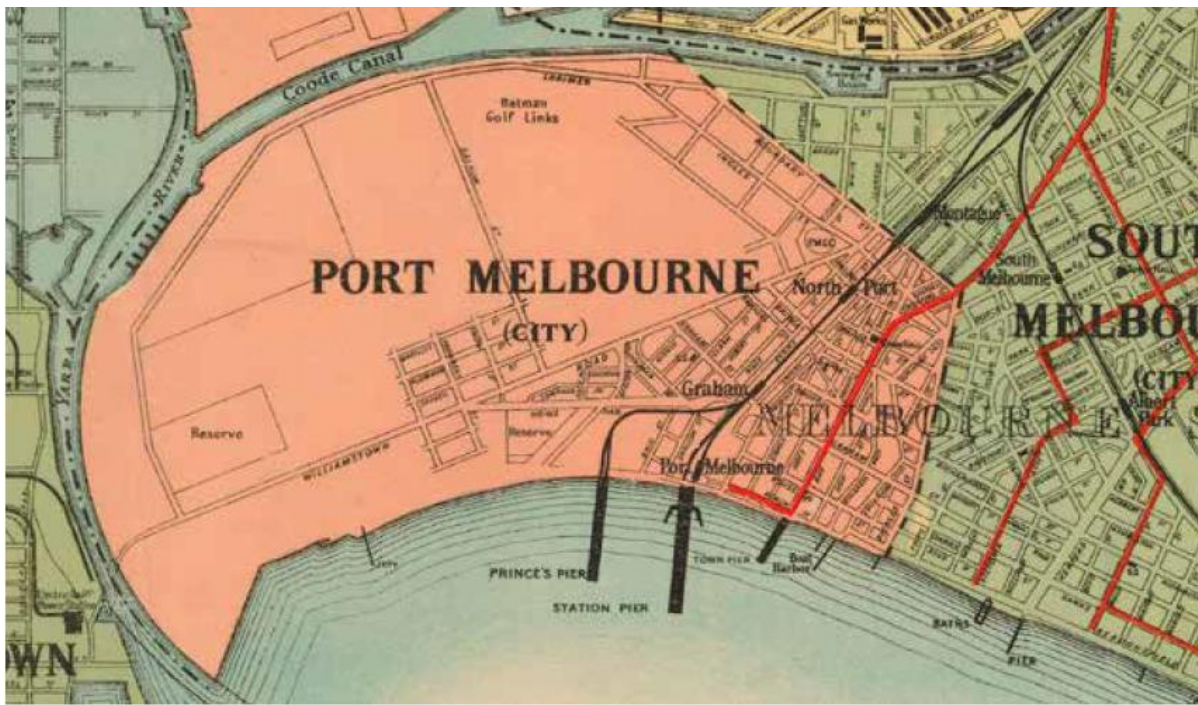


Figure 18: Map of Melbourne, 1935 (source: Map Collection, State Library of Victoria)

1935: Train line to Flinders St



Figure 12: 1945 Aerial Photo Fishermans Bend (Melbourne University Library)

1945: Clear image of airstrip

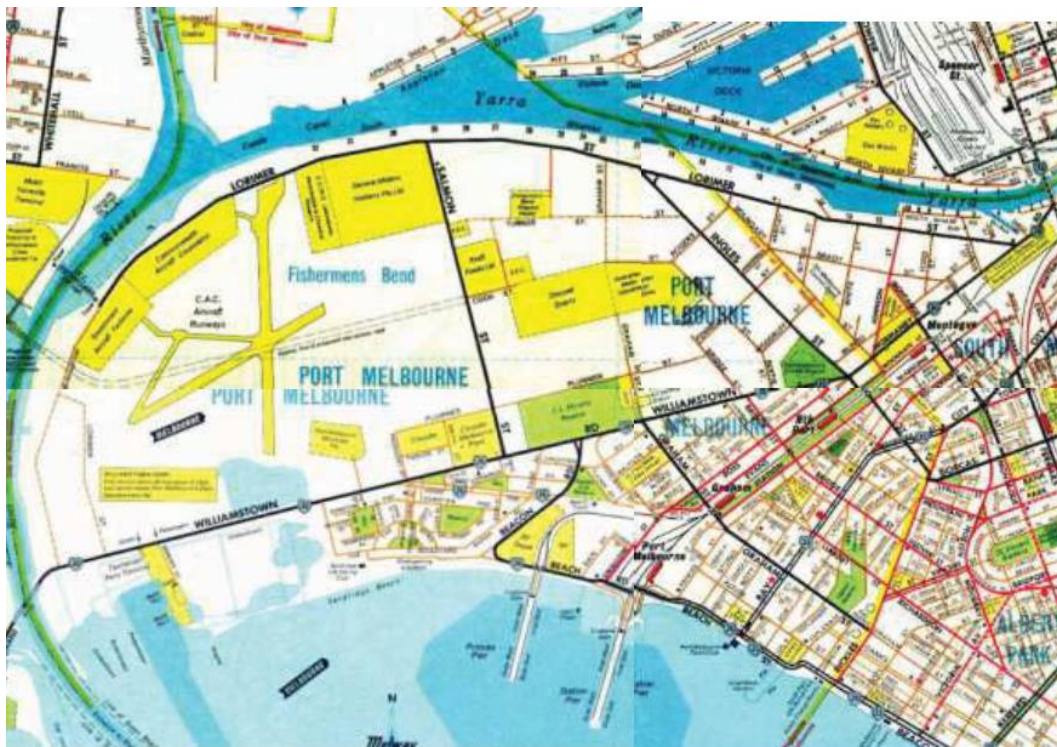


Figure 15: Mosaic of Melway 1966 Street directory showing mostly developed land, the Migrant hostel and large industrial sites.

1966: Migrant hostel and industry

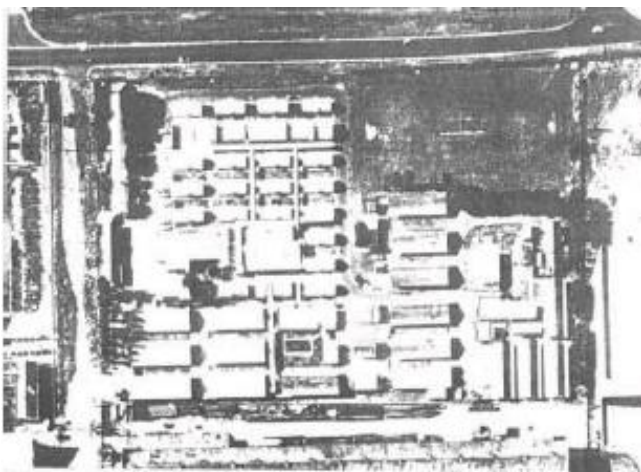


Figure 53: Plan of Fishermans Bend Migrant Hostel 1969.¹²³

1969: Migrant Hostel (now demolished)

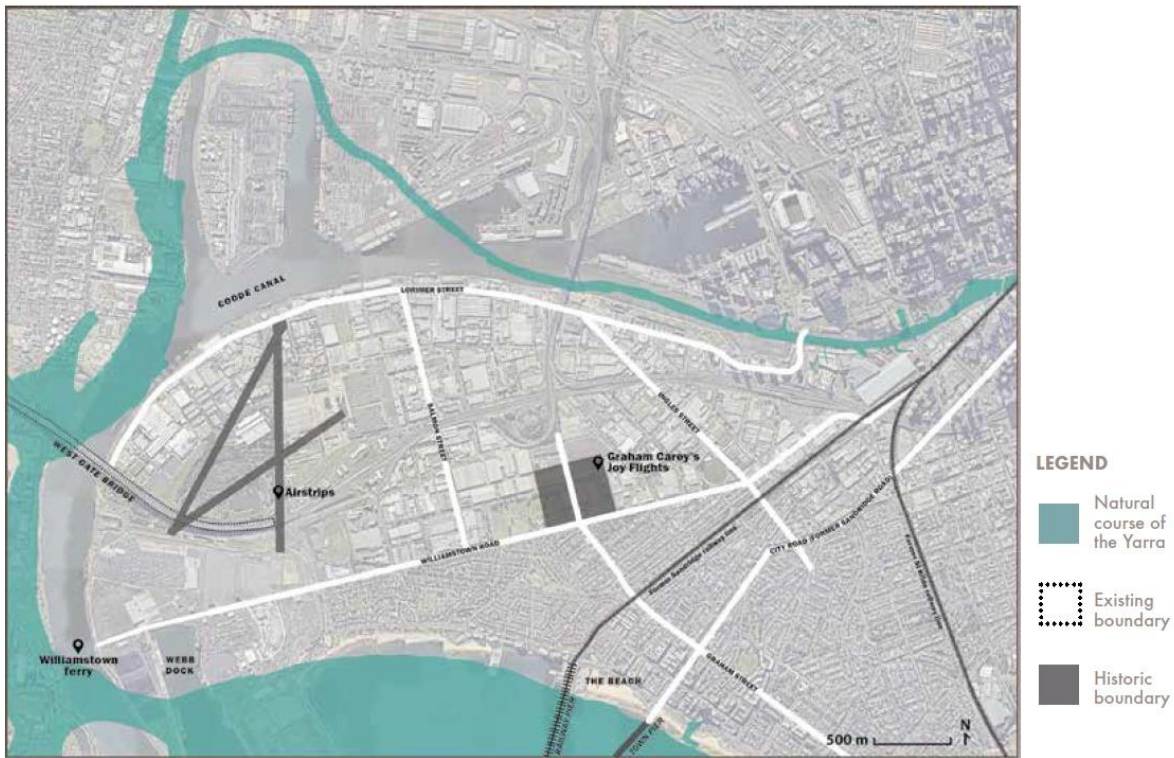
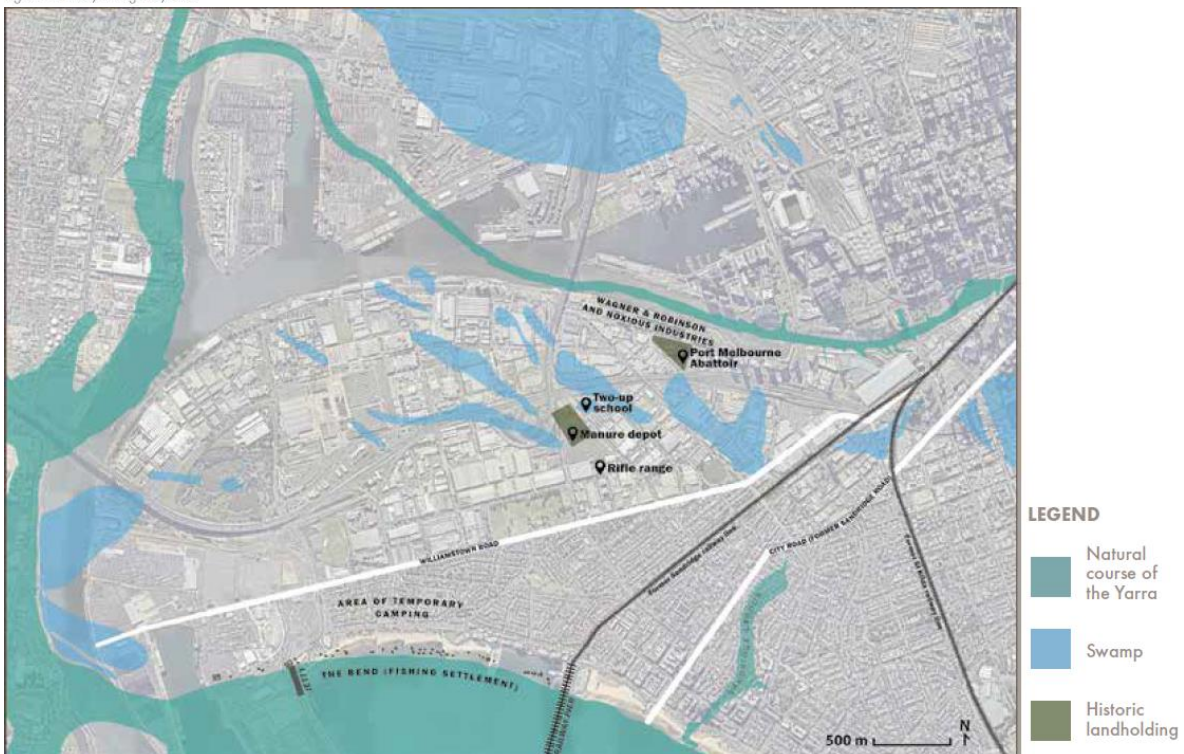
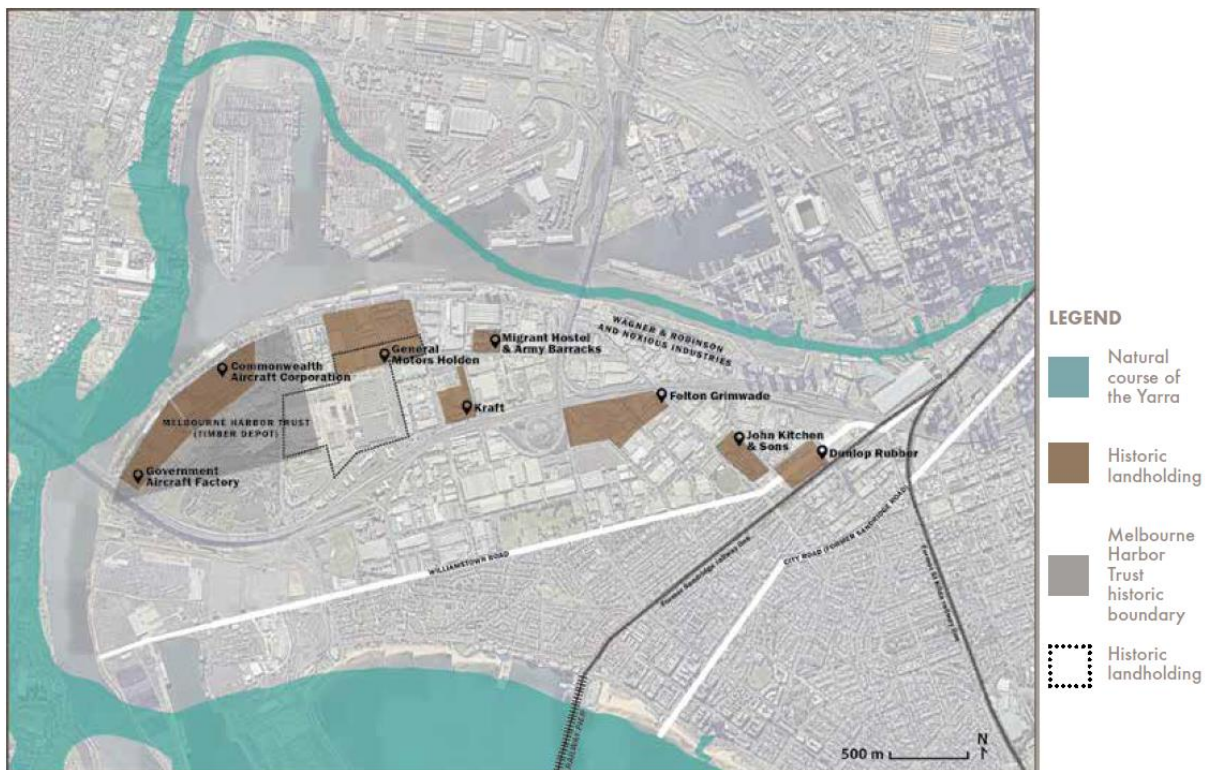


Figure 12. A way through key sites.







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