FISHERMANS BEND AMMENDMENT GC81

ECONOMIC EXPERT WITNESS STATEMENT

URBIS

29 MARCH 2018
PREPARED FOR NORTON ROSE FULLBRIGHT AUSTRALIA

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Ian Shimmin

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. The purpose of this Statement of Evidence is to address the issue of future population and employment growth in Melbourne and the effect of urban growth strategies and trends on the future planning for the Fishermans Bend urban renewal area.

2. I believe that Fishermans Bend is an extremely important location for inner city population and employment growth in a metropolitan-wide context. There is ample evidence of increasing demand for inner city high density living, and Fishermans Bend is earmarked as a priority development area. Moreover, the combination of employment opportunities close to home, as well as the proximity to the river and bay would undoubtedly make Fishermans Bend a sought after location.

3. I believe that Plan Melbourne clearly calls for action to curtail urban sprawl and achieve urban consolidation. It undoubtedly supports higher density living at Fishermans Bend, however other matters such as liveability are also key considerations.

4. Melbourne is growing at an unprecedented rate. As shown previously in Table 2, Greater Melbourne has been growing by an average 80,000 people per annum over the last 15 years. Growth has been in excess of 110,000 people over the past 5 years.

5. Melbourne's population in 2051 could quite conceivably fall in the range of 8.2 - 9.4 million people, an increase of 3.5 – 4.7 million people or up to double the current levels.

6. In the Central sector, the 2051 population could amount to 705,000 – 870,000 people. The higher end of the range indicated does not allow for Melbourne's higher population under the uplift scenario; it is simply due to a reasonable redistribution of growth. It is within this context that the planned population for Fishermans Bend should be considered.

7. I believe that Fishermans Bend presents a unique opportunity to build on the trend towards inner city living, in an area that offers excellent locational attributes.

8. There is very clearly an emerging demand-supply gap across Melbourne which, if not addressed, will undoubtedly result in further pressure to expand the urban growth boundary. While this may occur in any event, it is readily apparent that facilitating opportunities to substantially increase densities in inner Melbourne will be strategically important to Melbourne's growth and development over the next 30 years or so.

9. Fishermans Bend is an ideal location, and in my view further the 80,000 population target will be viewed in the years ahead as a major opportunity lost. Similarly, in addition to the targeted 80,000 residents of Fishermans Bend by 2050, the 230-hectare Employment Precinct presents a unique and exciting opportunity for Melbourne's future employment and competitive positioning.

10. With this, it is evident that the employment 'target' is not well founded – it is based on a 1:1 jobs/household ratio which has no basis - and requires further analysis, especially in light of the revised population potential, the location of the PDA as a whole, and the typical drawing power of key employment destinations that serve a broad role. Notably, only 13% of the current workforce in Fishermans Bend live in the Central sector (see Appendix B.3). In other parts of Australia where there is a significant employment cluster and an innovation focus, employment: household ratios of well in excess of 3 times apply. Central areas also tend to be higher than metropolitan averages - the ratio in the City of Melbourne in 2016 was 5.57, and 3.77 excluding the CBD.

11. In my view the Employment Precinct is uniquely placed geographically - its connections to the Port, Yarra River, Port Phillip Bay and a number of freeways will cement Fishermans Bend as a landmark employment location. It has also been designated a National Employment and Innovation Cluster in Plan Melbourne. The implication of this designation is that the businesses which choose to locate in Fishermans Bend will be co-located with similar and interrelated industries, enabling synergies that come with economic clusters to be realised, in a modern environment.

12. In summary, in my view the employment ‘target’ for Fishermans Bend is likely to represent a lost opportunity as well.

13. In terms of liveability, there are various objective measures of liveability available, and even an Industry Standard (ISO37120). In most cases Melbourne ranks in the top 10 cities in the world. On all measures the notion of liveability relates to quality of life, and in all cases the determining factor resulting in a high liveability rating is the ground plane, not building heights or density per se.

14. Therefore, if Fishermans Bend is to realise its full potential there will need to be less focus on controls relating to population density and building heights and more focus on ground level activation, transport, facilities and services.

1. INTRODUCTION & DECLARATION

15. The purpose of this Statement of Evidence is to address the issue of future population and employment growth in Melbourne and the effect of urban growth strategies and trends on the future planning for the Fishermans Bend urban renewal area.

1.1 DECLARATION

16. This Statement of Evidence is to be presented in the Review Panel hearing in relation to Amendment GC81 to the City of Melbourne and City of Port Phillip Planning Schemes.

17. This report has been prepared by Ian Shimmin, Director, Property Economics & Research, Urbis Pty Ltd, 12th Floor, 120 Collins Street, Melbourne.

18. I have over 30 years' experience in property economics and market analysis, throughout Australia, Asia and the USA. I am a director and partner of Urbis Pty Ltd. My CV is attached at the end of this report (Appendix F).

19. I received formal written instructions in this matter from Ms Linda Choi, Associate of Norton Rose Fulbright Australia, detailed in a letter dated 25 January 2018 as follows:

Our clients wish to engage to:

(1) Review the memorandum and accompanying documents;
(2) Confer with instructing solicitors where necessary;
(3) Independently review the proposed Amendment GC81 from a demographic and economic perspective and, if appropriate, prepare an independent expert report in relation to the whole of FBURA;
(4) If required, appear at the Review Panel Hearing scheduled to be in two stages with the Stage 1 hearing and Stage 2 hearing commencing on 19 February 2018 and 9 April 2018 respectively for the purpose of presenting your expert opinion concerning demographic and economic matters. Your appearance will be required for the Stage 2 hearing.

20. I confirm that I have read and understood the Guide to Expert Evidence by Planning Panels Victoria. I acknowledge that I have an overriding duty to assist the Panel and I have discharged that duty.

21. I also confirm that I have not received any instructions to accept, adopt or reject any particular opinion in preparing this Statement of Evidence, and that:

(i) the factual matters stated in this Statement of Evidence are, as far as I am aware, true;

(ii) I have made all the enquiries that I consider appropriate;

(iii) the opinions in this Individual Statement of Evidence are genuinely held by me; and

(iv) the Individual Statement of Evidence contains references to all matters that I consider are significant.

22. I have been assisted in the preparation of this report by members of staff in the property economics and research team at Urbis who have acted under my instructions.

Ian Shimmin
Director, Property Economics & Research
Urbis Pty Ltd

Dated: 29th March 2018

1.1 REPORT STRUCTURE

23. This Statement of Evidence comprises 7 sections, as follows:

Section 1: Introduction & Declaration

Section 2: Fishermans Bend and Amendment GC81 – This summarises the vision, household, employment and population targets, and capacity under Amendment GC81, based on the bottom up approach* adopted by and on behalf of the Fishermans Bend Taskforce.

Section 3: Plan Melbourne is the overarching strategy for the greater Melbourne metropolitan area. This section discusses the role of places like Fishermans Bend in the context of key aspects of Plan Melbourne.

Section 4: Melbourne's Future Growth – This section summarises the various population and household forecasts for the Melbourne metropolitan area, with particular reference to recent trends as well as expectations regarding growth areas and increasing densities. The accuracy of past population forecasts for metropolitan planning is also discussed.

Section 5: Inner Melbourne and Priority Growth Areas – Following the above metropolitan-wide view of growth over the next 30-35 years, this section examines demand and supply in the inner ring, particularly the central city area.

Section 6: Liveability – Fishermans Bend is expected to become a thriving place and a leading example for liveability, amongst other important attributes. This section summarises recent international standards and thoughts relating to sustainable development and quality of life.

Section 7: Conclusions – The final section presents a succinct summary of my evidence.

* Bottom up approach refers to the assessment of population potential of Fishermans Bend based on a view of the likely take-up rate of housing in that location rather than thinking of population in a metropolitan wide context

2. FISHERMANS BEND AND AMENDMENT GC81

2.1 KEY MESSAGES UNDERPINNING THE VISION

24. The size and location of Fishermans Bend results in it being the sole urban renewal opportunity of its magnitude in Australia. It is the largest urban renewal project in Australia containing 485 hectares. To put this into perspective, it is more than twice the size of the Melbourne CBD.

25. The location of Fishermans Bend is unique due to its ability to connect multiple, major precincts in the city. The site provides access to the Melbourne CBD, the Yarra River, and the Port of Melbourne.

26. To fully capitalize on these connections and drive the desired development characteristics of the site, the delivery of transport infrastructure is imperative.

27. Plans for the precinct include a new rail line, two additional tram lines as well as additional bus services. Combined, this investment will result in use of public transport, walking and cycling accessibility significantly above current Melbourne averages.

28. The Employment Precinct provides an opportunity to secure high value technology and innovation jobs, a key to continued economic growth in Victoria, in a strategic location that is well connected to the city and transport network.

29. The size of the Employment Precinct will allow for a high diversity of jobs and the creation of a commercial precinct that is activated at both day and night.

30. The development of Fishermans Bend will align with Plan Melbourne to 2051. In particular it is a key element of "enhancing Melbourne's liveability, while growing and diversifying its economy." The scale of the development will ensure that it has an impact on the overall future liveability of Melbourne.[1]

2.2 POPULATION & EMPLOYMENT 'TARGETS'

31. The Planning Framework, infrastructure planning and urban design planning for Fishermans Bend has been based on a population 'target' of 80,000 people and an employment 'target' of 40,000 jobs across the four precincts, in addition to a further 40,000 jobs in the Employment Precinct.

32. The relevance of these 'targets' has been described in various ways relating to the population, including:

- **DELWP -** "*Predicting population and household growth for Fishermans Bend is challenging. The time scale is long (to 2051). The population and household results in this exercise are therefore referred to as 'indicative planning populations' rather than forecasts or projections.*

  Modelling of indicative population begins with the end point: a 2051 vision for each precinct developed by the Fishermans Bend Taskforce….The vision specifies the number of households expected in each precinct….

  The starting point for each precinct is virtually a blank slate….The path from start to end is defined primarily by the indicative growth staging of each precinct….This construction trajectory controls the number of households in each precinct at 30 June in each future year.

[1] Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

The two key assumptions driving the development of the indicative populations for Fishermans bend are the 2051 household visions and the indicative construction staging.

It must be re-stated though, that the 2051 vision comprises 'targets, or assumptions, these figures are not to be taken as an exact prediction or forecast of the future.

Demographic profiles have been developed for each residential precinct in Fishermans Bend ….They are neither a forecast nor an exact prediction of the final population and/or characteristics."[2]

- **Minister for Planning** - "*The planning for Fishermans Bend 'targets a population of 80,000 residents and 80,000 jobs by 2050. Working to a 'target' population is critical to responsible planning and the staged investment that follows. Without a 'target', it is impossible to understand the quantum of demand for infrastructure and services a future community will require (such as roads, public transport, utilities, open space and community facilities). Nor is it possible to take action to ensure such demand is considered holistically and matched with supply in a timely manner."*[3]

- **Minister for Planning** - "*At the heart of the draft Framework and the Amendment is the population 'target' of 80,000 residents. The 'target' of 80,000 has informed the Amendment in important ways:*

  (a) It underpins the Floor Area Ratio (FAR) calculated for the core and non-core areas of each precinct;

  (b) It provides the basis for forecasting demand for open space, schools, community infrastructure and public transport;

  (c) It is translated into the dwelling density policy in clause 22.XX

  Some of the anxiety around the 80,000 resident figure appears to stem from the use of the word 'target'. To the extent that 'target' has been interpreted as the ultimate, desired population outcome in the nature of a cap on total development, it may be that the term has created confusion….

  As such, the supposed 'target' is in many ways an ***informed expectation*** *rather than a specific figure which the government is hoping to achieve*"[4]

- **Hodyl & Co – "***The population 'target' has therefore directly informed the approach to developing density controls for the precincts.*

  [However], if 100% of sites were developed according to the proposed FARs the potential population would be in the order of 106,000 residents….

  [Moreover], if the affordable housing 'target' (12,214 dwellings) is delivered through the Floor Area Uplift (FAU), then an additional 43,250 people would be accommodated….

  Together, the population enabled if all sites develop according to the proposed FARs and the potential…FAU for affordable housing would bring the potential overall population up to 150,000 people…, almost twice the 80,000 'target'.

  The full build-out of Fishermans Bend beyond 2050…means that the overall capacity of Fishermans Bend is not constrained to 80,000 people[5].

---

[2]The Department of Environment, Land, Water and Planning 2017, *Fishermans Bend Population & Demographics,* The Victorian State Government, accessed March 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0021/87060/Fishermans-Bend-Population-and-Demographic-Report_April-2017.pdf.

[3] Department of Environment, Land, Water and Planning 2017, *Fishermans Bend : draft planning scheme amendment GC81 consultation documents*, Melbourne, Victoria] Department of Environment, Land, Water and Planning, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0019/88120/GC81-Draft-Planning-Scheme-Amendment-Information-Sheet-Consultation-Final-Updated-1-Nov.pdf

[4] Department of Environment, Land, Water and Planning 2017, *Fishermans Bend : draft planning scheme amendment GC81 consultation documents*, [Melbourne, Victoria] Department of Environment, Land, Water and Planning, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0019/88120/GC81-Draft-Planning-Scheme-Amendment-Information-Sheet-Consultation-Final-Updated-1-Nov.pdf

[5] Hodyl+Co 2018, *Amendment GC81 Fishermans Bend Expert Urban Design Evidence,* Department of Environment, Land, Water and Planning, accessed March 2018, https://engage.vic.gov.au/application/files/6915/1962/5774/Document_53_-_Urban_Design_evidence_-_Leanne_Hodyl.pdf

33. And in the following ways relating to employment:

- **DELWP -** "*Fishermans Bend is estimated to likely accommodate 80,000 jobs by 2051. This represents one job per household in the four residential precincts, and assumes a conservative growth of jobs in the Employment Precinct….It is difficult to speculate on the growth or decline of the existing employment in the area and as such the employment numbers discussed are indicative of the likely job growth associated with the transformative process Fishermans Bend will undergo….Employment numbers have been determined by the number of households in each of the precincts and the long term vision for the respective areas*."[6]
- **DELWP -** "*Fishermans Bend will play an important role in Melbourne's growth and prosperity, supporting 80,000 residents and 60,000 jobs*"[7]
- **DELWP –** "*… with Victorian Government investment in the General Motors Holden site; a proposed tram connection along Turner Street; and, in the long term, a potential underground rail station within the precinct, the jobs projection to 2050 [in the Employment Precinct] has been upwardly revised to 40,000 jobs*."[8]

34. In summary, therefore:

- The population and employment 'targets' are deemed to be important for planning purposes, including forecasting demand for infrastructure provision and the like. As a consequence infrastructure etc ceases to be a driver or enabler of inner city development but rather a prescribed constraint. This has metropolitan-wide implications.
- The population 'target' 'underpins' the Framework and the Amendment and 'underpins' the FAR, and hence density. In other words they control built form outcomes.
- The population 'target' is a bottom up derived 'indicative planning projection' based on a design year of 2051 and an assumed housing take up rate. There is little, if any, evidence to suggest that Fishermans Bend has been planned strategically from a metropolitan wide perspective.
- It assumes a typology of household types and average household sizes, together with assumptions regarding lifestyle choices up to 2051. To suggest that Fisherman Bend can be planned from the bottom up based on fine grained characteristics of household types and preferences, and an expectation of residential location decisions and housing choice behaviour in 30 + years' time is completely unrealistic.
- The population 'target' could be exceeded by a factor of 1.88, or virtually double, based on FAUs and site completions. However, public transport provision and other important infrastructure would be based on demand levels which are set at approximately 50% of capacity.
- The employment 'target' is based on a simple 1:1 ratio of jobs per household, or 2:1 with the Employment Precinct included. This has no foundation.

---

[6] The Department of Environment, Land, Water and Planning 2017, *Fishermans Bend Population & Demographics,* The Victorian State Government, accessed March 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0021/87060/Fishermans-Bend-Population-and-Demographic-Report_April-2017.pdf.

[7] The Victorian State Government 2016, *Fishermans Bend Vision,* accessed March 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0018/72117/Final_Vision_web_version.pdf

[8] The Department of Environment, Land, Water and Planning 2017, *Fishermans Bend Draft Framework,* The Victorian State Government, accessed March 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0023/87071/Draft-Fishermans-Bend-Framework-LR.pdf

2.3 ORIGIN OF THE HOUSEHOLD & POPULATION 'TARGETS'

35. The origin of the 'targets' is important because these 'indicative planning estimates' drive many, if not most, of the critical planning outcomes for Fishermans Bend. For example, The expert Urban Design Evidence reported in February 2018 noted that:

> "*All infrastructure planning undertaken to inform the Draft Framework Plan has been based on the defined population 'targets. This means that there is planning in place to deliver the infrastructure needed to meet the needs of 80,000 residents and 40,000 workers. This includes transport, open space and community infrastructure planning*."[9]

36. As I understand it, multiple scenarios have been considered regarding future population, with numbers ranging as high as 141,000 in several studies.

37. The development of population and employment forecasts at Fishermans Bend seem to fall into three periods of investigation:

- Studies from November 2012 through mid-2013
- The Places Victoria Study: Fishermans Bend Urban Renewal Area: Draft Vision, September 2013
- Studies from September 2013 through to Amendment GC81

38. Three companies completed four studies in November and December 2012:

- SGS (Economic and Employment Study & Transport Issues and Opportunities Study),
- AECOM (Transport Issues and Opportunity Study),
- MacroPlan Dimasi (Fishermans Bend Urban Renewal Area: Real Estate Market Assessment)

39. Each of the above assessed multiple scenarios for the build out of Fishermans Bend. Future population scenarios ranged from 9,750 people to 141,000 people.

40. Macroplan also considered the nature and scale of impacts under each of the scenarios examined, arguably concluding that Scenario C which included 141,000 residents, 60,000 dwellings, providing 58,000 jobs and 850,000 sqm of commercial/retail space, was the optimal outcome. This scenario resulted in:

> *Very high sector comparative advantage; very high global competitiveness; very high labour force participation/productivity; and social participation.*[10]

41. In September 2013, Places Victoria reported that "By 2050, Fishermans Bend could accommodate up to 40,000 new jobs and 80,000 residents". This seems to be the origin of the ''targets'. Subsequently, as previously mentioned, the 80,000 population 'target' has been post rationalised with reference to 2051 as the build out year, and an estimated annual take up rate which is compared to historical information for Southbank and Docklands.

42. Recently the Part B submission on behalf of the Minister comments as follows:

> *As Ms Hodyl explains in her evidence, the figure of 80,000 as the target population for Fishermans bend has been based on a number of matters, including:*
>
> *(a) likely overall population growth;*
>
> *(b) the ability of the market to deliver dwellings;*

---

[9] Hodyl+Co 2018, *Amendment GC81 Fishermans Bend Expert Urban Design Evidence,* Department of Environment, Land, Water and Planning, accessed March 2018, https://engage.vic.gov.au/application/files/6915/1962/5774/Document_53_-_Urban_Design_evidence_-_Leanne_Hodyl.pdf

[10] MacroPlanDimasi 2012, *Fishermans Bend Urban Renewal,* Places Victoria, accessed march 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0019/58501/ms-18-Volume-3-Real-Estate-Market-Assessment_opt100_rfs.pdf

(c) consistency with the vision for Fishermans Bend;

(d) the ability of government to supply infrastructure;

(e) the ability to sustain an appropriate level of amenity; and

(f) a comparison with densities in other parts of Melbourne and in other cities.[11]

43. I will return to these justifications for choosing the 80,000 population 'target' later.

44. The population 'target', therefore, has been the controlling end game for all other decisions affecting the planning of Fishermans Bend. The 'target' has influenced decisions relating to infrastructure, public transport, building heights and density to name a few. Of course, given the derivation of the employment 'target', which is based on population, the population 'target' affects the employment 'target' as well.

45. Following the Places Victoria report the Victorian State Government, DELWP and SGS all released reports between July 2014 and September 2017 quoting the 80,000 'target' population figure.

46. At the same time GHD released a report in November 2016 quoting that:

> *"VPA's Ultimate Development Scenario was assumed to include 120,000 residents and 61,050 employees. These population estimates were based on a draft population forecast of between 44,132 – 52,080 dwellings for 2051, and 60,000 dwellings at ultimate development (i.e. approximate 120,000 residents assuming that there is an average 2.0 persons / dwelling)."*[12]

47. Most recently, the Urban Design Strategy (Hodyl, 2017) evidence introduces an assumption that only 75% of the sites in Fishermans Bend will be developed by 2050. As a result, the Floor Area Ratios have been adjusted to reflect a population of 80,000 residents at 2050 assuming a 75% redevelopment rate. Consequently, as previously mentioned, the capacity population assumed in the Urban Design Strategy is well in excess of the 'target' population (ie almost double), and this has certainly created confusion. The Floor Area Ratio mechanism is explained in more detail in the following sub-section.

---

[11] Department of Environment, Land, Water and Planning 2017, *Fishermans Bend : draft planning scheme amendment GC81 consultation documents*, [Melbourne, Victoria] Department of Environment, Land, Water and Planning, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0019/88120/GC81-Draft-Planning-Scheme-Amendment-Information-Sheet-Consultation-Final-Updated-1-Nov.pdf

[12] Department of Environment, Land, Water and Planning 2016, *Fishermans Bend Baseline Utility Assessment Final Report,* accessed March 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0023/87053/Baseline-Utility-Assessment-Report-_GHD_September-2016-A.pdf

2.4 POPULATION UPLIFT & CAPACITY UNDER AMENDMENT GC81

48. The Floor Area Ratio (FAR) is the mechanism used in the Draft Fishermans Bend Framework and the Urban Design Strategy[13] to distribute the 80,000 population 'target' at 2050 between precincts and within core and non-core areas.

49. The FAR can be calculated by dividing total floor area by the total site area. Figure 11 of the Draft Fishermans Bend Framework[14] provides the FAR for each precinct and core/non-core area, where the FAR ranges from 2.1:1 to 8.1:1.

50. In establishing these FAR's the Urban Design Strategy makes the assumption that 75% of sites will be redeveloped from their current use by 2050. In effect, these assumptions allow for a population much higher than 80,000 at 2050 (refer Table 1).

FISHERMANS BEND POPULATION TARGET

POTENTIAL UPLIFT TO THE POPULATION TARGET — TABLE 1

	Population
Population Target @ 2050	**80,000**
Potential population uplift[1]	
Assume 100% sites redeveloped according to proposed FARs	26,400
FAU - Affordable housing target (6%) - 2,214 dwellings @ 2.17 people/dwelling	4,804
FAU - Additional population permitted through delivery of affordable housing target (8 dwellings per affordable housing unit)	38,435
Total	**149,639**
Potential additional Floor Area Uplift	
FAU - Community infrastructure	+
FAU - Additional public open space	+
Total	**149,639 +**

[1] Data sourced from the Expert Urban Design Evidence (Hodyl, February 2018)
Source: Draft Fishermans Bend Framework; Hodyl; Urbis

51. This point is further clarified in the Expert Urban Design Evidence[15] where the population in Fishermans Bend jumps to 106,400 when 100% of sites are redeveloped from their current use. It seems, therefore, that the 'target' of 80,000 people for 'indicative planning purposes' is redundant.

52. In addition to the increase in population that would result from the development of 100% of sites according to the proposed FAR's, the delivery of a 6% affordable housing target through the FAU would also impact on future population. This is made clear by Table 6 of the Expert Urban Design Evidence prepared by Ms Hodyl. As Table 1 above demonstrates, if 100% of sites are developed, and the 6% affordable housing objective is achieved through the use of the FAU, there is the potential for an additional 69,639 residents.

53. When considered together, the potential uplift from the 100% development assumption, and the affordable housing uplift, a population of 149,639 residents is possible, some 87% higher than the 80,000 'target'.

[13] Hodyl+Co 2017, *Fishermans Bend Urban Design Strategy,* Department of Environment, Land, Water and Planning, accessed March 2018,

[14] Hodyl+Co 2017, *Fishermans Bend Urban Design Strategy,* Department of Environment, Land, Water and Planning, accessed March 2018,

[15] Hodyl+Co 2018, *Amendment GC81 Fishermans Bend Expert Urban Design Evidence,* Department of Environment, Land, Water and Planning, accessed March 2018, https://engage.vic.gov.au/application/files/6915/1962/5774/Document_53_-_Urban_Design_evidence_-_Leanne_Hodyl.pdf

54. In addition, to allow for the provision of community infrastructure and additional public open space, there is also potential for developers to apply for a FAU on site which would be above and beyond the potential population of 149,639 detailed above.

55. This raises obvious questions relating to orderly planning. In particular, the viability and early delivery of infrastructure, community services and public transport, to name a few, would be substantially enhanced based on the implied higher population and employment outcomes.

56. It is therefore clear that the planning for the proposed Amendment has proceeded on the basis that the Fishermans Bend urban renewal area will house 80,000 people and provide 80,000 jobs. Roads, community facilities, retail and related uses, public transport, utilities, public spaces, building heights and floorspace ratios have all be based on these 'targets'.

57. Having said this, it is also apparent that the population could be almost double the 'target' under certain conditions, which in turn would have unintended consequences.

2.5 TESTING THE EFFICACY OF THE INDICATIVE PLANNING POPULATIONS & EMPLOYMENT TARGETS

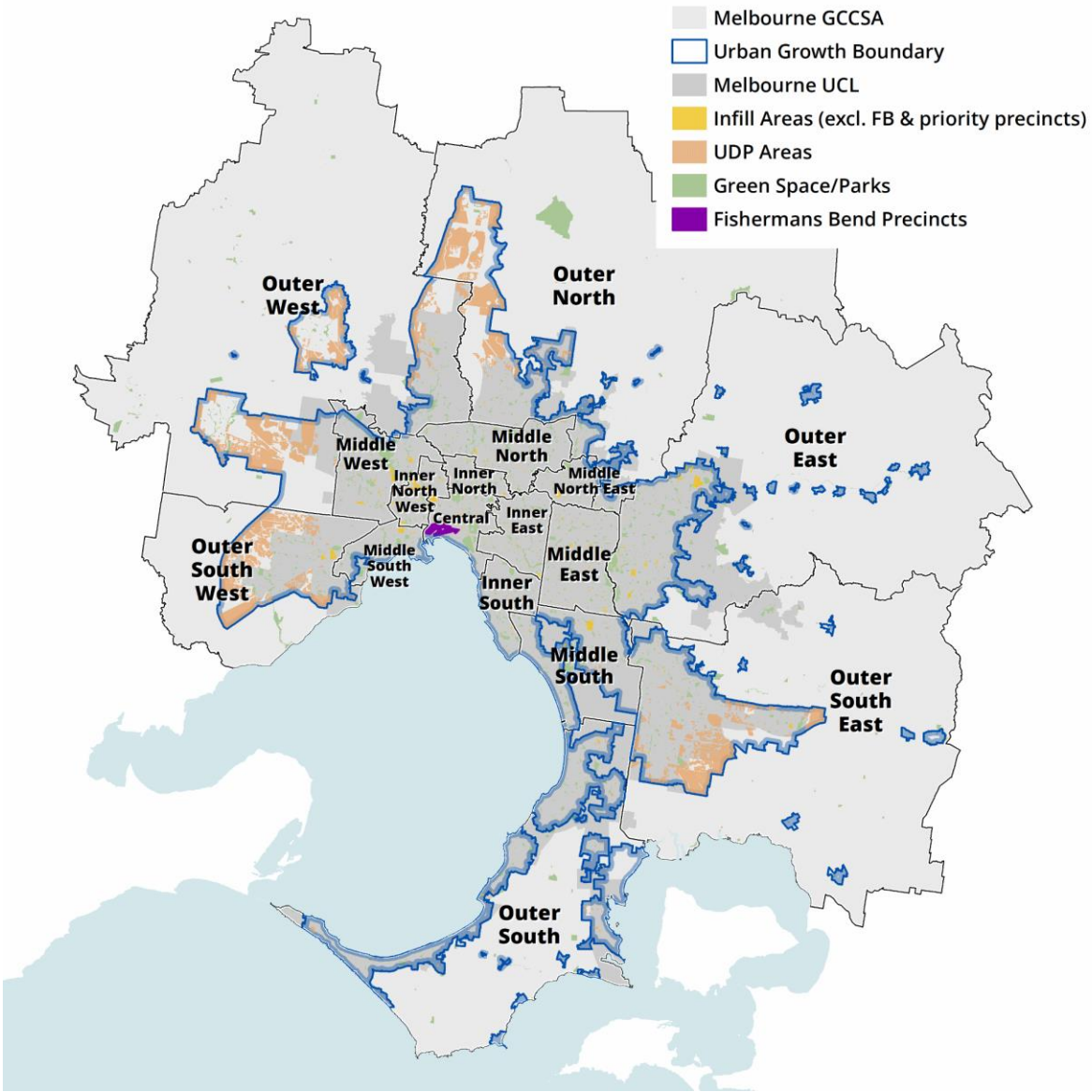
58. To assist the Panel, the purpose of my evidence is to test the efficacy of these 'targets' and outcomes in the context of:

- Plan Melbourne and the curtailing of urban sprawl.
- Metropolitan Melbourne's future growth expectations.
- Inner Melbourne's future growth opportunity.
- 'Optimal' population, 'uplifted' population.
- The relationship between density and liveability.

2.6 RECENT TRENDS & GROWTH AREAS IN METROPOLITAN MELBOURNE

59. As alluded to previously, it is questionable whether the approach of notionally constraining Fishermans Bend to population and employment 'targets' addresses metropolitan-wide planning objectives, particularly the desire to curtail urban sprawl. This sub-section therefore aims to discuss Fishermans Bend in a broader context.

60. Over the 15 years between 2001 and 2016 metropolitan Melbourne grew by over 1.2 million people. Over this time, the central area (refer Map 1 and Table 2) accommodated around 12% of the growth, with an average of 10,000 additional residents every year. The Central sector also experienced the highest average annual percentage growth rate of 3.7% over the period, compared to 2.8% for the Outer sectors which had the highest absolute growth.



MAP 1: GREATER MELBOURNE WITH URBIS SECTORS

61. The Outer sectors, which incorporate Melbourne's growth areas on the urban fringe, have clearly been the main recipients of population growth over the 15-year period, accounting for an additional 47,000 residents per annum.

62. Notably, population growth in the Central sector during the most recent intercensal period (ie 2011-16) has been more than double the rate experienced during the decade prior. The central sector now houses 7.4% of Melbourne's population and captures 13.2% of Melbourne's growth.

63. Population growth in the metropolitan region has increased from 1.4% per annum from 2001-2006 and 2.1% per annum from 2006-2011, to 2.5% from 2011-2016. The Central sector has grown at a rate of 4.8% per annum from 2011-2016 which tends to suggest that a surge in inner city living is well underway.

64. This is further confirmed by the very high growth in the Melbourne CBD and immediate surrounds, as discussed further below.

METROPOLITAN MELBOURNE

ESTIMATED RESIDENT POPULATION BY URBIS SECTOR 2001 - 2016 **TABLE 2**

SECTORS	Year				Average Annual Growth (no.)			Average Annual Growth (%)		
	2001	2006	2011	2016	01-06	06-11	11-16	01-06	06-11	11-16
Central	**203,000**	**241,000**	**275,000**	**348,000**	**7,600**	**6,800**	**14,600**	**3.5%**	**2.7%**	**4.8%**
Inner										
Inner East	246,000	254,000	266,000	289,000	1,600	2,400	4,600	0.6%	0.9%	1.7%
Inner North	120,000	126,000	136,000	149,000	1,200	2,000	2,600	1.0%	1.5%	1.8%
Inner North West	118,000	124,000	139,000	158,000	1,200	3,000	3,800	1.0%	2.3%	2.6%
Inner South	217,000	226,000	241,000	260,000	1,800	3,000	3,800	0.8%	1.3%	1.5%
Total Inner	**701,000**	**730,000**	**782,000**	**856,000**	**5,800**	**10,400**	**14,800**	**0.8%**	**1.4%**	**1.8%**
Middle										
Middle East	302,000	310,000	328,000	355,000	1,600	3,600	5,400	0.5%	1.1%	1.6%
Middle North	262,000	267,000	286,000	307,000	1,000	3,800	4,200	0.4%	1.4%	1.4%
Middle North East	87,000	88,000	90,000	96,000	200	400	1,200	0.2%	0.5%	1.3%
Middle South	261,000	268,000	290,000	320,000	1,400	4,400	6,000	0.5%	1.6%	2.0%
Middle South West	82,000	83,000	87,000	93,000	200	800	1,200	0.2%	0.9%	1.3%
Middle West	215,000	221,000	240,000	258,000	1,200	3,800	3,600	0.6%	1.7%	1.5%
Total Middle	**1,209,000**	**1,237,000**	**1,321,000**	**1,429,000**	**5,600**	**16,800**	**21,600**	**0.5%**	**1.3%**	**1.6%**
Outer										
Outer East	387,000	395,000	410,000	431,000	1,600	3,000	4,200	0.4%	0.7%	1.0%
Outer North	215,000	230,000	266,000	320,000	3,000	7,200	10,800	1.4%	3.0%	3.8%
Outer South	245,000	259,000	280,000	300,000	2,800	4,200	4,000	1.1%	1.6%	1.4%
Outer South East	227,000	278,000	337,000	411,000	10,200	11,800	14,800	4.1%	3.9%	4.1%
Outer South West	87,000	116,000	167,000	229,000	5,800	10,200	12,400	5.9%	7.6%	6.5%
Outer West	226,000	274,000	332,000	401,000	9,600	11,600	13,800	3.9%	3.9%	3.8%
Total Outer	**1,387,000**	**1,552,000**	**1,792,000**	**2,092,000**	**33,000**	**48,000**	**60,000**	**2.3%**	**2.9%**	**3.1%**
Total Metro Melb.	**3,500,000**	**3,760,000**	**4,170,000**	**4,725,000**	**52,000**	**82,000**	**111,000**	**1.4%**	**2.1%**	**2.5%**

Source: ABS; Urbis

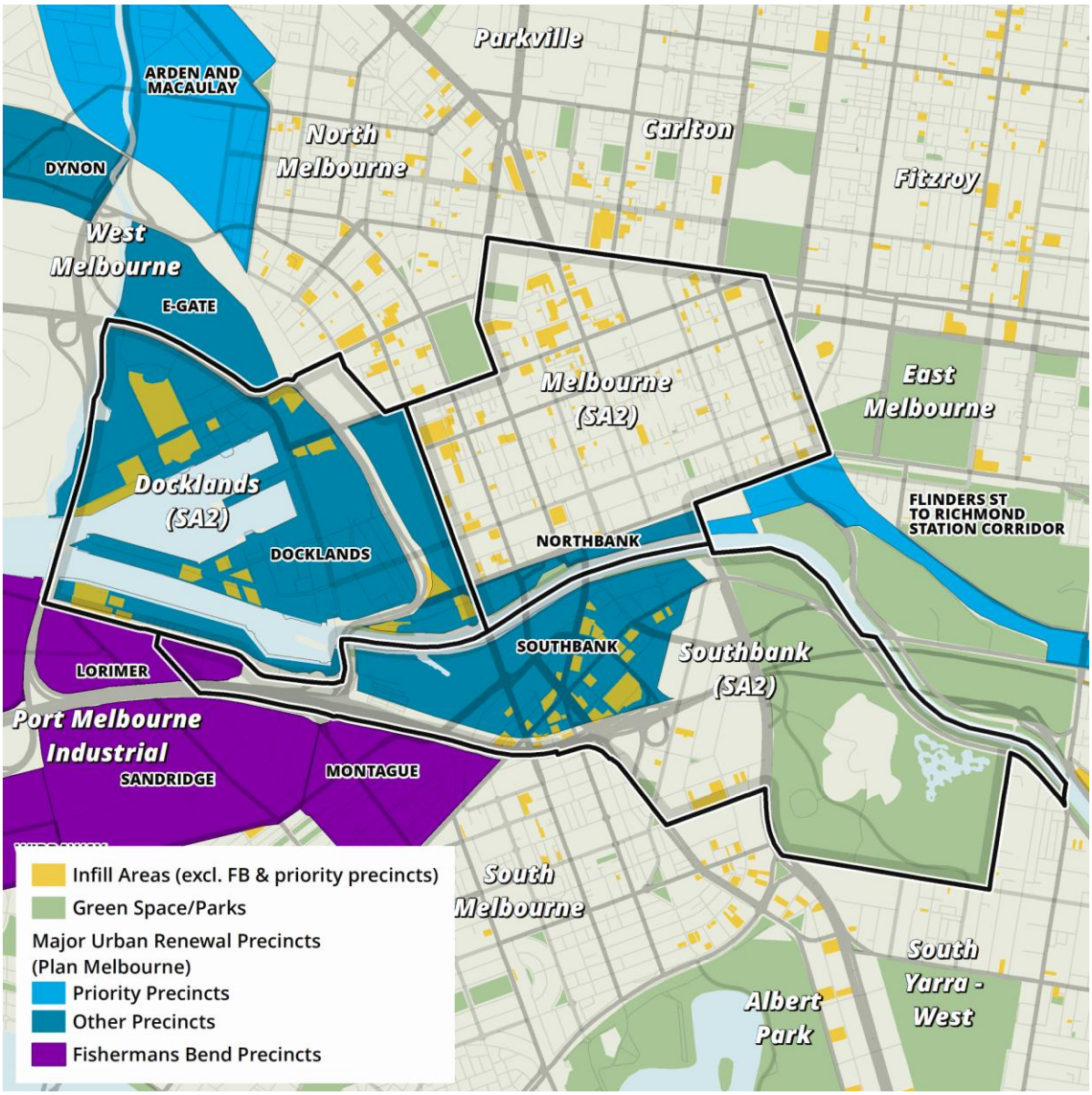
65. For the inner city statistical areas, known as SA2's, of Melbourne, Docklands and Southbank (refer Map 2 and Table 3) the population has grown by approximately 36,000 people over the most recent ten-year period between 2006 – 2016, at an average rate of 9.2% per annum.

POPULATION GROWTH IN MELBOURNE, SOUTHBANK AND DOCKLANDS

CHANGE BY STATISTICAL AREA 2 (SA2) 2006 - 2016 TABLE 3

	Year			Avg. Ann. Growth (no.)		Avg. Ann. Growth (%)	
SA2	2006	2011	2016	06-11	11-16	06-11	11-16
Melbourne	14,386	20,036	37,321	1,130	3,457	6.8%	13.2%
Docklands	3,953	5,806	10,967	371	1,032	8.0%	13.6%
Southbank	9,363	11,305	18,669	388	1,473	3.8%	10.6%
Total	**27,702**	**37,147**	**66,957**	**1,889**	**5,962**	**6.0%**	**12.5%**

Source: ABS Time Series Profiles 2016; Urbis

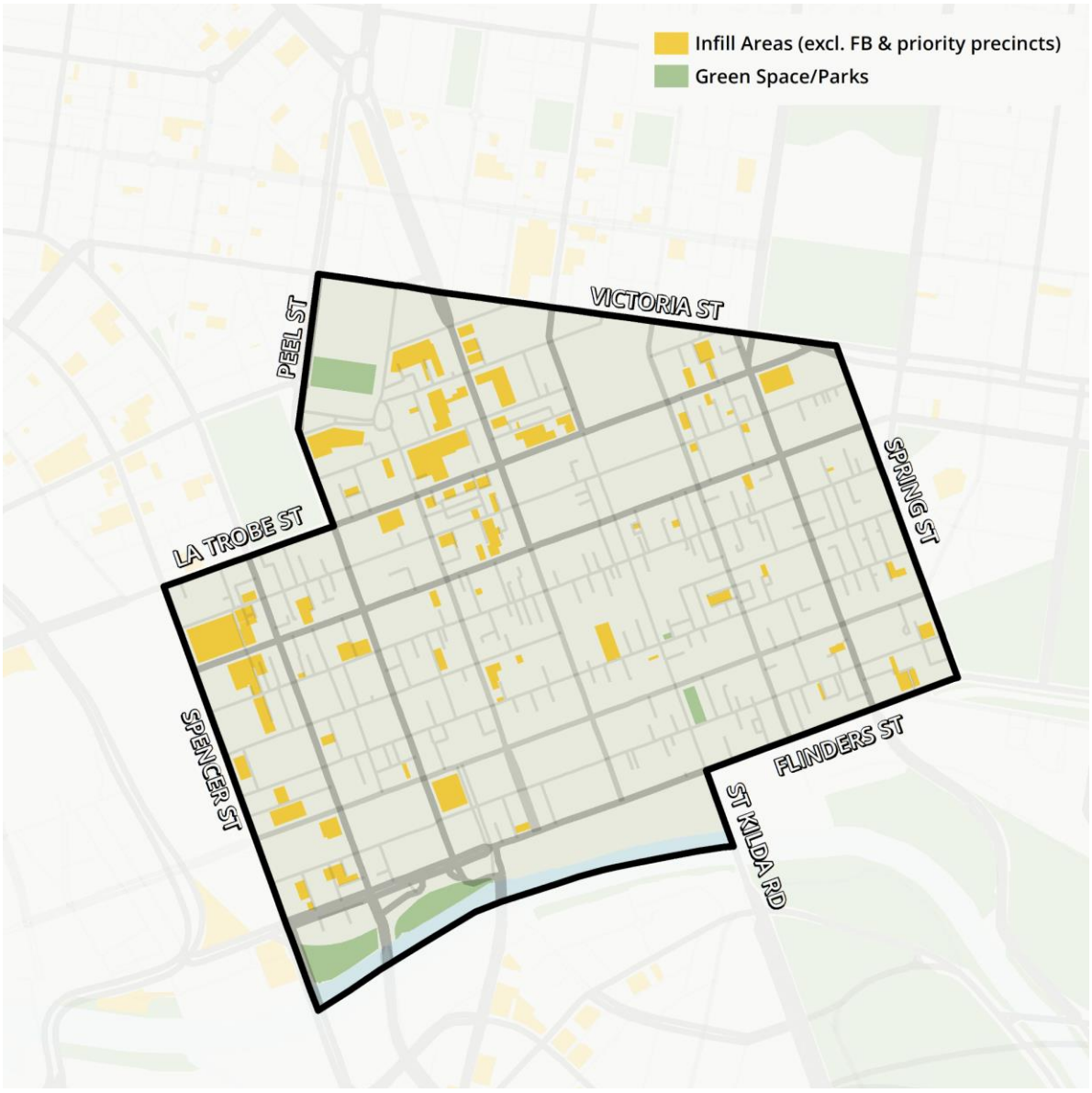


MAP 2: MELBOURNE, DOCKLANDS & SOUTHBANK SA2'S

66. In the Melbourne CBD (refer Map 3) over the past 10 years (ie 2006-16), the population has grown significantly, averaging a net addition of 2,300 residents moving into the CBD each year, on average.

67. The most recent census results show even higher growth in the period between 2011-16, at 3,457 additional residents per annum.

68. Into the future, Melbourne's population growth is planned to be focussed in redevelopment areas, priority precincts and growth areas. Increases in suburban densities is also expected but this a gradual gradual process.



MAP 3: MELBOURNE CBD (POSTCODE 3000)

69. Plan Melbourne[16] identifies Fishermans Bend, Arden, Macaulay, and the Flinders Street Station to Richmond Station Corridor as Priority Precincts for major urban renewal, with other major urban renewal precincts at Docklands, Southbank, Northbank, E-Gate and Dynon.

[16]Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

70. Priority Precincts are strategically important to the growth of central Melbourne. The ability to match land use and timing of infrastructure development with market needs provides the flexibility needed to meet the goals of growth in the central city. [17]

71. In addition to the four priority (mixed-use) precincts at Fishermans Bend, the employment precinct is a key component of the Fishermans Bend renewal area. Plan Melbourne identifies this as a National Employment and Innovation Cluster (NEIC). Combined, the priority precincts and the NEIC highlight the importance of Fishermans Bend from both a population and employment perspective.[18]

72. Fishermans Bend is an existing employment hub catering for around 28,000 jobs, with around a third of the jobs in the manufacturing and construction industry. This is not surprising given the precinct's strategic location which benefits from excellent connectivity to the existing transport infrastructure, most notably the Port of Melbourne and the West Gate Freeway.

73. In September 2016, the Victorian Government announced that it had purchased the General Motors Holden (GMH) site which has been identified as a key catalyst project in the Fishermans Bend Draft Framework. The site is planned to become *"Australia's new home for design, engineering and technology, providing a showcase for coordinated world class urban renewal and economic development."*[19]

74. The location of the Employment Precinct, which is identified as a National Employment and Innovation Cluster (NEIC) at Fishermans Bend in Plan Melbourne, further highlights the importance of the precinct. NEICs are clusters of business activities that are considered to be of national significance, major contributors to Victoria's economy and that benefit from co-location. From a planning perspective, NEICs are expected to be in areas with above average transportation links and the ability to foster employment growth.

75. Fishermans Bend is the only Priority Precinct for major urban renewal that is co-located with an NEIC.

76. In summary, Fishermans Bend is an extremely important location for inner city population and employment growth in a metropolitan-wide context. There is ample evidence of increasing demand for inner city high density living, and Fishermans Bend is earmarked as a priority development area. Moreover, the combination of employment opportunities close to home, as well as the proximity to the river and bay would likely make Fishermans Bend a sought after location.

[17]Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

[18]Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

[19] The Department of Environment, Land, Water and Planning 2017, *Fishermans Bend Draft Framework,* The Victorian State Government, accessed March 2018, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0023/87071/Draft-Fishermans-Bend-Framework-LR.pdf

3. PLAN MELBOURNE

3.1 OVERVIEW

77. Plan Melbourne is the metropolitan planning strategy for Melbourne developed around 9 principles, 7 outcomes, 32 directions, and 90 policies. The plan is a strategy for the future growth of population and employment in the wider metropolitan region.

78. In order to successfully implement the policies and goals in Plan Melbourne, major urban renewal projects, such as Fishermans Bend, play an important role

3.2 KEY PRINCIPLES & OUTCOMES

79. Of the nine key principles that guide the vision for Plan Melbourne, the most significant for Fishermans Bend is Principle 8 – Infrastructure Investment that Support Balanced City Growth.

80. The seven outcomes and directions support the key principles and are listed below. Note that the first three are of particular relevance to the Fishermans Bend urban renewal precinct.

<table>
<tr><th colspan="2">OUTCOMES</th><th>DIRECTIONS</th></tr>
<tr><td>1</td><td>Melbourne is a productive city that attracts investment, supports innovation and creates jobs</td><td>1.1 – Create a city structure that strengthens Melbourne’s competitiveness for jobs and investment.
1.2 – Improve access to jobs across Melbourne and closer to where people live.
1.3 – Create development opportunities at urban renewal precincts across Melbourne.
1.4 – Support the productive use of land and resources in Melbourne’s non-urban areas.</td></tr>
<tr><td>2</td><td>Melbourne provides housing choice in locations close to jobs and services</td><td>2.1 – Manage the supply of new housing in the right locations to meet population growth and create a sustainable city
• Policy 2.1.1 – Maintain a permanent urban growth boundary around Melbourne to create a more consolidated, sustainable city
• Policy 2.1.2 – 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.

Victoria in Future projections indicate that around 65per cent of all new dwellings will be in Melbourne’s established areas, with 35 per cent in growth area greenfield sites. Figure 7 provides likely housing distribution figures from 2015-2051 based on Victoria in Future 2016. It also provides an alternate aspirational scenario of housing distribution if 70 per cent of new housing was to be provided within Melbourne’s established areas.

Figure 7
Housing distribution between established areas and growth area greenfields

Scenario 1 VIF 2016
<table><tr><th></th><th></th><th>Net dwelling additions 2015–51</th><th></th></tr><tr><th>Region</th><th>Total</th><th>Established</th><th>Greenfields</th></tr><tr><td>Inner Metro</td><td>215,000</td><td>215,000</td><td>0</td></tr><tr><td>Western</td><td>385,000</td><td>150,000</td><td>235,000</td></tr><tr><td>Northern</td><td>355,000</td><td>175,000</td><td>180,000</td></tr><tr><td>Inner South East</td><td>110,000</td><td>110,000</td><td>0</td></tr><tr><td>Eastern</td><td>175,000</td><td>175,000</td><td>0</td></tr><tr><td>Southern</td><td>310,000</td><td>185,000</td><td>125,000</td></tr><tr><td>Total Melbourne</td><td>1,550,000</td><td>1,010,000</td><td>540,000</td></tr><tr><td></td><td>100%</td><td>65%</td><td>35%</td></tr></table>
Scenario 2 Aspirational scenario
<table><tr><th></th><th></th><th>Net dwelling additions 2015–51</th><th></th></tr><tr><th>Region</th><th>Total</th><th>Established</th><th>Greenfields</th></tr><tr><td>Inner Metro</td><td>230,000</td><td>230,000</td><td>0</td></tr><tr><td>Western</td><td>365,000</td><td>160,000</td><td>205,000</td></tr><tr><td>Northern</td><td>340,000</td><td>180,000</td><td>160,000</td></tr><tr><td>Inner South East</td><td>125,000</td><td>125,000</td><td>0</td></tr><tr><td>Eastern</td><td>190,000</td><td>190,000</td><td>0</td></tr><tr><td>Southern</td><td>300,000</td><td>195,000</td><td>105,000</td></tr><tr><td>Total Melbourne</td><td>1,550,000</td><td>1,080,000</td><td>470,000</td></tr><tr><td></td><td>100%</td><td>70%</td><td>30%</td></tr></table>
2.2 – Deliver more housing closer to jobs and public transport
• Policy 2.2.1 – Facilitate well-designed, high-density residential developments that support a vibrant public realm in Melbourne’s central city

Directing population and housing growth into defined change areas will enable the Victorian Government to work with local governments, developers and stakeholders to create sustainable, liveable and attractive places that appeal to a range of households – including families with children and older - and single – person households.

A number of major urban renewal precincts have been identified in the central city…Maximising development opportunities of these precincts will minimise the need to increase residential densities in other parts of the</td></tr>
</table>

OUTCOMES		DIRECTIONS
		city. The sequencing of infrastructure within these precincts will maximise their development potential and provide timely services and amenities for residents. *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.* • Policy 2.2.2 – Direct new housing and mixed-use developments to urban renewal precincts and sites across Melbourne. *The redevelopment of urban renewal precincts and sites will create more diversity in the housing market – including opportunities for affordable and social housing – as well as more jobs and community services. Urban renewal precincts will be major sources of medium – and higher – density mixed-use development.* 2.3 – Increase the supply of social and affordable housing **2.4 – Facilitate decision-making processes for housing in the right locations** **2.5 – Provide greater choice and diversity of housing**
3	**Melbourne has an integrated transport system that connects people to jobs and services and goods to market**	**3.1 – Transform Melbourne's transport system to support a productive city.** 3.2 – Improve transport in Melbourne's outer suburbs **3.3 – Improve local travel options to support 20-minute neighbourhoods** **3.4 – Improve the freight efficiency and increase capacity of gateways while protecting urban amenity**
4	Melbourne is a distinctive and liveable city with quality design and amenity	4.1 – Create more great public places around Melbourne 4.2 – Build on Melbourne's cultural leadership and sporting legacy 4.3 – Achieve and promote design excellence 4.4 – Respect Melbourne's heritage as we build for the future 4.5 – Plan for Melbourne's green wedges and peri-urban areas 4.6 – Strengthen community participation in the planning of our city
5	Melbourne is a city of inclusive, vibrant and healthy neighbourhoods	5.1 – Create a city of 20-minute neighbourhoods 5.2 – Create neighbourhoods that support safe communities and healthy lifestyles 5.3 – Deliver social infrastructure to support strong communities 5.4 – Deliver local parks and green neighbourhoods in collaboration with communities
6	Melbourne is a sustainable and resilient city	6.1 – Transition to a low-carbon city to enable Victoria to achieve its target of net zero greenhouse gas emissions by 2050. 6.2 – Reduce the likelihood and consequences of natural hazard events and adapt to climate change 6.3 – Integrate urban development and water cycle management to support a resilient and liveable city 6.4 – Make Melbourne cooler and greener 6.5 – Protect and restore natural habitats 6.6 – Improve air quality and reduce the impact of excessive noise 6.7 – Reduce waste and improve waste management and resource recovery
7	Regional Victoria is productive, sustainable and supports jobs and economic growth	7.1 – Invest in regional Victoria to support housing and economic growth 7.2 – Improve connections between cities and regions

Source: Plan Melbourne 2017-2050, Victorian Government, 2017.[20]

81. In a nutshell, Plan Melbourne seeks to create a more compact city, and hence calls for a permanent urban growth boundary; facilitate higher density development near employment and public transport services; transform Melbourne's public transport system to support communities and business; and ensure Melbourne's liveability is not compromised.

82. It is implied that public transport, infrastructure and other services should be facilitated to serve the population. If Plan Melbourne has any weight, they should not be considered a constraint on growth and development, especially in high priority urban renewal areas in the inner city.

[20] Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

3.3 PLACES OF STATE SIGNIFICANCE

83. Places of State Significance are also identified in Plan Melbourne, and these areas are highlighted as the focus for investment and growth into the future. These places include the central city, national employment and innovation clusters, metropolitan activity centres, state-significant industrial precincts, transport gateways, health and education precincts and major urban renewal precincts as shown in the map below.

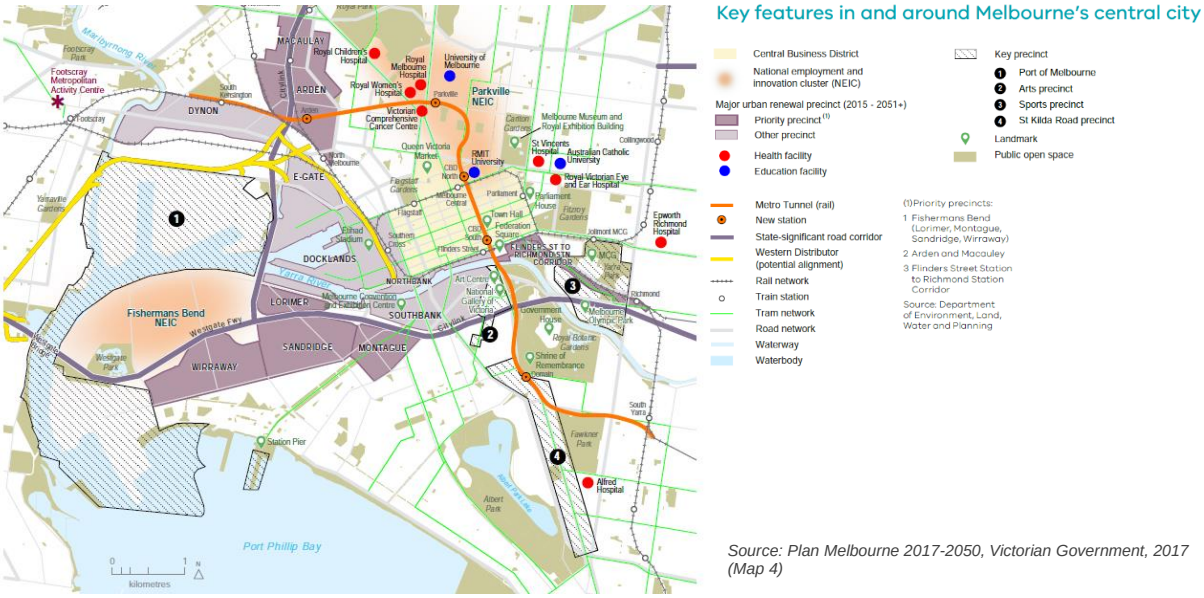
84. Fishermans Bend is identified in Plan Melbourne, as being of state significance for two key reasons:

- Major Urban Renewal Precinct – Wirraway, Montague, Lorimer and Sandridge Precincts

  Purpose – "To take advantage of underutilised land close to jobs and services and public transport infrastructure, to provide new housing, jobs and services. Major urban renewal precincts will play an important role in accommodating future housing and employment growth and making better use of existing infrastructure."[21]

- National Employment and Innovation Cluster (NEIC) – Employment Precinct

  Purpose – "To improve the growth and clustering of business activity of national significance, particularly in knowledge-based industries. These areas are to be developed as places with a concentration of linked businesses and institutions providing major contributions to the Victorian economy, with excellent transport links and potential to accommodate significant future growth in jobs and in some instances housing."[22]



Source: Plan Melbourne 2017-2050, Victorian Government, 2017 (Map 4)

3.4 IMPACT ON FISHERMANS BEND

85. Plan Melbourne clearly calls for action to curtail urban sprawl and achieve urban consolidation. It undoubtedly supports higher density living at Fishermans Bend, however other matters such as liveability are also key considerations.

---

[21] Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

[22] Department of Environment, Land, Water and Planning 2017, *Plan Melbourne,* The Victorian State Government, accessed March 2018, http://www.planmelbourne.vic.gov.au/__data/assets/pdf_file/0007/377206/Plan_Melbourne_2017-2050_Strategy_.pdf

4. MELBOURNE'S FUTURE GROWTH

86. Melbourne is growing at an unprecedented rate. As shown previously in Table 2, Greater Melbourne has been growing by an average 80,000 people per annum over the last 15 years. Growth has been in excess of 110,000 people per annum over the past 5 years.

87. In the period to 2051, Melbourne's growth is expected to average 100,000 people per annum resulting in an additional 3.5 million people.

88. Plan Melbourne stresses the importance of directing residential growth towards established and urban renewal areas in order to maintain the urban growth boundary and ensure that residents live in areas with adequate infrastructure to support high liveability outcomes.

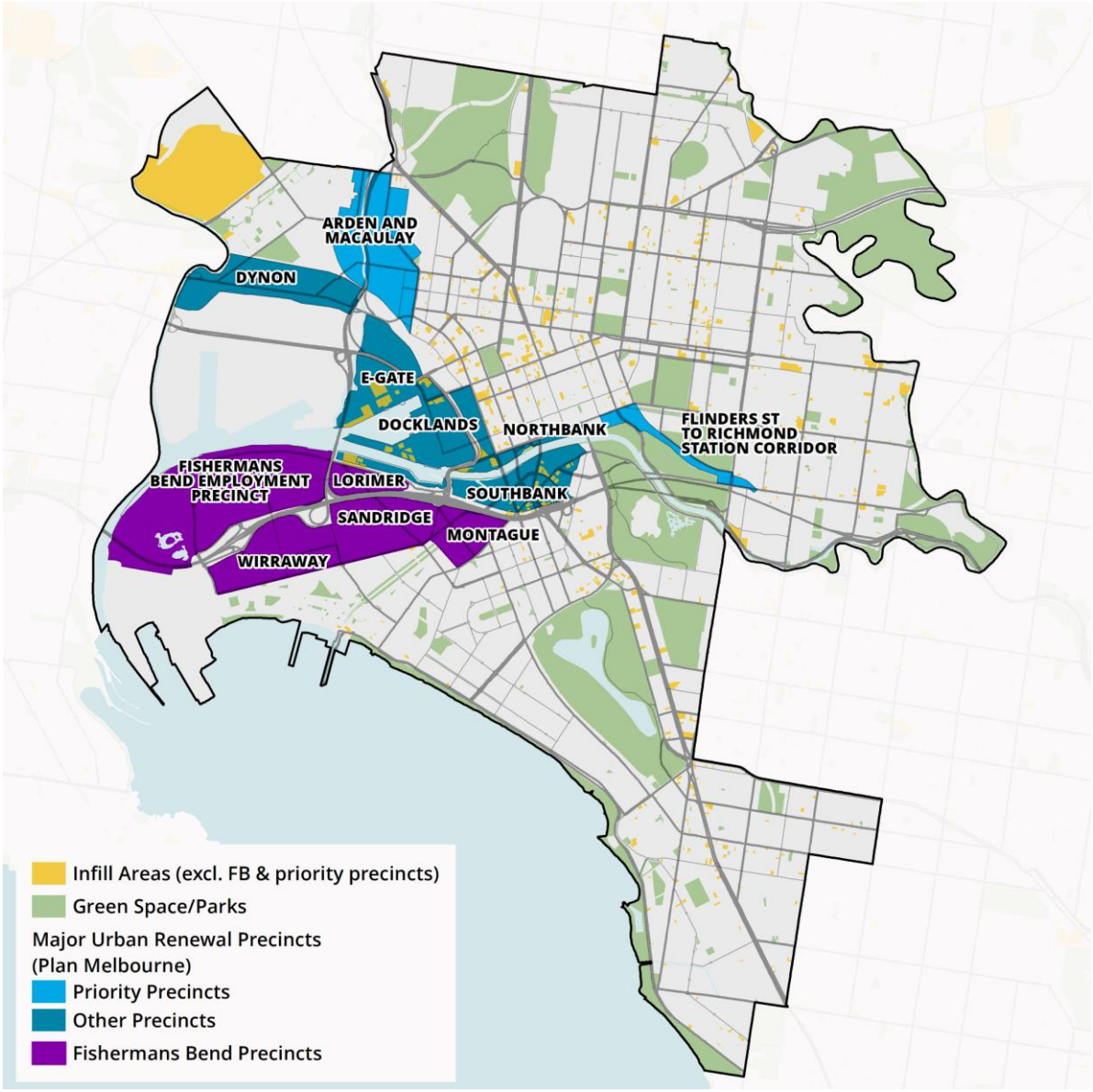
89. In order to gain comfort in forecast population growth for Melbourne and its sectors, it is relevant to take into account various contributions and approaches, including:

- historic population growth, including recent trends;
- population forecasts prepared by or on behalf of various local authorities and the State government; and
- assumptions underlying the forecasts.

90. This section examines the population forecasts prepared for the City of Melbourne and the City of Port Phillip, and then presents re-based population forecast for Melbourne, adopting the growth rates forecast in Victoria in Future (2016) which have been updated to take into account the 2016 Census results. The accuracy of past forecasts used for metropolitan planning is also discussed.

91. The section culminates in Urbis forecasts for Melbourne, and a growth outlook for Melbourne's sectors, including the inner city, based on updated Victoria in Future (2016) populations, and a sensitivity analysis considering past forecasting variations.

4.1 CENTRAL MELBOURNE – COUNCIL FORECASTS



MAP 4: URBIS CENTRAL SECTOR

92. The following tables present population growth forecasts for City of Melbourne (CoM), City of Port Phillip (CoPP), and the City of Yarra (CoY).

93. The CoM and CoPP publish their council-led forecasts. CoY do not publish forecast data, so the forecasts published by .id in their Small Area Forecasts (SAFi) for the municipality have been used.

94. Geografia produce the CoM population forecasts by sector from 2017 to 2037. For consistency with other forecasts used in this report, the summary table reports data from 2016 through to 2036 in five-year increments. The 2016 data is based on ERP data from the ABS, using the CoM sectors to enable comparison. The forecasts are provided by CoM sector with a sub-total for the key areas of Docklands, Melbourne (CBD), Port Melbourne and Southbank.

95. As shown in Table 4, the CoM population forecasts suggest an increase of 77% from 148,050 in 2016 to 262,530 in 2036. Average annual growth is forecast to decrease from 4.0% per annum between 2016-2021 to 3.5% per annum between 2021-2026, although the absolute growth is greater. Notably, the CoM has forecast population growth to slow quite considerably after 2026, in

both absolute and percentage terms, arguably reflecting limited urban infill opportunities. Southbank is the exception where densities can be expected to increase substantially.

96. There are two sub-areas within the COM that contain portions of the Lorimer Precinct in Fishermans Bend: Docklands and Port Melbourne. While growth in the Docklands is expected to slow over the forecast period from an annual average increase of 1,000 people from 2016-2021 to 310 people per annum between 2031-2036, growth in Port Melbourne is forecast to accelerate from a base of zero to a total of 7,110 people in 2036.

CITY OF MELBOURNE

FORECAST POPULATION 2016 - 2036 TABLE 4

	Year[2]					Average Annual Growth (no.)				Average Annual Growth (%)			
Sector	2016	2021	2026	2031	2036	16-21	21-26	26-31	31-36	16-21	21-26	26-31	31-36
Carlton	20,580	23,390	24,150	24,390	24,560	560	150	50	30	2.6%	0.6%	0.2%	0.1%
Docklands (incl. part Lorimer)	11,940	16,920	20,820	22,870	24,410	1,000	780	410	310	7.2%	4.2%	1.9%	1.3%
East Melbourne	5,360	5,870	6,160	6,350	6,650	100	60	40	60	1.8%	1.0%	0.6%	0.9%
Kensington	11,630	12,950	14,860	16,260	17,810	260	380	280	310	2.2%	2.8%	1.8%	1.8%
Melbourne (CBD)	41,470	53,800	65,530	71,570	76,140	2,470	2,350	1,210	910	5.3%	4.0%	1.8%	1.2%
Melbourne (Remainder)	2,200	2,690	2,880	2,990	3,100	100	40	20	20	4.1%	1.4%	0.8%	0.7%
North Melbourne	16,180	21,330	24,290	26,000	27,280	1,030	590	340	260	5.7%	2.6%	1.4%	1.0%
Parkville	7,900	8,500	9,010	9,350	9,560	120	100	70	40	1.5%	1.2%	0.7%	0.4%
Port Melbourne (incl. part Lorimer)	10	10	1,490	3,490	7,110	0	300	400	720	0.0%	-	18.6%	15.3%
Southbank	20,470	24,260	33,210	40,120	47,160	760	1,790	1,380	1,410	3.5%	6.5%	3.9%	3.3%
South Yarra	4,410	4,730	4,790	4,850	4,860	60	10	10	0	1.4%	0.3%	0.2%	0.0%
West Melbourne (Industrial)	0	110	860	2,200	5,780	20	150	270	720	-	50.9%	20.7%	21.3%
West Melbourne (Residential)	5,900	5,830	6,460	6,840	8,110	-10	130	80	250	-0.2%	2.1%	1.1%	3.5%
CoM Sub Area[1]	**73,890**	**94,990**	**121,050**	**138,050**	**154,820**	**4,220**	**5,210**	**3,400**	**3,350**	**5.2%**	**5.0%**	**2.7%**	**2.3%**
City of Melbourne	**148,050**	**180,390**	**214,510**	**237,280**	**262,530**	**6,470**	**6,820**	**4,550**	**5,050**	**4.0%**	**3.5%**	**2.0%**	**2.0%**

Note: Figures are rounded to the nearest ten.
[1] City of Melbource sub-area includes the precincts of Docklands, Melbourne (CBD), Port Melbourne and Southbank.
[2] Note that 2016 data reflects the 2016 ERP while forecasts from 2017-2037 are as stated by Geografia.
Source: ABS; City of Melbourne; Geografia; Urbis

97. CoPP have a forecast.id series for the municipality. As shown in Table 5, overall the city is expecting growth from 108,570 people in 2016 to 168,540 people in 2041, representing an increase of 55%.

98. The CoPP council include Fishermans Bend as its own sub-sector. The precincts of Sandridge, Wirraway, and Montague are located within the CoPP. Growth in Fishermans Bend is forecast to increase the population of the sub-sector from 120 people in 2016 to 37,130 people in 2041. While per annum percentage growth is forecast to decrease throughout the study period, average annual growth is expected to range from 1,510 to 1,786 people per year between 2021 and 2041, according to the published forecasts.

99. According to forecast.id, "*Residential development forecasts assume the number of dwellings in Fishermans Bend will increase by an average of 834 dwellings per annum to 20,916 in 2041*."[23]

100. It is unclear if these forecasts have been influenced by the work undertaken for the Fishermans Bend Taskforce. It is interesting to note that the CoPP forecast do not envisage an overall increase in population growth in the city as a result of Fishermans Bend. In my view this is unrealistic, especially if Fishermans Bend is a catalyst, as expected.

[23] https://forecast.id.com.au/port-phillip/residential-development?WebID=180

CITY OF PORT PHILLIP

FORECAST POPULATION 2016 - 2041

TABLE 5

	Year						Average Annual Growth (no.)					Average Annual Growth (%)				
Sector	2016	2021	2026	2031	2036	2041	16-21	21-26	26-31	31-36	36-41	16-21	21-26	26-31	31-36	36-41
East St Kilda	17,160	18,030	18,410	18,910	19,430	19,910	174	76	100	104	96	1.0%	0.4%	0.5%	0.5%	0.5%
Elwood - Ripponlea	16,320	16,940	17,120	17,260	17,370	17,440	124	36	28	22	14	0.7%	0.2%	0.2%	0.1%	0.1%
Middle Park - Albert Park	12,220	12,210	12,200	12,220	12,280	12,350	-2	-2	4	12	14	0.0%	0.0%	0.0%	0.1%	0.1%
Port Melbourne	17,370	17,780	18,000	18,350	18,700	19,100	82	44	70	70	80	0.5%	0.2%	0.4%	0.4%	0.4%
South Melbourne	9,180	10,890	11,310	11,780	12,390	13,030	342	84	94	122	128	3.5%	0.8%	0.8%	1.0%	1.0%
St Kilda	24,280	27,210	28,690	29,480	30,270	31,060	586	296	158	158	158	2.3%	1.1%	0.5%	0.5%	0.5%
St Kilda Road	11,920	14,750	17,110	17,710	18,090	18,520	566	472	120	76	86	4.4%	3.0%	0.7%	0.4%	0.5%
Fishermans Bend (incl. Sandridge, Wirraway & Montague precincts)	120	3,140	10,690	19,620	28,470	37,130	604	1,510	1,786	1,770	1,732	92.1%	27.8%	12.9%	7.7%	5.5%
Cityof Port Phillip	**108,570**	**120,950**	**133,530**	**145,330**	**157,000**	**168,540**	**2,480**	**2,520**	**2,360**	**2,330**	**2,310**	**2.2%**	**2.0%**	**1.7%**	**1.6%**	**1.4%**

Note: Figures are rounded to the nearest ten.

Source: ABS; id.forecast (November 2017); Urbis

101. The CoY do not publish population forecasts and hence Table 6 below adopts SAFi data for the city as a whole, divided into sectors from the CoY Community Profile.

102. Growth in the City of Yarra is expected to be more moderate than in the City of Port Phillip and the City of Melbourne. Average annual growth of 1.6% per annum is expected between 2016-2021 slowing to 1.0 % per annum between 2031- 2036.

103. Nevertheless the population in the City of Yarra is expected to increase from 89,690 in 2016 to 115,200 in 2036, an increase of 28%. Fairfield-Alphington is forecast to see the largest increase in percentage terms, increasing from 3,000 people in 2016 to 6,220 in 2036, or over 5% per annum. Once again it is notable that the CoY forecasts do not factor in any significant change in demand for inner city living. Indeed, the forecasts suggest a reduction in the absolute growth rate over the forecast period. This is contrary to recent trends and metropolitan-wide strategic intent.

CITY OF YARRA

FORECAST POPULATION 2016 - 2036

TABLE 6

	Year					Average Annual Growth (no.)				Average Annual Growth (%)			
Sector	2016	2021	2026	2031	2036	16-21	21-26	26-31	31-36	16-21	21-26	26-31	31-36
Fairfield - Alphington	3,000	4,350	5,380	6,160	6,220	270	206	156	12	7.7%	4.3%	2.7%	0.2%
Cremorne and Burnley - Richmond South	4,300	5,050	5,490	6,180	7,010	150	88	138	166	3.3%	1.7%	2.4%	2.6%
Clifton Hill	6,450	6,630	6,900	7,120	7,330	36	54	44	42	0.6%	0.8%	0.6%	0.6%
Fitzroy North	12,670	13,370	14,530	15,150	15,940	140	232	124	158	1.1%	1.7%	0.8%	1.0%
Carlton North - Princes Hill	9,140	9,170	9,220	9,200	9,180	6	10	-4	-4	0.1%	0.1%	0.0%	0.0%
Fitzroy	11,040	11,140	11,420	11,690	12,230	20	56	54	108	0.2%	0.5%	0.5%	0.9%
Collingwood	8,140	8,970	9,750	10,300	11,040	166	156	110	148	2.0%	1.7%	1.1%	1.4%
Abbotsford	7,140	8,250	8,950	10,320	11,270	222	140	274	190	2.9%	1.6%	2.9%	1.8%
North Richmond	13,990	15,530	16,620	17,410	18,320	308	218	158	182	2.1%	1.4%	0.9%	1.0%
Central Richmond	13,820	14,820	15,440	16,130	16,660	200	124	138	106	1.4%	0.8%	0.9%	0.6%
City of Yarra	**89,690**	**97,280**	**103,700**	**109,660**	**115,200**	**1,520**	**1,280**	**1,190**	**1,110**	**1.6%**	**1.3%**	**1.1%**	**1.0%**

Note: Figures are rounded to the nearest ten.

Source: SAFi; Urbis

4.2 VICTORIA IN FUTURE

104. The official population forecasts for Victoria are prepared by State government demographers, the most recent of which were published in 2016, prior to the latest Census. These are published in Victoria In Future (VIF) and are widely used for a range of planning and development assessment purposes.

4.2.1 How are the VIF forecasts created?

105. The Victoria In Future (VIF) forecasts use a combination of bottom-up and top-down modelling. The key drivers to overall population growth are present in the basic demographic equation of:

Change in population = births - deaths + net overseas migration + net internal migration.

106. The changing age structure of the population is also relevant and this is factored into the above equation to produce forecasts based on what is called the cohort component method. VIF household composition and age profile forecasts are readily available online.

107. This is used as a top down model to provide a population total, as well as age specific forecasts. VIF add in household modelling and land use modelling to provide localized forecasts that are more fine grained in terms of local geography than the ABS. The VIF forecasts are finalized by ensuring that the bottom up household modelling at a local area level sums to the top down cohort modelling of overall population for regions and Victoria.[24]

108. Net Overseas Migration (NOM) is a major variable in the VIF population forecasts, and one that can result in significant unforeseen variations.

109. Net interstate migration (NIM) is the difference of people moving into and people moving out of Victoria from other Australian states and territories. This is another variable which can result in significant variations. Currently NIM in Victoria is above long-term averages. The forecast going forward reduces NIM from the current level to a long-term assumption more in line with long term averages.

110. Inter-regional flows are also considered. The cohort method is applied to develop the natural increase of population. Data from the Urban Development Program (UDP) is used to assess supply and demand of residential land across regions. Additional information from local governments, stakeholders, and development experts are inputted to determine future dwelling growth. Household modelling is then undertaken and squared with total population forecasts. Clearly there is considerable room for error when factoring in inter-regional population flows.

111. Regardless of the difficulties, VIF presents a solid foundation for considering future population change. In the following sub-sections I have adopted the VIF forecasts as a **Base Case** and also presented two further scenarios having regard for Plan Melbourne aspirations, supply constraints and recent trends highlighting the increasing importance of the inner suburbs as appealing residential living environments.

4.2.2 Converting the VIF forecasts to Urbis Sectors

112. The most recent Victoria in Future release was published by the Victorian Department of Environment, Land, Water and Planning (DELWP) in 2016. The known population base used for these forecasts is the 30 June 2015 ERP data which is essentially an intercensal estimate. Since then the Australian Bureau of Statistics, Census of Population and Housing 2016 has been released along with 2016 ERP data.

[24] https://www.planning.vic.gov.au/land-use-and-population-research/victoria-in-future-2016/victoria-in-future-faq

113. The VIF forecasts were around 2% lower than the ERP across the state in 2016.

114. As a consequence of the more up to date Census data, it is necessary to rebase the 2016 VIF data to the 2016 ERP by LGA, which is summarised in Table 7 at the sector level. The VIF growth rates are applied to the new 2016 population levels in each LGA and therefore each sector to derive revised forecasts.

115. Following these adjustments, the LGAs are aggregated into sectors as illustrated in Map 1.

116. For the purposes of this report the forecast growth rate for 2031-51 is based on the VIF forecast for Melbourne between 2031-51 and each sectors' share of growth between 2026-31.

4.2.3 Base case forecasts

117. Tables 7 & 8 shows the forecast population by Urbis sector for the Metropolitan Melbourne region (GCCSA) to 2051. Based on these forecasts, Melbourne could be home to 8.2 million people by 2051 with 700,000 of those people residing in the central sector focussed on the CBD.

118. Consequently, based on these Base Case forecasts, Melbourne will need to accommodate an additional 3.5 million people, almost 100,000 people per annum, between 2016 to 2051.

METROPOLITAN MELBOURNE

FORECAST POPULATION BY URBIS SECTOR 2016 - 2051 (BASE CASE SCENARIO) TABLE 7

SECTORS	Year							
	2016	2021	2026	2031	2036	2041	2046	2051
Central	**348,000**	**414,000**	**468,000**	**514,000**	**562,000**	**608,000**	**656,000**	**705,000**
Inner								
Inner East	289,000	308,000	322,000	337,000	352,000	367,000	383,000	399,000
Inner North	149,000	164,000	176,000	188,000	202,000	215,000	229,000	242,000
Inner North West	158,000	179,000	201,000	218,000	236,000	253,000	270,000	289,000
Inner South	260,000	273,000	285,000	297,000	312,000	325,000	339,000	354,000
Total Inner	**856,000**	**924,000**	**984,000**	**1,040,000**	**1,102,000**	**1,160,000**	**1,221,000**	**1,284,000**
Middle								
Middle East	355,000	375,000	390,000	407,000	425,000	442,000	460,000	479,000
Middle North	307,000	330,000	350,000	371,000	394,000	416,000	439,000	463,000
Middle North East	96,000	102,000	106,000	110,000	115,000	119,000	123,000	128,000
Middle South	320,000	343,000	364,000	386,000	410,000	433,000	457,000	481,000
Middle South West	93,000	98,000	105,000	109,000	114,000	119,000	125,000	130,000
Middle West	258,000	272,000	283,000	296,000	309,000	323,000	336,000	350,000
Total Middle	**1,429,000**	**1,520,000**	**1,598,000**	**1,679,000**	**1,767,000**	**1,852,000**	**1,940,000**	**2,031,000**
Outer								
Outer East	431,000	448,000	470,000	492,000	517,000	541,000	565,000	590,000
Outer North	320,000	364,000	413,000	460,000	511,000	559,000	610,000	662,000
Outer South	300,000	314,000	328,000	345,000	362,000	380,000	398,000	416,000
Outer South East	411,000	483,000	555,000	619,000	688,000	754,000	822,000	893,000
Outer South West	229,000	277,000	325,000	374,000	426,000	477,000	529,000	582,000
Outer West	401,000	469,000	553,000	646,000	745,000	841,000	939,000	1,041,000
Total Outer	**2,092,000**	**2,355,000**	**2,644,000**	**2,936,000**	**3,249,000**	**3,552,000**	**3,863,000**	**4,184,000**
Total Metro Melb.	**4,725,000**	**5,213,000**	**5,694,000**	**6,169,000**	**6,680,000**	**7,172,000**	**7,680,000**	**8,204,000**

Note: Figures are rounded to the nearest hundred

Source: ABS; Victoria In Future; Urbis

METROPOLITAN MELBOURNE

FORECAST POPULATION BY URBIS SECTOR 2016 - 2051 (BASE CASE SCENARIO) **TABLE 8**

SECTORS	Average Annual Growth (no.)							Average Annual Growth (%)						
	16-21	21-26	26-31	31-36	36-41	41-46	46-51	16-21	21-26	26-31	31-36	36-41	41-46	46-51
Central	**13,200**	**10,800**	**9,200**	**9,600**	**9,200**	**9,600**	**9,800**	**3.5%**	**2.5%**	**1.9%**	**1.8%**	**1.6%**	**1.5%**	**1.5%**
Inner														
Inner East	3,800	2,800	3,000	3,000	3,000	3,200	3,200	1.3%	0.9%	0.9%	0.9%	0.8%	0.9%	0.8%
Inner North	3,000	2,400	2,400	2,800	2,600	2,800	2,600	1.9%	1.4%	1.3%	1.4%	1.3%	1.3%	1.1%
Inner North West	4,200	4,400	3,400	3,600	3,400	3,400	3,800	2.5%	2.3%	1.6%	1.6%	1.4%	1.3%	1.4%
Inner South	2,600	2,400	2,400	3,000	2,600	2,800	3,000	1.0%	0.9%	0.8%	1.0%	0.8%	0.8%	0.9%
Total Inner	**13,600**	**12,000**	**11,200**	**12,400**	**11,600**	**12,200**	**12,600**	**1.5%**	**1.3%**	**1.1%**	**1.2%**	**1.0%**	**1.0%**	**1.0%**
Middle														
Middle East	4,000	3,000	3,400	3,600	3,400	3,600	3,800	1.1%	0.8%	0.9%	0.9%	0.8%	0.8%	0.8%
Middle North	4,600	4,000	4,200	4,600	4,400	4,600	4,800	1.5%	1.2%	1.2%	1.2%	1.1%	1.1%	1.1%
Middle North East	1,200	800	800	1,000	800	800	1,000	1.2%	0.8%	0.7%	0.9%	0.7%	0.7%	0.8%
Middle South	4,600	4,200	4,400	4,800	4,600	4,800	4,800	1.4%	1.2%	1.2%	1.2%	1.1%	1.1%	1.0%
Middle South West	1,000	1,400	800	1,000	1,000	1,200	1,000	1.1%	1.4%	0.8%	0.9%	0.9%	1.0%	0.8%
Middle West	2,800	2,200	2,600	2,600	2,800	2,600	2,800	1.1%	0.8%	0.9%	0.9%	0.9%	0.8%	0.8%
Total Middle	**18,200**	**15,600**	**16,200**	**17,600**	**17,000**	**17,600**	**18,200**	**1.2%**	**1.0%**	**1.0%**	**1.0%**	**0.9%**	**0.9%**	**0.9%**
Outer														
Outer East	3,400	4,400	4,400	5,000	4,800	4,800	5,000	0.8%	1.0%	0.9%	1.0%	0.9%	0.9%	0.9%
Outer North	8,800	9,800	9,400	10,200	9,600	10,200	10,400	2.6%	2.6%	2.2%	2.1%	1.8%	1.8%	1.6%
Outer South	2,800	2,800	3,400	3,400	3,600	3,600	3,600	0.9%	0.9%	1.0%	1.0%	1.0%	0.9%	0.9%
Outer South East	14,400	14,400	12,800	13,800	13,200	13,600	14,200	3.3%	2.8%	2.2%	2.1%	1.8%	1.7%	1.7%
Outer South West	9,600	9,600	9,800	10,400	10,200	10,400	10,600	3.9%	3.2%	2.8%	2.6%	2.3%	2.1%	1.9%
Outer West	13,600	16,800	18,600	19,800	19,200	19,600	20,400	3.2%	3.3%	3.2%	2.9%	2.5%	2.2%	2.1%
Total Outer	**52,600**	**57,800**	**58,400**	**62,600**	**60,600**	**62,200**	**64,200**	**2.4%**	**2.3%**	**2.1%**	**2.0%**	**1.8%**	**1.7%**	**1.6%**
Total Metro Melb.	**97,600**	**96,200**	**95,000**	**102,200**	**98,400**	**101,600**	**104,800**	**2.0%**	**1.8%**	**1.6%**	**1.6%**	**1.4%**	**1.4%**	**1.3%**

Note: Figures are rounded to the nearest hundred

Source: ABS; Victoria In Future; Urbis

119. Based on these forecasts 60% of the growth from 2016-2051 will be located within the outer sectors, with around 30% of growth in the Inner and Middle sectors, and only around 10% in the Central sector.

4.3 CHALLENGES WITH LONG RANGE FORECASTS

120. Table 9 reports historical VIF forecasts from 2004 through 2016 and their variation to actual ERP for Metropolitan Melbourne and the cities of Melbourne, Port Phillip, and Yarra.

121. It highlights the difficulty in forecasting future population, not only in the long term but in the short term as well. As would be expected, forecast variance increases as the time period lengthens and also with smaller geographic areas.

122. The variability in population forecasts has major implications for positive planning outcomes at Fishermans Bend. The study period for population and employment forecasts at Fishermans Bend runs through to 2051, thirty-three years from now. VIF forecast variance between 2004 and 2016 in Metropolitan Melbourne was 14.1% below ERP and in City of Melbourne was 32.9% below ERP (ie the actual population was substantially greater than expected, within a decade).

123. As shown in Table 9, VIF forecasts prepared in 2004, 2008, 2012, 2014, and 2016 have been consistently below actual population levels and growth.

124. To ensure that Fishermans Bend conforms to key goals of Plan Melbourne, including transportation infrastructure and sustainability, it is prudent to consider the possibility that the actual population growth over the forecast period, and hence housing demand, could again be above 2016 VIF forecasts.

VICTORIA IN FUTURE POPULATION FORECASTS

HISTORIC POPULATION FORECASTS

TABLE 9

	Year						Forecast variation from ERP (%)		
Metro Melbourne*	2006	2011	2016	2021	2026	2031	2006	2011	2016
VIF 2004	3,681,800	3,875,500	4,060,200	4,236,700	4,398,500	4,539,000	-2.1%	-7.0%	-14.1%
VIF 2008	3,744,400	4,082,900	4,396,900	4,704,700	5,000,000	-	-	-2.1%	-6.9%
VIF 2012	-	4,137,400	4,483,600	4,808,800	5,118,400	5,411,900	-	-0.8%	-5.1%
VIF 2014	-	4,108,800	4,551,800	4,989,700	5,416,600	5,827,600	-	-	-3.7%
VIF 2016	-	4,169,400	4,628,200	5,106,700	5,585,900	6,058,800	-	-	-2.1%
ERP (actual)	**3,760,800**	**4,169,400**	**4,725,300**						
City of Melbourne									
VIF 2004	67,100	82,500	99,300	116,700	132,100	145,100	-16.3%	-17.7%	-32.9%
VIF 2008	76,700	96,600	118,800	139,200	158,700	-	-	-3.6%	-19.7%
VIF 2012	-	98,900	121,800	145,000	167,400	189,000	-	-1.3%	-17.7%
VIF 2014	-	100,200	137,100	170,100	193,600	218,300	-	-	-7.4%
VIF 2016	-	100,200	135,700	177,000	206,500	229,800	-	-	-8.3%
ERP (actual)	**80,200**	**100,200**	**148,000**						
City of Port Phillip									
VIF 2004	85,700	91,500	97,500	103,300	108,600	112,900	-4.4%	-6.0%	-10.2%
VIF 2008	90,500	97,500	104,400	111,400	118,600	-	-	0.2%	-3.9%
VIF 2012	-	98,500	103,000	108,700	114,400	120,300	-	1.2%	-5.2%
VIF 2014	-	97,300	107,700	114,000	125,200	135,100	-	-	-0.8%
VIF 2016	-	97,300	109,100	118,900	131,000	143,100	-	-	0.5%
ERP (actual)	**89,600**	**97,300**	**108,600**						
City of Yarra									
VIF 2004	71,300	74,500	78,200	82,200	86,400	89,900	-2.1%	-5.6%	-16.3%
VIF 2008	73,500	77,600	81,000	84,600	88,200	-	-	-1.6%	-13.3%
VIF 2012	-	80,300	86,300	92,400	98,500	104,300	-	1.8%	-7.6%
VIF 2014	-	78,900	91,200	99,600	107,600	115,100	-	-	-2.4%
VIF 2016	-	78,900	92,600	103,800	113,700	122,000	-	-	-0.9%
ERP (actual)	**72,800**	**78,900**	**93,400**						

Note: Figures are rounded to the nearest hundred.
*Boundary changes may have occurred between 2004 and 2016 resulting in minor discreptancies in the definition of metropolitan Melbourne.
Source: ABS; Victoria In Future; Urbis

125. In the following sub-section I have prepared two additional population forecast scenarios, as follows:

1. **Population Uplift Scenario** - Melbourne's population is 15% higher than the rebased VIF forecast up to 2051. This is consistent with past performance.
2. **Population Redistribution Scenario** – The share of Melbourne's population growth in the Outer sectors (ie the urban fringe) remains at current levels, rather than increasing, and the share in the Central sector is held at 13.5% over the forecast period, rather than reducing. This is consistent with Plan Melbourne.

4.3.1 Population Uplift Scenario

126. As alluded to previously it is appropriate to consider a variation to Melbourne's future population given that previous forecasts have almost always been exceeded. This scenario factors up the rebased VIF forecast by 15% over 30 years.

127. As shown in Table 10 under this scenario Melbourne's population would be 9.4 million by 2051 and the Central sector would house 811,000 people.

METROPOLITAN MELBOURNE

FORECAST POPULATION BY URBIS SECTOR 2016 - 2051 (HIGHER GROWTH SCENARIO) **TABLE 10**

SECTORS	Year		Average Annual Growth (no.)	Average Annual Growth (%)
	2016	2051	16-51	16-51
Central	**348,000**	**811,000**	**13,200**	**2.4%**
Inner				
Inner East	289,000	459,000	4,900	1.3%
Inner North	149,000	279,000	3,700	1.8%
Inner North West	158,000	332,000	5,000	2.1%
Inner South	260,000	407,000	4,200	1.3%
Total Inner	**856,000**	**1,477,000**	**17,800**	**1.6%**
Middle				
Middle East	355,000	551,000	5,600	1.3%
Middle North	307,000	532,000	6,400	1.6%
Middle North East	96,000	147,000	1,500	1.2%
Middle South	320,000	553,000	6,700	1.6%
Middle South West	93,000	149,000	1,600	1.4%
Middle West	258,000	403,000	4,100	1.3%
Total Middle	**1,429,000**	**2,335,000**	**25,900**	**1.4%**
Outer				
Outer East	431,000	679,000	7,100	1.3%
Outer North	320,000	761,000	12,600	2.5%
Outer South	300,000	478,000	5,100	1.3%
Outer South East	411,000	1,027,000	17,600	2.7%
Outer South West	229,000	670,000	12,600	3.1%
Outer West	401,000	1,197,000	22,700	3.2%
Total Outer	**2,092,000**	**4,812,000**	**77,700**	**2.4%**
Total Metro Melb.	**4,725,000**	**9,435,000**	**134,600**	**2.0%**

Note: Figures are rounded to the nearest hundred

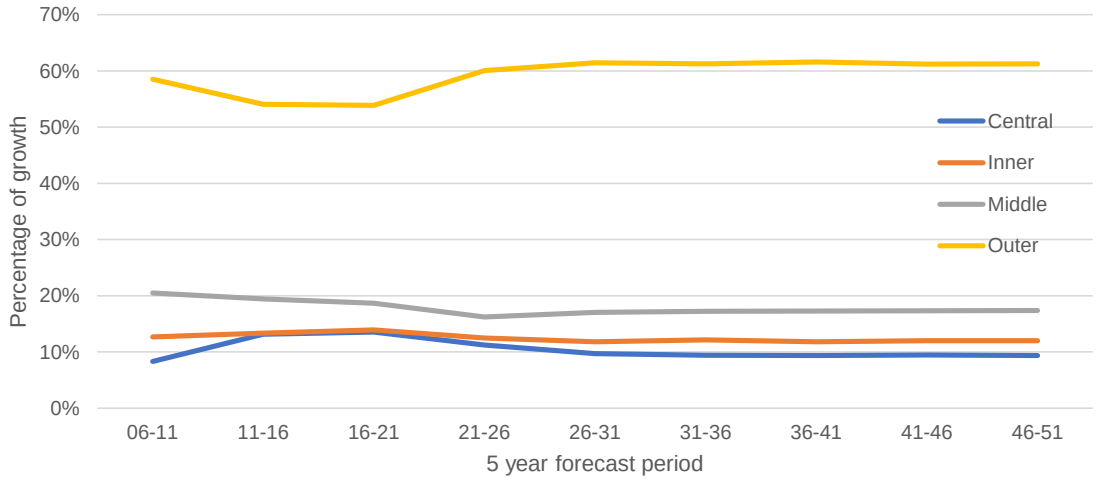
Source: ABS; Victoria In Future; Urbis

4.3.2 Population Redistribution Scenario

128. Chart 1 shows that the rebased VIF forecasts imply that Melbourne's Outer sectors account for an increasing share of Melbourne's growth. Conversely, the central sector, which has been achieving an increasing share, is forecast to decline. To some extent this may be due to supply constraints.

METROPOLITAN MELBOURNE

PROPORTION OF ANNUAL POPULATION GROWTH BASED ON VIF BY URBIS SECTOR (2001 - 2051) CHART 1



Source: ABS; Victoria In Future; Urbis

129. These outcomes are contrary to the objectives in Plan Melbourne of curtailing urban sprawl and increasing urban consolidation.

130. Consequently, it is appropriate to consider a variation to the geographic distribution of Melbourne's future population. This scenario factors in the rebased VIF forecast by assuming that the Outer sectors remain at around 50% of Melbourne's growth, rather than increasing, and the share in the Central sector is held at 15% over the forecast period, rather than reducing.

METROPOLITAN MELBOURNE

FORECAST POPULATION BY URBIS SECTOR 2016 - 2051 (REDISTRIBUTION SCENARIO) **TABLE 11**

SECTORS	Year		Average Annual Growth (no.)	Average Annual Growth (%)
	2016	2051	16-51	16-51
Central	**348,000**	**870,000**	**14,900**	**2.7%**
Inner				
Inner East	289,000	425,000	3,900	1.1%
Inner North	149,000	264,500	3,300	1.7%
Inner North West	158,000	319,000	4,600	2.0%
Inner South	260,000	377,000	3,300	1.1%
Total Inner	**856,000**	**1,385,500**	**15,100**	**1.4%**
Middle				
Middle East	355,000	493,500	4,000	0.9%
Middle North	307,000	482,000	5,000	1.3%
Middle North East	96,000	131,500	1,000	0.9%
Middle South	320,000	500,000	5,100	1.3%
Middle South West	93,000	134,500	1,200	1.1%
Middle West	258,000	361,500	3,000	1.0%
Total Middle	**1,429,000**	**2,103,000**	**19,300**	**1.1%**
Outer				
Outer East	431,000	563,500	3,800	0.8%
Outer North	320,000	607,500	8,200	1.8%
Outer South	300,000	397,500	2,800	0.8%
Outer South East	411,000	817,500	11,600	2.0%
Outer South West	229,000	525,500	8,500	2.4%
Outer West	401,000	935,500	15,300	2.4%
Total Outer	**2,092,000**	**3,847,000**	**50,200**	**1.8%**
Total Metro Melb.	**4,725,000**	**8,205,500**	**99,500**	**1.6%**

Note: Figures are rounded to the nearest hundred

Source: ABS; Victoria In Future; Urbis

131. As shown in Table 11 under this scenario Melbourne's population would be held at 8.2 million by 2051 (ie same as the Base Case) but the Central sector would house 870,000 people, assuming no land supply constraints. This is more in line with current trends towards inner city living, and is also consistent with Plan Melbourne.

4.3.3 Population Summary

132. Melbourne's population in 2051 could quite conceivably fall in the range of 8.2 - 9.4 million people, an increase of 3.5 – 4.7 million people or up to double the current levels.

133. In the Central sector, the 2051 population could amount to 705,000 – 870,000 people. The higher end of the range indicated does not allow for Melbourne's higher population under the uplift scenario; it is simply due to a reasonable redistribution of growth.

134. It is within this context that the planned population for Fishermans Bend should be considered.

METROPOLITAN MELBOURNE

FORECAST POPULATION SCENARIOS BY URBIS SECTOR 2016 - 2051 (SUMMARY)

TABLE 12

	Year						Average Annual Growth (no.)			Average Annual Growth (%)		
	Base Case		Higher Growth Scenario		Redistribution Scenario		Base Case	Higher Growth Scenario	Redistribution Scenario	Base Case	Higher Growth Scenario	Redistribution Scenario
SECTORS	2016	2051	2016	2051	2016	2051	16-51	16-51	16-51	16-51	16-51	16-51
Central	**348,000**	**705,000**	**348,000**	**811,000**	**348,000**	**870,000**	**10,200**	**13,200**	**14,900**	**2.0%**	**2.4%**	**2.7%**
Inner												
Inner East	289,000	399,000	289,000	459,000	289,000	424,800	3,100	4,900	3,900	0.9%	1.3%	1.1%
Inner North	149,000	242,000	149,000	279,000	149,000	264,500	2,700	3,700	3,300	1.4%	1.8%	1.7%
Inner North West	158,000	289,000	158,000	332,000	158,000	319,000	3,700	5,000	4,600	1.7%	2.1%	2.0%
Inner South	260,000	354,000	260,000	407,000	260,000	377,000	2,700	4,200	3,300	0.9%	1.3%	1.1%
Total Inner	**856,000**	**1,284,000**	**856,000**	**1,477,000**	**856,000**	**1,385,300**	**12,200**	**17,800**	**15,100**	**1.2%**	**1.6%**	**1.4%**
Middle												
Middle East	355,000	479,000	355,000	551,000	355,000	493,500	3,500	5,600	4,000	0.9%	1.3%	0.9%
Middle North	307,000	463,000	307,000	532,000	307,000	482,000	4,500	6,400	5,000	1.2%	1.6%	1.3%
Middle North East	96,000	128,000	96,000	147,000	96,000	131,500	900	1,500	1,000	0.8%	1.2%	0.9%
Middle South	320,000	481,000	320,000	553,000	320,000	500,000	4,600	6,700	5,100	1.2%	1.6%	1.3%
Middle South West	93,000	130,000	93,000	149,000	93,000	134,500	1,100	1,600	1,200	1.0%	1.4%	1.1%
Middle West	258,000	350,000	258,000	403,000	258,000	361,500	2,600	4,100	3,000	0.9%	1.3%	1.0%
Total Middle	**1,429,000**	**2,031,000**	**1,429,000**	**2,335,000**	**1,429,000**	**2,103,000**	**17,200**	**25,900**	**19,300**	**1.0%**	**1.4%**	**1.1%**
Outer												
Outer East	431,000	590,000	431,000	679,000	431,000	563,500	4,500	7,100	3,800	0.9%	1.3%	0.8%
Outer North	320,000	662,000	320,000	761,000	320,000	607,500	9,800	12,600	8,200	2.1%	2.5%	1.8%
Outer South	300,000	416,000	300,000	478,000	300,000	397,500	3,300	5,100	2,800	0.9%	1.3%	0.8%
Outer South East	411,000	893,000	411,000	1,027,000	411,000	817,500	13,800	17,600	11,600	2.2%	2.7%	2.0%
Outer South West	229,000	582,000	229,000	670,000	229,000	525,500	10,100	12,600	8,500	2.7%	3.1%	2.4%
Outer West	401,000	1,041,000	401,000	1,197,000	401,000	935,500	18,300	22,700	15,300	2.8%	3.2%	2.4%
Total Outer	**2,092,000**	**4,184,000**	**2,092,000**	**4,812,000**	**2,092,000**	**3,847,000**	**59,800**	**77,700**	**50,200**	**2.0%**	**2.4%**	**1.8%**
Total Metro Melb.	**4,725,000**	**8,204,000**	**4,725,000**	**9,435,000**	**4,725,000**	**8,205,300**	**99,400**	**134,600**	**99,500**	**1.6%**	**2.0%**	**1.6%**

Note: Figures are rounded to the nearest hundred

Source: ABS; Victoria In Future; Urbis

5. INNER MELBOURNE AND PRIORITY GROWTH AREAS

135. Future population growth in Melbourne will predominately be accommodated through the development of infill areas, growth areas, priority development areas and small scale residential developments.

136. While the exact location and capacity of all future development sites is impossible to know, the Victorian Department of Environment Land, Water and Planning provide Urban Development Program (UDP) research and analysis of residential and industrial supply in the State. In combination, this data helps to estimate the future population that can be accommodated within identified areas.

5.1 REDEVELOPMENT / INFILL AREAS

137. The Metropolitan Melbourne Redevelopment 2017 report released by DELWP includes potential future redevelopment sites that are planned or mooted to commence construction within the next ten years. These figures do not include projects that contain less than ten dwellings. It is important to note that DELWP estimate that these smaller projects account for approximately half of all redevelopment dwellings in Metropolitan Melbourne.

138. According to the report:

> "*Data is collected through analysis of aerial imagery and commercial data sources and is verified through consultations with councils*."[25]

139. Future dwellings are sorted by built form, region, and if they are located in an activity centre. The data presented in this submission has been sorted into new geographic zones that provide consistency with our previous analysis.

140. To calculate the population capacity provided by residential redevelopments in the region, average household size for apartments/townhouses and separate houses were applied based on ABS Census of Population and Housing data for 2016.

141. Residential redevelopment sites identified by the UDP over the next ten years are projected to be able to absorb a population of 486,000 people (refer Table 13).

142. The data shown in Table 13 excludes redevelopment sites located within the priority precincts of Fishermans Bend, Arden, Macauley and E-Gate. This step is necessary as the dataset only captures a very small percentage of development sites planned for these precincts. The planned population within these key areas is factored into the analysis in the following stage.

143. To account for dwellings in redevelopment projects that contain less that ten dwellings the population capacity may increase up to a factor of two. A generous allowance has therefore been factored into the analysis, averaging 1.7 across the entire metropolitan area.

[25] Department of Environment, Land, Water and Planning 2016, *Urban Development Program*, The Victorian State Government, accessed March 2018, https://www.planning.vic.gov.au/__data/assets/pdf_file/0024/101787/Urban-Development-Program-SSIP-2016.pdf

FUTURE GROWTH IN METROPOLITAN MELBOURNE

POTENTIAL FUTURE RESIDENTIAL INFILL/REDEVELOPMENT DEVELOPMENT SITES — TABLE 13

	Infill apartments*						Infill separate houses, detached dwellings, townhouses & other*						Avg. h'hold size[1]		Potential infill population		
Sector	Completed 2016-2017	Under Construction	Firm	Likely	Possible	**Total**	Completed 2016-2017	Under Construction	Firm	Likely	Possible	**Total**	Apart-ment	Separate House	Apt.	Other	Total
Central	22,790	22,137	41,018	10,485	3,198	**99,628**	274	135	303	503	437	**1,652**	1.6	2.4	158,720	3,920	162,640
Inner East	5,441	2,923	3,973	3,971	740	**17,048**	987	396	621	1,665	492	**4,161**	1.4	2.7	23,580	11,410	34,990
Inner North	2,165	2,922	1,471	4,855	443	**11,856**	635	67	2,613	422	-	**3,737**	1.6	2.6	18,390	9,590	27,980
Inner North West	2,425	2,910	6,559	4,435	3,857	**20,186**	355	544	391	1,764	6,027	**9,081**	1.6	2.6	32,040	23,530	55,570
Inner South	2,977	1,709	2,325	3,184	2,026	**12,221**	506	399	103	336	695	**2,039**	1.3	2.7	16,420	5,450	21,870
Middle East	2,487	2,301	6,153	4,874	605	**16,420**	931	371	315	637	441	**2,695**	1.6	2.7	26,880	7,210	34,090
Middle North	1,784	1,054	3,247	2,683	191	**8,959**	748	889	301	602	291	**2,831**	1.5	2.6	13,370	7,250	20,620
Middle North East	1,331	766	2,177	1,018	526	**5,818**	255	960	64	95	447	**1,821**	1.8	2.7	10,700	4,880	15,580
Middle South	834	1,142	855	3,118	470	**6,419**	847	634	193	748	878	**3,300**	1.4	2.8	9,250	9,340	18,590
Middle South West	124	326	512	858	24	**1,844**	102	116	60	3,613	121	**4,012**	1.8	2.5	3,250	10,130	13,380
Middle West	62	364	311	1,224	819	**2,780**	1,095	1,203	202	358	892	**3,750**	1.7	2.8	4,800	10,680	15,480
Outer East	427	631	1,260	977	1,375	**4,670**	1,510	1,746	797	1,135	3,780	**8,968**	1.5	2.6	7,200	23,220	30,420
Outer North	271	135	377	465	148	**1,396**	449	373	137	444	97	**1,500**	1.8	2.8	2,560	4,200	6,760
Outer South	114	79	612	587	76	**1,468**	404	476	169	739	422	**2,210**	1.2	2.0	1,720	4,420	6,140
Outer South East	13	-	20	211	-	**244**	295	1,225	298	712	160	**2,690**	2.0	2.9	480	7,880	8,360
Outer South West	194	256	41	393	-	**884**	1,165	962	49	68	16	**2,260**	2.1	3.0	1,890	6,740	8,630
Outer West	154	81	235	174	74	**718**	512	244	38	333	107	**1,234**	1.9	2.9	1,330	3,590	4,920
Total	**43,593**	**39,736**	**71,146**	**43,512**	**14,572**	**212,559**	**11,070**	**10,740**	**6,654**	**14,174**	**15,303**	**57,941**			**332,580**	**153,440**	**486,020**

* Have excluded infill areas identified in Fishermans Bend, Arden, Macauley and E-Gate as these do not represent ultimate potential of the precincts

[1] Average household size based on population divided by total dwellings

Source: Urban Development Program - Metropolitan Melbourne Redevelopment 2017 (DELWP); Urbis

5.2 BROADHECTARE DEVELOPMENT SITES

144. Potential future broadhectare residential development sites (lots) are also sourced from the Urban Development Program (UDP), which is published by the Planning Division of DELWP. The most recent report on major residential redevelopments was published for 2016 [The 2017 report has been delayed due to the difficulty of obtaining aerial images]. [26]

145. Data is calculated for development ready lots (precinct structure plan approved) and for the total supply of broadhectare lots, which also includes lots requiring the approval of a precinct structure plan, or land that has been identified as potentially residential.[27]

146. For this analysis, a future population capacity was calculated for broadhectare lots by applying an average household size to the number of potential lots for development. Average household size was calculated by sector, based on ABS Census of Population and Housing 2016 for separate houses.

147. It is estimated that future broadhectare residential development sites in Metropolitan Melbourne could accommodate 1.1 million people (refer Table 14). As one would expect, over 99% of broadhectare lots are located within the outer sectors with relatively small-scale developments located in the middle ring suburbs.

[26] Department of Environment, Land, Water and Planning 2016, *Urban Development Program*, The Victorian State Government, accessed March 2018, https://www.planning.vic.gov.au/__data/assets/pdf_file/0024/101787/Urban-Development-Program-SSIP-2016.pdf

[27] Department of Environment, Land, Water and Planning 2016, *Urban Development Program*, The Victorian State Government, accessed March 2018, https://www.planning.vic.gov.au/__data/assets/pdf_file/0024/101787/Urban-Development-Program-SSIP-2016.pdf

FUTURE GROWTH IN METROPOLITAN MELBOURNE

POTENTIAL FUTURE BROADHECTARE RESIDENTIAL DEVELOPMENT SITES

TABLE 14

	Urban Development Program - Broadhectare lots								Avg. h'hold size[1]	Population
Sector	1-2years	3-5years	6-10years	11+ years	No Timing	Potential Residential	UGZ (PSP Required)	**Total**	Separate House	Total
Central	-	-	-	-	-	-	-	-	-	-
Inner East	-	-	-	-	-	-	-	-	-	-
Inner North	-	-	-	-	-	-	-	-	-	-
Inner North West	-	-	-	-	-	-	-	-	-	-
Inner South	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-
Middle North	146	24	-	-	-	-	-	170	2.6	440
Middle North East	-	-	-	-	-	-	-	-	-	-
Middle South	305	299	364	-	-	-	-	968	2.8	2,740
Middle South West	-	-	-	-	-	-	-	-	-	-
Middle West	48	-	-	-	-	-	-	48	2.8	140
Outer East	101	-	16	-	-	-	-	117	2.6	300
Outer North	5,374	5,377	3,594	8,665	2,922	528	50,785	77,245	2.8	216,350
Outer South	330	957	1,080	-	330	-	-	2,697	2.0	5,400
Outer South East	8,894	12,460	17,409	11,256	1,740	5,226	27,240	84,225	2.9	246,810
Outer South West	8,164	15,055	15,179	20,966	8,112	12,600	10,396	90,472	3.0	269,970
Outer West	10,199	13,182	17,357	15,216	24	5,373	57,343	118,694	2.9	345,660
Total	**33,561**	**47,354**	**54,999**	**56,103**	**13,128**	**23,727**	**145,764**	**374,636**		**1,087,810**

[1] Average household size based on population divided by total dwellings

Source: Urban Development Program - Metropolitan Melbourne 2016 (DELWP); Urbis

5.3 SUPPLY / DEMAND GAP

148. The foregoing assessment of likely population in infill redevelopments and the development of broadhectare land, provides an indication of the supply of residential land and as a result, an approximate number of people that could be accommodated in these areas.

149. Table 15 provides an overview of the residential population assumed to be accommodated within infill and broadhectare sites. The analysis also makes a generous allowance for infill developments that are less than 10 dwellings in size, as well as the priority development areas.

150. At the metropolitan level, it is apparent that despite the planned residential supply for some 1.9 million people, there is a shortfall of housing for some 1.4 million people under the Base Case and 2.0 million under the Population Uplift Scenario (See Table 15).

151. Table 15 also shows the shortfall of housing in the Central sector, having made allowances for the PDAs, infill development in the pipeline, and sundry other infill development. This shows that regardless of the population growth scenario, the Central sector is highly unlikely to be able to accommodate the potential population by 2051 unless densities are increased and/or new large scale development sites are enabled. The shortfall is likely to be housing for between 41,000 – 206,000 people which is approximately 20,000 - 100,000 housing units.

152. In addition to the above it is apparent that there would still be an overall shortfall in Melbourne and if the Central sector could absorb 10% of this shortfall, in excess of a further 100,000 people would need to be housed in the Central area.

FUTURE GROWTH IN METROPOLITAN MELBOURNE

SUPPLY / DEMAND ANALYSIS

TABLE 15

	Potential future population					Priority development areas[3]	Additional residents 2016 - 2051			Surplus Supply / Demand		
Sector	Infill apartments	Infill other[1]	Small scale infill[2]	Broad-hectare	**Total**	Planned population	Base Case	Higher Growth Scenario	Redistribution Scenario	Base Case	Higher Growth Scenario	Redistribution Scenario
Central	158,720	3,920	32,530	-	**195,170**	120,500	357,000	463,000	522,000	41,300	147,300	206,300
Inner East	23,580	11,410	34,990	-	**69,980**		109,800	170,000	135,800	39,800	100,000	65,800
Inner North	18,390	9,590	27,980	-	**55,960**		93,100	130,000	115,500	37,100	74,000	59,500
Inner North West	32,040	23,530	55,570	-	**111,140**		130,800	174,000	161,000	19,700	62,900	49,900
Inner South	16,420	5,450	21,870	-	**43,740**		94,200	147,000	117,000	50,500	103,300	73,300
Middle East	26,880	7,210	34,090	-	**68,180**		123,600	196,000	138,500	55,400	127,800	70,300
Middle North	13,370	7,250	20,620	440	**41,680**		155,900	225,000	175,000	114,200	183,300	133,300
Middle North East	10,700	4,880	15,580	-	**31,160**		32,500	51,000	35,500	1,300	19,800	4,300
Middle South	9,250	9,340	18,590	2,740	**39,920**		160,900	233,000	180,000	121,000	193,100	140,100
Middle South West	3,250	10,130	13,380	-	**26,760**		36,500	56,000	41,500	9,700	29,200	14,700
Middle West	4,800	10,680	15,480	140	**31,100**		92,000	145,000	103,500	60,900	113,900	72,400
Outer East	7,200	23,220	30,420	300	**61,140**		159,700	248,000	132,500	98,600	186,900	71,400
Outer North	2,560	4,200	6,760	216,350	**229,870**		341,600	441,000	287,500	111,700	211,100	57,600
Outer South	1,720	4,420	6,140	5,400	**17,680**		115,500	178,000	97,500	97,800	160,300	79,800
Outer South East	480	7,880	8,360	246,810	**263,530**		481,500	616,000	406,500	218,000	352,500	143,000
Outer South West	1,890	6,740	8,630	269,970	**287,230**		354,400	441,000	296,500	67,200	153,800	9,300
Outer West	1,330	3,590	4,920	345,660	**355,500**		639,700	796,000	534,500	284,200	440,500	179,000
Total	**332,580**	**153,440**	**355,910**	**1,087,810**	**1,929,740**		**3,478,700**	**4,710,000**	**3,480,300**	**1,428,400**	**2,659,700**	**1,430,000**

[1] Infill other includes separate houses, detached dwellings, townhouses & other. It excludes infill areas identified in Fishermans Bend, Arden, Macauley and E-Gate as these do not represent ultimate potential of the precincts.

[2] The UDP Metropolitan Melbourne Redevelopment 2017 states that, "Small scale infill redevelopment projects of less that 10 dwellings are not currently included in the Urban Development Program. These types of dwellings make up approximately half of dwellings added to the housing stock in the established areas of metropolitan Melbourne each year" (DELWP, 2018). Areas beyond the central sector have been increased by a factor of 2. The central area is increased by 1.2.

[3] Priority Development Areas included in the Central sector are Arden & Macauley (20,500), Dynon (10,000), E-Gate (10,000) and Fishermans Bend (80,000)

Apparent summing error for base case and redistribution scenario is due to rounding.

Source: DELWP; VIF; Urbis

5.4 IMPLICATIONS FOR FISHERMANS BEND

153. Fishermans Bend presents a unique opportunity to build on the trend towards inner city living, in an area that offers excellent locational attributes.

154. There is very clearly an emerging demand-supply gap across Melbourne, which if not addressed, will undoubtedly result in further pressure to expand the urban growth boundary. While this may occur in any event, it is readily apparent that facilitating opportunities to substantially increase densities in inner Melbourne will be strategically important to Melbourne's growth and development over the next 30 years or so.

155. Fishermans Bend is an ideal location, and in my view further the 80,000 population target will be viewed in the years ahead as a major opportunity lost.

156. Similarly, in addition to the targeted 80,000 residents of Fishermans Bend by 2050, the 230-hectare Employment Precinct presents a unique and exciting opportunity for Melbourne's future employment and competitive positioning.

157. The employment 'target' is not well founded – it is based on a 1:1 jobs/household ratio which has no basis - and requires further analysis, especially in light of the revised population potential, the location of the PDA as a whole, and the typical drawing power of key employment destinations that serve a broad role. Notably, only 13% of the current workforce in Fishermans Bend live in the Central sector (see Appendix B.3). In other parts of Australia where there is a significant employment cluster and an innovation focus, employment: household ratios of well in excess of 3 times apply. Central areas also tend to be higher than metropolitan averages - the ratio in the City of Melbourne in 2016 was 5.57, and 3.77 excluding the CBD

158. In my view the Employment Precinct is uniquely placed geographically - its connections to the Port, Yarra River, Port Phillip Bay and a number of freeways will cement Fishermans Bend as a landmark employment location. It has been designated a National Employment and Innovation Cluster (NEIC). The implication of this designation is that the businesses which choose to locate in Fishermans Bend will be co-located with similar and interrelated industries, enabling synergies that come with economic clusters to be realised, in a modern environment.

159. Fishermans Bend's competitive advantage will also be enhanced by access to labour, its connections to metropolitan, national and international markets, and its proximity to business and personal services in the central area. It will also provide an opportunity for flexible working arrangements, reflecting new ways of working in a digital world.

160. In summary, in my view the employment 'target' for Fishermans Bend is likely to represent a lost opportunity as well.

6. LIVEABILITY

161. At the core of the Fisherman's Bend Vision is a focus on liveability. In this section objective measures of liveability are provided, along with a synopsis of a study by the Urban Land institute and the Centre for Liveable Cities on density and liveability.[28]

162. The liveability of a place is generally measured by a combination of objective and subjective factors, with the goal to produce the most holistic representation of a locations quality of life.

163. Each year, the results of a number of surveys are released rating cities all over the world in order of liveability. A general sentiment exists that high density and liveability are inversely correlated due to perceived problems of overcrowding, crime, disease, pollution, poverty and high living costs. However, this perception is not borne out in all cases, and indeed some of the highest ranked most liveable cities in the world are also the most dense.

6.1 HIGH DENSITY AND HIGH LIVEABILITY

164. Mercer produces an annual Worldwide Quality of Living Survey. While extremely high-density cities often populate the lowest quality of living rankings, it is evident that high-density does not condemn a city to a low liveability index if adequately managed (see CLC Liveability Matrix Diagram below).

165. As depicted in Chart 2 [29], high-densities and high liveability scores are not mutually exclusive.

166. Of particular relevance to Fishermans Bend is the Marina Bay area in Singapore, an area that began urban renewal in the early 1990s under the guidance of a 40-year plan, and now encompasses a strong financial hub alongside high-density residential living and future development blocks in Marina Bay South with very high FARs. As shown in Chart 2 Singapore is very highly ranked in terms of liveability, and the area surrounding Singapore's CBD has requirements for very high density in order to accommodate future population growth.

167. The ULI and Centre for Liveable Cities report notes some considerations that are relevant to Fishermans Bend, and indeed Melbourne's future density:

> *'Economists studying cities routinely find, after controlling for other variables, that workers in denser places earn higher wages and are more productive….*
>
> *[Economists] have proposed a link between density and a city's capacity for innovation.*
>
> *In addition, dense cities which are well planned are sustainable cities.*
>
> *Studies show that a doubling of density results in a 30% reduction in energy use per capita.*
>
> *A compact city with good public transport, walkability, and a reduced need to dive long distances…adds to environmental sustainability"*[30]

[28] Dunn, S, Hee, L, 2013, *The CLC Liveability Matrix,* 10 Principles for Liveable High-Density Cities, viewed 26 March 2018, http://asia.uli.org/wp-content/uploads/sites/2/2012/04/10PrinciplesSingapore_13052013.pdf

[29] Dunn, S, Hee, L, 2013, *The CLC Liveability Matrix,* 10 Principles for Liveable High-Density Cities, viewed 26 March 2018, http://asia.uli.org/wp-content/uploads/sites/2/2012/04/10PrinciplesSingapore_13052013.pdf

[30] D unn, S, Hee, L, 2013, *The CLC Liveability Matrix,* 10 Principles for Liveable High-Density Cities, viewed 26 March 2018, http://asia.uli.org/wp-content/uploads/sites/2/2012/04/10PrinciplesSingapore_13052013.pdf

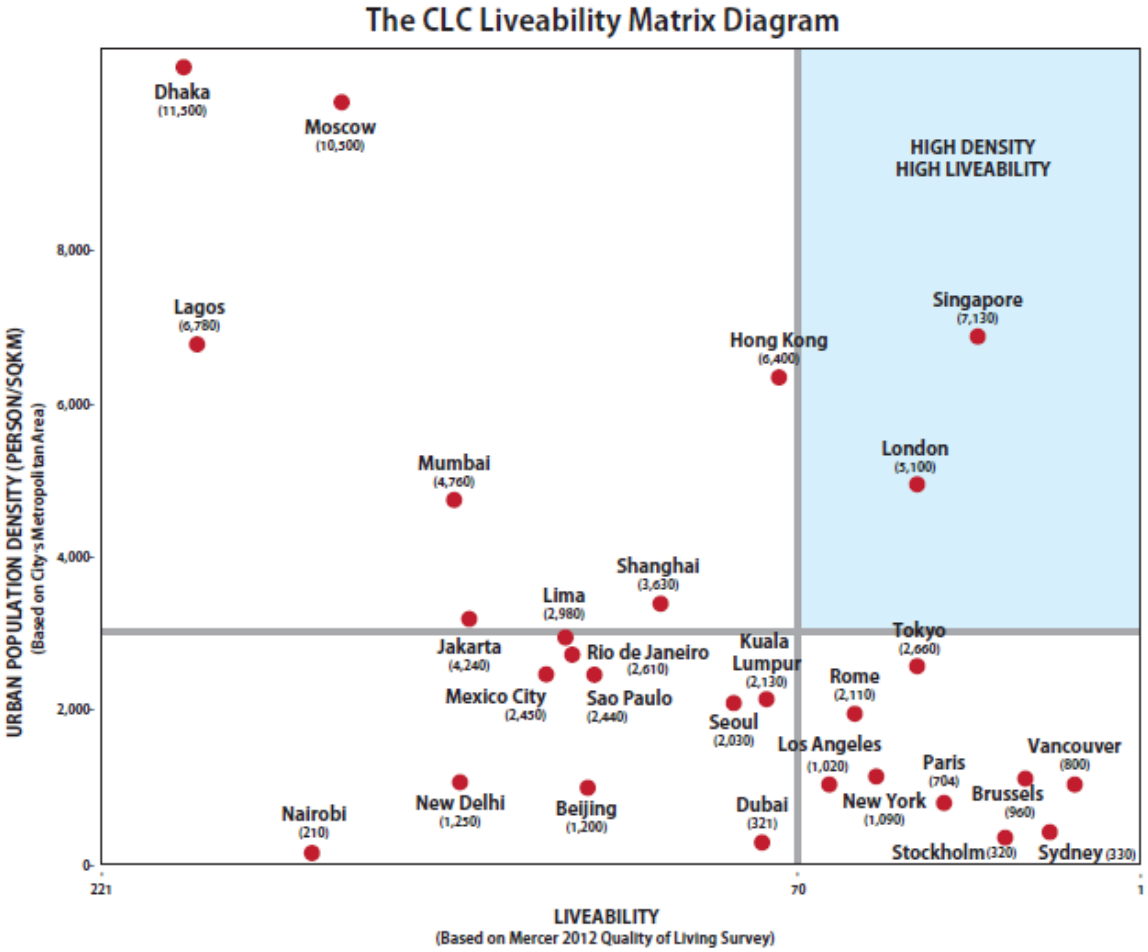


CHART 2: THE CLC LIVEABILITY MATRIX DIAGRAM

Dunn, S, Hee, L, 2013, *The CLC Liveability Matrix,* 10 Principles for Liveable High-Density Cities

168. The study also highlights 10 Principles for Liveable High-Density Cities, and these are:

Principle 1: Plan for long-term growth and renewal

Principle 2: Embrace diversity; foster inclusiveness

Principle 3: Draw nature closer to people

Principle 4: Develop affordable mixed use neighbourhoods

Principle 5: Make public spaces work harder

Principle 6: Prioritise green transport and building options

Principle 7: Relieve density with variety and add green boundaries

Principle 8: Activate spaces for greater safety

Principle 9: Promote innovative and non-conventional solutions

Principle 10: Forge 3P partnerships[31]

[31] Dunn, S, Hee, L, 2013, *The CLC Liveability Matrix,* 10 Principles for Liveable High-Density Cities, viewed 26 March 2018, http://asia.uli.org/wp-content/uploads/sites/2/2012/04/10PrinciplesSingapore_13052013.pdf

6.2 THE ECONOMIST

169. Perhaps the most widely distributed measure of liveability is the annual Global Liveability Report released by The Economist Intelligence Unit[32].

170. The report compiles ratings for 30 qualitative and quantitative categories and assigns a final score out of 100.

171. While an official score cannot be obtained for small areas such as Fishermans Bend, there is value in comparative analysis of the Fishermans Bend of 2050 with the scores released for Metropolitan Melbourne. Generally speaking, Fishermans Bend would receive the same score assigned to Metropolitan Melbourne for the majority of metrics (Refer Appendix D). However, due to its unique geographic location, and urban renewal status, in my view Fishermans Bend would outperform Melbourne in other key categories, even at higher densities, and thus return a greater liveability index score. Factors influencing this view, and therefore the scores in Appendix D are as follows:

- Availability of cultural attractions - The location of the Arts Precinct and Melbourne Central Business District.
- Quality of public transport - The area is able to provide public transportation unrivalled in most of Metropolitan Melbourne.
- Energy efficiency - a doubling of density results in a 30 per cent reduction in energy use per capita. Fishermans Bend would achieve a higher score on this metric than Metropolitan Melbourne.

6.3 SUMMARY

172. In summary there are various objective measures of liveability available, and even an Industry Standard (ISO37120). In most cases Melbourne ranks in the top 10 cities in the world.

173. On all measures the notion of liveability relates to quality of life, and in all cases the determining factor resulting in a high liveability rating is the ground plane, not building heights or density per se.

174. If Fishermans Bend is to realise its full potential there will need to be less focus on controls relating to population density and building heights and more focus on ground level activation, transport, facilities and services.

[32] The Economist Intelligence Unit, 2017, *The Global Liveability Report 2017,* The Economist, accessed 19 March 2018, https://www.smh.com.au/cqstatic/gxx1l4/LiveabilityReport2017.pdf

7. CONCLUSIONS

175. As indicated earlier in this report, the Part B submission on behalf of the Minister comments as follows:

> *As Ms Hodyl explains in her evidence, the figure of 80,000 as the target population for Fishermans bend has been based on a number of matters, including:*
>
> *(g) likely overall population growth;*
>
> *(h) the ability of the market to deliver dwellings;*
>
> *(i) consistency with the vision for Fishermans Bend;*
>
> *(j) the ability of government to supply infrastructure;*
>
> *(k) the ability to sustain an appropriate level of amenity; and*
>
> *(l) a comparison with densities in other parts of Melbourne and in other cities.*[33]

176. In my view the 80,000 population target is redundant for the following reasons:

- Melbourne needs to accommodate higher population levels in the Central sector in order to achieve the Plan Melbourne imperatives
- Taking into account the supply of land and infill opportunities throughout Melbourne as a whole, and throughout the Central sector in particular, it is clear that there are significant emerging supply constraints in Melbourne.
- The market has a proven record of delivering dwellings, as has clearly been the case over the 2011-16 period
- The vision for Fishermans Bend highlights the unique urban renewal opportunity, the creation of high value jobs, connectedness, bringing forward infrastructure, and alignment with Plan Melbourne. Constraining Fishermans bend would be a lost opportunity.
- The location is ideally suited to high levels of infrastructure investment especially as higher investment in the Fishermans Bend location would be both efficient and catalytic, and would reduce the need for higher levels of investment on the urban fringe.
- Amenity is not determined by density or building heights but primarily by the ground plane
- Over the next 30 years or so urban densities will change markedly. In any event there are already pockets of high density within Australian cities and a comparison with the city as a whole is misleading.
- The concept of a population target that controls density and building types and heights, and is needed to plan for infrastructure provision, public transport, open space, facilities and services is fine if it is well founded and aligns with strategies for the city as a whole. The Fishermans Bend Amendment, if adopted, would fail to enable and realise the potential of one of the premier urban renewal projects in the world.

[33] Department of Environment, Land, Water and Planning 2017, *Fishermans Bend : draft planning scheme amendment GC81 consultation documents*, [Melbourne, Victoria] Department of Environment, Land, Water and Planning, http://www.fishermansbend.vic.gov.au/__data/assets/pdf_file/0019/88120/GC81-Draft-Planning-Scheme-Amendment-Information-Sheet-Consultation-Final-Updated-1-Nov.pdf

APPENDIX A: HISTORY OF THE POPULATION TARGET

REPORT NAME	Author	DATE	POPULATION REFERECE
Economic and Employment Study	SGS	November 2012	**Potential Build Out Scenarios - Version 1 (1.95 persons/dwelling)** Scenario 1: 5,000 dwellings, 9,750 population Scenario 2: 20,000 dwellings, 39,000 population Scenario 3: 40,000 dwellings, 78,000 population Scenario 4: 60,000 dwellings, 117,000 population **Potential Build Out Scenarios - Version 2 (2.35 persons/dwelling)** Scenario 1: 5,000 dwellings, 11,750 population Scenario 2: 15,000 dwellings, 35,250 population Scenario 3: 30,000 dwellings, 70,500 population Scenario 4: 60,000 dwellings, 141,000 population
Transport Issues and Opportunities study	AECOM	December 2012	**Version 1: (1.95 persons per dwelling) (Places Victoria August 2012)** Scenario 1: 5,000 dwellings, 9,750 population Scenario 2: 20,000 dwellings, 39,000 population Scenario 3: 40,000 dwellings, 78,000 population Scenario 4: 60,000 dwellings, 117,000 population **Version 2: (2.35 persons per dwelling) (Places Victoria November 2012)** Scenario 1: 5,000 dwellings, 11,750 population Scenario 2: 15,000 dwellings, 35,250 population Scenario 3: 30,000 dwellings, 70,500 population Scenario 4: 60,000 dwellings, 141,000 population
Fishermans Bend Urban Renewal Area: Real Estate Market Assessment	MacroPlan Dimasi	December 2012	**Scenario A** - 15,000 dwellings, 35,250 residents, 17,300 jobs, up to 200,000 sq.m GFA commercial/retail **Scenario B** - 30,000 dwellings, 70,500 residents, 35,730 jobs, up to 500,000 sq.m GFA commercial/retail **Scenario C** - 60,000 dwellings, 141,000 residents, 58,000 jobs, up to 850,000 sq.m GFA commercial/retail
Infrastructure Assessment	GHD	December 2012	Scenario 1 - Incremental: 5,000 dwellings, 9,750 population Scenario 2 - Low Density: 20,000 dwellings, 39,000 population Scenario 3 - Medium Density: 40,000 dwellings, 78,000 population Scenario 4 - High Density: 60,000 dwellings, 117,000 population *Source: Places Victoria 'Build out scenarios' provided June 2012.* Addendum alters dwelling sequencing to 5,000, 15,000, 30,000, 60,000
Fishermans Bend Urban Renewal Project Draft Communications and Community Engagement Strategy	Capire	December 2012	The FBURA is an inner-city growth corridor… it comprises four precincts… and is expected to accommodate around **20,000 to 50,000 workers and between 80,000 and 140,000 residents**"
Fishermans Bend Demographic Profiling	Places Victoria	July 2013	Breakdown by precinct: total: 83445 Montague: 20,900 Lorimer: 13,500 Sandridge Nth: 12,350 Sandridge Sth: 15,180 Wirraway East: 11,495 Wirraway West: 10,020
Community Infrastructure Plan	SJB Urban with Capire, GlasUrban, Charter Keck Cramer, Hemisphere	June 2013	With unprecedented densities of around 83,000 new residents, 42,000 workers and 42,000 dwellings by 2050 proposed under the 'Discussion Scenario' for FBURA, the way community infrastructure is planned and delivered needs to be looked at in a new and innovative way to meet the needs of the people who will live, work and visit Fishermans Bend. "The demand and supply data is primarily based on the following background reports: Fishermans Bend Discussion Scenario Population Profile (Dec 2012) report by Places Victoria" Projected Infrastructure Demands; Anticipated population growth at Fishermans Bend from 2015-30 • Stage 1 2015 – 2020 – 6,590 • Stage 2 2020 – 2025 – 32,568 • Stage 3 2025 – 2030+ - 84,064

REPORT NAME	Author	DATE	POPULATION REFERECE
			Presuming that the envisaged Places Victoria development scenario (80,000 residential population) does transpire, families will in due course settle into Fishermans Bend, then maternal and early childhood facilities will be required, followed by primary and secondary schools.
Fishermans Bend Urban Renewal Area: Draft Vision	Places Victoria	September 2013	By 2050, Fishermans Bend could accommodate up to 40,000 new jobs and 80,000 residents.
Fishermans Bend - Community Engagement responding to Draft Vision	Places Victoria	December 2013	In 40 years, Fishermans Bend is projected to be home to more than 80,000 residents and a workplace for 40,000 people. "By 2050, the FBURA is envisaged to accommodate up to 40,000 new jobs and 80,000 residents"
Fishermans Bend Strategic Framework Plan	Victorian Government	July 2014	In addition to a residential population of 80,000, Fishermans Bend is expected to accommodate in excess of 60,000 jobs (including the Employment Areas) when fully developed and provide for a high level of activity throughout the neighbourhoods. Space for these jobs needs to be built into proposals from their inception. "With a projected population of 80,000+ people, it is estimated that an additional 28,800 jobs will be created across a much broader spectrum of industry and skills"
Fisherman's Bend Vision	DELWP	September 2016	*Fishermans Bend will play an important role in Melbourne's growth and prosperity, supporting 80,000 residents and 60,000 jobs.*
Fishermans Bend Population & Demographics	DELWP	September 2016	“The Fishermans Bend Taskforce, in its 2051 vision, is planning for up to 80,000 residents in Fishermans Bend, forming approximately 37,400 households and occupying approximately 40,000 dwellings.”
Fishermans Bend Baseline Utility Assessment (Final Report)	GHD	November 2016	"VPA's Ultimate Development Scenario was assumed to include 120,000 residents and 61,050 employees.1 These population estimates were based on a draft population forecast of between 44,132 – 52,080 dwellings for 2051, and 60,000 dwellings at ultimate development (i.e. approximate 120,000 residents assuming that there is an average 2.0 persons/dwelling)." [1] Note that 61,050 employees is an assumed population at ultimate development, which was derived by scaling up the 40,700 stated in the SFP by 50%.
Fishermans Bend Baseline Utility Assessment (Final Report)	GHD	November 2016	Appendix A: Water and Sewer Demand Basis Population analysis - Ultimate Development: Residential - 120,000, Employment – 61,050 (excludes employment precinct)
Fishermans Bend Economic and Employment Study	SGS	November 2016	Population at 2051 for each pathway: Pathway 1 (Market led) - 75,000 Pathway 2 (Current Vision) - 80,000 Pathway 3 (Current Vision + University) - 80,000
Fishermans Bend Community Infrastructure Plan	DELWP	April 2017	"By 2051, it is estimated that Fishermans Bend will accommodate 80,000 jobs and a population of 80,000." "the future demographics in Fishermans Bend may be different to those projections"
Fishermans Bend Sustainability Strategy	Victoria State Government	September 2017	"At approximately 480 hectares, Fishermans Bend is the largest inner city urban renewal precinct accommodating 80,000 residents and 80,000 jobs by 2050."

REPORT NAME	Author	DATE	POPULATION REFERECE
Integrated Transport Plan	Transport for Victoria	October 2017	"Two 2051 land use scenarios for Fishermans Bend were considered" (when modelling public transport): Vision, and Vision plus University • Vision assumption: population of 71,970 by 2051 • Vision plus University assumption: population of 79,875 by 2051
Fishermans Bend Draft Planning Scheme Amendment GC81	Minister for Planning Part A Response	February 2018	150 - The planning for Fishermans Bend targets a population of 80,000 residents and 80,000 jobs by 2050. ***What is basis of the assumed 80,000 people and 80,000 jobs? Should a different target be set?*** 154 - The Vision for Fishermans Bend was completed in September 2016 following public consultation earlier that year. The Vision describes how Fishermans Bend will be planned to accommodate 80,000 residents. 155 - 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. 156 - These factors, coupled with the many background reports summarised in the draft Framework and the earlier work by Places Victoria in 2012 and 2013 (public records available at www.fishermansbend.vic.gov.au) have contributed to arriving at the optimal population of 80,000 residents by 2050.
Fishermans Bend Urban Design Strategy	Hodyl & Co	September 2017	Fishermans Bend is projected to accommodate 80,000 residents and 80,000 jobs. This equates to approximately 37,400 dwellings
Amendment GC81 Fishermans Bend Expert Urban Design Evidence	Hodyl & Co	February 2018	78 – "The Urban Design Strategy acknowledges the difficulty of estimating what percentage of sites are likely to redevelop over a 30-35 year period. It sets the assumption that 75% of sites are likely to redevelop in this time." 82 - The population target of 80,000 people is set in place for 2050. The FARs are directly aligned with this population target however in the longer term they do not limit the overall population growth to a cap of 80,000 people… 83 – This means that more than 80,000 people are likely to be accommodated in Fishermans Bend beyond 2050. 84 - If 100% of sites were developed according to the proposed FARs the potential population would be in the order of 106,000 residents 88 - Together, the population enabled if all sites develop according to the proposed FARs and the potential additional population enabled through the FAU for affordable housing would bring the potential overall population up to 150,000 people (refer Table 7), almost twice the 80,000 target.
Fishermans Bend Framework Draft for Consultation	DELWP	October 2017	"Fishermans Bend will support the growth of Melbourne by accommodating 80,000 residents and 80,000 jobs by 2050"

APPENDIX B: ADDITIONAL TABLES

METROPOLITAN MELBOURNE (GCCSA)

PROJECTED CHANGE IN AGE STRUCTURE 2016 - 2031

TABLE B.1

	Sector							
	CENTRAL		INNER		MIDDLE		OUTER	
Age profile	2016	2031	2016	2031	2016	2031	2016	2031
0-9 years	8.0%	8.0%	11.2%	11.1%	11.7%	11.6%	14.4%	13.5%
10-19 years	7.1%	8.8%	10.7%	10.8%	10.9%	11.2%	12.9%	13.3%
20-29 years	26.8%	21.1%	16.6%	14.9%	15.8%	13.7%	13.7%	11.7%
30-39 years	22.6%	19.2%	15.9%	15.0%	15.1%	14.4%	14.6%	13.5%
40-49 years	12.4%	15.2%	14.0%	14.9%	13.6%	14.5%	14.1%	13.8%
50-59 years	9.4%	10.7%	11.9%	11.3%	11.9%	11.3%	12.3%	11.4%
60-69 years	7.4%	8.0%	9.1%	9.4%	9.6%	9.7%	9.5%	9.9%
70-79 years	4.0%	5.4%	5.9%	7.2%	6.8%	7.7%	5.5%	7.6%
80 years and over	2.3%	3.6%	4.6%	5.3%	4.7%	6.0%	3.0%	5.2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: ABS Census (2016); Victoria In Future (2031); Urbis

METROPOLITAN MELBOURNE (GCCSA)

PROJECTED CHANGE IN HOUSEHOLD COMPOSITION 2016 - 2031

TABLE B.2

	Sector							
	CENTRAL		INNER		MIDDLE		OUTER	
Household Composition	2016	2031	2016	2031	2016	2031	2016	2031
Couple family with children	28.8%	13.8%	32.4%	29.4%	31.9%	33.2%	34.0%	36.2%
Couple family without children	24.6%	26.3%	25.2%	25.0%	24.5%	24.9%	26.1%	26.6%
One-parent family	11.1%	7.6%	9.2%	8.8%	11.5%	11.3%	11.3%	12.1%
Other family	1.6%	2.5%	1.5%	1.7%	1.7%	1.6%	1.5%	1.1%
Lone person	26.7%	38.9%	26.4%	29.0%	25.0%	24.8%	23.1%	21.7%
Group household	7.3%	10.9%	5.3%	6.2%	5.4%	4.3%	4.1%	2.3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Victoria In Future (2006); Urbis

FISHERMANS BEND WORKERS

2016 WORKING POPULATION PROFILE

TABLE B.3

	Workforce (%)	
PLACE OF RESIDENCE (LGA)	Fishermans Bend	Melbourne CBD, Docklands, Southbank
Greater Melbourne	**91.3%**	**91.9%**
Central	13.1%	18.6%
Inner East	6.3%	10.2%
Inner North	3.5%	5.0%
Inner North West	5.4%	5.3%
Inner South	4.0%	4.4%
Middle East	5.2%	7.1%
Middle North	3.9%	5.7%
Middle North East	1.3%	1.8%
Middle South	4.7%	4.0%
Middle South West	4.9%	2.7%
Middle West	6.9%	4.8%
Outer East	4.5%	4.4%
Outer North	4.3%	4.2%
Outer South	2.3%	1.4%
Outer South East	3.5%	3.0%
Outer South West	8.8%	4.7%
Outer West	8.7%	4.8%
Beyond Greater Melbourne	**8.7%**	**8.1%**
Total	**100.0%**	**100.0%**

Source: ABS; Urbis

EMPLOYMENT DENSITY IN AUSTRALIA

SELECTED COMPARISON AREAS

TABLE B.4

Fishermans Bend*	by Place of	Dwellings	Avg. Jobs / Household	Population	Gross Area (hectares)	Population / Hectare
Montague	4,000	9,244	0.43	20,800	43	483.7
Lorimer	6,000	5,882	1.02	12,000	25	480.0
Sandridge	26,000	14,949	1.74	29,600	86	344.2
Wirraway	4,000	6,822	0.59	17,600	94	187.2
Total	**40,000**	**36,897**	**1.08**	**80,000**	**248**	**322.6**
Employment	40,000	-	-	-	230	-
Total (incl. Employment precinct)	**80,000**	**36,897**	**2.17**	**80,000**	**478**	**167.4**
Metropolitan region						
Greater Melbourne	2,046,165	1,834,369	1.12	4,725,316	999,250	4.7
Greater Sydney	2,209,285	1,858,626	1.19	5,029,768	1,236,820	4.1
Local Government Area						
City of Melbourne	422,463	75,808	5.57	148,039	3,740	39.6
City of Melbourne (excl. CBD)	201,327	53,380	3.77	106,566	3,500	30.4
City of Port Phillip	90,082	57,864	1.56	108,558	2,070	52.4
City of Yarra	77,759	38,311	2.03	93,380	1,950	47.9
City of Sydney	494,958	112,925	4.38	224,211	2,670	84.0
City of North Sydney	67,993	35,621	1.91	72,037	1,050	68.6
City of Woollahra	25,924	28,991	0.89	58,290	1,230	47.4
Areas of interest (SA2)						
Clayton	34,203	8,119	4.21	23,855	940	25.4
Parkville	28,207	2,477	11.39	7,898	400	19.7
Macquarie Park - Marsfield	48,394	8,938	5.41	22,784	1,070	21.3
Pyrmont - Ultimo	36,831	10,135	3.63	23,339	150	155.6

* Proposed jobs and dwellings from the Draft Fishermans Bend Framework Plan

Source: Fishermans Bend Framework; ABS; Urbis

APPENDIX C: URBAN DEVELOPMENT PROGRAM METROPOLITAN MELBOURNE REDEVELOPMENT 2017 (EXCLUDED AREAS)

ProjectID	Status	Year Completed	Area (Ha)	Project name	LGA	Total Detached, Townhouses & Unknown	Total Apartments	Sector	Sector Name (URBIS)	Major Urban Renewal Precinct (2015-2051+)	Include / exclude
R11387	Possible	0	1.38	E-gate	Melbourne	0	0	Central		E-gate	exclude
R11405	Completed	2016	0.08	House of Angus	Melbourne	38	0	Central		Arden-Macaulay	exclude
R11404	Firm	0	0.02		Melbourne	0	19	Central		Arden-Macaulay	exclude
R11350	Likely	0	2.09	Fishermans Bend Urban Renewal Precinct - Lorimer	Melbourne	0	2465	Central		Lorimer	exclude
R11355	Possible	0	9.90	E-gate	Melbourne	0	0	Central		E-gate	exclude
R10142	Completed	2016	0.04	The Aston	Melbourne	0	15	Central		Arden-Macaulay	exclude
R11446	Under Construction	0	0.81	Canning and Vaughan	Melbourne	0	299	Central		Arden-Macaulay	exclude
R09085	Completed	2017	0.05	Anderson Street Apartments	Melbourne	0	45	Central		Arden-Macaulay	exclude
R10491	Completed	2016	0.05		Melbourne	0	42	Central		Arden-Macaulay	exclude
R10367	Under Construction	0	0.17	Volaire	Melbourne	0	154	Central		Arden-Macaulay	exclude
R12626	Under Construction	0	0.19		Melbourne	0	143	Central		Arden-Macaulay	exclude
R12088	Completed	2017	0.07		Melbourne	0	34	Central		Arden-Macaulay	exclude
R12617	Likely	0	1.39		Melbourne	0	1192	Central		Lorimer	exclude
R12648	Likely	0	1.01	Lorimer street (multiple stages)	Melbourne	0	1134	Central		Lorimer	exclude
R12651	Firm	0	0.26		Melbourne	0	361	Central		Lorimer	exclude
R12788	Firm	0	0.88		Melbourne	0	894	Central		Lorimer	exclude
R12822	Firm	0	0.05		Melbourne	27	0	Central		Arden-Macaulay	exclude
R12841	Completed	2016	0.07		Melbourne	60	0	Central		Arden-Macaulay	exclude
R13985	Firm	0	0.31		Melbourne	0	177	Central		Arden-Macaulay	exclude
R13991	Likely	0	0.07		Melbourne	0	52	Central		Arden-Macaulay	exclude
R14010	Under Construction	0	0.07		Melbourne	0	44	Central		Arden-Macaulay	exclude
R14553	Likely	0	0.05	Dryburgh Street Apartments	Melbourne	0	11	Central		Arden-Macaulay	exclude
R16397	Likely	0	0.09		Melbourne	0	10	Central		Arden-Macaulay	exclude
R16402	Likely	0	0.67		Melbourne	0	612	Central		Lorimer	exclude
R16404	Likely	0	0.10		Melbourne	0	35	Central		Arden-Macaulay	exclude
R16422	Firm	0	0.05		Melbourne	0	26	Central		Arden-Macaulay	exclude
R16433	Likely	0	0.13		Melbourne	0	124	Central		Arden-Macaulay	exclude
R11799	Firm	0	0.23	Ferrars Street Mixed Use Development	Port Phillip	0	107	Central		Montague	exclude
R12465	Possible	0	0.10	Thistlethwaite Street Mixed Use Development (Monta	Port Phillip	0	184	Central		Montague	exclude
R12591	Firm	0	0.30		Port Phillip	0	525	Central		Montague	exclude
R11846	Likely	0	0.55	Buckhurst Street Mixed Use Development	Port Phillip	0	645	Central		Montague	exclude
R11842	Likely	0	0.07	Buckhurst Street Mixed Use Development	Port Phillip	0	88	Central		Montague	exclude
R11812	Firm	0	0.84	Gladstone Street Apartments	Port Phillip	0	746	Central		Montague	exclude
R11813	Firm	0	0.88	Buckhurst Street Apartments	Port Phillip	0	1004	Central		Montague	exclude
R11815	Firm	0	0.14	Ferrars Street Apartments	Port Phillip	0	98	Central		Montague	exclude
R12590	Firm	0	0.98		Port Phillip	0	1379	Central		Sandridge	exclude
R12592	Under Construction	0	0.09	Gravity Tower	Port Phillip	0	163	Central		Montague	exclude
R12593	Firm	0	0.15		Port Phillip	0	83	Central		Montague	exclude
R00677	Likely	0	1.21		Port Phillip	0	943	Central		Montague	exclude
R12594	Firm	0	0.12		Port Phillip	0	262	Central		Montague	exclude
R13424	Under Construction	0	0.07	Gladstone Street Mixed Use Development (Montague)	Port Phillip	0	45	Central		Montague	exclude
R13429	Firm	0	0.32	Salmon Street Mixed Use Development (Wirraway) Fi	Port Phillip	0	157	Central		Wirraway	exclude
R13593	Under Construction	0	3.88	Ingles Street Townhouses (Montague) Fishermans Ben	Port Phillip	258	0	Central		Sandridge	exclude
R13665	Likely	0	3.51		Port Phillip	0	957	Central		Sandridge	exclude
R13666	Firm	0	2.03		Port Phillip	13	443	Central		Wirraway	exclude
R13667	Firm	0	0.02		Port Phillip	0	16	Central		Montague	exclude
R13668	Firm	0	0.08		Port Phillip	0	161	Central		Montague	exclude
R13817	Likely	0	0.06		Port Phillip	0	126	Central		Montague	exclude
R13917	Likely	0	0.18		Port Phillip	0	262	Central		Montague	exclude
R13920	Likely	0	0.31		Port Phillip	0	403	Central		Montague	exclude
R14116	Likely	0	0.21		Port Phillip	0	244	Central		Montague	exclude
R14117	Likely	0	0.20		Port Phillip	0	238	Central		Montague	exclude
R14234	Likely	0	0.20		Port Phillip	0	240	Central		Montague	exclude
R14242	Likely	0	0.15		Port Phillip	0	216	Central		Montague	exclude
R14958	Firm	0	2.23	Salmon Street Townhouses (Wirraway) Fishermans Ben	Port Phillip	135	0	Central		Wirraway	exclude
R14975	Firm	0	0.15	Normanby Road Mixed Use Development (Montague) Fis	Port Phillip	0	284	Central		Montague	exclude
R16000	Likely	0	0.30		Port Phillip	0	165	Central		Sandridge	exclude
R16012	Firm	0	0.25		Port Phillip	0	95	Central		Montague	exclude
R16013	Likely	0	0.27		Port Phillip	0	396	Central		Montague	exclude
R16027	Likely	0	0.26		Port Phillip	0	324	Central		Montague	exclude
R16037	Firm	0	0.21		Port Phillip	26	0	Central		Montague	exclude
R16090	Likely	0	0.20		Port Phillip	0	318	Central		Montague	exclude

APPENDIX D: LIVEABILITY DATA

MERCER HARDSHIP ALLOWANCE RECOMMENDATIONS[34]

• *Political and social* environment *(*political stability, crime, law enforcement, etc.)
• *Economic environment (*currency exchange regulations, banking services)
• *Socio-cultural environment (*media availability and censorship, limitations on personal freedom)
• *Medical and health considerations (*medical supplies and services, infectious diseases, sewage, waste disposal, air pollution, etc.*)*
• *Schools and education (*standards and availability of international schools)
• *Public services and transportation (*electricity, water, public transportation, traffic congestions, etc.)
• *Recreation (*restaurants, theatres, cinemas, sports and leisure, etc.)
• *Consumer goods (*availability of food/daily consumption items, cars, etc.)
• *Housing (*rental housing, household appliances, furniture, maintenance services)
• *Natural environment (*climate, record of natural disasters)

[34] Mercer 2017, *Sydney Places in Top 10 Global Quality of Living Survey,* accessed 26 March 2018, https://www.mercer.com.au/newsroom/2017-quality-of-living-survey.html

THE ECONOMIST

INDICATOR	MELBOURNE, AUSTRALIA	FISHERMANS BEND
STABILITY (weight: 25% of total)	**95**	
• Prevalence of petty crime		Lower
• Prevalence of violent crime		Lower
• Threat of terror		Same
• Threat of military conflict		Same
• Threat of civil unrest/ conflict		Same
HEALTHCARE (weight: 20% of total)	**100**	
• Availability of private healthcare		Same
• Quality of private healthcare		Same
• Availability of public healthcare		Same
• Quality of public healthcare		Same
• Availability of over-the-counter drugs		Same
• General healthcare indicators		Same
CULTURE & ENVIRONMENT (weight: 25% of total)	**95.1**	
• Humidity/temperature rating		Same
• Discomfort of climate to travellers		Same
• Level of corruption		Same
• Social or religious restrictions		Same
• Level of censorship		Same
• Sporting availability		Same
• Cultural availability		Same +
• Food and drink		Same
• Consumer goods and services		Same
EDUCATION (weight: 10% of total)	**100**	
• Availability of private education		Same
• Quality of private education		Same
• Public education indicators		Same
INFRASTRUCTURE (weight: 20% of total)	**100**	
• Quality of road network		Same
• Quality of public transport		Same +
• Quality of international links		Better
• Availability of good quality housing		Same
• Quality of energy provision		Better (more sustainable)
• Quality of water provision		Same
• Quality of telecommunications		Same
OVERALL RANKING (100 = ideal)	**97.5**	Higher

APPENDIX E: DEFINITIONS

ACRONYM	DEFINITION
ABS	Australian Bureau of Statistics
CBD	Central Business District
CoM	City of Melbourne
CoPP	City of Port Phillip
CoY	City of Yarra
DELWP	Department of Environment, Land, Water and Planning
DIBP	Department of Immigration and Border Protection
FAR	Floor Area Ratio
FAU	Floor Area Uplift
FBEP	Fishermans Bend Employment Precinct
GCCSA	Greater Capital City Statistical Area
GMH	General Motors Holden
ISO	International Organisation for Standardisation
LGA	Local Government Area
NEIC	National Employment and Innovation Cluster
NOM	Net Overseas Migration
NIM	Net Interstate Migration
SAFi	Small Area Forecast Information
UDP	Urban Development Program
VPA	Victorian Planning Authority
VIF	Victoria in Future

APPENDIX F: IAN SHIMMIN'S CV

Qualifications and Affiliations

Bachelor Arts – Economic Geography, Hons (Monash University).

Master of Science Urban and Regional Planning (University of Wisconsin, USA).

Member – Victorian Planning and Environmental Law Association.

Member – Queensland Environmental Law Association.

Member – ICSC (International Council of Shopping Centres)

Contact

t 61 3 8663 4940

m 61 411 596 588

f 61 3 8663 4999

e ishimmin@urbis.com.au

w www.urbis.com.au

URBIS

Ian Shimmin

DIRECTOR

Ian heads the Retail Practice within Urbis' Economics & Market Research team.

He is a leading economic advisor with over 30 years' experience specialising in the retail, shopping centre and entertainment industries, as well as economic planning matters concerning other property sectors.

Ian provides advice on major acquisitions and development projects, site location strategies and shopping centre performance improvement initiatives throughout Australia and overseas for a wide range of clients.

He is also an expert in retail planning matters, needs analysis and economic impact assessments (EIAs), and regularly prepares evidence reports and appears as an expert witness on a wide range of development proposals and issues, generally relating to assessments of need, demand and economic impacts. He has appeared in various jurisdictions including: the Federal Court (VIC); the Victorian Civil and Administrative Tribunal (VCAT), Queensland Civil and Administrative Tribunal (QCAT); Independent Panels and Ministerial Advisory Committees (VIC); the Planning Commission (WA); the Planning Commission, and the Resource Management and Planning Appeals Tribunal (TAS); the Land and Environment Court (NSW); the Land Court, and the Planning and Environment Court (QLD).

Ian also organises and leads the annual Urbis Overseas Retail Study Tour which has now included major malls, outlets centres and iconic streets in 10 countries throughout Asia, Europe and North America.

Experience

Ian's experience includes:

- Market analysis and forecasting
- Retail turnover and rental income forecasting
- Need, demand and impact assessments
- Performance improvement and expansion strategies for shopping centres
- The nexus between consumer research and economic analysis
- Due diligence property reviews
- Masterplanning (retail economics) for future expansion
- Multi-family residential needs analysis
- Site location strategies
- Child care site assessments and location strategies
- Retirement Village development assessments, location and product strategies
- Cinema analysis
- Peer reviews
- Expert evidence

BRISBANE
Level 7, 123 Albert Street
Brisbane QLD 4000
Australia
T +61 7 3007 3800

MELBOURNE
Level 12, 120 Collins Street
Melbourne VIC 3000
Australia
T +61 3 8663 4888

PERTH
Level 14, The Quadrant
1 William Street
Perth WA 6000
Australia
T +61 8 9346 0500

SYDNEY
Level 23, Darling Park Tower 2
201 Sussex Street
Sydney NSW 2000
Australia
T +61 2 8233 9900

URBIS.COM.AU