Fishermans Bend Economic and Employment Study

Final Report

Fishermans Bend Taskforce

November 2016

1991–2016 25 years of Independent insight.

SGS Economics and Planning Pty Ltd
ACN 007 437 729
www.sgsep.com.au
Offices in Canberra, Hobart, Melbourne and Sydney

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EXECUTIVE SUMMARY

Project context

Fishermans Bend is the largest urban renewal area in Australia and is expected to accommodate up to 80,000 residents and up to 60,000 jobs by 2051. It is located adjacent to the southern edge of the Melbourne CBD. Whilst this presents some significant opportunities, at the same time the precinct faces a number of major challenges.

The vision, definition and plan for the precinct has evolved substantially over the last decade. In early 2016, the Fishermans Bend Taskforce was formed as a cross government agency. Working with the Ministerial Advisory Committee, the Fishermans Bend Taskforce is now in the process of developing a new Strategic Framework (due in the first quarter of 2017) to help guide the future of the precinct.

This report forms one of several background reports that will help inform the new Strategic Framework.

Report objective and approach

This report – *Fishermans Bend: Economic and Employment Study* - essentially seeks to detail an economic narrative for the precincts future. The report looks to articulate the internal and external forces impacting the precinct and the realistic future pathways that could occur.

Drawing on this, recommendations on relevant policy and additional research have been provided.

While ‘the economy’ touches all aspects of the precinct, this report seeks to provide a high level economic narrative and should be read in conjunction with the other background documents which focus on key issues in further detail.

The report and research is broadly split into three sections:

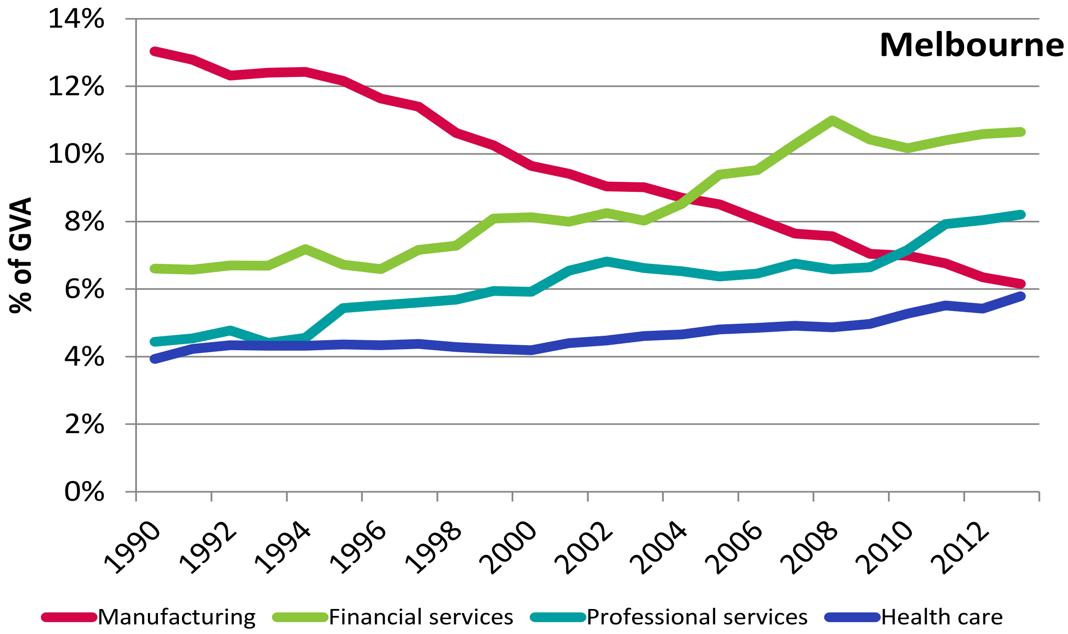
- **Sections 3 and 4:** includes analysis of the key economic trends and issues.
- **Section 5:** details three realistic alternative pathways which Fishermans Bend could take
- **Section 7:** discuss the report findings, makes recommendations and discussed where further research is needed.

Understanding key economic issues influencing Fishermans Bend

Melbourne's future economy is fundamentally based around the central city

Melbourne's economy, like many other cities, has undergone significant change over the past few decades. Melbourne's economy, previously dominated by manufacturing and industrial activities, has been transformed in to one more reliant on knowledge-intensive activities and services.

ECONOMIC STRUCTURAL CHANGE – MELBOURNE 1990-2012



Source: SGS Economics and Planning, 2016

The new services economy thrives on connectivity. The development of major infrastructure combined with inner city urban renewal precincts (such as Southbank and Docklands) has been fundamental to Melbourne's ability to capture these new knowledge services. Fishermans Bend, if effectively delivered and integrated, presents a major opportunity to continue this economic growth trajectory.

Conversely Sydney's CBD has been highly constrained which, along with several other factors, has impacted its growth in recent decades and enabled Melbourne to 'catch up' economically.

The social and economic contributions of Fishermans Bend

While Fishermans Bend is the largest inner city urban renewal site in Australia, from a metropolitan perspective it is a relatively small area of land – 529 hectares or 0.19 per cent of total land in metropolitan Melbourne[1].

Given its historical role and zoning it plays an even smaller role from a population perspective with 200 residents or 0.004 per cent of Melbourne's population. However, this is rapidly changing with significant amounts of residential development already occurring in the precinct, particularly Lorimer and Montague.

While undergoing a significant structural transition, from an employment and economic perspective the precinct still makes a strong contribution to the broader metropolitan economy. It currently has 30,500 jobs which generate $3,800m to the economy (in Gross Value Added terms), equivalent to 1.3 per cent of total jobs in metropolitan Melbourne jobs and just under 1 per cent of total economic activity.
This economic activity is linked to increases in government revenue in the form of taxes. It is estimated that the precinct generates $1,377 million in tax revenues, with the majority of this collected by the Federal Government.

The social contribution (or non-economic contribution) of any location is complex and difficult to simply quantify. Some key indicators have been reviewed, which has indicated significant shortfalls across the precinct currently. Further research is required in order to fully understand this issue, along with investment to ensure any issues are addressed as the precinct transitions into a mixed-use and knowledge-based employment hub.

FISHERMANS BEND SOCIAL AND ECONOMIC CONTRIBUTION

	2016	% of Gr Melbourne
Land area (hectares)	529	0.190% (278,384)
Population	200	0.004% (4,560,000)
Total employment	31,000	1.312% (2,325,000)
Economic contribution (GVA $m)	$3,800m	0.985% ($285,000m)
Financial contribution ($m)		
- State contribution	$233m	
- Federal contribution	$1,144m	
Social contribution	*low*	

Source: SGS Economics and Planning

[1] Defined by gross land within the Urban Growth Boundary

Future growth prospects

Drawing on the economic analysis SGS completed a detailed SWOT analysis of Fishermans Bend. The following key Strengths, Weaknesses, Opportunities and Threats were identified.

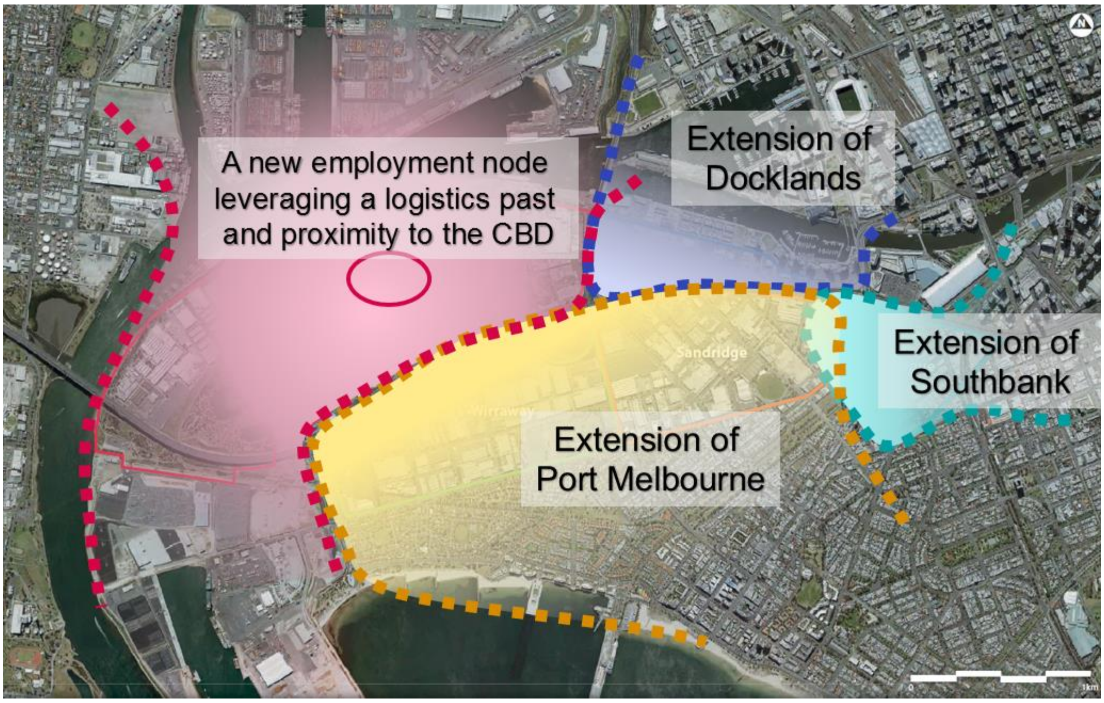
SWOT ANALYSIS

Strengths	Weaknesses
– A recognised manufacturing/ logistics base – Road connectivity – Proximity to CBD – An established creative industries sector	– Limited public transport connectivity – Land contamination, drainage and flooding issues
Opportunities	**Threats**
– become a higher order manufacturing/ research/ services precinct – increase housing supply in inner Melbourne – opportunity for rezoning to drive commercial activity around proposed transport nodes – provide important industrial land – provide tourism services	– Private fragmented ownership – Contamination and drainage issues – Pollution

Once fully developed, Fishermans Bend is expected to become an important location for housing and employment across a range of sectors, integrating with the Melbourne CBD and surrounds. The precinct as 'a whole' will effectively disappear and the unique opportunities of each precinct will define its ongoing role as part of an expanded central Melbourne economy.

While as with all parts of the inner city economy borders are blurred, the following map highlights how the precincts of Fishermans Bend would integrate into the existing inner city urban fabric. This helps to understand the unique role of each precinct within Fishermans Bend

FISHERMANS BEND INTEGRATION INTO EXISTING AREAS



Source: SGS Economics and Planning

A significant quantity of land at Fishermans Bend is presently used for the manufacture, warehousing and distribution of goods, and the precinct currently plays an important role in facilitating the flow of traded goods in and out of Victoria. It also acts as an important location for industrial businesses for whom a location proximate to central Melbourne is important. This important function is to be retained, and balanced by an expanded creative services sector to be centred around the northern parts of Fishermans Bend.

Growth of creative services in particular will by catalysed by the establishment of high-quality public transport connections linking the precinct with the metropolitan Melbourne workforce and other service sector firms in the Melbourne CBD, Southbank and Docklands in particular. This is an essential step if Fishermans Bend is to compete with other parts of central Melbourne as a location for higher-order service sector employment.

The development of Fishermans Bend as an employment centre is also contingent on the moderation of residential development. With a large number of residential towers already approved, and with apartments representing the 'highest and best use' of land from a developers perspective, there is a danger that residential uses will 'crowd out' employment, threatening Fishermans Bend's development as a centre of economic activity.

Economic development pathways

In order to assess the impact of different strategic approaches to the development of Fishermans Bend, three economic pathways have been investigated. These are:

- **Market led development**, representing a pathway that is led by the market with minimal government intervention
- **Alignment with Vision**, representing the full realisation of the Recast Vision
- **Alignment with Vision with an additional educational facility**, representing the full realisation of the Recast Vision with the addition of a major educational facility in the Employment Precinct.

SGS modelled employment and population in Fishermans Bend for these three realistic alternative development pathways to 2051. Table 13 provides a high-level overview of key assumptions/results.

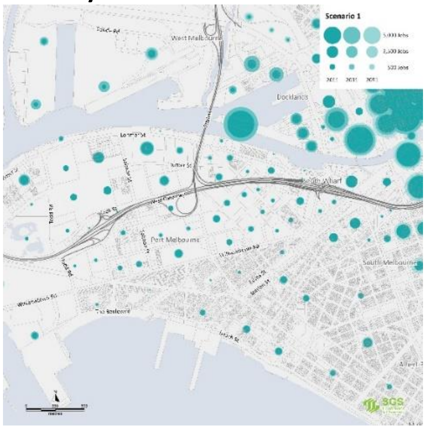
SCENARIO COMPARISON AT 2051

	Pathway 1 Market Led	Pathway 2 Current Vision	Pathway 3 Current Vision plus University
Level of change	Moderate	High	Very High
Alignment with Fishermans Bend Vision	Well Below	Consistent	Above
Government Intervention	Low	High	High
Transport Interventions	Bus Improvements	Tram/Smart Bus/Heavy Rail	Tram/Smart Bus/Heavy Rail
Population at 2051	75,000	80,000	80,000
Employment at 2051	40,000	59,000	60,000
GVA ($m) at 2051	$5,000m	$7,500m	$7,300m
Students at 2051	2,000	2,000	11,000

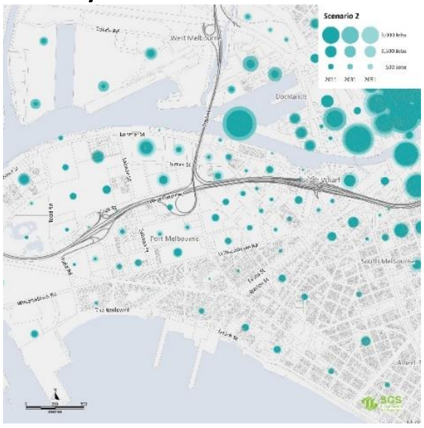
Source: SGS Economics and Planning

EMPLOYMENT PROJECTION PATHWAYS AT 2051

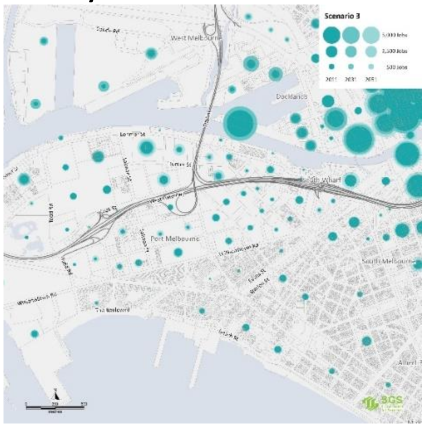
Pathway 1



Pathway 2



Pathway 3



Source: SGS Economics and Planning

Note: The maps above show the change in employment numbers at Fishermans Bend and in surrounding areas under the three development pathways between 2011, 2031 and 2051. Go to Section 5 to see larger maps of each pathway

Policy tools to encourage a flexible and vibrant mixed use precinct

SGS has produced an extensive set of 'best practice' principles for urban renewal which are publicly available. These principles have been applied to a number of other urban renewal precincts in the past and could help to structure the process currently being undertaken by the Fishermans Bend Taskforce. By virtue of the fact these principles have provided a basis for development elsewhere, they provide a practical and proven framework for urban renewal. Adherence to these principles should be investigated to ensure that the delivery of the new Vision for Fishermans Bend maximises the social welfare of the population of Melbourne and Victoria more broadly.

Overview of economic policy recommendations

The table below links various policy recommendations with one of three planning horizons – equivalent to the short, medium and long terms. A high level prioritisation of actions has also been provided. In reality, many of these recommended actions may need to be completed in parallel and different prioritisations may evolve through the development process.

SUMMARY OF POLICY RECOMMENDATIONS

	Horizon 1	Horizon 2	Horizon 3	Priority
A clear, consistent and achievable vision				complete
Strong place based governance structure				
Preservation and protection of key land uses				
Policy measures to manage private fragmented ownership				
Contamination and drainage issues				
Measures to avoid land speculation				
Timely and effective transport				
Policy measures to protect land for commercial uses				
Innovative funding initiatives				
Policy measures to encourage vibrancy and business development				

'Horizon' reflects the implementation timeframe, noting work on longer term (Horizon 2/3) initiatives may still need to start now. 'Priority' reflects those initiatives that need to be acted on first to ensure the ultimate economic viability of the precinct is retained. Red indicates the highest priority, Orange indicators the second highest priority, Green represents completed actions.

Further research

Beyond direct policy recommendations further research and data collection is required to:

- Investigate the need to preserve and protect land uses that have the potential to foster growth in high value-add service industries,
- Identify policy measures that:
  - Protect land for commercial uses
  - Provide opportunities for the growth co-working spaces
  - Manage private fragmented ownership
  - Manage contamination and drainage issues
  - Establish appropriate public housing ratios for new development, and
  - Identify potential land uses that have the potential to promote social cohesion.
- Overcome the issues associated with fragmented land ownership structures by consulting with local and international governments (at all levels) that have experience in the area. As part of this process, a further land use audit should also be conducted, and local affected businesses should also be consulted,
- 'Workshop' with key urban professionals and owners of suitable sites to identify barriers to redevelopment,
- Conduct further land use audit or a consultation processes of local businesses, which would be aimed at assessing options for overcoming the fragmented private ownership structure and any industries that *require* some land to be preserved for future use,

1 INTRODUCTION

1.1 Project context

Fishermans Bend is the largest urban renewal area in Australia and is expected to accommodate up to 80,000 residents and up to 60,000 jobs by 2051. It is located adjacent to the southern edge of the Melbourne CBD. Whilst this presents some significant opportunities, at the same time the precinct faces a number of major challenges.

In 2012, SGS produced an economic and employment study of Fishermans Bend., with the outputs of this work incorporated into the Fishermans Bend Strategic Framework Plan 2014. This Plan was developed as a long-term planning framework to guide urban renewal across Fishermans Bend.

In 2015, the Fishermans Bend Ministerial Advisory Committee (FBMAC) was formed to advise the Minister for Planning on planning pathways for Fishermans Bend. In October of that year FBMAC released a report which recommended that the vision for the precinct be ‘refreshed’ and ‘redefined’,[2] making a total of 40 recommendations, 34 of which were adopted in full.

One of the recommendations made by FBMAC was for the development of a place-based governance structure that led to the creation of the Fishermans Bend Taskforce (FBT). FBT is comprised of members drawn from a range of state government departments and agencies, as well as from local government. The taskforce has released a preliminary discussion paper, which represents the first step in the process of recalibrating the vision for Fishermans Bend. FBT is now in the process of developing a new Strategic Framework (due end of 2016) to help further refine the Fishermans Bend Recast Vision and set the future direction of the Fishermans Bend precinct.

This report forms one of several background reports that will help inform the new Strategic Framework.

1.2 Project scope and objectives

In light of the need to optimise the opportunities that Fishermans Bend is able to provide, SGS was commissioned to analyse the area’s intrinsic economic and employments links with the wider metropolitan economy, as well as its broader economic, financial and social contributions.

The key objectives of the 2016 study included:

- (Section 1-5) To assess the economic drivers and existing economic activity and employment across the whole of Fishermans Bend, including the new Employment Precinct,
- (Section 6) To consider future realistic alternative employment scenarios to deliver on the economic vision for Fishermans Bend, and
- (Section 7) To identify key enablers, including infrastructure and incentives, or other regulatory measures, to support the desired employment outcomes and sectors.

[2] For more information, please see: haveyoursay.delwp.vic.gov.au/Fishermans-bend/documents/36318/download

1.3 The Fishermans Bend study area

Prior to 2015, Fishermans Bend consisted of four distinct precincts: **Lorimer**, **Wirraway**, **Sandridge**, and **Montague**. In 2015, Fishermans Bend was extended to include the **Employment Precinct** to the north of Wirraway. A map of the five current precincts of the study area is shown below.

FIGURE 1. FISHERMANS BEND STUDY AREA

Source: DELWP, 2016, 'Fishermans Bend Recast Vision: the next chapter in Melbourne's growth story – Draft for consultation'

SGS also note that the study area has increased in size since the commencement of this engagement, with the inclusion of Westgate Park. This amendment has increased the size of the Fishermans Bend study area and the Employment Precinct to 529 hectares and 236 hectares respectively.

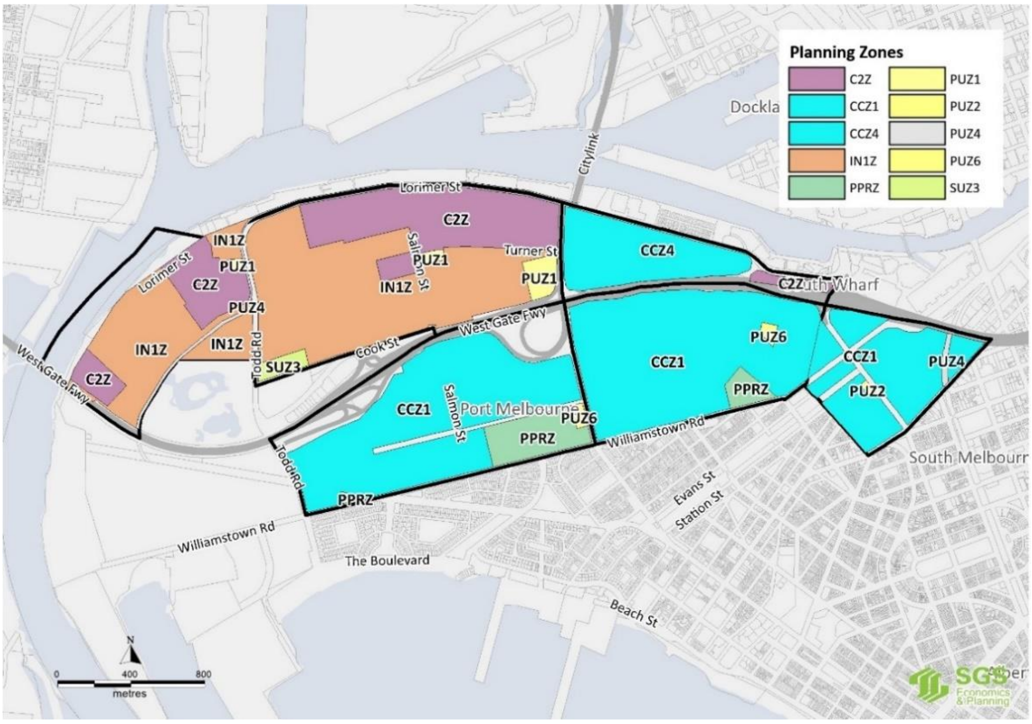
While not the focus of this study, understanding the land composition, development potential and context is important when assessing the precinct's economy. The following section provides a brief review of relevant information, including:

- The planning zones that shape development opportunities,
- A high level assessment of the total and net developable land areas,
- The land ownership structure, and
- Key assets, features and transport context.

Total zoned land

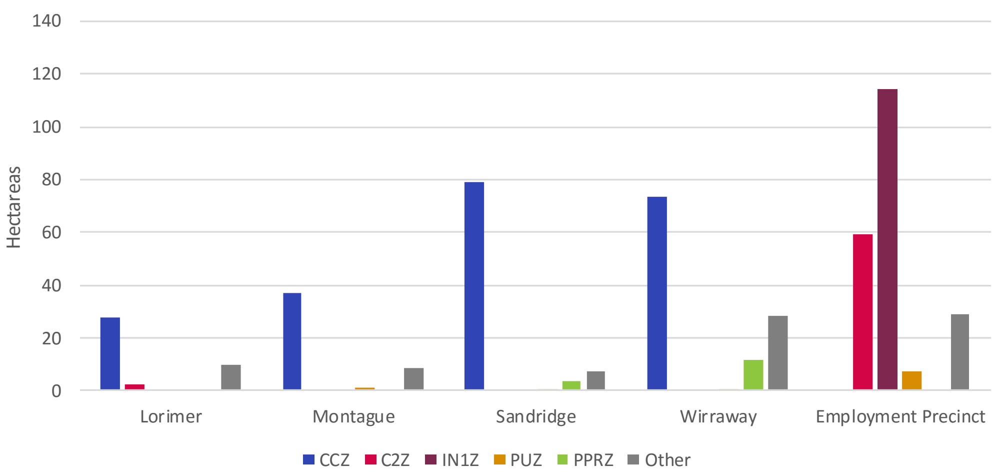
Fishermans Bend comprises 529 hectares, including the recent addition of Westgate Park. **Figure 2** and **Figure 3** illustrate the current zoning across the five Fishermans Bend Precincts. The majority of land within the Montague, Sandridge and Wirraway Precincts is zoned Capital City Zone (CCZ1). The Employment Precinct is zoned primarily for employment uses, with a mix of Industrial 1 (IN1Z), and Commercial 2 (C2Z) zoning.

FIGURE 2. FISHERMANS BEND PLANNING ZONES



Source: Victorian Planning Provisions, June 2016
Note: C2Z: Commercial 2 Zone, IN1Z: Industrial 1 Zone, CCZ1: Capital City Zone - Schedule 1, CCZ4: Capital City Zone - Schedule 4, PPRZ: Public Park and Recreation Zone, PUZ1: Public Use Zone - Service And Utility, PUZ2: Public Use Zone – Education, PUZ4: Public Use Zone – Transport, PUZ6: Public Use Zone – Local Government
Note: map excludes Westgate Park which has recently been included in the Employment Precinct

FIGURE 3. TOTAL AREA BY PLANNING ZONE



Source: Victorian Planning Provisions, June 2016
Note: chart excludes Westgate Park which has recently been included in the Employment Precinct
Note CCZ: Capital City Zone, C2Z: Commercial 2 Zone, IN1Z: Industrial 1 Zone, PUZ: Public Use Zone, PPRZ: Public Park and Recreation Zone. Other includes: SUZ: Special Use Zone and RDZ: Road Zone

Total and net developable land area

Total land area alone does not provide an accurate measure of a precinct's development potential. The net developable land figure, which excludes public infrastructure such as roads, footpaths and parks along with other key assets, provides a better way of understanding how intensively commercial and residential development will occur across Fishermans Bend. Drawing on current land parcel data and the Fishermans Bend land budget assessment, **Table 1** below provides an estimate of total and net developable land for each of the Fishermans Bend precincts.

Across all precincts approximately 65 per cent of the land is considered 'developable' (noting much of this has already been developed). Net land is only 50-60 per cent of the total in Lorimer and Montague, each of which has an established urban structure. In the Employment Precinct net developable land is estimated to comprise 73 per cent of total land at present. With finer grain urban areas generally requiring a higher quantity of public space in the form of roads, public parks, plazas, etc, the proportion of land considered developable is likely to reduce over time.

TABLE 1. TOTAL AND NET DEVELOPABLE LAND AREA, HECTARES

Precinct	Total	Net area	% of land
Lorimer	40	22	54%
Montague	47	27	57%
Sandridge	91	64	70%
Wirraway	115	60	52%
Employment Precinct	236	173	73%
Fishermans Bend	529	345	65%

Source: SGS Economics and Planning

Note: Exact figures for land area by precinct are still being confirmed, so figures used in the above table and elsewhere in the report may be subject to change. The figure for Employment Precinct includes Westgate Park which has recently been incorporated into the Employment Precinct.

The Fishermans Bend Vision indicates that further open space and transport infrastructure is to be added to the study area over coming years, further reducing the quantity of net developable land over time.

Land ownership structure

The land ownership structure plays a significant role in determining which policy tools Government can use to influence the precinct's future. Fishermans Bend is largely privately owned, with ownership relatively fragmented. This contrasts sharply with the situation in Docklands in the early 1990s, where ownership was largely in State Government hands.

Places Victoria (the agency initially responsible for the development of Fishermans Bend) commissioned a number of background reports that were used as inputs into the 2014 Strategic Framework Plan for Fishermans Bend. These included a land budget, which systematically identified various characteristics of the land within the study area including Ownership. The land budget was further updated to include the Employment Precinct.

Figure 4 and **Figure 5** overleaf illustrate the fragmented nature of land ownership across the Lorimer, Wirraway, Sandridge, Montague and Employment Precincts, with much of this in private hands. Land is somewhat more consolidated within the Employment Precinct with generally larger land parcels.

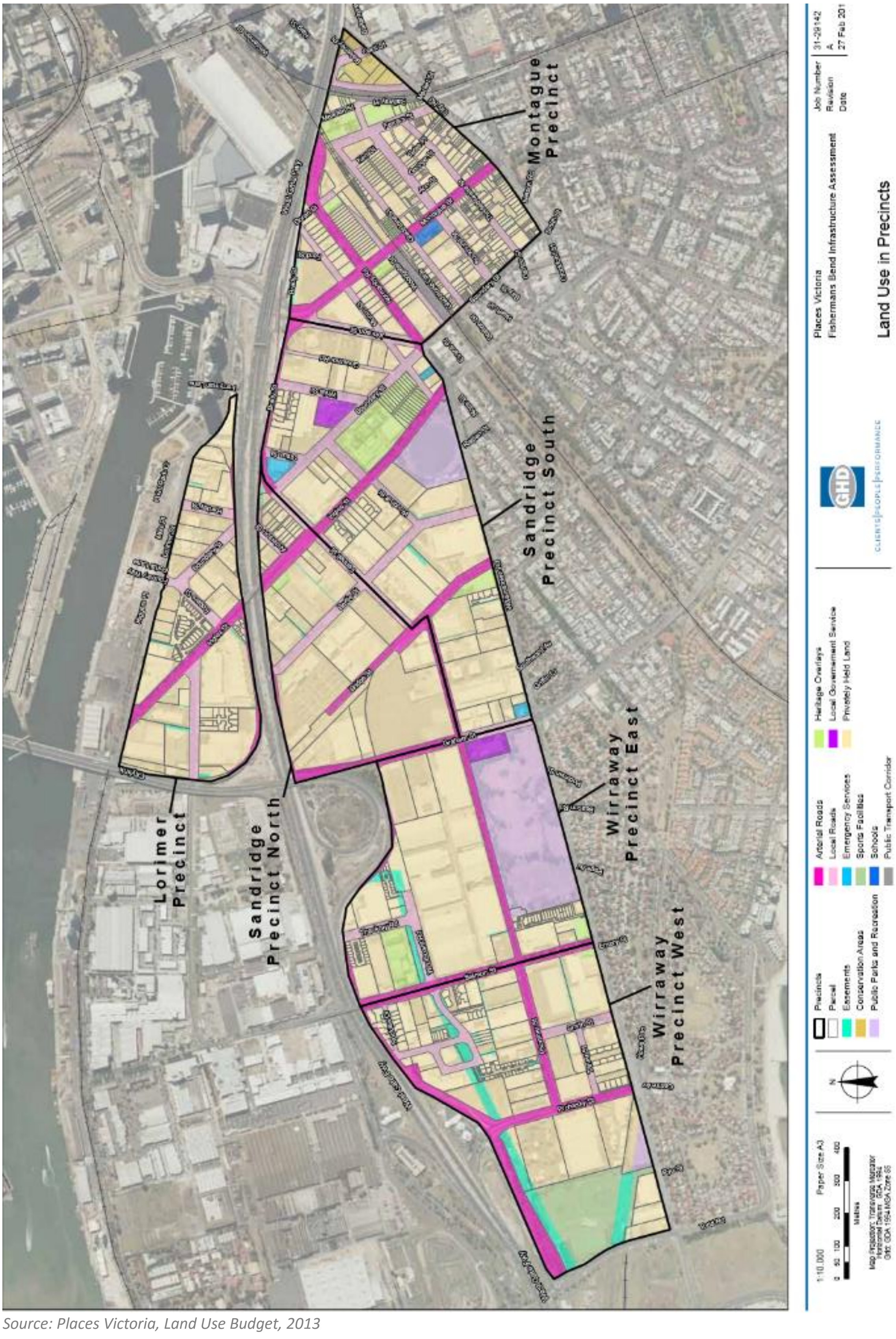
This assertion is supported by the Fishermans Bend Advisory Committee Report (2015) that noted:

> *Maximising these opportunities is complex because the Area has difficult geotechnical conditions and high levels of contamination, and* ***unlike most large urban renewal areas in comparable cities, the land is largely in fragmented private ownership****. These factors make a best practice approach to the renewal task imperative.*[3]

Private fragmented ownership has the potential to complicate the Government's task of creating and realising a vision for the study area. This reflects the fact that land required for road, transport and social infrastructure can only be procured following redevelopment, and the timing and scale of redevelopment is not something that can be directly controlled by the Government.

[3] For more information, please see: haveyoursay.delwp.vic.gov.au/Fishermans-bend/documents/36318/download

FIGURE 4 FISHERMANS BEND LAND USES AND OWNERSHIP



Source: Places Victoria, Land Use Budget, 2013

FIGURE 5. FISHERMANS BEND (EMPLOYMENT PRECINCT) LAND USES AND OWNERSHIP

Source: Fishermans Bend Taskforce, Land Use Budget, 2016

Surrounding context and transport linkages

Fishermans Bend sits on the edge of the Melbourne CBD with a number of key assets and transport infrastructure linkages within or in close proximity to the precinct. Owing to the scale of Fishermans Bend, the benefits associated with these linkages are not spread evenly across the precinct. Existing transport infrastructure works to both link and divide the precinct, a subject to be discussed in greater detail below. Figure 6 (overleaf) provides an overview of key linkages and features influencing the precinct. It is not intended to be comprehensive and separate background papers have investigated transport and other features in much greater detail.

Transport infrastructure
Apart from the Montague Precinct which is well serviced by light rail routes 109 and 96, the majority of Fishermans Bend is relatively poorly connected by public transport. A number of bus routes run along City Road, Normanby Road/Williamstown Road, Lorimer Street and Salmon Street. Existing walking and cycling networks are limited, with a lack of dedicated routes. Meaningful expansion of these networks is impeded by the scale of industrial sites and the volume of local commercial and freight vehicle traffic.

CityLink and the Westgate Bridge provide excellent access to the rest of the metropolitan region, though they also act as significant barriers to movement between the northern and southern parts of Fishermans Bend with relatively few crossings currently in place. The private road network across Fishermans Bend has been shaped by its industrial heritage, with road configurations favouring industrial users. Renewal is likely to lead to the development of a greater role for other modes (walking, cycling, public and private transport), and the wider road corridors represent a key opportunity in this respect. The extent to which there are gaps in the existing network is being investigated as part of a separate background report.

In early 2012, the Victorian Government announced the $1.6 billion Port Capacity Project, which is to include expansion of capacity at the two existing Swanston Dock terminals and the creation of a new container terminal and world class automotive facility at Webb Dock. The Webb Dock project will be completed by 2017.[4]

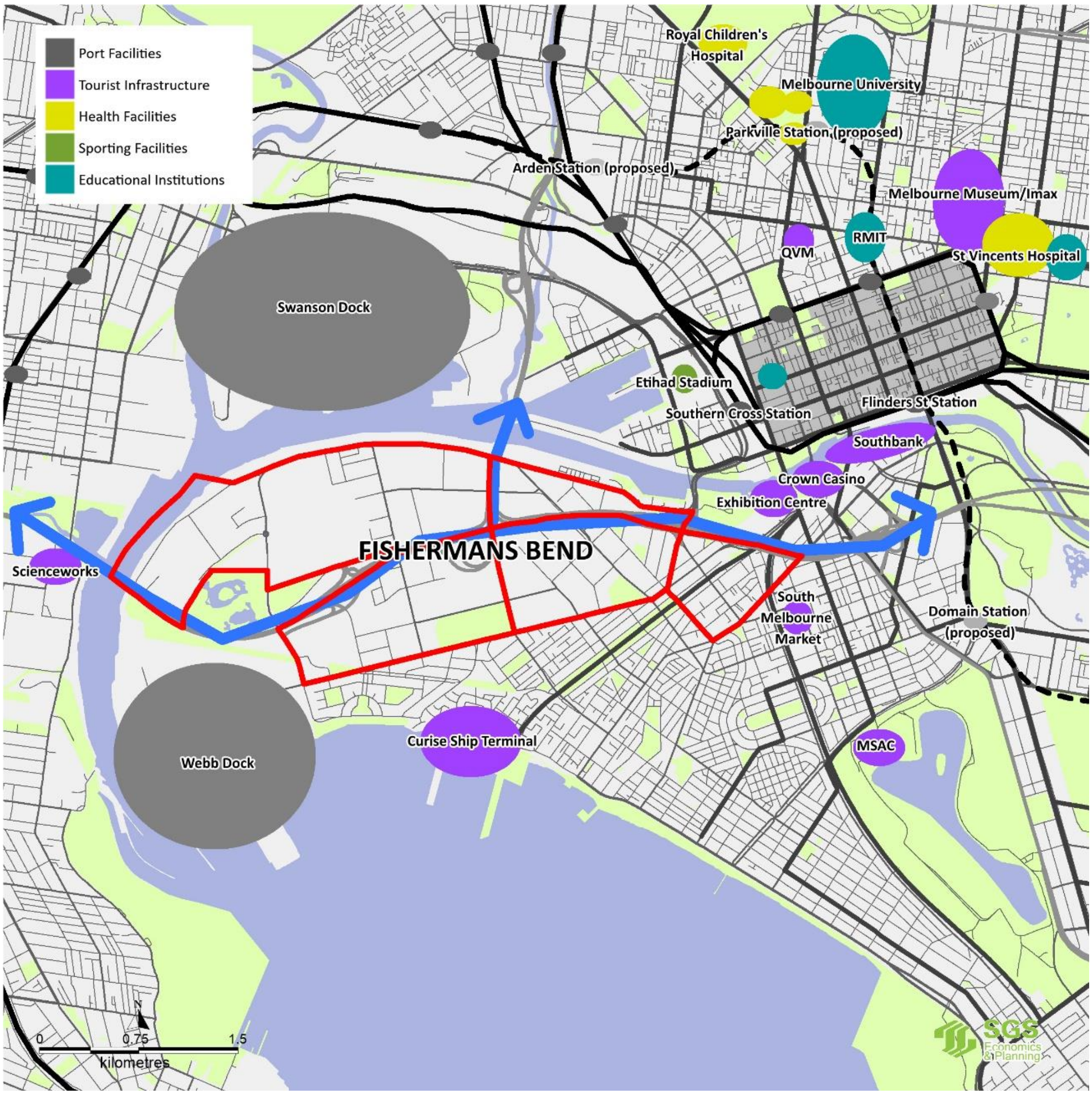
Key economic assets
As a result of its inner city location, Fishermans Bend is well-positioned in relation to key infrastructure assets and features, the most important of which are highlighted in **Figure 6**. Key assets closest to Fishermans Bend have a strong cultural focus, including Southbank, the Cruise Ship Terminal and South Melbourne Market. The proximity of cultural and tourism assets represents an economic opportunity for the precinct.

The large number of social assets (particularly to its east) indicates that Fishermans Bend has the potential to be a desirable place to live and also as a location for accommodation services targeted at interstate and international tourists.

The proximity of the Port of Melbourne and the West Gate Bridge also underpins the status of Fishermans Bend, and the Employment Precinct in particular, as an attractive location for businesses linked to manufacturing, wholesale, transport and warehousing.

[4] Places Victoria, Fishermans Bend Draft Vision, 2013.

FIGURE 6. KEY FEATURES AND LINKAGES



Source: SGS Economics and Planning

2 CONTEXT

The following chapter provides context for the SGS' economic analysis from a number of perspectives:

- A **brief history of Fishermans Bend** helps build an understanding of how the precinct has evolved, outlining the natural and economic factors that have underpinned its evolution. Understanding this history is an important step in securing Fishermans Bend's future.
- The **planning and policy context** section addresses the current local policy context and references broader policy objectives for Melbourne.
- Fishermans Bend has and will continue to play an important role in the metropolitan Melbourne economy. As such, outlining the **broad economic context**, including the structural shifts and trends that will shape it is important.

2.1 A brief history of Fishermans Bend

Pre-Settlement

The Yalukit-Willam clan of the coastal Boon Wurrung peoples are thought to have utilised the wetlands at the Yarra River mouth and the freshwater flows of the Yarra above the falls to gather various and plentiful foods for around 40,000 years before European settlement. Though these areas would have been accessible along the bay, the swampland and heavy scrub on the river bank to the north of what is now the Fishermans Bend area would have made general transit difficult for early indigenous peoples. It is thought that these local Aboriginal people would have exploited the coastal fisheries and waterfowl found in the locality for trade between other indigenous groups within the Kulin nation and beyond.

Post-Settlement

Situated between the southern bank of the Yarra River, and the waters of Port Phillip Bay where it meets the mouth of the Yarra, Fishermans Bend was originally sandy and poorly suited to development. In 1835 at the founding of Melbourne, the Port Melbourne area was known as 'Sandridge' due to the extensive dunes along the bay. By 1839 the entrepreneurial Wilbraham Frederick Evelyn Liardet had built a home there. Liardet built the earliest jetty and mooring, utilising this in his provision of the first mail service to Melbourne. Following European settlement the difficulties navigating the lower Yarra saw many ships moor in Port Phillip Bay and transfer their cargoes ashore across the flats. This provided impetus for a railway connection which was first proposed in the 1839 before being established in 1854.

The 1850s-1900s

The area was an important stepping-off point for those flocking to the post-1851 gold rushes, and as such to the western edge of the area a tent city known as 'Canvas Town' was erected along lines of fully operational streets with shops. This occurred on the higher ground that later became known as Emerald Hill, which saw first land sales that took place 1852 lead to the full dispersal of Canvas Town by 1854. This led to a booming permanent population, with the various industries that came with it. These early industries included noxious trades such tanneries, and nearby residents were mostly the down-at-heel, including vagrants and the dispossessed. By the 1890s-1900s there was heavy exploitation of the sand from the local quarries, while an eventual connection to sewerage brought an end to the manure depot located in the area.

FIGURE 7. HISTORICAL MAP OF FISHERMANS BEND - 1910

Source: 1910 Department of Lands and Survey Melbourne, Victorian State Library

Early 1900s-1950s

Though mostly an industrial hub since the development of Melbourne, the area also encompasses the development known as 'Garden City,' which was a planned Housing Commission project built between 1926 and 1940. The post war population boom – which included a migration scheme – saw Fishermans Bend become a concentrated area of residential and employment growth after the 1950s. Many of these industries were those that took advantage of proximity to the freight and transport hub at Port Melbourne, as well as early industries including refining, soap production, candle works, chemical works, rice and flour mills, gasworks, distilleries and other factories. Webb Dock was developed in 1959, and continues to be an important sea freight terminal.

1950s to today

This industrialised use of the area continued in hand with dock working operations and warehousing, the latter continuing today even as the former dissipated after the moving of most harbour undertakings to Swanson Dock in 1968. Fishermans Bend is now an expansive industrial and employment area, with thriving residential development at its southern end. While industrial activity has prospered in the area for many decades, changing macroeconomic trends have seen industries relocating in search of cheap land and large floorplates, giving need to rethink and plan for the future of the area.[5]

[5] Biosis, Fishermans Bend Heritage Study, 2013

2.2 Planning and policy context

In 2010 Fishermans Bend was identified as a strategic renewal area for Melbourne. Since then the vision and plan for the precinct, along with is status in other policy documents has continued to evolve.

Initial vision and planning process

Following on from a December 2010 policy platform named the 'Coalition Plan for Planning,' in February 2011 the Coalition Government announced that Fishermans Bend would become 'Australia's first inner-city growth corridor'. In response to changes in land use in Fishermans Bend, and given its tremendous strategic potential, a large section of the area was designated the Fishermans Bend Urban Renewal Area (FBURA) in 2012. The precinct was rezoned to the Capital City Zone (CCZ1) which had the effect of transforming the statutory landscape of the area[6]. Under the CCZ1, high rise residential and office developments were permitted as of right in the planning scheme (providing threshold distances were met in regards to the former), and the site assumed strategic significance, with the Minister for Planning made Responsible Authority for development proposals over a certain threshold.

Besides this, strategic and statutory planning actions relevant to the area included the formation of a July 2012 Coordination Group established by Places Victoria. The Group's remit was to oversee strategic planning and commission due diligence reports. The Montague Structure Plan was released by the City of Port Phillip in September 2012 after community consultation, however this was not incorporated into the planning scheme. In September 2013, Places Victoria in conjunction with the City of Melbourne and the City of Port Phillip released the Fishermans Bend Draft Vision.

The Fishermans Bend Strategic Framework Plan (SFP) was released in July 2014, after a Draft Vision and Interim Design Guidelines in the previous year. While the SFP included design guidelines for the precincts, these were at a relatively high level. Interim mandatory maximum height controls have since been introduced and the SFP updated, as a part of the April 2015 'review and recast' of the project. This introduced height limits of 40 storeys for Montague and Lorimer and 18 storeys for Sandridge and Wirraway, with lower limits in areas abutting existing neighbourhoods. The Fishermans Bend Employment Precinct was also added to the FBURA at this time.

Recast vision

In April 2015, following a change of government, a 'recasting' of the Fishermans Bend area was announced by the Victorian Government. The recast vision took a different approach to planning for distinct neighbourhoods, including stronger community engagement and increased Council involvement. Other major changes included:

- Acknowledging the importance of supporting employment diversity across Fishermans Bend with the addition of the Employment Precinct.
- Aligning objectives with those of Plan Melbourne Refresh by incorporating new transport initiatives, measures to build climate change resilience, measures to address housing supply, diversity and choice, as well as enhanced objectives around sustainability and energy efficiency.
- Acknowledgement of the potential impacts of built form on livability within the precinct.

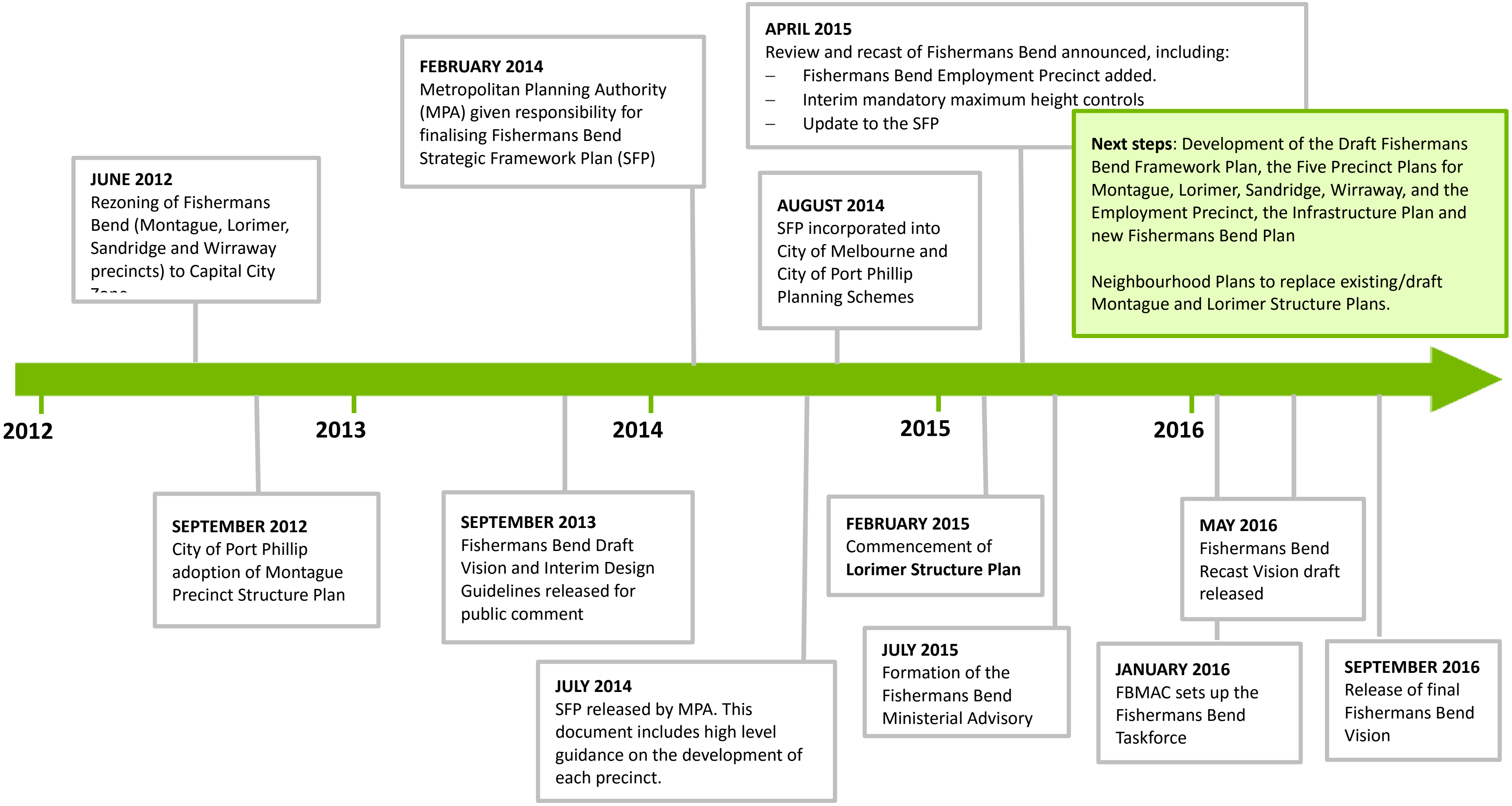
A Fishermans Bend Ministerial Advisory Committee (FBMAC) was created in July 2015 to review the planning process for the Fishermans Bend and provide independent advice to the State Government. In its October 2015 report, FBMAC concluded that the original planning and implementation arrangements for the area were flawed and would result in poor outcomes for all major stakeholders.

FBMAC recommended that immediate action be taken in regard to redefining the precinct vision and rationale; establishing an effective system of governance and financial arrangements; and confirming key decisions around future transport infrastructure. FBMAC recommended that no detailed neighbourhood

[6] Until then zoned predominantly for commercial (B3Z), and industrial (IN1Z and IN3Z) uses.

planning take place for Lorimer, Wirraway, Sandridge and the Employment Precinct until these immediate actions had been taken.

FIGURE 8. A TIMELINE OF KEY PLANNING MILESTONES, FISHERMANS BEND



Source: SGS Economics and Planning, 2016

2.3 Broad economic context

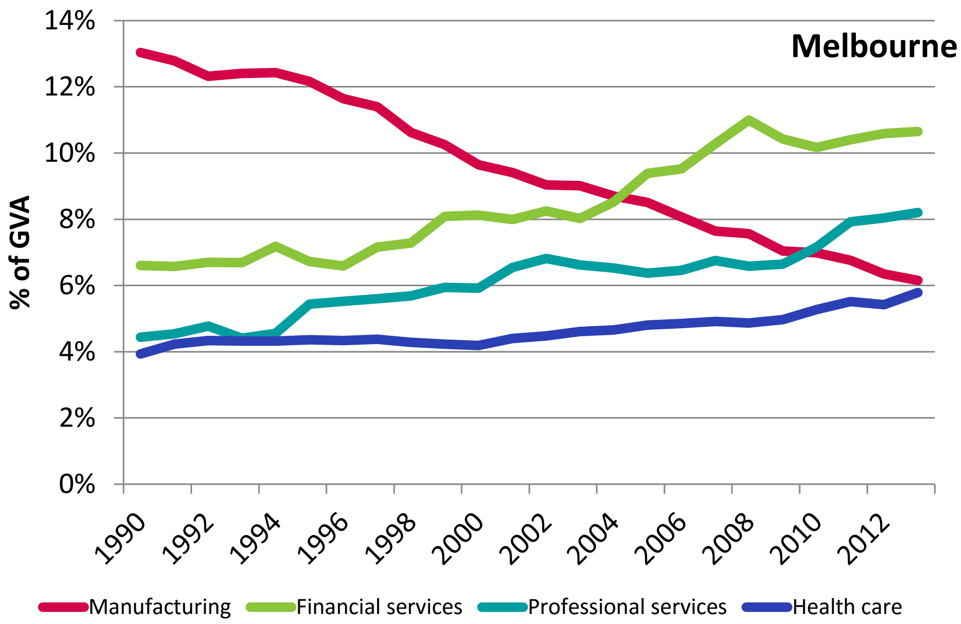
Structural changes in the Melbourne economy

Over the past 25 years, Victoria's economy has evolved from one heavily reliant upon manufacturing to one in which knowledge-intensive service industries are now the dominant activities. This trend has been keenly felt in Melbourne, where financial, professional and health care services have become increasingly important, largely at the expense of manufacturing (See Figure 9).

A macroeconomic reform programme beginning in the early 1980s sought to increase the competitiveness of Australian economy by opening it up to global markets, leading to the creation of new opportunities in growth sectors and declining prospects in sectors such as manufacturing. Melbourne's economy had always had a heavy reliance on manufacturing, and the economic restructuring that followed these reforms was felt particularly strongly in Melbourne and across Victoria.

Victoria was among the states hardest hit by the 1990s recession, with substantial contraction in economic activity leading to company closures and widespread unemployment, mostly in sectors (such as manufacturing) that were vulnerable to global forces. From the mid-1990s however, the economy of Victoria – and Melbourne in particular – has grown strongly, driven by the growth of economic activity in financial and professional services, health care and education.

FIGURE 9. ECONOMIC STRUCTURAL CHANGE – MELBOURNE 1990-2012



Source: SGS Economics and Planning[7], 2016
Note GVA - Gross Value Added; the income generated by each industry

Whilst many firms in goods-producing industries have disappeared since the 1980s, these will continue to play an important economic role. These industries will prosper through innovation and this will demand, directly or indirectly, heavy involvement by professional services[8]. Likewise, population serving sectors like retail, health and hospitality will require access to these analytical and creative service industries. These structural trends are sometimes summed up as the 'shift to the knowledge economy.'

[7] SGS synthesises 'city level' economic data for Melbourne and other major cities. The data draws on ABS data, State Accounts and other industry specific auxiliary data sources. Further detail is available here: https://www.sgsep.com.au/about/latest-news/australian-cities-accounts-2014-15

[8] For more information, please see: http://www.rba.gov.au/publications/bulletin/2010/sep/1.html

Increasingly Australia's wealth and employment creation is now reliant on mostly big city based knowledge services.

Spatial implications of structural trends in the economy

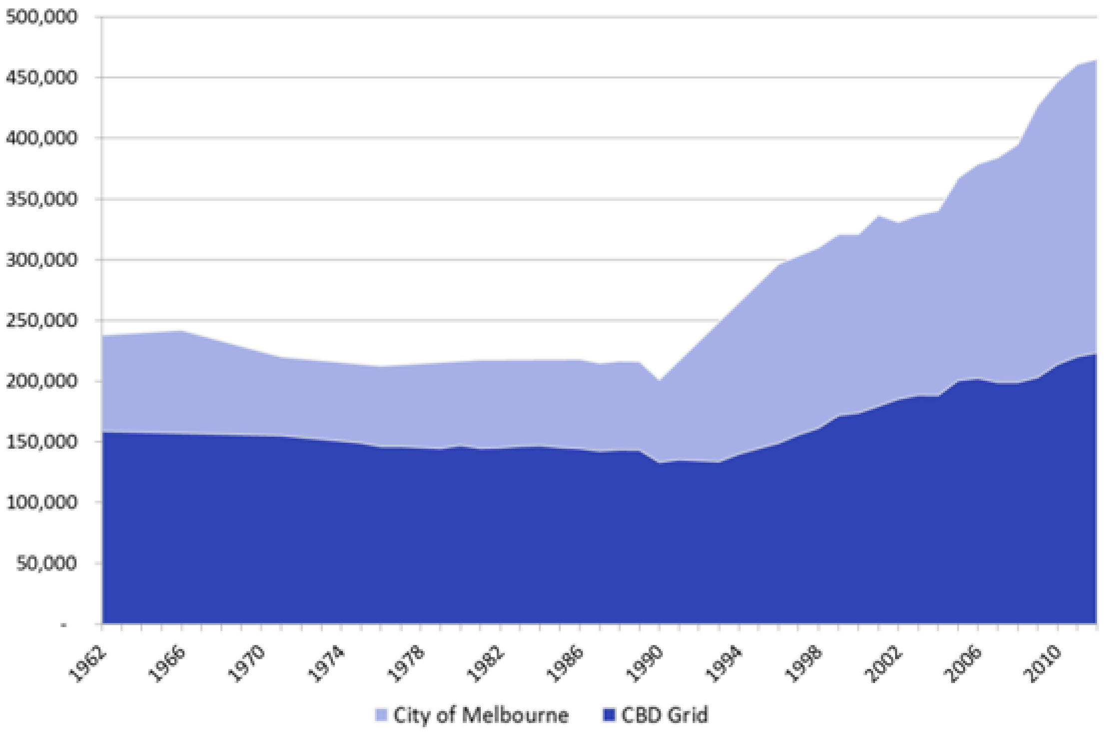
This new knowledge services based economy has significantly different drivers from the old industrially-oriented economy, and this has had significant impacts on the spatial structure of employment and economic growth.

Knowledge services concentrate in city locations, despite the higher rents and congestion, because, on balance, a central location is a key source of competitive advantage. This advantage stems from superior access to skills, complementary services and customers, resulting in improved formal and informal knowledge transfers. Massing or 'agglomeration' of these services improves their capacity for innovation and therefore their ability to boost their own competitiveness and that of their customers.

Increased employment growth has been enabled by urban renewal activity in underutilised areas close to the CBD, along with increased development within the CBD grid itself. The Government-led revitalisation of Southbank and Docklands aligned with this structural shift, providing key additional capacity for the central Melbourne economy, and driving growth in the most productive sectors of the economy. These along with other major redevelopments have supported the creation of specialised inner-city precincts including St Kilda Road (support office), Southbank (cultural), Docklands (head office), and Parkville (health and education).

As a result, the CBD and immediate surrounds has grown substantially since the early 1990s, with the City of Melbourne now home to half a million jobs (Figure 10). This doubling of employment growth in the City of Melbourne follows 30 years of relative stagnation. It reflects a structural rather than a cyclical change in the spatial arrangement of employment.

FIGURE 10. HISTORICAL EMPLOYMENT IN THE CBD AND CITY OF MELBOURNE



Source: ABS, SGS Economics and Planning
Note: CBD is defined as the 'Hoddle grid' that extends east-west from Spring Street to Spencer Street, and north-south from Flinders Street to La Trobe Street.

In light of the interplay between the structure of the economy, the distribution of jobs, and the distribution of population, centripetal forces will continue to drive the expansion of centrally located knowledge-intensive employment. This will be enabled by significant capacity for growth in Melbourne's highly productive CBD and the expanded Central City – to which Fishermans Bend provides a significant contribution.

Inner city employment and Fishermans Bend

Table 2 summarises employment estimates across the inner city in 2011 and 2016. Significantly, Fishermans Bend is in close proximity to Docklands, Southbank, and the Melbourne CBD, which, combined account for close to 360,000 jobs in 2016. The provision of quality connections between Fishermans Bend and these employment-rich precincts has the potential to unlock agglomeration economies that will drive the future growth of the precinct.

TABLE 2. EMPLOYMENT ACROSS INNER MELBOURNE REGIONS, 2011-2016

Districts	2011		2016		2011-2016	
	No.	%	No.	%	No.	%
Melbourne CBD	243,000	50%	256,000	49%	13,000	35%
Southbank	48,000	10%	49,000	9%	1,000	3%
Docklands	40,000	8%	55,000	11%	15,000	41%
Fishermans Bend	30,000	6%	31,000	6%	1,000	3%
East Melbourne	25,000	5%	25,000	5%	0	0%
City North	21,000	4%	22,000	4%	1,000	3%
St Kilda Road Melbourne	16,000	3%	17,000	3%	1,000	3%
Parkville	16,000	3%	17,000	3%	1,000	3%
Carlton	13,000	3%	14,000	3%	1,000	3%
Arden	11,000	2%	11,000	2%	0	0%
North Melbourne	7,000	1%	7,000	1%	0	0%
Kensington	6,000	1%	7,000	1%	1,000	3%
Dynon Rd	3,000	1%	4,000	1%	1,000	3%
E-Gate	2,000	0%	3,000	1%	1,000	3%
South East Melbourne	1,000	0%	1,000	0%	0	0%
Inner Melbourne total*	482,000	100%	519,000	100%	37,000	100%

Source: SGS Economics and Planning

Note: The Inner Melbourne region does not align geographically with either the City of Melbourne or the 'expanded central city' described within Plan Melbourne. See Appendix 4 for map.

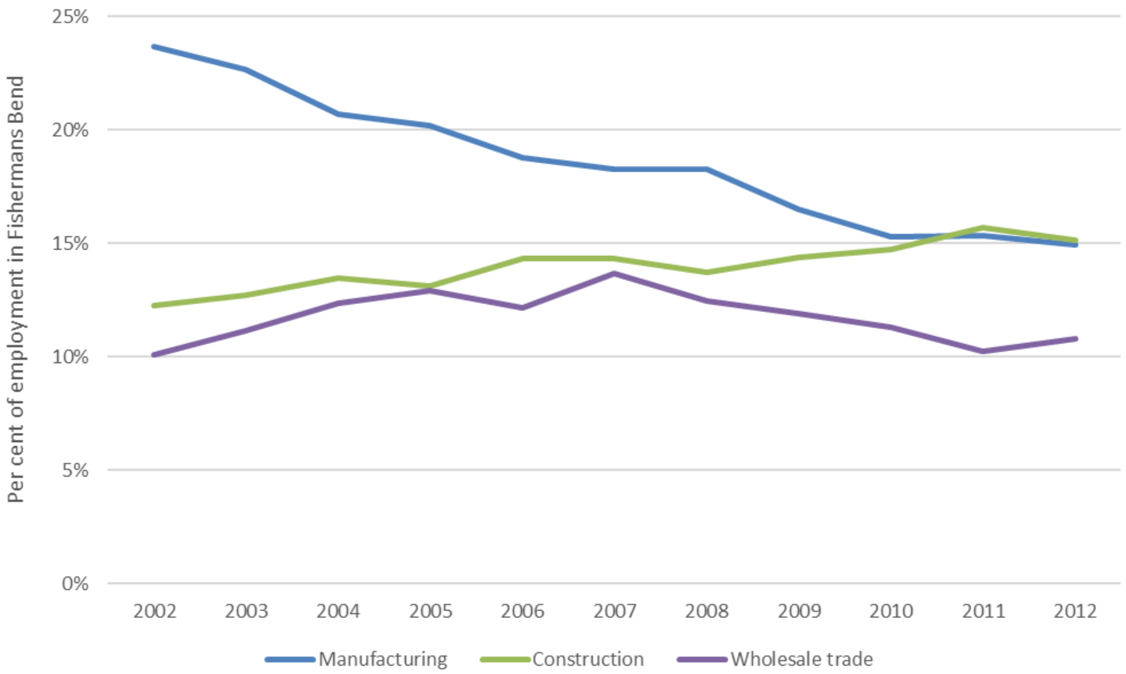
2.4 Implications on Fishermans Bend

Implications of long-term trends for economic activity in Fishermans Bend

The effects of structural change and the associated decline in manufacturing across Melbourne has impacted Fishermans Bend over the past decade, as shown in **Figure 11** and 12 below.

While Fishermans Bend is yet to attract a significant volume of service sector employment, the size and relative shares of employment in the construction and administrative and support services sectors has risen solidly. Retail trade has also grown relatively strongly, driven by an increase in economic activity in Fishermans Bend and adjacent regions. In contrast, the number of manufacturing workers as a share of the total has declined and wholesale trade has remained constant.

FIGURE 11. SELECTED INDUSTRIES SHARE OF EMPLOYMENT - FISHERMANS BEND

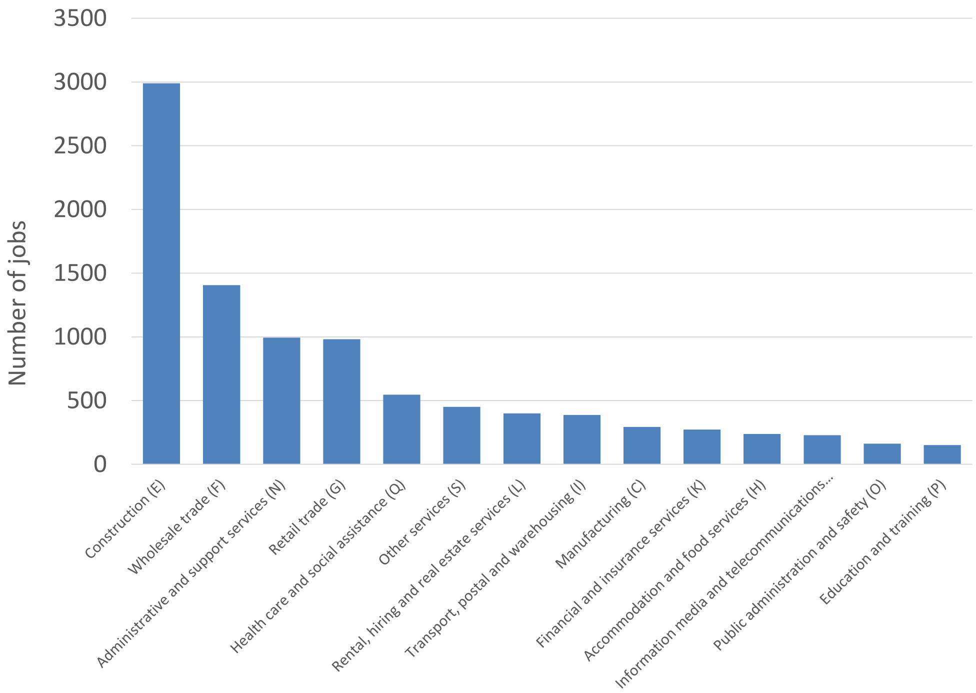


Source: SGS Economics and Planning

Overall employment in Fishermans Bend has increased with much of the growth driven by businesses in the construction, wholesale trade, and administrative and support services sectors. This growth has been underpinned by:

- available land at relatively low cost - this has significantly changed with the rezoning of much of Fishermans Bend to CCZ1 in 2012,
- proximity and ease of access to Melbourne's arterial road network and major trade gateways (i.e. Port of Melbourne, Melbourne Airport),
- access to construction sites in inner Melbourne, and
- access to professional service business clusters in the CBD.

FIGURE 12. EMPLOYMENT CHANGE BY INDUSTRY – 1996 TO 2012



Source: SGS Economics and Planning
Note: Some industries with minimal changes in employment over this period have been excluded for presentation purposes.

More recent developments in Fishermans Bend

As outlined above, four of the five Fishermans Bend precincts were rezoned to the Capital City Zone (CCZ1) in July 2012. This had the effect of enabling a wider range of land uses within the study area that were previously prohibited including high-density residential use. The rezoning led to a substantial number of development applications, particularly in the Montague Precinct. As at June 2015, approval for approximately 6,700 dwellings in 20 individual towers has been granted. A further 23 applications have been lodged for approval to that date, with potential for another 26 towers between 20 to 64 storeys equating to 10,900 dwellings.[9]

The rezoning also generated substantial increases in the price of land in Fishermans Bend. SGS is unaware of the existence of detailed land value data at a geographical level that would be able to quantify this growth, though the real estate agent Mark Wizel, of CBRE, estimates the aggregate value of land at Fishermans Bend has grown from $3.7 billion before the rezoning to as much as $15 billion in its aftermath. Land values have risen most strongly at sites on which permits for high-rise towers have been granted.[10]

Impact of residential development on FBURA employment profile

Residential land represents the most lucrative development option for landowners in the northern part of FBURA in particular. With residential uses representing highest and best use, there is a threat that residential development will effectively 'crowd-out' employment opportunities within Fishermans Bend. A lack of appropriate intervention therefore poses a major threat to the FBURA's development as a location for future employment.

[9] For more information, please see: haveyoursay.delwp.vic.gov.au/Fishermans-bend/documents/36318/download
[10] For more information, please see: http://www.theage.com.au/victoria/lowend-buyers-shut-out-of-Fishermans-bend-20141101-11fh5p.html

3 ECONOMIC AND SOCIAL CONTRIBUTION

The following chapter focuses on Fishermans Bend and its current economic and social contribution to the broader economy. The chapter quantifies the precincts employment, economic and financial contribution. It then provides a high level understanding of some key social indicators.

3.1 Social and economic contribution of Fishermans Bend

Summary

While Fishermans Bend is the largest inner city urban renewal site in Australia, from a metropolitan perspective it comprises a relatively small area of land – 529 hectares, or 0.19 per cent of the total for metropolitan Melbourne[11]. It plays an even smaller role from a population perspective with only 200 residents in 2016. This is rapidly changing, however, with significant amounts of residential development already occurring in the precinct, particularly at Lorimer and Montague.

While in the early stages of a significant structural transition, from an employment and economic perspective the precinct still makes a strong contribution to the broader metropolitan economy. It currently has around 30,550 jobs which generate $3.8 billion to the economy (in Gross Value Added terms) – equivalent to 1.3 per cent of total jobs and just under 1 per cent of total economic activity across metropolitan Melbourne.

Fishermans Bend is home to a significant cluster of creative industries that may be threatened by the proliferation of residential development. Appropriate zoning responses will be required to ensure that these businesses are able to remain, driving new employment growth and underpinning the future economy of Fishermans Bend.

Along with this economic activity comes a contribution to government revenues in the form of taxes. It is estimated that the precinct generates $1.377 billion in tax revenues, with most of this collected by the Federal Government.

The social contribution (or non-economic contribution) of any location is complex and difficult to simply quantify. Some key indicators have been reviewed, and these have suggested a significant current shortfall across the precinct. Further research is required to fully understand this issue and investment to ensure it is addressed as the precinct transitions into a mixed use and knowledge-based employment hub.

[11] Defined by gross land within the Urban Growth Boundary

TABLE 3. FISHERMANS BEND SOCIAL AND ECONOMIC CONTRIBUTION

	2016	% of Gr Melbourne
Land area (hectares)	529	0.190% (278,384)
Population	200	0.004% (4,560,000)
Total employment	30,554	1.314% (2,325,000)
Economic contribution (GVA $m)	$3,800m	0.985% ($285,000m)
Financial contribution ($m)		
- State contribution	$233m	
- Federal contribution	$1,144m	
Social contribution	*low*	

Source: SGS Economics and Planning

Social and Economic Method Overview

A comprehensive land, employment or economic audit of the whole precinct is not available. As a result, SGS was forced to synthesise data drawing on a number of sources. The following provides a brief overview of the approach used to estimate the contribution of Fishermans Bend. Additional detail can be found in the report Appendix.

Employment contribution

The employment contribution was estimated on a 'place of work' basis, that is jobs located within the Fishermans Bend. SGS took the following steps to estimate current employment levels in Fishermans Bend:

1. **ABS 2011 Census** employment by industry by *place of work* is used as a base dataset. The data is available at very fine geographical level (technically known as Destination Zones).
2. There is an **undercount in the raw 2011 Census data** due to people incorrectly filling out Census forms. SGS realigned the ABS Census data to the ABS Labour Force Survey at Metropolitan level. This was completed in a number of steps to reallocate unallocated employment at the most appropriate geographic and industry levels.
3. Destination Zone data was then **allocated to Fishermans Bend** based on the area overlap of the destination zones and the five precincts, adjustments were made for non-employment land,
4. **Employment growth between 2011 and 2016** was then estimated based on historical growth rates as well as some professional judgement regarding more recent employment patterns,
5. For the portion of Fishermans Bend that is located within the C**ity of Melbourne additional adjustments** were made regarding more recent employment patterns based on (i) the latest City of Melbourne Census of Land Use and Employment (CLUE) data; and (ii) City of Melbourne Development Activity Monitor (DAM).
6. The Department of Environment, Land, Water and Planning 2015 Urban Development Program (UDP) along with a number of other datasets and benchmarks/checks were also used to further **refine the estimates to 2016**.

Economic contribution

The following steps were taken to produce estimates of Gross Value Added for Fishermans Bend:

1. Identification of the total number of jobs by industry accommodated within each precinct,
2. Estimation of GVA per hour worked by industry, based on SGS' Cities accounts (link),
3. Calculation of the GVA generated in each precinct based on estimates of the average number of hours worked per person from the ABS.

Financial contribution

The following steps outlines the methodology and assumptions SGS has employed to estimate the various state and federal taxes that are collected from Fishermans Bend:

1. SGS produced estimates of GVA by precinct,
2. Historical ratios of GVA and compensation of employees and company income were obtained,

3. These ratios were used to estimate compensation of employees and company income taxes paid by businesses located in the study area,
4. Historical ratios of key tax revenue sources and compensation of employees and company income were obtained,
5. These ratios were used to estimate key tax sources such as company tax and payroll tax,
6. These tax revenue sources were then used to estimate other sources based on historical relationships.

Social contribution

Quantifying the social contribution of Fishermans Bend is a complex procedure in the context of a strategic level project such as this. A selection of indicators were reviewed, however additional research is required.

3.2 Employment contribution

Fishermans Bend employment

Fishermans Bend currently accommodates close to 31,000 jobs across a range of industry sectors (see Table 4). By way of comparison, there are around 250,000 people employed in the Melbourne CBD, 55,000 in Docklands, 38,000 in the Dandenong South NEC, and 25,000 at Tullamarine Airport.

The majority of these jobs are blue collar jobs, in sectors including manufacturing, wholesale trade and transport.

– The manufacturing sector is the largest employer in the precinct and currently accounts for close to 22 per cent of the total number of jobs,
– The construction, wholesale trade and transport, portal and warehousing sectors make up a further 38 per cent of employment, while
– Professional services currently account for just under 12 per cent of total employment.

The current industry composition of employment reflects the previous planning zones that largely restricted development to commercial and industrial uses, and the study area's close proximity to Melbourne's ports and interchanges. There is a need to service local workers through continued growth in the size and diversity of the local retail offer, with a greater number of options likely to lead to greater retention of expenditure and accelerated rates of employment growth.

TABLE 4. FISHERMANS BEND, EMPLOYEES BY KEY SECTORS, 2016

Industry	Jobs	Per cent
Manufacturing	6,766	22.1
Construction	4,587	15.0
Wholesale Trade	3,673	12.0
Professional, Scientific and Technical Services	3,616	11.8
Transport, Postal and Warehousing	3,038	9.9
Other	8,872	29.0
Total	**30,554**	**100.0**

Source: SGS Economics and Planning based on ABS data on employment by place of work.

A note on construction sector employment

The number of jobs (measured by place of work) seeks to reflect both permanent and temporary jobs. Construction jobs, in particular, can be quite transitory and difficult to accurately measure.

Following the rezoning of the study area, there have been a number of building approvals submitted and accepted. This is expected to result in a rise in actual construction activity and in turn temporary construction jobs located within the precinct in 2016 and over the coming years.

SGS's estimate of the number of construction workers has focussed on capturing the construction businesses located in the precinct and the number of employees on their books, as opposed to fully capturing the potential cyclical rise in temporary construction jobs located in the study area following the rezoning. Moving forward, these cyclical jobs in construction are likely to help generate income and spending within the study area, though also put some pressure on existing transport infrastructure.

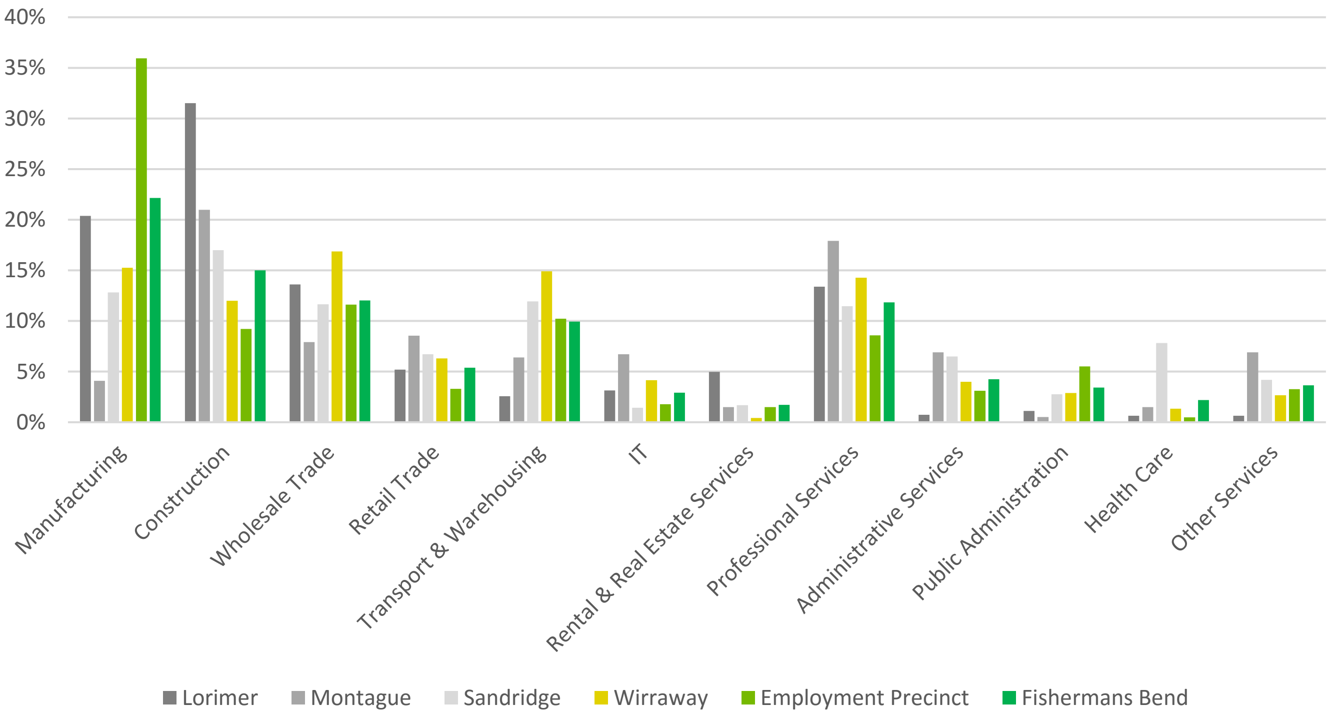
Fishermans Bend employment by precinct

Close to 40 per cent of all Fishermans Bend jobs are located in the Employment Precinct, with the vast majority of these jobs in blue collar industrial sectors such as manufacturing, wholesale trade and transport. The Sandridge Precinct currently accommodates just under 6,000 jobs, while around 4,500 people are employed in each of the Montague and Wirraway Precincts. Employment by industry sector varies significantly across the five precincts (**Figure 13**, **Figure 14** and

Table 5). Some unique attributes of the employment profile of each precinct include:

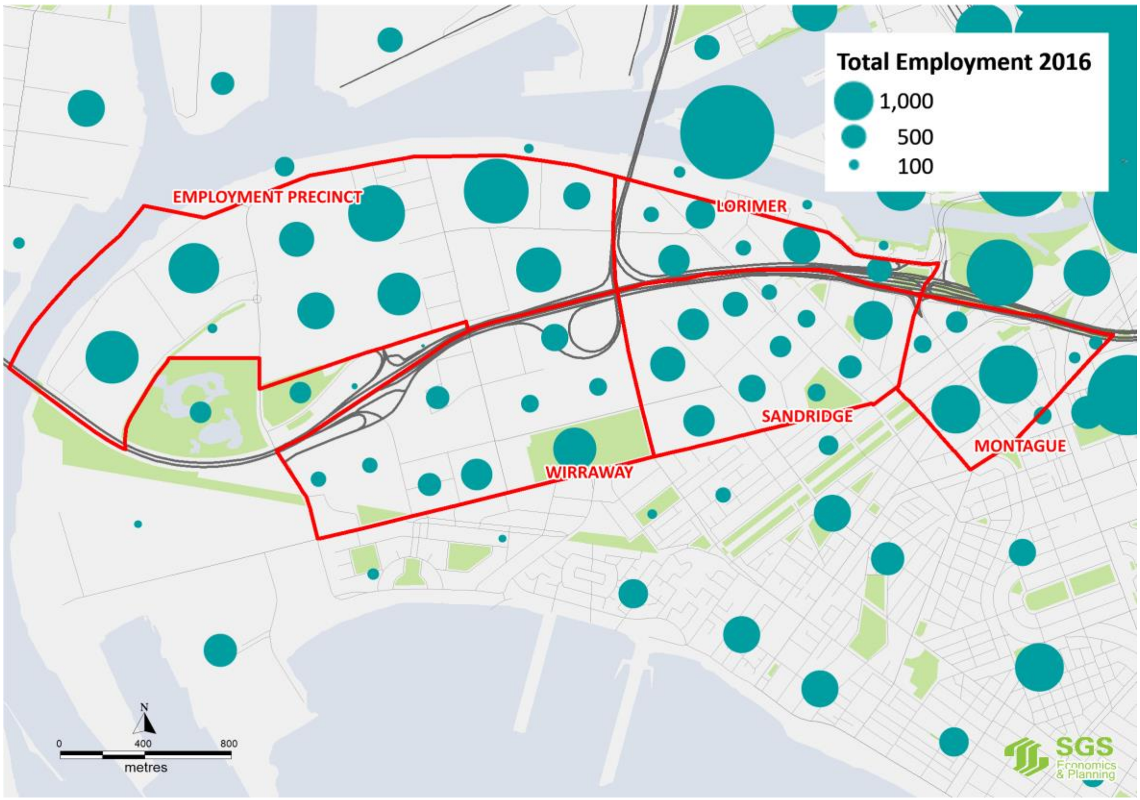
- The **Employment Precinct** accommodates more than 40 per cent of all study area jobs. Within the precinct, there is a relatively high share of employment within the manufacturing sector (35.9 per cent). Besides this, major contributors to employment across the precinct are wholesale trade (11.6 per cent), transport, postal and warehousing (10.2 per cent), and construction (9.2 per cent). Among service industries, professional, scientific and technical services are also relatively important to the local economy (with 8.6 per cent of total employment).
- **Sandridge** is the next most important location for employment, accounting for 19.4 per cent of all jobs in Fishermans Bend. Its economy is relatively diverse, with construction the most important job provider (17.0 per cent of the total). This is followed by manufacturing (12.8 per cent), and transport, postal and warehousing (11.9 per cent). Health care is also a relatively large contributor of jobs.
- In **Wirraway**, wholesale trade (16.9 per cent) is the most important sector. This is followed by manufacturing (15.2 per cent), transport, postal and warehousing (14.9 per cent), and professional, scientific and technical services (14.3 per cent).
- Construction is the most important industry in **Lorimer**, with 31.5 per cent of all workers employed in the sector. The next most important sectors are manufacturing (20.4 per cent), wholesale trade (13.6 per cent), and professional, scientific and technical services (13.4 per cent).
- **Montague** has a relatively diverse economy, and besides construction (21.0 per cent), and professional, scientific and technical services, no other sector accounts for more than 10 per cent of total jobs. Retail is the third largest employer with 8.6 per cent of total jobs, a rate driven by relatively high employment densities and its position proximate to residential areas. In contrast to the rest of the study area, manufacturing employs relatively few people.

FIGURE 13. SHARE OF EMPLOYMENT, FISHERMANS BEND, 2016



Source: SGS Economics and Planning
Note: for visual clarity, the above figure excludes industry sectors that employ fewer than 500 people. Sectors excluded are agriculture, mining, utility services, accommodation and food services, financial services, education, and arts & recreation.

FIGURE 14. EMPLOYMENT BY TRAVEL ZONE, FISHERMANS BEND, 2016



Source: SGS Economics and Planning

TABLE 5. EMPLOYMENT BY INDUSTRY, FISHERMANS BEND, 2016

Industry	Lorimer	Montague	Sandridge	Wirraway	Employment Precinct	Total
Agriculture	0	0	35	0	6	41
Mining	1	0	0	0	12	13
Manufacturing	585	189	759	681	4,552	6,766
Utility Services	13	53	16	0	61	143
Construction	904	972	1007	536	1,168	4,587
Wholesale Trade	390	367	690	754	1,472	3,673
Retail Trade	149	396	397	282	419	1,643
Accom' & Food Services	0	126	31	55	255	467
Transport & Warehousing	74	296	706	666	1,296	3,038
IT	90	311	85	186	224	896
Financial Services	16	31	92	88	225	452
Rental & Real Estate Services	143	69	99	18	191	520
Professional Services	384	830	678	637	1,087	3,616
Administrative Services	21	320	385	178	392	1,296
Public Administration	32	24	163	129	696	1,044
Education	32	165	41	28	19	285
Health Care	18	69	463	59	61	670
Arts & Recreation	0	91	28	50	114	283
Other Services	18	320	247	119	413	1,117
Total (no.)	**2,869**	**4,630**	**5,923**	**4,467**	**12,665**	**30,554**
Total (%)	**9.4**	**15.2**	**19.4**	**14.6**	**41.5**	**100.0**

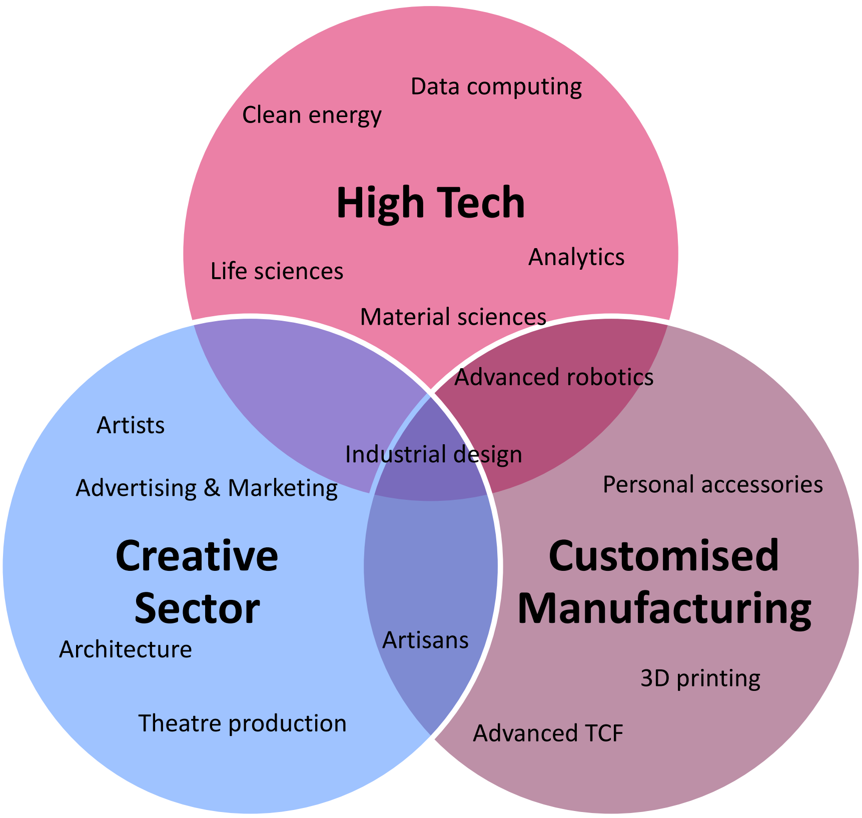
Source: SGS Economics and Planning

A closer look at the creative industry sector and advanced manufacturing

Standard employment industry sectors (ANZSIC) do not isolate employment data that relates to 'emerging' industry groupings such as advanced manufacturing or creative industries. With these industry categories likely to have a major role in future employment growth across Fishermans Bend, it is important to understand their separate roles.

The figure below highlights some of the changing economic activity experienced in industrial areas which could provide opportunities for employment at Fishermans Bend.

FIGURE 15. EXAMPLES OF CHANGING ECONOMIC ACTIVITY IN INDUSTRIAL AREAS



Source: SGS Economics and Planning

Defining 'Advanced Manufacturing'
There are many different interpretations of the 'advanced manufacturing' sector. For this analysis SGS has taken guidance from the Australian Bureau of Statistics, which defines 'advanced manufacturing' as:

> *Any manufacturing process that takes advantage of high-technology or knowledge-intensive inputs as an integral part of its manufacturing process. It includes chemical and medicinal manufacturing, vehicle and transport manufacturing, professional and scientific equipment manufacturing, computer and electronic manufacturing and specialised machinery and equipment manufacturing.*

The sector can be defined more definitively by listing the ANZSIC industries that are assumed to comprise 'advanced manufacturing'. SGS has developed a list of industry sub-sectors and these are presented in Appendix 2.

Defining 'Creative Industries'

Similarly, there are a range of valid approaches to defining the economic activities considered to comprise the 'creative industries'. Creative industries tend to be heavily reliant on a uniquely-skilled labour force, with human capital and state-of-the-art technologies the vital production factors. In creative industries knowledge and skills often intersect with these technologies to produce differentiated outputs that are not easily replicated and often a source of substantial regional competitive advantage.

SGS has adopted the same classification system that was used in the publicly released report for the Creative Industries Innovation Centre's *Valuing Australia's Creative Industries Final Report* (2013). This classification focusses on industry subcategories associated primarily with media and telecommunications and information technology. These industries are presented in Appendix 3.

Table 6 summarises the extent to which creative and advanced manufacturing industries are present at Fishermans Bend in terms of their contribution to employment. The table shows that creative industries account for 8.1 per cent of total employment, while the advanced manufacturing sector accounts for 13.8 per cent (and close to 62.4 per cent of total manufacturing employment). Across the study area, the Employment Precinct and Montague Precinct are the most important locations for creative industry jobs. For advanced manufacturing, the Employment Precinct is by far the most important, accounting for nearly 80 per cent of total advanced manufacturing jobs across the study area.

TABLE 6. CREATIVE INDUSTRY AND ADVANCED MANUFACTURING JOBS, 2016

	Creative Industry			Advanced Manufacturing			
	No.	% of FB	% of emp	No.	% of FB	% of manf'	% of emp
Lorimer	**169**	6.9%	5.9%	**152**	3.6%	31.7%	5.3%
Montague	**809**	32.8%	17.5%	**40**	0.9%	5.1%	0.9%
Sandridge	**258**	10.5%	4.4%	**573**	13.6%	69.4%	9.7%
Wirraway	**264**	10.7%	5.9%	**153**	3.6%	75.4%	3.4%
Employment Precinct	**963**	39.1%	7.6%	**3,303**	78.3%	73.8%	26.1%
Total	**2,463**	100.0%	**8.1%**	**4,221**	100.0%	**62.4%**	**13.8%**

Source: SGS Economics and Planning

Table 7 outlines the composition of the advanced manufacturing and creative industries. Computer systems, newspaper publishing and advertising services make up close to 65 per cent of total creative industry employment, while Boeing and GM Holden are major contributors to the advanced manufacturing sector (see Table 8). Firms involved in the creative industry sector in the FBURA are typically small and far more numerous than those involved in advanced manufacturing. Creative industries tend to be located in the higher amenity Montague and Sandridge Precincts where access to clients, customers and workers is optimised.

The relatively low number of medium and large advanced manufacturing businesses located within the study area indicate that policy intervention is likely to be necessary for the stimulation of new activity in this sector. A number of potential interventions are addressed in Chapter 6 of this report.

TABLE 7. CREATIVE INDUSTRY AND ADVANCED MANUFACTURING JOBS, 2016

	Number	Per cent
Creative industry		
Computer System Design and Related Services	854	35
Newspaper publishing	376	15
Advertising Services	342	14
Book publishing	233	9
Other	658	27
Total creative industries	**2,463**	**100**
Advanced manufacturing		
Aircraft Manufacturing and Repair Services	971	23
Motor Vehicle Manufacturing	2,360	56
Other	890	21
Total advanced manufacturing	**4,221**	**100**

Source: SGS Economics and Planning

TABLE 8. EXAMPLES OF CURRENT ADVANCED MANUFACTURING TENANTS

Tenant	Industry/products	Precinct
Large tenants		
Boeing Aerostructures Australia	Aerospace manufacturing	Employment Precinct
GM Holden	Automotive design and engineering	Employment Precinct
Advanced Composite Structures Australia	Research and development	Employment Precinct
Defence Science and Technology Group	Defence research and development	Employment Precinct
SME tenants		
HydroTerra	Environmental monitoring program design, hardware design and fabrication	Wirraway

Source: SGS Economics and Planning

A closer look at the tourism sector

As with the creative industry sector, tourism straddles a number of standard industry categories. The contribution of tourism is often indirect, generating output and creating jobs in sectors such as retail trade, arts and recreation services, accommodation and food services in particular.

Table 9 presents employment in these 'core' tourism sectors across Fishermans Bend precincts. Currently these sectors represent 8 per cent of total employment. By way of comparison these sectors represent 18 per cent of employment within the Inner sub-region[12]. The share is even higher for some key tourism focused precincts within the inner city.

This highlights that currently Fishermans Bend does not have a strong tourism focus from an economic perspective. This is even true in those precincts which have already begun transitioning, such as Lorimer and Montague.

TABLE 9. TOURISM SECTOR EMPLOYMENT, FISHERMANS BEND, 2016

Industry	Lorimer	Montague	Sandridge	Wirraway	Employment Precinct	Total
Retail Trade	149	396	397	282	419	1,643
Accommodation and Food Services	0	126	31	55	255	467
Arts and Recreation Services	0	91	28	50	114	283
Tourism related sectors	149	613	456	387	788	2,393
Share of total employment	**5%**	**13%**	**8%**	**9%**	**6%**	**8%**

Source: SGS Economics and Planning

As has been described in Section 1.3, Fishermans Bend is strategically located in close proximity to a number of tourism assets that are of metropolitan scale. These include the Southbank (Exhibition Centre, Casino, Arts Centres, etc), Docklands (Etihad Stadium), South Melbourne Market, Melbourne Cruise Terminal, Scienceworks. These assets function as key tourism destinations, attracting both domestic and international visitors.

There is an opportunity for land use within Fishermans Bend to leverage off these assets, and to play a role in providing a location for accommodation and local convenience facilities for visitors. Further tourism infrastructure development, including amenity/ streetscape improvements and wayfinding signage would further support this outcome.

Impact on employment in other parts of Melbourne and Victoria

The economy of Fishermans Bend is inextricably linked to that of metropolitan Melbourne and Victoria. As discussed, Fishermans Bend provides a central location for land-intensive uses such as freight handling and advanced manufacturing. The provision of well-located warehousing and distribution facilities in helps to drive productivity across the Victorian economy. This helps to:

– Drive economic activity and employment in Melbourne's manufacturing precincts by reducing the cost of accessing global markets, and
– Ensure the cost of overseas-sourced inputs to a range of Victorian businesses across all sectors is minimised.

[12] City of Melbourne, Stonnington, Yarra, Port Phillip and Maribrynong

3.3 Economic and financial contribution

Economic contribution of Fishermans Bend

Table 10 below outlines Fishermans Bend's contribution to the economic output of Greater Melbourne in terms of Gross Value Added (GVA). The analysis estimates that Fishermans Bend currently produces close to $3.8 billion in GVA per annum.

This figure represents:

- close to 10 per cent of the GVA created across inner Melbourne, and
- 1 per cent of the GVA created across Greater Melbourne.
- With advanced manufacturing comprising 62.4 per cent of the study area's manufacturing employment, and with creative industries comprising 8.1 per cent of total employment, GVA figures for these industries can be estimated at $401 million and $308 million respectively.

TABLE 10. FISHERMANS BEND, GROSS VALUE ADDED, 2016, $MILLION

Industry	Lorimer	Montague	Sandridge	Wirraway	Employment Precinct	Total
Agriculture, Forestry and Fishing	0	0	5	0	1	6
Mining	0	0	0	0	3	3
Manufacturing	56	18	72	65	433	644
Electricity, Gas, Water and Waste Services	3	14	4	0	16	37
Construction	91	98	102	54	118	463
Wholesale Trade	37	35	66	72	141	351
Retail Trade	18	47	47	33	49	194
Accommodation and Food Services	0	10	2	4	20	36
Transport, Postal and Warehousing	8	33	79	75	145	340
Information Media and Telecommunications	38	132	36	79	95	380
Financial and Insurance Services	5	10	28	27	69	139
Rental, Hiring and Real Estate Services	49	24	34	6	65	178
Professional, Scientific and Technical Services	38	82	67	63	108	358
Administrative and Support Services	6	100	120	55	122	403
Public Administration and Safety	3	3	18	14	75	113
Education and Training	4	21	5	3	2	35
Health Care and Social Assistance	1	4	26	3	3	37
Arts and Recreation Services	0	3	1	2	4	10
Other Services	1	21	16	8	27	73
Total (no.)	**359**	**653**	**729**	**564**	**1 498**	**3,803**
Total (%)	**9.4**	**17.2**	**19.2**	**14.8**	**39.4**	**100.0**

Source: SGS Economics and Planning

The financial contribution of Fishermans Bend

Table 11 below outlines the financial contribution of the Fishermans Bend precinct to government – or tax revenue estimated by the precinct business activity. The bulk of estimated taxation revenue associated with economic activity at Fishermans Bend flows to the Commonwealth Government in the form of company income taxes and taxes on the provision of goods and performance activities, while employers' payroll taxes and taxes on property are the largest sources of revenue for the State Government.

In total, tax revenues flowing to state and federal governments amount to around $1.1 billion and is estimated to represent:

– close to 8 per cent of the GVA created across inner Melbourne, and
– less than 1 per cent of the GVA created across Greater Melbourne.

TABLE 11. TAX CONTRIBUTION, FISHERMANS BEND, 2016, $MILLION

	Lorimer	Montague	Wirraway	Sandridge	Employment precinct	Total
State Taxes						
Employers' Payroll taxes	6	12	13	10	26	67
Taxes on property	9	17	20	14	38	98
Taxes on the provision of goods and services	3	7	8	6	15	39
Taxes on the use of goods and performance of activities	3	6	6	5	12	32
Total	**20**	**41**	**47**	**34**	**91**	**233**
Commonwealth taxes						
Taxes on income	83	146	159	125	323	836
Taxes on employers' payroll and labour force	0	0	0	0	0	0
Taxes on property	0	0	0	0	0	0
Total taxes on the provision of goods and services	30	53	57	45	116	301
Total taxes on the use of goods and performance of activities	1	1	1	1	1	5
Total	**114**	**200**	**218**	**172**	**440**	**1,144**

Source: SGS Economics and Planning

Given its size, Fishermans Bend contributes relatively little in terms of economic output and taxation revenue compared with other inner Melbourne precincts. This reflects:

– low employment density, and
– relatively low productivity among study area businesses.

It is clear however that the importance of the study area should not be solely determined by these metrics. Beyond these measurable benefits, the study area provides a range of essential roles and functions for Melbourne and Victoria more broadly that are not necessarily reflected in the magnitude of the economic or financial contribution. Fishermans Bend delivers the following qualitative benefits to the Victorian economy:

– facilitation of interstate and international trade in goods,
– production of goods that underpin activity in other industry sectors across Victoria, and
– provision of a strategically vital location for employment land, supporting activity elsewhere in inner Melbourne (e.g. in construction).

SGS acknowledge that claimed benefits are qualitative in nature, and as such not readily able to be backed up with data. There is an opportunity for further work to be undertaken to strengthen understanding of the importance of the Fishermans Bend region to the Victorian economy.

3.4 Social contribution

Beyond the economic contribution of the precinct there are non-financial benefits to the community that the precinct does and could provide into the future. These contributions are less tangible and difficult to quantify. Furthermore, there are a wide range of definitions with regard to a precinct's social contribution and liveability.

Green Star Communities

As part of the recast vision Fishermans Bend is aspiring to become a Green Star Community. Green Star Communities provides a framework for renewal precincts to consider more social outcomes. The framework covers five categories:

- Governance,
- Liveability,
- Economic Prosperity,
- Environment, and
- Innovation

Further information is available here: http://new.gbca.org.au/green-star/rating-system/communities/

Understanding Liveability

As Fishermans Bend evolves into a vibrant mixed used precinct, optimising liveability for all users (residents, workers, students and tourists) will become an increasingly important part of realising the vision for Fishermans Bend.

Liveability can be broadly defined as the well-being of a community and represents the characteristics that make a place where people want to live/work now and in the future[13]. It is the sum of the aspects that add up to the quality of life of a place, including its economy, amenity, environmental sustainability, health and wellbeing, equity, education and learning, and leadership[14].

Social contribution and liveability in the context of an economic study

While beneficial, the scope of this study does not involve a detailed analysis of the full spectrum of social and/or liability indicators. However, a high amenity environment is a key driver of the new 'knowledge economy' and therefore from an economic perspective a superficial understanding is beneficial.

Two key indicators have been assessed to start to understand how liveable Fishermans Bend is:

- Social and community infrastructure has been plotted on the precinct map.
- The current 'walkscore' a well-regarded accessibility based index.

This is by no means comprehensive and additional research into social infrastructure and liveability indicators is being completed in separate background papers.

Social and community facilities

Fishermans Bend incorporates a number of community facilities and services including: emergency services, sports facilities, public parks and recreation, council services, and schools. Figure 16 (overleaf) shows the planned provision of these services across the Lorimer, Wirraway, Sandridge, and Montague Precincts based on the land budget produced for the previous strategic plan.

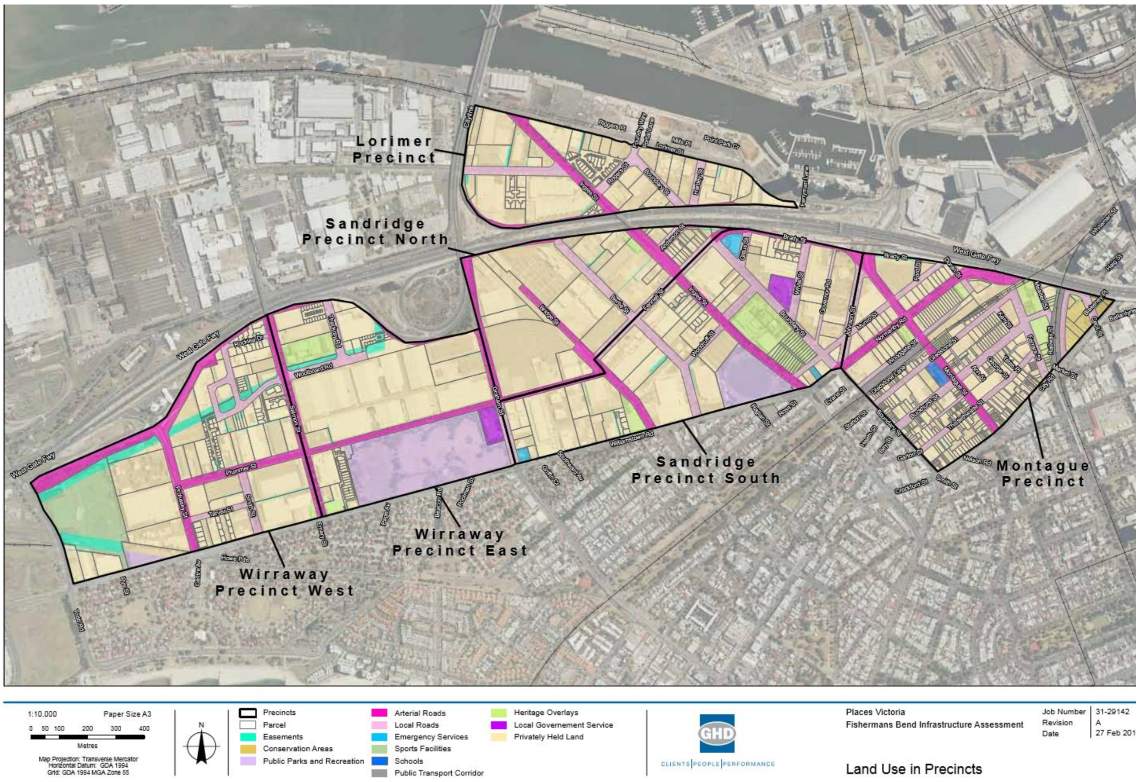
[13] http://www.highdensityliveability.org.au/about130_liveablility_research.php

[14] http://livable.org.au

The map shows that Wirraway and Sandridge are intended to provide the bulk of social services including public parks and recreational facilities, emergency and local government services, while the Montague Precinct contains the only school within the overall study area. The Montague Continuing Education Centre is located on Montague Street, south of the existing light rail. It is a specialist school serving metropolitan Melbourne catering for young people aged between 15 and 18 with a mild intellectual disability.

Primary research conducted by SGS indicated that limited social services are provided within the Employment Precinct. The Employment Precinct does include a large park at the west end of the precinct (Westgate Park).

FIGURE 16. EXISTING LAND BUDGET – SOCIAL CONTRIBUTION



Source: Places Victoria, Land Use Budget, 2013

Access to services (Walk Score)

In urban environments, a key component of liveability is the ease with which residents are able to access employment, retail and services, social networks and more. ‘Walkability’ can be viewed as a proxy for liveability, measuring as it highlights the ease with which urban residents’ are able to access amenity.

The ‘Walk Score’ is one way in which a precinct’s walkability (and liveability) can be measured. The effectiveness of Walk Score as a measure of ‘walkability’ has been supported by independent studies[15].

For each address, Walk Score analyses hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a 5 minute walk (.25 miles) are given maximum points. A decay function is used to give points to more distant amenities, with no points given after a 30 minute walk. Walk Score also measures pedestrian friendliness by analysing population density and road metrics such as block length and intersection density.

TABLE 12. WALK SCORE SCALES

Walk Score®	Description	Fishermans Bend
90–100	Walker's Paradise Daily errands do not require a car.	Montague
70–89	Very Walkable Most errands can be accomplished on foot.	Sandridge
50–69	Somewhat Walkable Some errands can be accomplished on foot.	Wirraway
25–49	Car-Dependent Most errands require a car.	Lorimer/Employment Precinct
0–24	Car-Dependent Almost all errands require a car.	

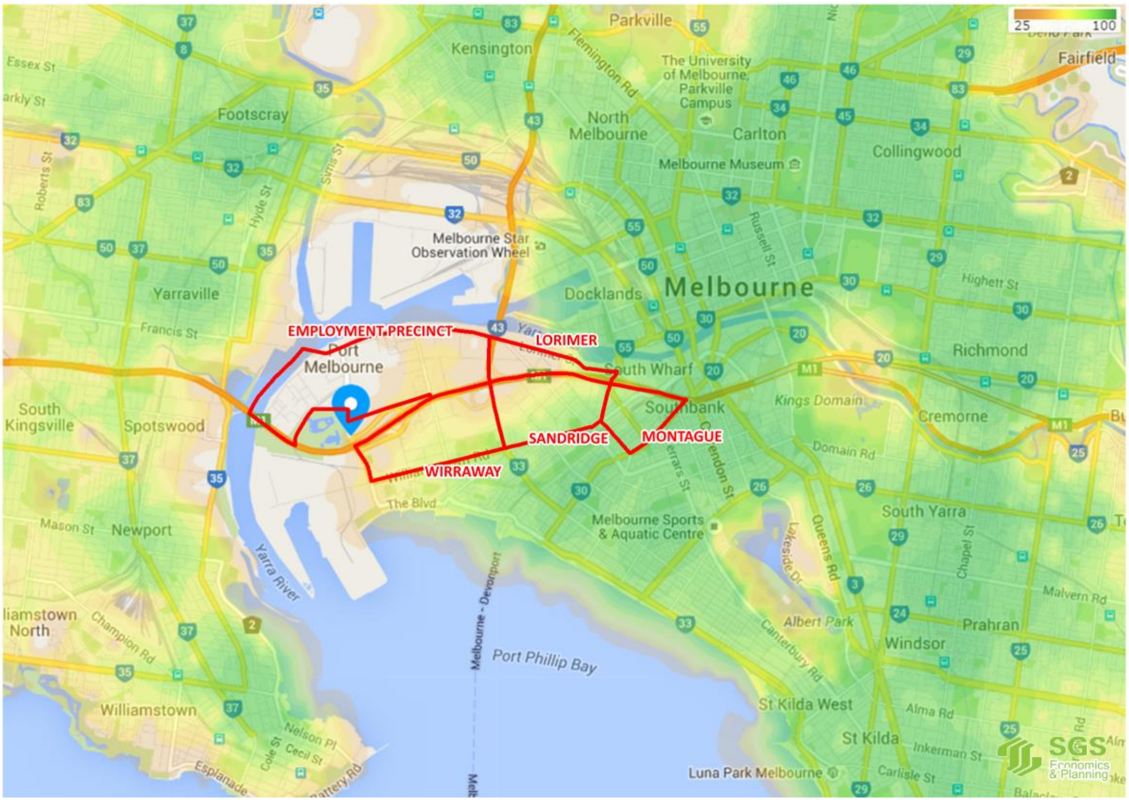
Source: https://www.walkscore.com/methodology.shtml

Figure 17 overleaf shows a map that illustrates the walk score for the Fishermans Bend Precinct and the surrounding area. Currently, the Montague precinct has a relative high walk score, consistent with its access to Southbank and the CBD. Moving west across the Fishermans Bend Precinct the walk score progressively falls reflecting the industrial and commercial nature of the area.

Looking forward, the provision of additional amenities will be required to ensure that the walkability and liveability of the area is sufficient to promote a fully mixed used precinct.

[15] Carr, Dunsiger, Marcus (2011) found significant correlations between Walk Score and all categories of aggregated walkable destinations within a one-mile buffer of their sample addresses and conclude that ‘Walk Score’ is a reliable and valid measure of estimating access to walkable amenities.

FIGURE 17. WALKSCORE, MELBOURNE



Source: https://www.walkscore.com/score/todd-rd-port-melbourne-vic-australia

4 FUTURE PROSPECTS FOR ECONOMIC GROWTH

This chapter looks forward to assess the potential of the study area to attract higher employment densities over the coming years as Melbourne continues to expand.

This will reflect the ability of Fishermans Bend to:
- Compete with other precincts for businesses and jobs as Melbourne expands,
- Ensure that sufficient land is available for employment purposes (as opposed to residential), and
- Compete with other states and countries.

4.1 Key factors driving employment in the inner city

As stated in Section 2, the knowledge services economy has different drivers to the traditional manufacturing economy. Firms involved with this sector tend to concentrate in in city locations, paying higher rents and dealing with congestion in order to optimise access to customers, clients and collaborators. We will discuss further some of the locational drivers of the future economy and their impact on Fishermans Bend.

Understanding key locational drivers

Typically businesses will seek locations that maximise revenues and minimise costs[16]. In the course of time, there are a number of push and pull factors drawing firms towards certain locations and away from others. For firms seeking to locate at Fishermans Bend, push and pull factors may include:
- **Availability of appropriately-skilled employees**. Some industries rely heavily on a highly-skilled workforce. The future success of the Fishermans Bend economy will be reliant upon its ability to attract skilled workers, and for this reason transport connectivity with suburban areas to the south-east and east in particular is vital.
- **Availability of land** is increasingly important. Vacant/underutilised land is becoming increasingly scarce in established parts of major Australian cities. The availability of land is an important factors in driving down the cost of land in surrounding regions, a factor that helps to attract new entrants and drive economic productivity.
- **Closeness to market**. Minimising the distance between a firm and its customers/clients is an increasingly important component of supply chain management, driving business productivity and ultimately a firm’s decision on where to locate.
- **Proximity to raw materials.** Likewise, businesses will tend to locate close to suppliers and sources of key production inputs (e.g. components through Port of Melbourne) as part of minimising their exposure to unnecessary costs. The tendency for firms to locate in close proximity to other firms both upstream and downstream in the supply chain helps explain the development of industry clusters, and is likely to be a key driver of activity at Fishermans Bend.
- **Strategic partnerships.** Formal links between supply chain partners (e.g. component manufacturers, distributors) is becoming a major feature of modern business, fuelled by globalisation of commercial links. More and more businesses are drawn to locations which offer greater opportunities to find suitable business partners. Once more, this process helps to explain the cluster phenomenon.

[16] Source: SGS Economics and Planning, O’Sullivan, A., Where do firms locate? 2005.

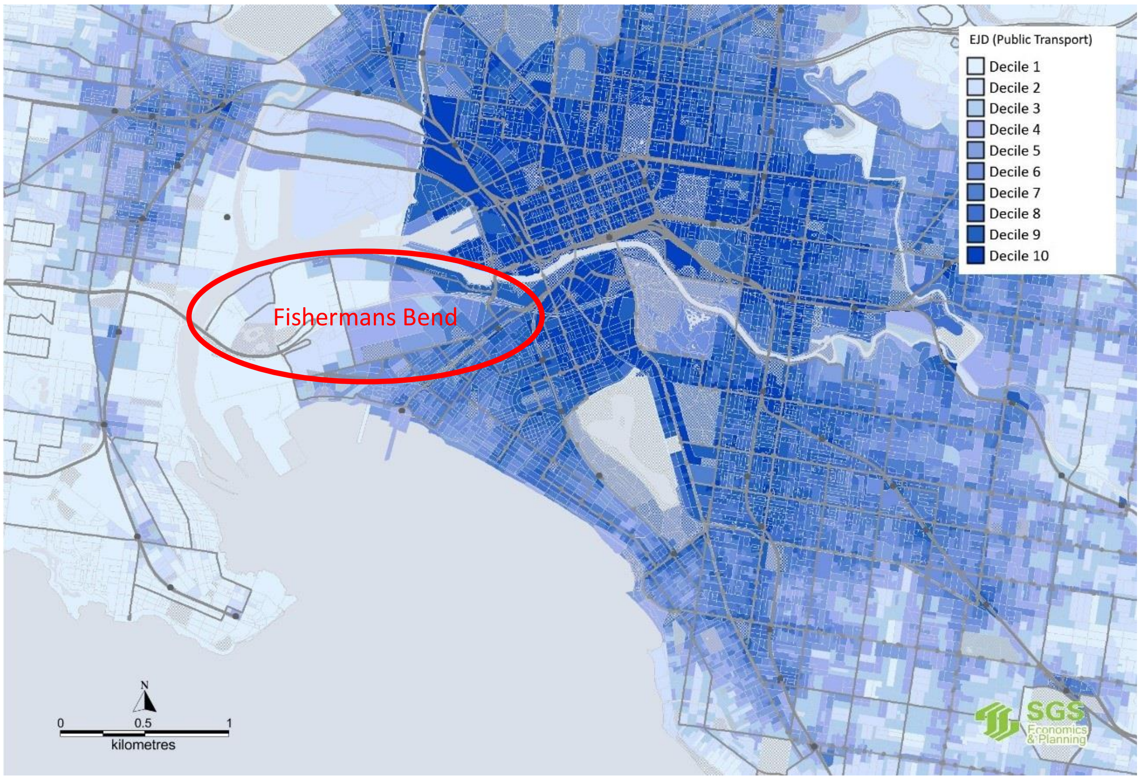
The importance of connectivity

For any individual site, many factors determine commercial viability and potential land uses. Broadly speaking, however, a key factor in determining the viability of different land uses and the intensity of development relative to another location is accessibility.

Effective Job Density (EJD) is a measure of economic activity, and represents how connected jobs are to each other. It reflects both the actual location of jobs and the connectivity provided by the transport network. It is a useful measure to understand the relative densities of economic activity. A high EJD index means that an area is has a high number of jobs and is well connected to other employment areas.

Figure 18 map EJD based on public transport. It highlights that EJD is currently relatively low in Fishermans Bend compared to other inner Melbourne precincts, which may result in lower demand for commercial development, at least in the short-term. This reflects the current poor public transport connectivity in Fishermans Bend.

FIGURE 18. EFFECTIVE JOB DENSITY – MELBOURNE 2011

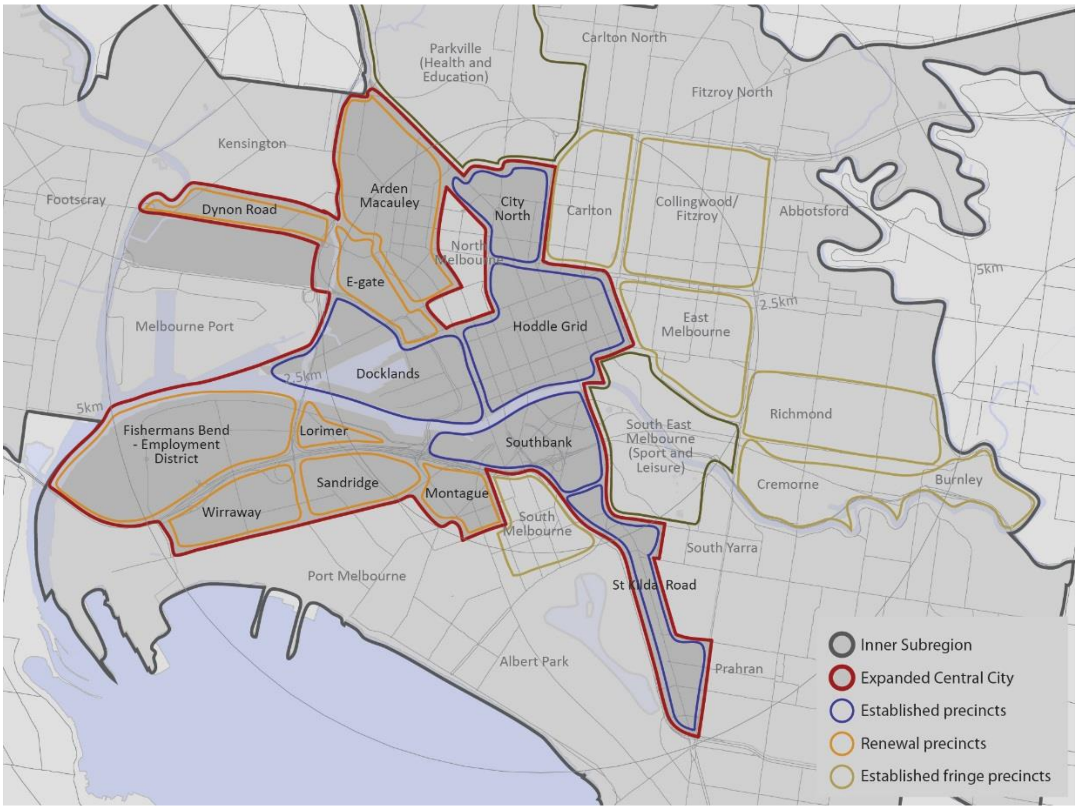


Source: SGS Economics and Planning

4.2 Central city competitive context

The central city precincts will in some ways be competing with Fishermans Bend for additional jobs added over the coming decades. In order to gauge Fishermans Bend's relative attractiveness, a summary of some key 'competitor precincts' in the Central City is provided below. **Figure 19** highlights these inner city precincts.

FIGURE 19. INNER CITY PRECINCTS



Source: SGS Economics and Planning

Hoddle Grid

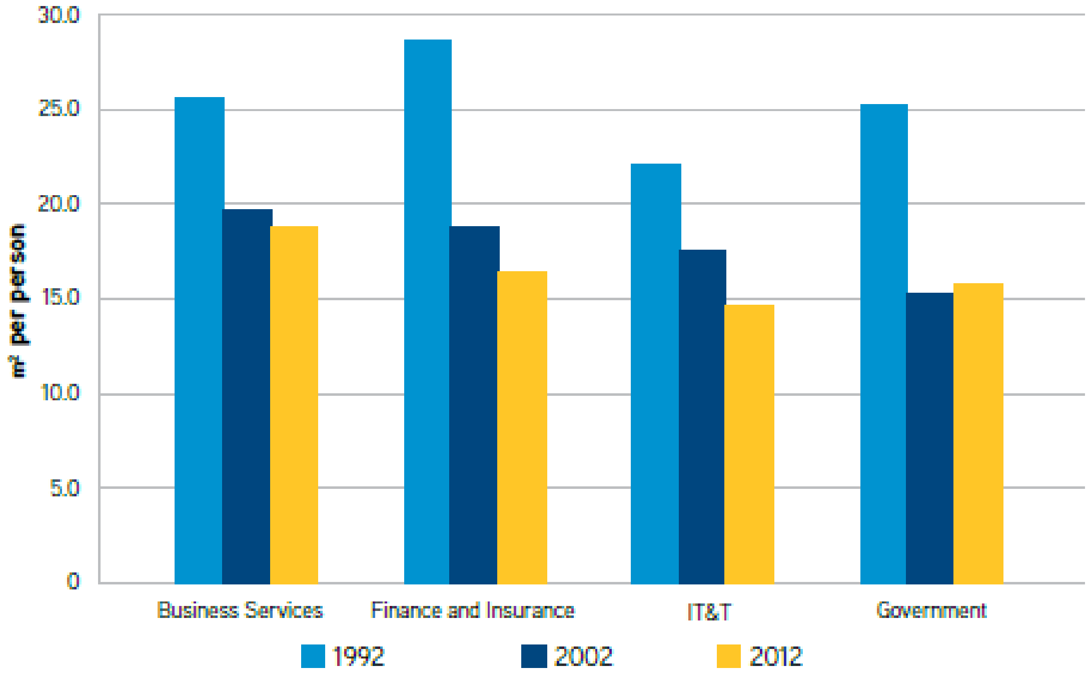
The Hoddle Grid acts as the focus for employment in the Central City and Greater Melbourne given its public transport accessibility. Given Melbourne's radial private and public transport network the CBD is by far the most highly accessible and desired location in Melbourne. It has seen rapid growth over recent years and is expected to have capacity to accommodate continued growth in jobs and employment over the coming decades.

Jobs growth is expected to be derived from a further five sources:

- **Increased use of current office capacity**, given all office space is likely not fully occupied at the current average work space ratio;
- **A reduction in work space ratios**, based on City of Melbourne findings that show that the number os square metres per employee has been in decline across a number of professional service sectors (see **Figure 20**) and the health sector, a trend which is expected to continue (though at a more modest rate). Flexible business practices such as hot-desking are likely to further contribute to this trend;
- **Expansion of current buildings**, stemming from a relaxation of height restrictions;
- **Growth in 'floating' employment** (e.g. support services such as postal workers and ticket inspectors that do not require employment floor space), which is expected to occur to support wider employment growth; and

– **Construction** of new office buildings.

FIGURE 20. REDUCTIONS IN WORK-SPACE RATIOS, MELBOURNE



Source: Colliers International, Leading the change, IT&T changing the face of tenant demand, 2015

A large proportion of new jobs are expected to be created in knowledge-intensive service industries, which will be attracted to the significant agglomeration benefits derived from a CBD location. Already well-serviced by rail, tram and bus transport, the Hoddle Grid will further benefit from the development of the Melbourne Metro, which will continue to attract business investment.

Docklands

As an existing redevelopment precinct and extension of the CBD, Docklands is also expected to continue to draw population and employment growth. While all development areas in Docklands have been contracted to developers, around 40 per cent of the precinct is yet to be developed.

Continued investment in the creation of high quality public realm and community infrastructure is also planned, with the aim to establish an attractive, high-amenity location to attract high-value financial and professional services jobs and residential development.

Arden Macaulay

Arden Macaulay is currently an industrial precinct, though the precinct is expected to see significant net increases in population and employment. The establishment of a new underground station at Arden will improve the accessibility of the area, enabling residents to easily access key businesses precincts such as the Melbourne CBD and Southbank.

Consistent with the most recent Arden Macaulay Structure Plan, the development of a station is also likely to result in the improvement of other local transport networks (such as buses). This would result in much of Arden having 'CBD-like' levels of accessibility to the broader Melbourne labour market and increase the attractiveness of the district to potential businesses, particularly professional services businesses that benefit from agglomeration benefits.

There is expected to be a sharp rise in population and employment given that (i) the cost of land is likely to be significantly less than in Melbourne CBD; and (ii) the district has been designated as an urban renewal area. In addition, a structural change in employment is projected with an anticipated shift from blue collar to white collar employment.

City North (including Parkville Health and Education)

City North (including Parkville), for which a new underground railway station is also planned, is also expected to experience significant commercial and residential uplift in coming decades. Employment growth is expected to be experienced most strongly across the health precincts, particularly as the utilisation of health facilities increases.

Tram and bus upgrades (particularly strengthened east-west connections) are likely to further improve the connectivity and employment potential of the area, along with the continued development of Carlton Connect, a leading innovation precinct anchored by the University of Melbourne.

Growth in City North is expected to be more modest than that in Arden for two reasons:

- The level of existing infrastructure is such that the new station will effect a relatively modest rise in accessibility, and
- A lower level of development opportunities, given that the area is already largely occupied by sizeable institutions (e.g. Melbourne University and the Royal Melbourne Hospital).

Implications for Fishermans Bend

In the context of other precincts across the City of Melbourne, Fishermans Bend does not currently hold a competitive advantage in attracting service-oriented employment and jobs that are consistent with the current planning zones. Whilst its location close to central Melbourne will drive some development activity, at present Fishermans Bend does not perform well in terms of connectivity, both within the precinct itself and to other parts of the central city. This not only limits potential worker and resident accessibility to employment, housing, retail and services within the area, but it also curbs the agglomeration benefits typically experienced in inner-city precincts. As such, development within Fishermans Bend is likely to occur at a slower pace, picking up speed only after other precincts (e.g. the Hoddle Grid, Arden Macaulay, Docklands and City North) are closer to reaching capacity.

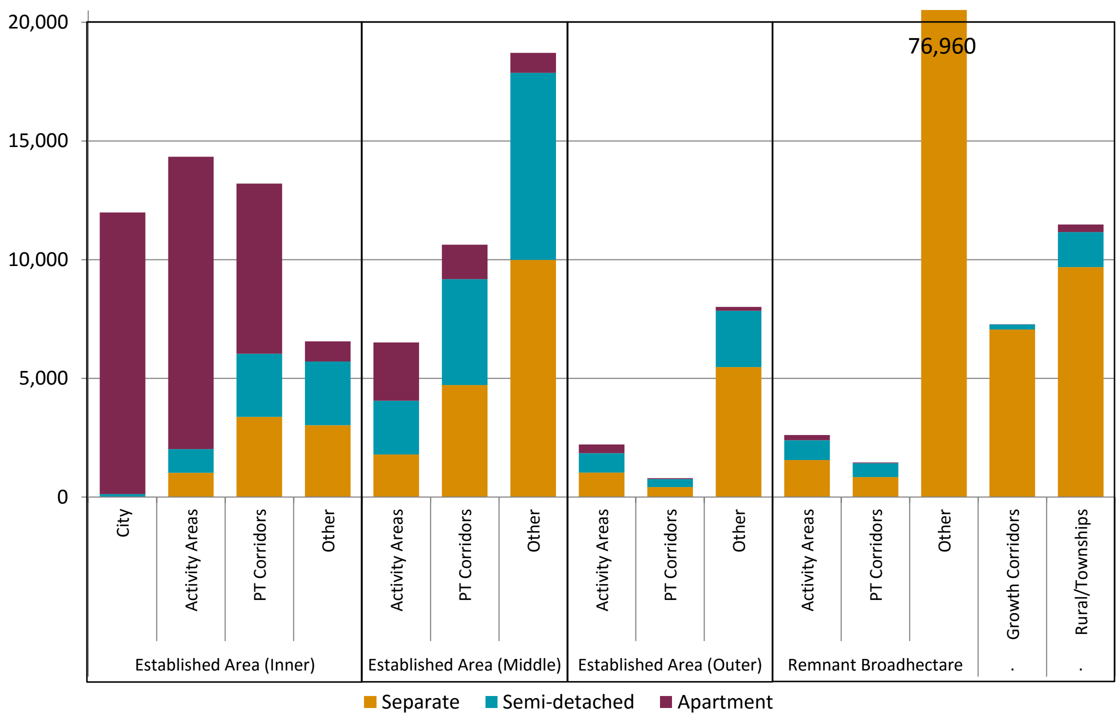
That said, several infrastructure upgrades and links are planned for Fishermans Bend, including bridges across the Yarra to access the Docklands and the Hoddle Grid, and a tram line extension into Fishermans Bend. If these are established and serve to improve the accessibility of the area, then Fishermans Bend could become more attractive for business investment, and more of its development potential could be realised within a shorter time frame.

4.3 Competition from residential development

Metropolitan Melbourne has experienced unprecedented levels of housing development in recent years. The level of new supply has been driven by changes in the policy environment, strong growth in population, and changing demographics and housing preferences. Housing supply across the metropolitan region has been augmented in a range of ways, from detached dwelling in greenfield areas, infill development and urban consolidation in middle and inner-ring areas, and the development of high-rise apartments in central Melbourne.

The pressure for major residential development has largely been focused in other precincts such as CBD, City North, Docklands and Southbank. As development opportunities reduce in these other locations we would expect to see an increase in residential development and applications within Fishermans Bend. It will be important to recognise that any zoning that permits residential uses is likely to see residential development, often to the maximum possible scale. Controls will need to be put in place to protect character and ensure that Fishermans Bend is able to accommodate a wide range of land uses, including commercial.

FIGURE 21. RECENT RESIDENTAL DEVELOPMENT ACROSS MELBOURNE



Source: Housing Development Data, 2015

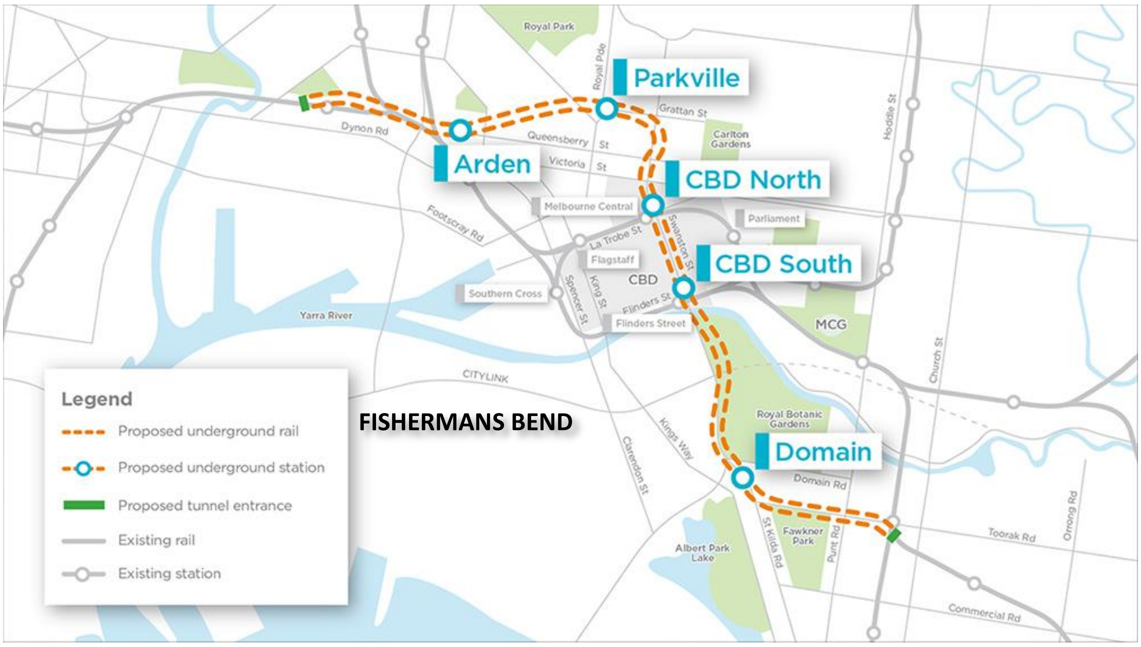
4.4 Committed future transport infrastructure

Looking ahead, a major piece of public transport infrastructure that will impact the relative attractiveness of Fishermans Bend to prospective commercial investors and tenants is the Melbourne Metro Rail Project (MMRP).

The MMRP will expand fixed rail capacity in central Melbourne, enabling major improvements in the capacity of the overall network leading to improved reliability and efficiency of train services across the metropolitan area. As shown in **Figure 22**, the MMRP will extend from South Kensington to South Yarra and involves the construction of two nine-kilometre rail tunnels, and five new underground stations. The MMRP is proposed to be implemented in stages over a six year period with construction anticipated to begin in 2018.

The construction of the MMRP will impact the accessibility and relative attractiveness of a number of burgeoning commercial precincts across inner Melbourne including Arden and Parkville. Without further investment in public transport infrastructure at Fishermans Bend, the MMRP will reduce the relative attractiveness of Fishermans Bend for both businesses and households.

FIGURE 22. MELBOURNE METRO RAIL PROJECT



Source: http://metrotunnel.vic.gov.au/resources/maps

4.5 Competition for skilled workers and investment capital

In addition to the competition for skilled workers and investment capital across inner-Melbourne precincts, there is competition for these production factors from elsewhere in Australia and internationally.

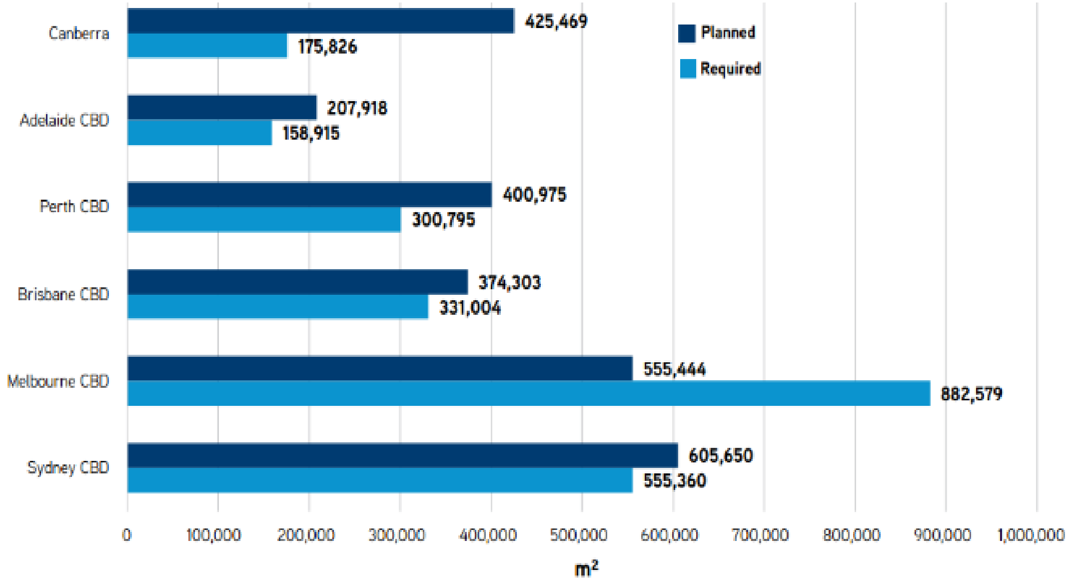
For example, Melbourne's CBD and surrounding precincts compete with parts of metropolitan Sydney for educated workers and footloose global capital. The urban renewal process that is expected to take place across Fishermans Bend is likely to result in a redistribution of jobs across central Melbourne as well as a net increase in the total number of people employed in central Melbourne.

The geographic expansion of Melbourne's commercial core over the past decade to areas such as the Docklands and Southbank has increased the supply of commercial office space and kept commercial rents lower than Sydney's CBD. This has given Melbourne a competitive advantage in the Asian region.

The strong growth in employment within the CBD (i.e. the Hoddle Grid) and immediate surrounds that has been observed over recent years is anticipated to continue, with demand for commercial floorspace in the CBD expected to rise strongly to over the coming decade. In fact, private sector forecasts of demand for CBD office floorspace is larger in Melbourne's CBD than any other CBD in Australia.

The high level of demand for office space within inner Melbourne implied by Figure 23 indicates that Fishermans Bend could be in a unique position given its location to accommodate any excess demand for commercial space if transport infrastructure is improved to boost the area's accessibility.

FIGURE 23. FORECAST DEMAND AND PLANNED CBD OFFICE SPACE 2014-24 (SQM)



Source: Colliers (2015) Research and Forecast Report – CBD Office – First half of 2015
Note: Figure refers to office space in addition to existing stock. Planned refers to office space which is either under construction or mooted.

4.6 SWOT analysis

Following on from the previous analysis of the study area's current economic, social and financial contribution and its future prospects for attracting additional businesses and jobs over time as Melbourne expands, this chapter outlines a SWOT analysis. This analysis feeds into the delineation of future employment scenarios as well as public policy recommendations in the concluding chapter.

FIGURE 24. FISHERMANS BEND SWOT

Existing strengths	Current weaknesses
– **A recognised manufacturing/ logistics base:** Fishermans Bend is a well-recognised industrial and logistics hub within the Melbourne Statistical Division (MSD). It represents perhaps one of the last large areas of industrial land in the MSD. Across the study area, a large amount of business activity – and a large proportion of total floorspace and employment – is dedicated to manufacturing, warehousing, distribution and logistics. There are few other locations in the MSD where the share of manufacturing and logistics employment matches or exceeds that observed for the study area. The value-added generated by typical workers in the wholesale trade and manufacturing sectors in Fishermans Bend is broadly similar to that generated by these workers elsewhere in metropolitan Melbourne. – **Road connectivity:** In the metropolitan context, Fishermans Bend is a versatile location for any business with transport or freight needs, with good connections to local interstate and global markets via the arterial road network. The area is well-connected to residential population of Melbourne, with relatively good access between metropolitan Melbourne's suburbs and Fishermans Bend. – **Proximity to CBD:** Proximity to the Melbourne CBD is important for many businesses. The Montague precinct in particular provides opportunities proximate to the CBD at (presently) relatively low cost. Anecdotal evidence from the City of Melbourne suggests that some small service-oriented businesses (e.g. caterers) service CBD businesses from this location. Similarly, some manufacturing facilities (e.g. concrete batching plants) in the Lorimer precinct service the construction sector in the Melbourne CBD. For these groups, a location close to central Melbourne is a key source of competitive advantage.	– **Limited public transport connectivity:** Limited public transport connectivity poses two distinct threats. Firstly, given that the study area draws only a small proportion of its total workforce from inner Melbourne, workers in the study area would be completely reliant on the road network to access employment, especially if the area increases its future employment offer. Consequently, the study area would add little towards promoting environmentally sustainable modes of transport and could also potentially contribute to an increased transport accident rate. Secondly, more workers driving to workplaces in Fishermans Bend will contribute to growing congestion on local roads. An efficient road network is vital to businesses that rely on the movement of large vehicles. Available evidence suggests that high levels of traffic congestion around the study area are already an issue for businesses which rely on the speedy delivery of goods and services to their nearby customer base.

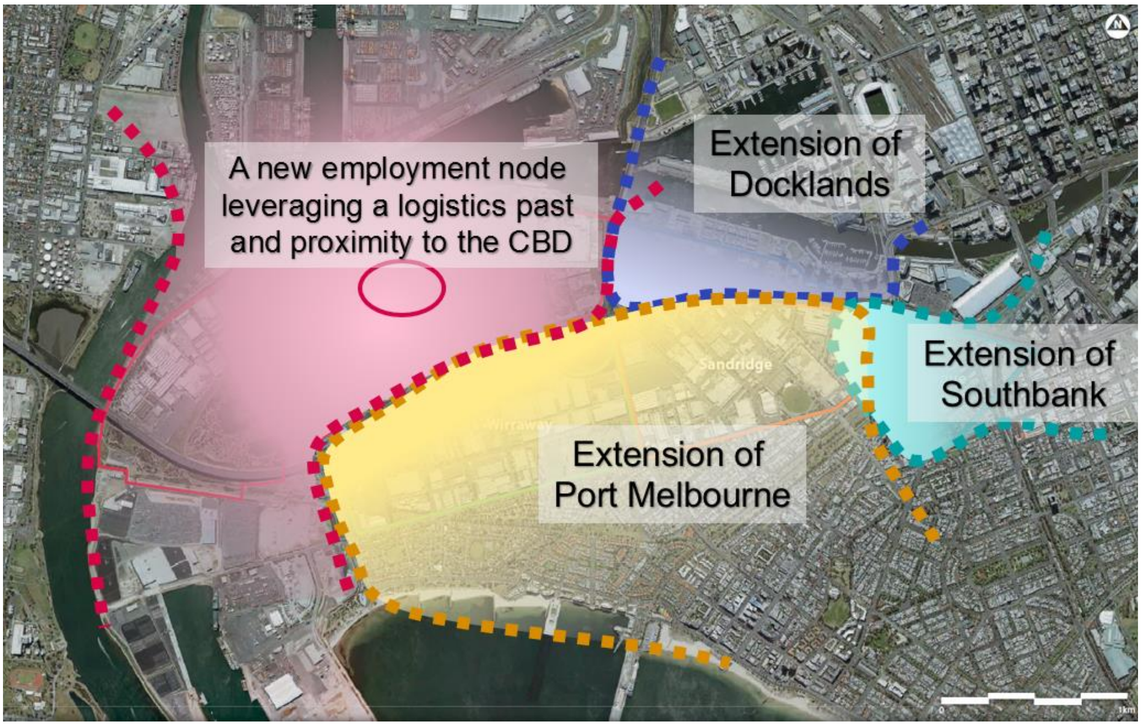
Opportunities for the future vision	Threats to achieving the current vision
– **Opportunity for becoming a higher order manufacturing/ services precinct:** At present, some redevelopment precincts in Fishermans Bend do not represent significant high order manufacturing/ R&D hubs within the MSD. These precincts are not fully established as higher order advanced business services precincts either. There is an opportunity to develop the area into one which services and complements strategically important activities in the Melbourne CBD, the automotive and aerospace industry cluster within the suburb, as well as meets the general demand for centrally located industrial sites. Redevelopment of Fishermans Bend can cater to the needs of organisations producing high value added products that require highly skilled labour. Further development of freight, logistics, warehousing and business park uses across the precinct will contribute towards the strengthening of the local economy. – **Opportunity to increase housing supply in inner Melbourne:** Fishermans Bend also offers the opportunity for significant residential growth with the advantages of a highly desirable inner city lifestyle and the benefit of reducing the pressure on development in Melbourne's middle suburbs and on the fringe. It has the potential to assist housing affordability by increasing supply. – **Opportunity to provide important industrial land:** The Area also offers the opportunity to provide industrial land close to the CBD. This will be important for example cement producers that are required to be close to be the CBD due to the limited shelf-life for transportation. – **Opportunity to strengthen the creative industry sector:** Residential development in the Montague and Sandridge Precincts threatens to crowd out creative industries in these parts of Fishermans Bend. Ensuring that these sectors are given the opportunity to grow is vital for the future economy of the region. – **Opportunity to provide tourism services.** Fishermans Bend's proximity to the CBD and surrounding social and tourism infrastructure provides it with an opportunity to provide accommodation services to interstate and international tourists to Melbourne.	– **Private fragmented ownership:** Fishermans Bend is estimated to have up to 350 private land owners. This reduces the breadth of policy options available to government, and makes realisation of the future vision for the precinct more difficult. By way of example, the delivery of a proposed network of streets and laneways on a site by site basis id made more difficult where roads need to traverse a number of smaller sites. In these circumstances, lack of cooperation from a single landowner may cause substantial disruption. – **Zoning:** The Capital City Zoning of four of the five Fishermans Bend precincts is likely to lead to the highest and best use of land (from a private perspective) being largely residential. Without significant investment in transport infrastructure that improves accessibility of the area, the vision of a mixed use precinct is jeopardised. – **Contamination and drainage issues:** Much of Fishermans Bend suffers from soil and groundwater contamination as a result of historical uses, including highly polluting industrial activities and landfill. Those land parcels with a high likelihood of contamination are likely to require significant soil and active ground water remediation. This will result in substantial remediation costs and may impact on the location of future infrastructure and services in the area. These cost also threaten development feasibility by adding to the cost of redevelopment. Furthermore, there are ongoing issues (including landfill, swampland and a sewer) that have the potential to lead to drainage and groundwater flow issues. If these are not addressed, further development across Fishermans Bend (including for the purposes of industry and logistics) could be compromised (Golder 2012). – **Pollution:** Even with legislative and planning controls in place to reduce the impact of water and air pollution on Fishermans Bend and the surrounding region, the continuation of industrial and logistics functions at Fishermans Bend is likely to result in some degradation of water and air quality (with potential for the contamination of local waterways, including Hobsons Bay and Yarra River). This may adversely impact liveability in nearby precincts, including in Southbank and Port Melbourne (Golder 2012 and AECOM 2012).

Summary of Fishermans Bend Future Growth Prospects

Once fully developed, Fishermans Bend is expected to become an important location for housing and employment across a range of sectors, integrating with the Melbourne CBD and surrounds. The precinct as 'a whole' will effectively disappear and the unique opportunities of each precinct will define its ongoing role as part of an expanded central Melbourne economy.

While as with all parts of the inner city economy borders are blurred, the following map highlights how the precincts of Fishermans Bend would integrate into the existing inner city urban fabric. This helps to understand the unique role of each precinct within Fishermans Bend

FIGURE 25. FISHERMANS BEND INTEGRATION WITH EXISTING AREAS



Source: SGS Economics and Planning

With a significant quantity of land used for the manufacturing, warehousing and distribution of goods, the study area currently plays an important role in facilitating the flow of interstate and international goods through the economy and providing land for industrial businesses for whom a location proximate to central Melbourne is important. Looking forward, Fishermans Bend has the opportunity to play a number of vital roles for the Melbourne economy over the coming decades including:

- Providing an extension of the central city and augmentation in the number of high-value add service jobs that are a feature of the area,
- Accommodating affordable housing close to the CBD and key employment precincts throughout Melbourne,
- Providing an employment precinct for industrial businesses that may be displaced due to rising land values in the remaining precincts, and businesses potentially displaced from other urban renewal areas such as Arden, and
- Facilitating the continued efficient transportation of interstate and international goods.

There are several factors, however, that threaten the potential of Fishermans Bend as an effective mixed-used precinct. These include:

- The Capital City Zoning of four of the five Fishermans Bend precincts is likely to lead to the highest and best use of land (from the landholder perspective) being largely residential with landholders having no incentive to generate positive social, environmental or broader economic outcomes,

- The private ownership of the entirety of Fishermans Bend, which will limit the Government's ability to influence land use outcomes,
- Given Fishermans Bend's long history as an industrial precinct, it suffers from soil and groundwater contamination as a result of industry by-products and landfill sites, and
- Current lack of public transport accessibility.

These risks highlight the potential importance of policy intervention for shaping the land use of Fishermans Bend. As outlined above, limited policy intervention in the form of transport infrastructure that improves the accessibility of the area is likely to lead to the highest and best land use being largely residential. This will reduce the opportunity for the precinct to accommodate high value-add white collar employment in services that are currently prominent in inner Melbourne precincts. On the other hand, the timely and effective provision of transport infrastructure in the study area and some policy measures to restrict residential densities will assist Fishermans Bend become a truly mixed-used precinct.

The implications of different forms of policy intervention on the future land use of Fishermans Bend are explored in more detail in the following chapter.

5 PRECINCT PATHWAYS

Drawing on the outputs and findings of the previous chapters, the following pages explore a set of strategic development pathways for the Fishermans Bend precinct, drawing conclusions in respect of economic and employment outcomes.

5.1 Overview of Fishermans Bend economic pathways

Fishermans Bend represents a significant renewal opportunity for the state of Victoria, and there are a number of opportunities and challenges that will shape the development of the precinct. The way in which these opportunities and challenges are managed will have a significant impact on the eventual role of Fishermans Bend within the broader city.

In order to assess the impact of different strategic approaches to the development Fishermans Bend, three economic pathways have been investigated. These are:

- **Market led development**, representing a pathway that is led by the market with minimal government intervention
- **Alignment with Vision**, representing the full realisation of the Recast Vision
- **Alignment with Vision with an additional educational facility**, representing the full realisation of the Recast Vision with the addition of a major educational facility in the Employment Precinct.

SGS modelled employment and population in Fishermans Bend for these three realistic alternative development pathways to 2051. Table 13 provides a high-level overview of key assumptions/results.

TABLE 13. SCENARIO COMPARISON AT 2051

	Pathway 1 Market Led	Pathway 2 Current Vision	Pathway 3 Current Vision plus University
Level of change	Moderate	High	Very High
Alignment with Fishermans Bend Vision	Well Below	Consistent	Above
Government Intervention	Low	High	High
Transport Interventions	Bus Improvements	Tram/Smart Bus/Heavy Rail	Tram/Smart Bus/Heavy Rail
Population at 2051	75,000	80,000	80,000
Employment at 2051	40,000	59,000	60,000
GVA ($m) at 2051	$5,000m	$7,500m	$7,300m
Students at 2051	2,000	2,000	11,000

Source: SGS Economics and Planning

5.2 Pathway 1: Market led development

This scenario assumes that government takes a hands off approach and effectively lets 'the market' take the lead in the future development of Fishermans Bend.

The first pathway that SGS examined was conceived as a scenario where development of the study area is driven by the private sector, with all levels of government playing a 'hands off' role outside of the provision of incremental transport improvements over time.

Policy and infrastructure assumptions

The specific assumptions that defined the pathway are:

- Incremental transport improvements such as bus service frequency upgrades, tram service frequency upgrades on existing routes (109, 96) and potentially new tram routes into Fishermans Bend,
- Infrastructure would be provided in response to demonstrable need, instead than being used as a catalyst for stimulating commercial development,
- No heavy rail envisaged by 2051, and
- The existing (i.e. predominantly private) ownership structure, zoning, and height controls for Fishermans Bend land remaining unchanged from current settings.

Land use implications

Employment profile of the study area

With minimal government intervention to guide and shape land use within the study area, residential, commercial and industrial land uses will compete for available land through formal property markets. In such a scenario, land within the study area would generally be expected to be developed as residential land given that:

- Fishermans Bend does not currently enjoy a competitive advantage sufficient to attract service-oriented employment that would typically locate in commercial offices. In addition, there is currently estimated to be a significant degree of excess capacity across a range of inner city precincts that have superior accessibility and density of uses, and
- Industrial land uses are often associated with significant land requirements and restrict the ability of property developers to build multi-storey developments. This restricts the value that land owners can generate from industrial land relative to other land uses.

As a result of these factors, employment growth throughout Fishermans Bend under this scenario is expected to be modest and crowded out by residential development over time. Employment growth may accelerate in future years (i.e. after 2030) as:

- other precincts (e.g. the Hoddle Grid, Arden Macaulay, Docklands and City North) approach development capacity, and /or
- the cumulative impact of transport provisions increases accessibility or effective job density of the study area to the extent that it becomes attractive to prospective commercial office tenants.

Employment by precinct
In the Employment Precinct, land use is likely to be driven by future trends associated with manufacturing and commercial land rather than by any change in land use or infrastructure provision within Fishermans Bend. Employment growth in Lorimer and Montague is projected to be relatively limited due to:

- A high number of building approvals for high rise residential towers have been recorded subsequent to the rezoning of land to CC1Z.
- The unlikelihood that a significant amount of land will be made available for commercial development, even after transport infrastructure has been supplied.

As a result of constraints associated with the development of commercial space at Lorimer and Montague, the strongest growth in employment is expected to occur in Wirraway and Sandridge.

Employment by industry
As Fishermans Bend develops, significant structural economic change is expected to occur, which is likely to impact industry mix across the precinct. In particular, population-serving jobs are expected to become more prominent at the expense of traditional blue-collar industrial employment as residential development takes place and the local population rises. Some industrial employment is expected to be distributed across remaining commercial and industrial land within the City of Melbourne, however, with quantities of available employment land across inner-Melbourne low (3.5 per cent, compared with 27.4 per cent across Greater Melbourne)[17], a significant amount of activity is expected to shift to outer-metropolitan regions, or to leave the state altogether. The new population-serving jobs are likely to be created in retail trade, professional, scientific and technical services, health care and social assistance, and education and training.

Agglomeration benefits
Limited agglomeration benefits would be expected to result from this scenario given that (i) employment is likely be dominated by population-serving industries over time; and (ii) these industries traditionally benefit less from agglomeration than other high value added service sector jobs. It is important to note also that any agglomeration benefits generated by movement of new entrants to the study area may be offset by the transfer of current tenants to other parts of Melbourne. The overall net impact of this pathway on agglomeration across Melbourne is an empirical question that is beyond the scope of this study.

Policy implications

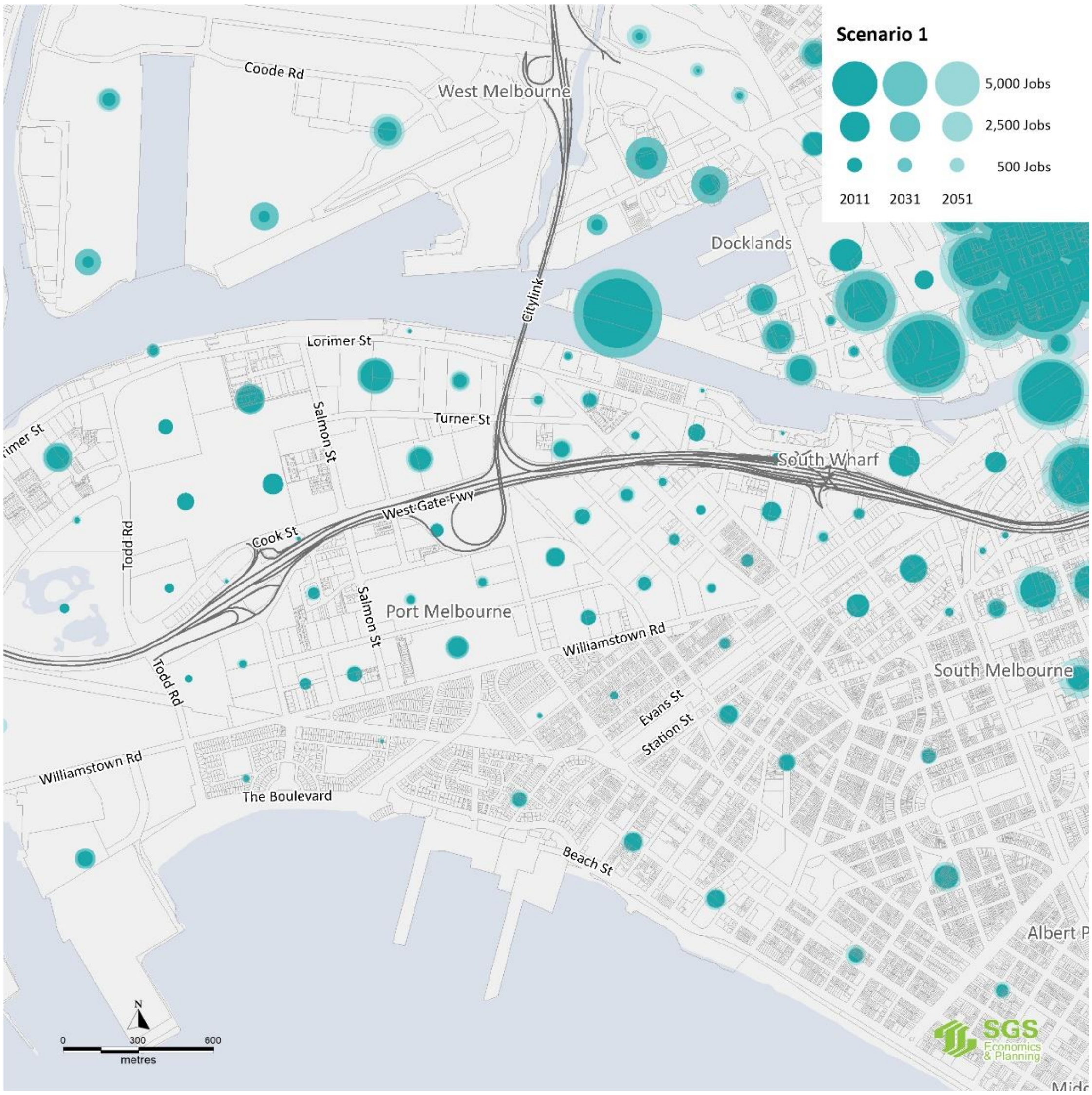
Under a scenario assumed to be led by the market, Fishermans Bend is expected to reach an aggregate employment number of around 40,000 at 2051. There are a number of factors that may impact these forecasts in both directions:

- It is possible that residential development occurs at a rate that means that there are little opportunities for employment growth once transport infrastructure has been supplied. This is seen as a particularly risk for Montague and Lorimer, which are both in close proximity to the City,
- The projections are conditional on some reactive transport infrastructure provision. Without any infrastructure, or infrastructure that does not serve the needs of the community, the employment projections would be significantly less than those indicated.
- On the other hand, capacity estimates may be lower than currently expected, which may mean that there is greater demand for commercial space within the Precinct.

These risks, and the relative low central projection of employment levels within the study area, point to the importance of timely and effective transport infrastructure provision, and the need to clearly asses the policy options available to mitigate the risk of market forces leading to land uses that are inconsistent with the Vision of the precinct.

[17] Urban Development Program 2015, Dept. of Environment, Land, Water and Planning

FIGURE 26. EMPLOYMENT PROJECTIONS, PATHWAY 1, 2051



Source: SGS Economics and Planning

TABLE 14. FISHERMANS BEND, ECONOMIC ACTIVITY, PATHWAY 1, 2051

	Employment (no.)			Gross Value Added ($2016 million)		
Industry	**2016**	**2051**	**2016-51**	**2016**	**2051**	**2016-51**
Agriculture	40	30	-10	10	0	0
Mining	10	40	30	0	10	10
Manufacturing	6,770	2,600	-4,160	640	250	-400
Utility Services	140	340	200	40	90	50
Construction	4,590	5,530	940	460	560	90
Wholesale Trade	3,670	7,080	3,400	350	680	330
Retail Trade	1,640	2,860	1,220	190	340	140
Accom' & Food Services	470	1,430	960	40	110	70
Transport & Warehousing	3,040	4,120	1,080	340	460	120
IT	900	720	-180	380	310	-70
Financial Services	450	1,290	840	140	400	260
Rental & Real Estate Services	520	630	110	180	210	40
Professional Services	3,620	6,410	2,790	360	630	280
Administrative Services	1,300	1,420	120	400	440	40
Public Administration	1,040	1,150	100	110	120	10
Education	290	1,000	720	40	130	90
Health Care	670	2,880	2,210	40	160	130
Arts & Recreation	280	520	240	10	20	10
Other Services	1,120	1,770	660	70	120	40
Total	**30,550**	**41,810**	**11,260**	**3,800**	**5,030**	**1,230**

Source: SGS Economics and Planning

In calculating these GVA figures by sector, SGS uses small area employment forecasts to estimate future employment growth across the Fishermans Bend region. ABS labour force data is used to estimate average hours worked per for workers across different industries, while labour productivity for Fishermans Bend was assumed to be equivalent to that of the Melbourne – Remainder SLA in 2011.

5.3 Pathway 2: Realisation of the current recast vision

The Vision scenario assumes that the current vision being developed by the Fishermans Bend Taskforce is realised to a large extent. It assumes that there is a Vision, a framework plan and policy interventions intended to realise them. The assumptions defining this scenario are below:

Policy and infrastructure assumptions

The second pathway that SGS examined assumed that the Fishermans Bend Taskforce's Vision is realised to a large extent. In essence, it assumes that there is a Vision, a framework plan and policy interventions intended to realise them. While the land ownership structure and planning zones are assumed to remain constant over the forecast period, other policy measures are to be implemented in an attempt to realise the current vision including:

- controls implemented to require minimum proportion of office and commercial use in activity centres around public transport nodes, and
- height controls.

Transport infrastructure is expected to include:

- Enhanced bus service provision (short term)
- 2 high capacity public transport (PT) and active transport (AT) connections to the CBD to be fully functional by 2026:
  - CBD – Lorimer, Sandridge, Wirraway (Southern corridor)
  - CBD – Lorimer, Employment Precinct (Northern corridor)
  - Heavy rail to Melbourne's west operational by 2051.

In addition, it is assumed that while the Government has a broad intention to create an advance manufacturing precinct within the Employment Precinct:

- no land is acquire to accommodate the creation of such as precinct and,
- the Government is not actively engaged in managing any future tenants.

Land use implications

Employment profile of the study area
Under this scenario, Fishermans Bend is expected to reach an aggregate employment number of around 55,000 at 2051. The scenario assumes that the Victorian Government utilises a targeted set of policy tools to support the current Vision. This has been reflected in the projections as a rise in the level of employment throughout the precinct and an acceleration of employment growth. The majority of the additional employment projected relative to the business as usual scenario is made up of white collar professional service jobs. The policy tools also impact the distribution of jobs throughout the precinct, with growth focussed around indicated public transport routes provided by the Fishermans Bend Taskforce. This in particular, resulted in strong growth in employment along Plummer Street.

Employment by precinct
Within the employment precinct, land use is still expected to be largely driven by future trends in the manufacturing and commercial sectors within Melbourne as opposed to any change in land use or infrastructure provision within the rest of Fishermans Bend. This reflects the assumptions above that no land is acquire to accommodate the creation of such as precinct and the Government is not actively engaged in managing any future tenants. Without this intervention, it is unclear that the market scenario will alter significantly from that assumed in the market led development scenario.

Similar to Pathway 1 above, employment growth in Lorimer and Montague was projected to be relatively limited due to the following reasons:

- Following the rezoning of the precinct, a high number of residential building approvals for high rise towers have been recorded in precincts with close proximity to the City,
- Without significant policy intervention, it is not clear that there will be a significant amount of land area available for commercial space after transport infrastructure has been supplied.

As a result, the strongest growth in employment is expected to occur in the precincts to the west of the Precinct, including Wirraway and Sandridge.

Employment by industry
The proactive provision of high quality public transport infrastructure is expected to help to increase accessibility to and within the study area. The establishment of a good public transport network also boosts Fishermans Bend's ability to compete for white collar professional service jobs. This, in addition to the land use and height controls implemented, are expected to assist the study area attract a larger number of professional service jobs. This is expected to occur after 2026, when two high capacity public transport and active transport connections to the CBD are fully functional and other inner Melbourne precincts starts to reach full capacity. While the number and industry composition of jobs is expected to shift notably relative to Pathway 1, the precinct is also implicitly assumed to capture higher productive jobs particularly in the professional and financial services sector, helped by improved accessibility. Creative industry jobs are also likely to increase, with positive economic, social and cultural benefits expected to flow from this growth. This is expected to result in the value of output from within the precinct and in turn the scale of tax collection increase solidly from the market led development scenario above.

Agglomeration benefits
Significant agglomeration benefits are likely to result from this scenario as the increase in transport infrastructure attracts high value added professional service jobs which are then better connected to the large volume of service businesses located in the CBD and surrounding inner Melbourne precincts. These agglomeration or productivity benefits would be expected to be delivered not just to businesses located in Fishermans Bend but to those businesses located in CBD, Southbank and Docklands that are now more connected to a wider range of similar businesses.

Once again, it is important to note also that any agglomeration benefits from new entrants to the study area may be offset by the potential disbursement of current tenants to other parts of Melbourne. The overall net impact of this pathway on agglomeration across Melbourne is of course an empirical question, and beyond the scope of this study.

Policy implications

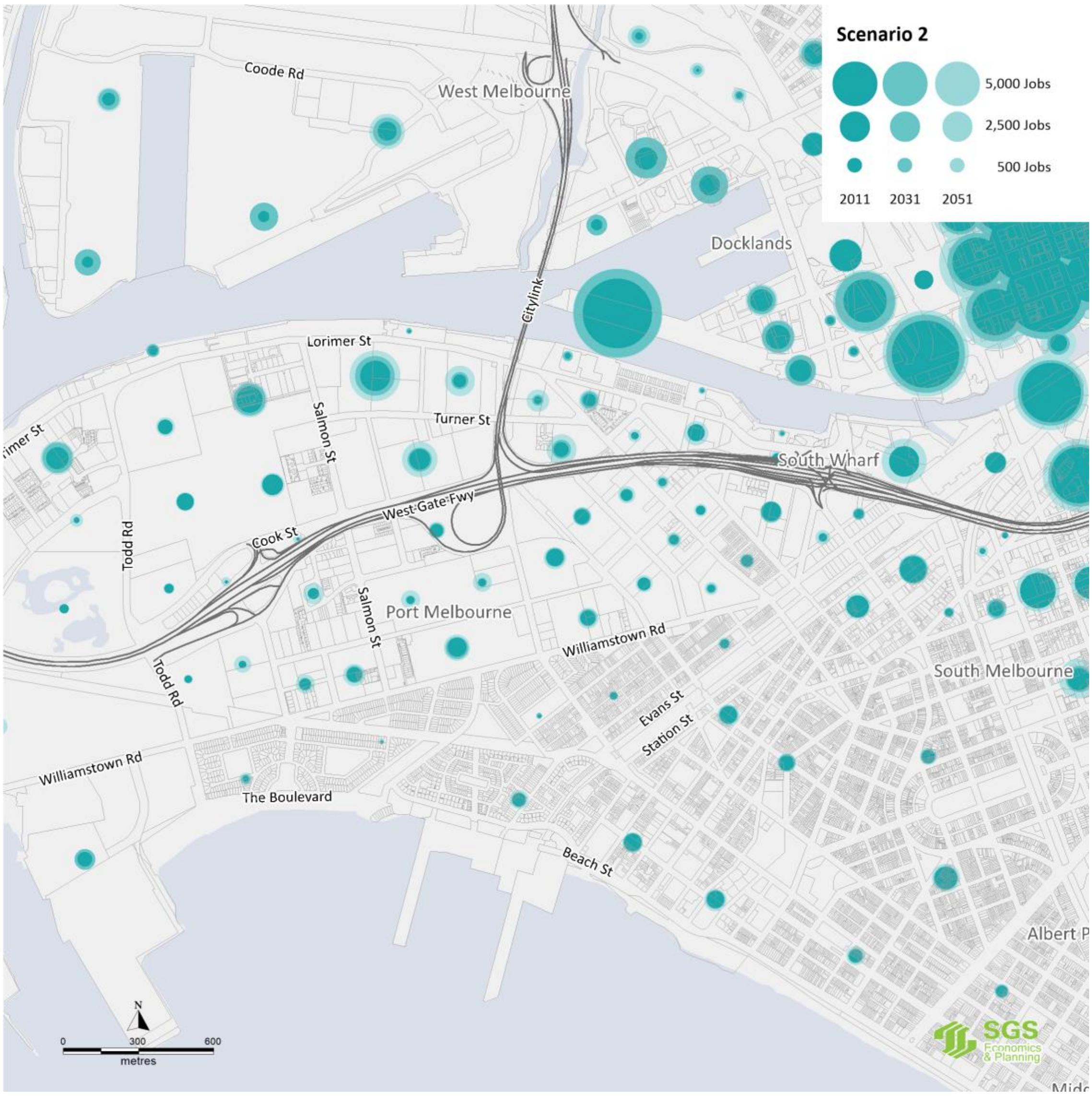
Similar to the scenario above, there are a number of risks that inherently surround these forecasts in both directions:
- It is possible that residential development occurs at a rate that means that there are little opportunities for employment growth once transport infrastructure has been supplied. This is seen as a particularly risk for Montague and Lorimer, which are both in close proximity to the City,
- The projections are conditional on timely and effective transport infrastructure provision. Without any infrastructure, or infrastructure that does not serve the needs of the community, the employment projections would be significantly less than those indicated.
- On the other hand, capacity estimates may be lower than currently expected, which may mean that there is greater demand for commercial space within the Precinct.

The development of a clear Vision and Framework Plan are expected to mitigate these risks somewhat, though given the private fragmented land ownership, some further policy measures appear essential.

In addition to the increased number of jobs that will be created under this scenario, the productivity of the businesses are expected to be higher than the previous scenario given the expected improvement in accessibility levels. Importantly for Victoria, this scenario may be expected to draw businesses to Victoria from interstate and possibly overseas. Whilst this may not necessarily increase the number of jobs in Fishermans Bend, it is likely to lead to an increase in the number of jobs across Victoria.

Figure 27 illustrates employment growth between from 2011 to 2031 and 2051 for each travel zone under Pathways 2 and 3.

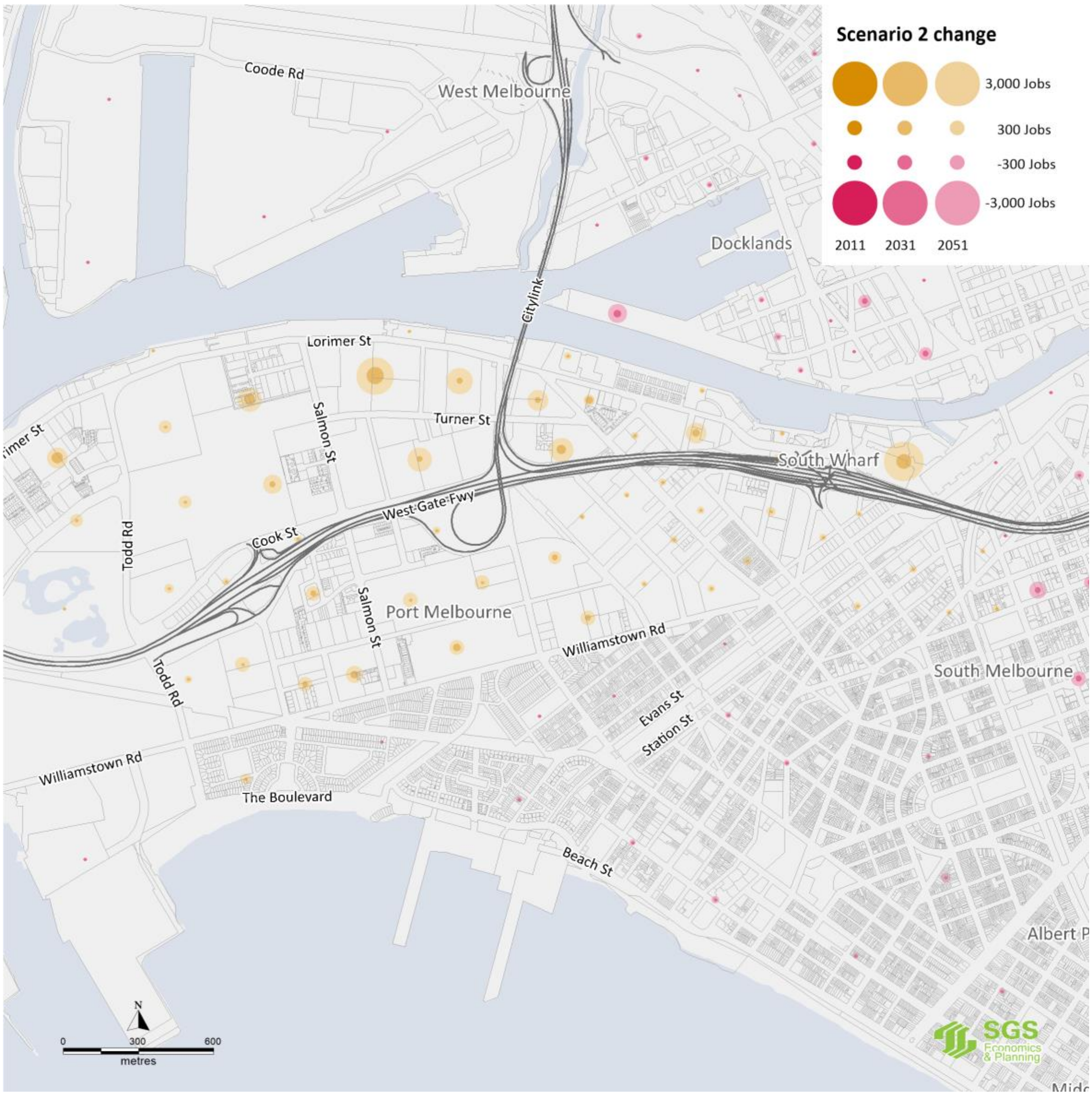
FIGURE 27. EMPLOYMENT PROJECTIONS, PATHWAY 2, 2051



Source: SGS Economics and Planning

Figure 28 shows the difference in the number of additional jobs created within each travel zone under Pathway 2 in comparison to Pathway 1.

FIGURE 28. EMPLOYMENT PROJECTIONS, PATHWAY 2 VERSUS PATHWAY 1, 2051



Source: SGS Economics and Planning

TABLE 15. FISHERMANS BEND, ECONOMIC ACTIVITY, PATHWAY 2, 2051

	Employment (no.)			Gross Value Added ($2016 million)		
Industry	**2016**	**2051**	**2016-51**	**2016**	**2051**	**2016-51**
Agriculture	40	30	-10	10	0	0
Mining	10	40	30	0	10	10
Manufacturing	6,770	2,600	-4,160	640	250	-400
Utility Services	140	340	200	40	90	50
Construction	4,590	5,530	940	460	560	90
Wholesale Trade	3,670	7,080	3,400	350	680	330
Retail Trade	1,640	3,610	1,960	190	420	230
Accom' & Food Services	470	2,090	1,620	40	160	130
Transport & Warehousing	3,040	4,120	1,080	340	460	120
IT	900	1,090	200	380	460	80
Financial Services	450	3,810	3,360	140	1,170	1,030
Rental & Real Estate Services	520	1,140	620	180	390	210
Professional Services	3,620	12,560	8,940	360	1,240	880
Administrative Services	1,300	2,200	910	400	690	280
Public Administration	1,040	1,550	500	110	170	50
Education	290	2,050	1,760	40	260	220
Health Care	670	5,890	5,220	40	330	300
Arts & Recreation	280	980	700	10	40	30
Other Services	1,120	2,630	1,520	70	170	100
Total	**30,550**	**59,330**	**28,780**	**3,800**	**7,550**	**3,750**

Source: SGS Economics and Planning

5.4 Pathway 3: Realisation of the current vision plus university

The Vision Plus University scenario (also referred to as just Vision Plus) has the same policy assumptions as the Vision scenario with the addition of a major university being established in Fishermans Bend.

Policy and infrastructure assumptions

The third scenario considered by SGS incorporates the same policy and infrastructure assumptions as Pathway 2, and also assumes that:

- The Government acquires land for an advanced manufacturing precinct,
- The Government facilitates / ensures an institutional anchor tenant, and
- The Government actively manages the tenants of the precinct.

The university facility is assumed to the hold approximately 1,500 students by 2031, and 3,000 students by 2051. To put this into some context, Monash University, Parkville campus is home to the Faculty of Pharmacy and Pharmaceutical Sciences, previously known as the Victorian College of Pharmacy, and currently accommodates 1,883 students and occupies a land area of approximately 5,000 square metres.[18]

Table 16 below outlines current estimates of staff[19] to student ratios across universities located in Victoria. Overall, staff to student ratios are typically around 10 per cent across the State. As a result, 3,000 students by 2051 is expected to translate to approximately 300 staff by 2051.

TABLE 16. UNIVERSITY STUDENT AND STAFF LEVELS IN VICTORIA, 2015

University	Students (no.)	Staff (no.)	Ratio
Deakin University	44,890	3,584	12.5
Federation University Australia	12,058	1,105	10.9
La Trobe University	32,125	2,623	12.2
Monash University	63,382	7,046	9.0
RMIT University	51,937	3,639	14.3
Swinburne University of Technology	29,339	1,808	16.2
The University of Melbourne	52,795	7,567	7.0
Victoria University	23,769	1,775	13.4
Total Victoria	**310,295**	**29,147**	**10.6**

Source: Department of Education and Training

[18] For more information, please see: http://www.monash.edu/about/who/glance

[19] These include (i) members of staff at the reference date; (ii) have an effective substantive appointment at the reference date; (iii) have current duties at the reference date which require them to undertake full-time work or fractional full-time work undertaken in either an (i) academic organisational unit, an academic support services organisational unit, a student services organisational unit, a public services organisational unit or (ii) a general institution services organisational unit; or an independent operation, but only if it is a controlled entity.

Land use implications

Employment profile of the study area
When considering the Pathway 3 scenario, four key questions were considered. These are:
- How can the Government secure tenants in line with the objectives and vision of the precinct?
- How will the establishment of the precinct lead to collaboration and other agglomeration economies that help to boost productivity and output levels?
- How will land use in the remaining study area be altered by the employment precinct?
- How will the university and surrounding precinct alter employment densities and the aggregate level of employment within the Employment Precinct?

Previous research conducted by SGS (2013), when developing initial plans for Tonsley's redevelopment suggests that:
- innovation precincts can shape the industry and tenant composition, though this requires significant government intervention, and
- collaboration can occur, though needs to be actively facilitated and encouraged. Without this, the agglomeration benefits from within the precinct are expected to be modest.

Based on the assumptions outlined in the previous section, SGS has assumed that the government is able to achieve the required industry and tenant mix and actively manage the precinct to encourage collaboration among businesses within the precinct. It is assumed that this intervention will lead to a significant quantity of economic activity within the Employment Precinct being driven by a mix of private sector activity and research and development activities associated with higher education institutions.

In relation to employment densities, the presence of the university and the wider innovation precinct is estimated to result in employment densities across the precinct that are similar to what would have occurred had this policy intervention not been made. Importantly however, the productivity of the jobs located in the precinct is expected to increase with the presence of tertiary education facilities. This reflects productivity gains associated with economies of agglomeration and the likelihood that the presence of a major tertiary institution would be relatively attractive to highly-productive knowledge-intensive industries. Besides additional employment, a tertiary institution is also likely to generate demand for student accommodation.

Much of this demand for student accommodation will be centred outside of Fishermans Bend, with increased demand leading to the development of smaller /affordable housing units. Areas likely to be impacted by increased demand for student accommodation are those with good access, i.e. Port/South Melbourne, Docklands and the inner west.

Agglomeration benefits
Similar to the previous scenario, significant agglomeration benefits are likely to result from this scenario as the increase in transport infrastructure attracts high value added professional service jobs which are then better connected to the large volume of service businesses located in the CBD and surrounding inner Melbourne precincts. These agglomeration or productivity benefits would be expected to be delivered not just to businesses located in Fishermans Bend but to those businesses located in CBD, Southbank and Docklands that are now more connected to a wider range of similar businesses.

In addition, the Employment Precinct would be expected to be associated with significant productivity benefits associated with the collaboration of research and commercial organisations. These have been reflected in the estimates of gross value output below.

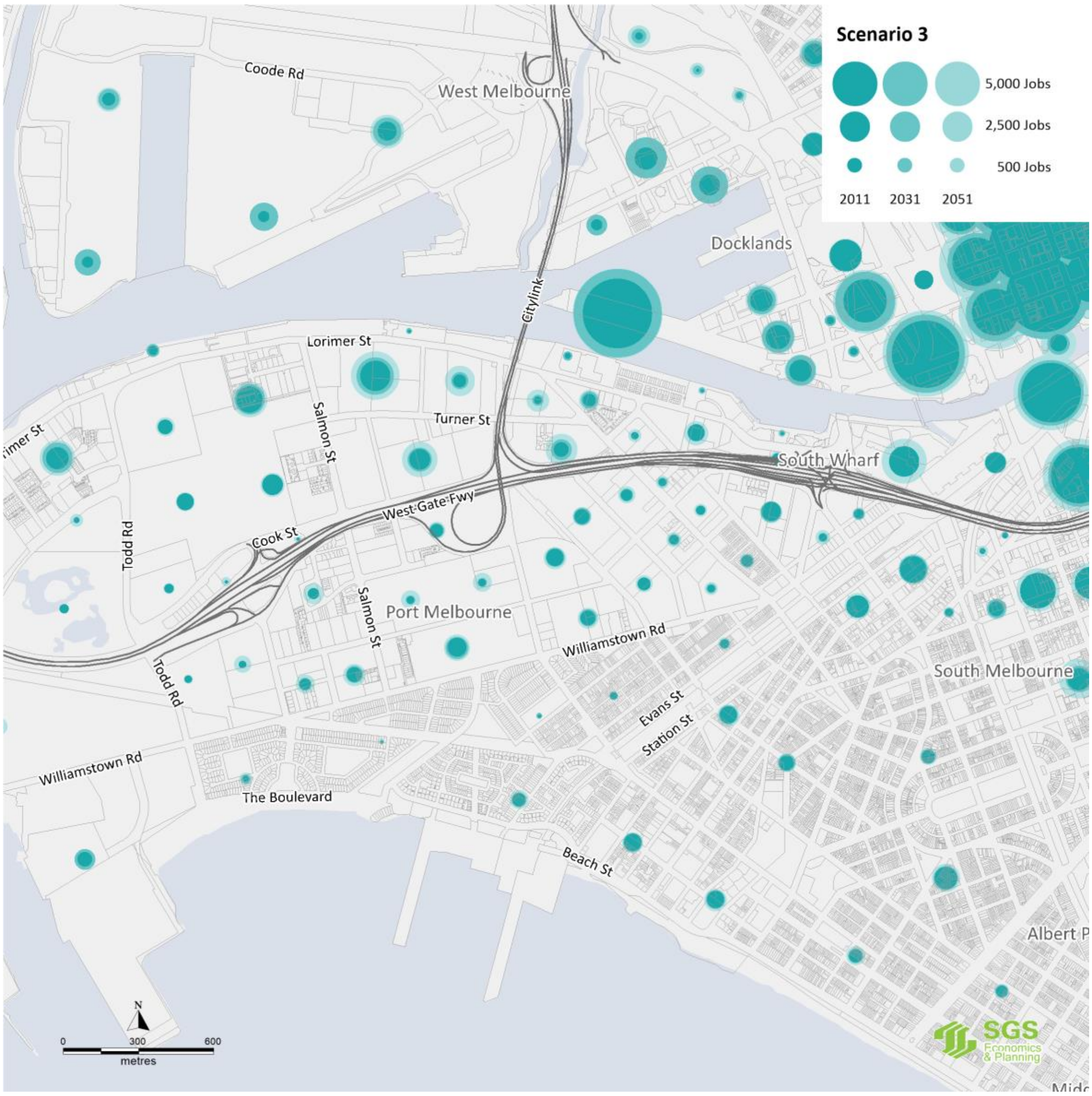
Once again, it is important to note also that any agglomeration benefits from new entrants to the study area may be offset by the potential disbursement of current tenants to other parts of Melbourne. The overall net impact of this pathway on agglomeration across Melbourne is of course an empirical question, and beyond the scope of this study.

Dispersed employment benefits
The expansion of Victorian tertiary education sector through the establishment of a new education facility at Fishermans Bend would cenent Victoria's reputation as a major centre for international education and draw greater numbers of international students to Melbourne. A new educational facility is also likely to increase the number of highly-skilled employees resident in Melbourne. This is likely to lead to a growth of employment in service-sector businesses located outside of the central Melbourne region.

Policy implications

Intuitively, the presence of a university may be expected to change land use patterns around the site, including the development of knowledge-intensive clusters and promoting commercial development. The academic literature does not however present sufficient evidence for SGS to conclude that this would have a significant impact on land use outcomes and collaboration within the study area without significant government intervention. This issue and recommendations are discussed further below.

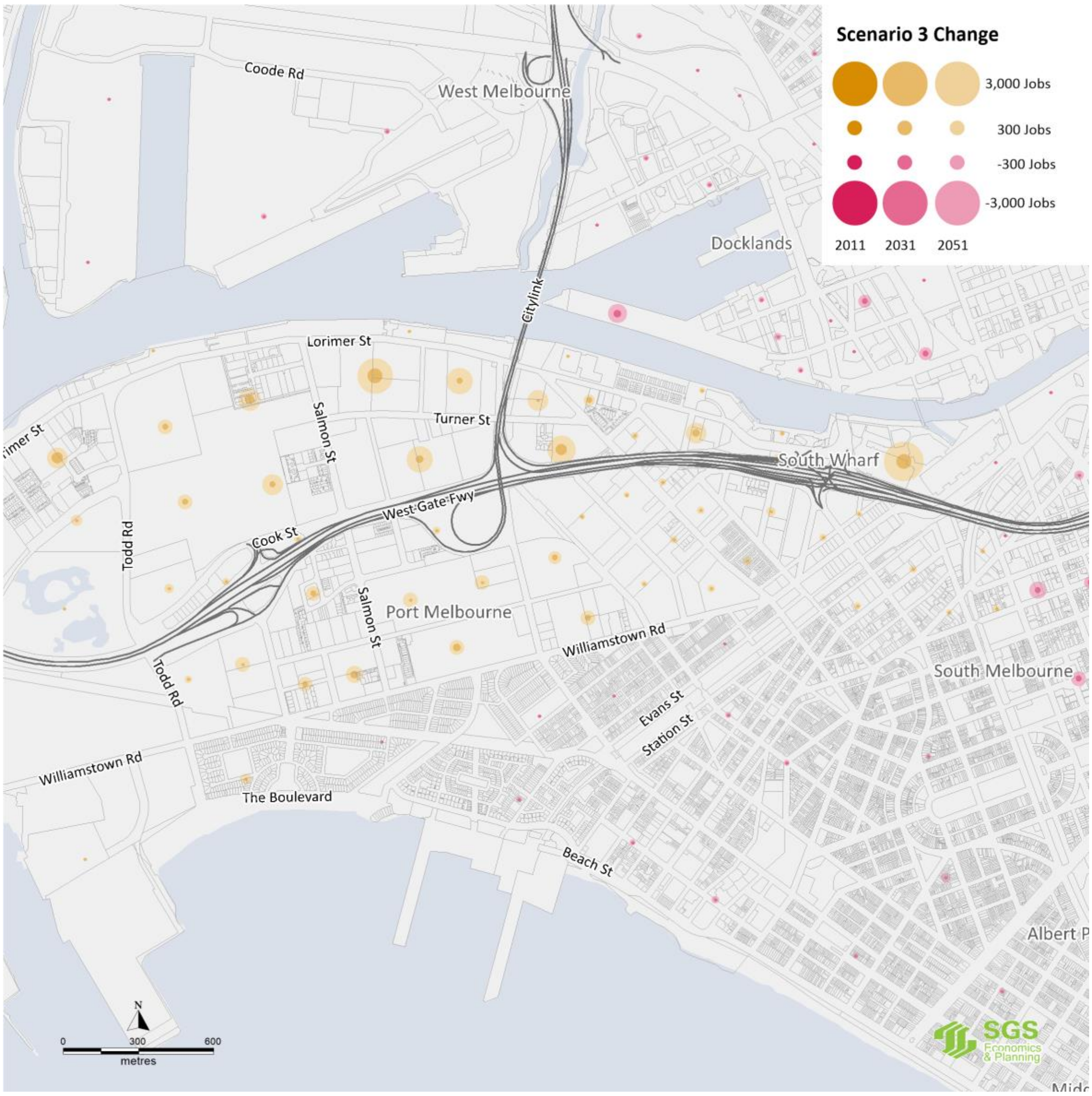
FIGURE 29. EMPLOYMENT PROJECTIONS, PATHWAY 3, 2051



Source: SGS Economics and Planning

The map below illustrates the difference in employment from Pathway 3 to Pathway 1.

FIGURE 30. EMPLOYMENT PROJECTIONS, PATHWAY 3 VERSUS PATHWAY 1, 2051



Source: SGS Economics and Planning

TABLE 17. FISHERMANS BEND, ECONOMIC ACTIVITY, PATHWAY 3, 2051

	Employment (no.)			Gross Value Added ($2016 million)		
Industry	**2016**	**2051**	**2016-51**	**2016**	**2051**	**2016-51**
Agriculture	40	30	-10	10	0	0
Mining	10	40	30	0	10	10
Manufacturing	6,770	3,690	-3,080	640	350	-290
Utility Services	140	340	200	40	90	50
Construction	4,590	5,360	780	460	540	80
Wholesale Trade	3,670	6,830	3,150	350	650	300
Retail Trade	1,640	3,290	1,640	190	390	190
Accom' & Food Services	470	1,220	750	40	90	60
Transport & Warehousing	3,040	4,120	1,080	340	460	120
IT	900	790	-110	380	340	-40
Financial Services	450	3,180	2,730	140	970	840
Rental & Real Estate Services	520	1,060	540	180	360	180
Professional Services	3,620	13,840	10,230	360	1,370	1,010
Administrative Services	1,300	1,820	520	400	570	160
Public Administration	1,040	1,340	300	110	140	30
Education	290	3,590	3,300	40	450	410
Health Care	670	5,890	5,220	40	330	300
Arts & Recreation	280	530	250	10	20	10
Other Services	1,120	2,630	1,520	70	170	100
Total	**30,550**	**59,580**	**29,020**	**3,800**	**7,320**	**3,520**

Source: SGS Economics and Planning

6 CONCLUSION

The followings sections synthesis the analysis from this report to provide recommendations on the economic and employment future of Fishermans Bend.

6.1 Project findings

Opportunities

Looking forward, Fishermans Bend has the opportunity to play a number of vital roles for the Melbourne economy over the coming decades, including:

- Proving a long term extension of the central city and **high-value add service jobs.** Where it can provide a location for new large scale office developments or support services which need to be close but not directly in the CBD,
- Accommodating **diverse and affordable housing** close to the CBD and key employment precincts throughout Melbourne,
- Providing an employment precinct for **industrial businesses that may be displaced** due to rising land values in the remaining precincts, and businesses potentially displaced from other urban renewal areas such as Arden, and
- Facilitating the continued efficient **transportation** of interstate and international goods.

Challenges

There are several factors, however, that threaten the potential of Fishermans Bend as an effective mixed-used precinct. These include:

- The **Capital City Zoning** of four of the five Fishermans Bend precincts is likely to lead to the highest and best use of land (from a private perspective) being largely residential,
- The **private ownership** of the entirety of Fishermans Bend, which will limit the Government's ability to influence land use outcomes,
- As a result of Fishermans Bend's industrial past, a number of areas suffer from soil and groundwater **contamination** as a result of industry by-products and landfill sites,
- **Crowding out of commercial uses** by residential buildings, which threatens the future status Fishermans Bend as an employment hub,
- Current **lack of public and active transport** accessibility along with links across major freeways, and
- Establishment of a **triple bottom line approach to understanding highest and best use** within Fishermans Bend.

Policy leadership

The employment scenarios presented in this report highlight the need for significant policy interventions to overcome the barriers and achieve a genuine mixed-used precinct. These include, but not limited to:

- the timely and efficient **provision of transport infrastructure**,
- **height and planning controls** that are aimed at curbing the rate of homogenous residential development in the study area, and
- **design guidelines** that ensure best practice development outcomes and promote flexibility in the use of buildings and structures over time.

In addition, the formation of a viable and successful advanced industrial precinct will require significant investments by the government in the form of business attraction, land acquisition and active management of the precinct during the inception and operational phases. In light of these findings, the following recommendations are put forward by SGS.

6.2 Economic and employment policy recommendations

A framework to policy recommendations

SGS has produced an extensive set of 'best practice' principles for urban renewal which are publicly available.[20] These principles have been applied to a number of other urban renewal precincts in the past and could help to structure the process currently being undertaken by the Fishermans Bend Taskforce. By virtue of the fact these principles have provided a basis for development elsewhere, they provide a practical and proven framework for urban renewal. Adherence to these principles should be investigated to ensure that the delivery of the new Vision for Fishermans Bend maximises the social welfare of the population of Melbourne and Victoria more broadly.

Key principles for ensuring successful urban renewal are:

- Create 'shared value' for the long term public interest
- Develop the plan with stakeholders
- Take a long term view
- Agree the non-negotiables, including design standards
- Agree a reasonable financial profile – minimising up-front costs and de-risking development while providing an appropriate return on government land and infrastructure investment
- Establish clear development objectives
- Establish clear development options to meet objectives
- Embody 'localness' and reintegrate with surrounds
- Evaluate options from holistic perspective with the aim of maximising net community benefit
- Align procurement model with the planning vision
- Ensure a reasonable quantity of affordable housing

Overview of economic policy recommendations

The following policy recommendations seek to cover actions across the three planning horizons. A high level prioritisation of actions has also been provided. However, many of these recommended actions may need to be completed in parallel and the priority may evolve through the development process.

TABLE 18. SUMMARY OF POLICY RECOMMENDATIONS

	Horizon 1	Horizon 2	Horizon 3	Priority
A clear, consistent and achievable vision				complete
Strong place based governance structure				
Preservation and protection of key land uses				
Policy measures to manage private fragmented ownership				
Contamination and drainage issues				
Measures to avoid land speculation				
Timely and effective transport				
Policy measures to protect land for commercial uses				
Innovative funding initiatives				
Policy measures to encourage vibrancy and business development				

'Horizon' reflects the implementation timeframe, noting work on longer term (Horizon 2/3) initiatives may still need to start now. 'Priority' reflects those initiatives that need to be acted on first to ensure the ultimate economic viability of the precinct is retained. Red indicates the highest priority, Orange indicators the second highest priority, Green represents completed actions.

[20] For more information, please see: https://www.sgsep.com.au/publications/best-practice-principles-urban-renewal

A clear, consistent and achievable vision

The need for a vision that is practical and supported by a strong rationale. The Fishermans Bend Taskforce is currently in the process of finalising a new vision for Fishermans Bend which will help to inform the new strategic framework plan. These documents need to reflect or at least be cognisant of both the employment opportunities that the precinct provides as well as the practical constraints that face development.

As outlined above, Fishermans Bend faces a number of barriers and impediments to development which need to be acknowledged and incorporated into any future visions and plans. A practical Vision and Framework Plan should acknowledge the market forces that are likely to shape the precinct's near-term development and the extent to which policy measures are likely to be effective in shaping this trajectory.

In addition, the future vision for Fishermans Bend and the associated Strategic Framework Plan needs to be supported by a rigorous rationale in addition to a thorough community engagement process. In particular, a strong rationale is required for:

- maintaining the planning zones for the employment precinct, and
- the current vision for the precinct as an advanced manufacturing and research centre.

A strong place based governance structure

Some consideration should be given to establishing a governance framework across any major renewal precinct created to support business development and ongoing collaboration, for example a Business Improvement District (BID) or similar mechanism.

The Melbourne University 'Carlton Connect Initiative' may provide some lessons. It is proposed to create Australia's premier innovation precinct in a series of buildings and spaces occupied by large businesses, research centres, entrepreneurs and small startups adjacent to the Parkville campus of the University and incorporating a redeveloped Royal Women's Hospital site.

Another alternative is to create a Business Improvement District (BID). A number of urban regions in Australia have implemented these BIDs with some success, including the Canberra CBD and central Gosford. A BID would work through the application of a small levy on all business across the precinct. A board would be established and made responsible for the establishment of a strategic development plan to guide spending. The BID would coordinate spending in partnership with the Fishermans Bend Taskforce to prioritise works aimed at short and medium-term improvements.

Further research is required to established the most appropriate governance structure for Fishermans Bend. Early establishment of this structure will underpin the success of many other policy recommendations.

Preservation and protection of key land uses

Fishermans Bend provides a pivotal function of facilitating goods to be exported and imported through Melbourne's Ports. Any potential risks to this function through residential encroachment or other development should be reviewed to ensure that this vital function is not jeopardised in the future. In addition to the urban renewal of Fishermans Bend, a number of other industrial and commercial precincts are expected to be transformed over the coming decades including Arden Macaulay.

For some industrial land uses, this transformation will be associated with higher costs and relocation away from current markets. For others businesses who require to be close to the CBD, or located within Fishermans Bend, this may mean that their current business model is no longer sustainable. The potential exit of these businesses from Melbourne, may have non-trivial costs for the broader economy.

For example, concrete producers currently need to be located within (approximately) 1-2 hours of key markets such as the CBD due to the limited shelf-life of concrete during transit. Advances in technology may indeed mean that this is not the case in the future, though the example highlights that some land may need to be acquired for uses that are essential for the functioning of the Melbourne economy.

Some effort needs to be made to produce an inventory of land uses that *require* a location within Fishermans Bend or close to the CBD.

Policy measures to manage private fragmented ownership

As the Fishermans Bend Ministerial Advisory Committee noted, further work is required to identify opportunities for grouping multiple sites and bringing land owners together to apply a coordinated 'master planning' approach to planning and delivering development infrastructure.[21] Case studies of Australian and/or international precincts that have gone through similar urban renewal process, and had a similar private ownership structure, should be identified and reviewed.

Any existing large land parcels (likely within the employment precinct) should be capitalised on and leveraged to their maximum potential.

Contamination and drainage issues

As outlined above, given Fishermans Bend's long history as an industrial precinct, it suffers from soil and groundwater contamination as a result of industry by-products and landfill sites. Evidence also suggests that land parcels in the area are moderately contaminated with a variety of contaminants.

Those land parcels with a high risk of being contaminated would require significant soil and active ground water remediation. This would incur remediation costs and may have an impact on the location of future infrastructure and services in the area, and the consequent impacts on cost of redevelopment of the area for most development uses. Furthermore, there are man-made features (landfill, swamp land and a sewer) that could lead to drainage and groundwater flow issues. If this is not addressed, further development of sites (including for the purposes of industry and logistics) within the area could be affected (Golder 2012). A review of the significance of these issues and possible policy measures should be reviewed.

[21] For more information, please see: haveyoursay.delwp.vic.gov.au/Fishermans-bend/documents/36318/download

Measures to avoid land speculation

The industrial and commercial land uses currently envisaged for the employment precinct may be jeopardised by land speculation. This may occur if the market suspects there is the possibility of planning zones being adjusted as has been recently seen across the study area. This process has the potential to raise land values and crowd-out some industrial and commercial uses.

Transport Infrastructure (active, public and private)

Provision of timely and effective transport options that will help to underpin the initial stages of growth at Fishermans Bend by facilitating the movement of workers and residents. This should include encouragement of a pedestrian friendly environment by supporting where possible the early delivery of key infrastructure, i.e. footpaths, parks, retail centres. This may involve converting 'excess' roadways and underutilised public realm to high quality public infrastructure, i.e. plazas, parks.

This issue has been further investigated in a separate background paper.

Policy measures to protect land for commercial uses

In order to realise a vision of a genuine mixed-used precinct, it is likely that some policy measures will be needed to protect land for commercial uses. This may include:

- Controls that require minimum proportion of office and commercial use in activity centres around public transport nodes,
- Built form controls through incorporation into the planning scheme of appropriate development overlays or zone schedules;
- Design guidelines and standards that encourage flexibility in building uses over time. The built form controls developed for the central city provide guidance around appropriate direction. This includes limiting podium/tower typology which is prevalent in Melbourne, however, does not deliver good built form outcomes, and
- The implementation of place-based governance structures that help to ensure coordination in planning and delivery.

Some research is required to identify the full spectrum of options available and determine which measure(s) will be the most effective and efficient. That is, which measure(s) will achieve the desired policy outcome at the lowest cost? This form of analysis is typically conducted via a formal Regulation Impact Statement.

For example, the City of Stonnington in Melbourne is proposing to address the loss of business floorspace in the South Yarra precinct by establishing a 'vertical zoning' system in the Chapel Street Activity Centre (including the South Yarra, Prahran and Windsor precincts). If adopted, the zone would require developers to retain the ground, first and second floors for retail and commercial use only. Any residential development on the lower floors would need a permit. However, the second floor could be used for residential purposes if the building was on a side street.

Innovative funding initiatives

At the moment, in both Australia and New Zealand there is no market in development rights. Potential development rights are tethered to private property ownership and are 'realised' via the gatekeeping role of the town planning approvals system. Theoretically, it is possible for some or all of the development rights created via a planning scheme to be reserved to public ownership as they are, for example, under the Australian Capital Territory's leasehold land tenure system.

As occurs in the ACT, development proponents must purchase the requisite development rights from the Government as well as gaining town planning approval on environmental and design grounds. The proceeds of these development right sales can be used to help fund infrastructure.

A figure detailing the components of the gross realisation value obtained by property developers can be found in Appendix 4.

Policy measures to encourage vibrancy and business development

Policy measures fostering vibrancy across the precinct have the potential to have flow-on benefits in regard to business development at Fishermans Bend. Policies would look to facilitate the growth of active and public transport networks at Fishermans Bend, thereby reducing the impact of private vehicles on the amenity of the precinct. Precinct design would also have a role in producing urban areas that were safe (by following CPTED principles) and amenable (boosting the number of people using the precinct, and thereby the profitability of local businesses).

Schemes to encourage uses that contribute to vibrancy but would ordinarily be considered 'uneconomic' (such as artist spaces and business start-ups) could be looked at, while to ensure that local economy is geared to optimise growth, efforts should be made to engage potential tenants in advanced manufacturing and creative industries. Planning controls that promote flexibility of use over time are also an important component to consider in setting up a dynamic precinct.

6.3 Information gaps and further research

Beyond direct policy recommendations further research and data collection is required to:

- Further investigation into the need to preserve and protect land uses that have the potential to foster growth in high value-add service industries,
- Perform or facilitate research into policy measures to:
  - Protect land for commercial uses
  - Manage private fragmented ownership
  - Manage contamination and drainage issues
- In order to overcome the issues associated with fragmented land ownership structures, there is a need to consult with local and international governments (at all levels) that have experience in attempting to overcome this problem. As part of this process, a further land use audit should also be conducted, and local affected businesses should also be consulted.
- 'Workshop' with key urban professionals and owners of suitable sites to identify barriers to redevelopment,
- Conduct further land use audit or a consultation processes of local businesses, which would be aimed at assessing options for overcoming the fragmented private ownership structure and any industries that *require* some land to be preserved for future use.

Some key initiatives identified in this study included.

Data investigations / stakeholder engagement

This study was limited by the availability of current data for employment and land use across the study area and insufficient budget to perform any form of stakeholder consultation. The data available could be supplemented with a land use audit or a consultation processes of local businesses, which would be aimed at assessing options for overcoming the fragmented private ownership structure and any industries that *require* some land to be preserved for future use.

Research into critical success factors of a vision

A number of recently established employment precincts have commissioned research into critical success factors of the proposed vision and strategic plan.

This has typically taken the form of cost benefit analysis that considers a range of scenarios that are intended to quantify the impact of changes to a number of parameters and assumptions associated with the precinct. Previous research conducted by SGS suggests that the economic benefits of the urban renewal of Fishermans Bend can be optimised:

- By actively marketing the site to interstate or international businesses, which will lead to additional employment, value adding and innovation that would not have otherwise occurred,
- If the tenant mix is also targeted towards existing Victorian business that are trade-orientated in terms of producing exports or import replacement products, and which are currently capacity constrained.
- If the additional production enabled by the study area helps to absorb unemployed workers in other areas of the manufacturing industry who are at risk of leaving the labour force.
- If tenants have supply chains concentrated within Victoria.
- If tenants are actively encouraged to collaborate and innovate within the precinct.

7 APPENDIX

Appendix 1: Method used to produce employment projections

Method

The employment projections presented in this report are based on SGS' Small Area Land Use Projections Model, which incorporates both a 'top-down' and 'bottom-up' approach.

From a 'top-down' perspective, employment is projected for each industry across the greater Melbourne area. These projections account for structural changes that are expected to occur in the future. These employment projections are then allocated to more detailed geographical catchments based on historical shares of employment.

From a 'bottom-up' perspective, the share of employment within more detailed geographical catchments is adjusted to account for local developments (e.g. urban renewal), while density levels are compared to benchmarks from comparable locations across Melbourne.

SGS projections are based on actual employment data for 2011 sourced from the Census of Population and Housing (Census). Some adjustments have been made to this data to reflect the fact that the Census survey has historically been shown to undercount the number of jobs relative to other employment surveys produced by the ABS. The data collection method and the classification system used in the Census is different to methods used in alternative employment surveys such as the Census of Land Use and Employment (CLUE) produced by the City of Melbourne. These differences in methodology can contribute to some variation in employment estimates across regions.

Key assumptions and features

The development of the Fishermans Bend precinct, is assumed to draw jobs from other precincts within Melbourne as opposed to drawing jobs from interstate or overseas. In particular, jobs are assumed to be drawn from precincts within the City of Melbourne and Port Phillip.

Some industries have employment across a range of geographies and locations. For example, the mining industry employers workers across regional areas in mines and rural areas as well as head offices in metropolitan areas. Industry employment estimates provided above encompass this range of activity.

Appendix 2: Definition of advanced manufacturing

TABLE 19. DEFINITION OF ADVANCED MANUFACTURING

ANZIC Industry
1811 Industrial gas manufacturing
1812 Basic organic chemical manufacturing
1813 Basic inorganic chemical manufacturing
1821 Synthetic resin and synthetic rubber manufacturing
1829 Other basic polymer manufacturing
1831 Fertiliser manufacturing
1832 Pesticide manufacturing
1841 Human pharmaceutical and medicinal product manufacturing
1842 Veterinary pharmaceutical and medicinal product manufacturing
1851 Cleaning compound manufacturing
1852 Cosmetic and toiletry preparation manufacturing
1891 Photographic chemical product manufacturing
1892 Explosive manufacturing
1899 Other basic chemical product manufacturing n.e.c.
2311 Motor vehicle manufacturing
2312 Motor vehicle body and trailer manufacturing
2313 Automotive electrical component manufacturing
2319 Other motor vehicle parts manufacturing
2391 Shipbuilding and repair services
2392 Boatbuilding and repair services
2393 Railway rolling stock manufacturing and repair services
2394 Aircraft manufacturing and repair services
2399 Other transport equipment manufacturing n.e.c.
2411 Photographic, optical and ophthalmic equipment manufacturing
2412 Medical and surgical equipment manufacturing
2419 Other professional and scientific equipment manufacturing
2421 Computer and electronic office equipment manufacturing
2422 Communication equipment manufacturing
2429 Other electronic equipment manufacturing
2431 Electric cable and wire manufacturing
2432 Electric lighting equipment manufacturing
2439 Other electrical equipment manufacturing
2441 Whiteware appliance manufacturing
2449 Other domestic appliance manufacturing
2451 Pump and compressor manufacturing
2452 Fixed space heating, cooling and ventilation equipment manufacturing
2461 Agricultural machinery and equipment manufacturing
2462 Mining and construction machinery manufacturing
2463 Machine tool parts and parts manufacturing
2469 Other specialised machinery and equipment manufacturing
2491 Lifting and handling equipment manufacturing
2499 Other machinery and equipment manufacturing

Source: http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/8166.0.80.001Main%20Features22013-14?opendocument&tabname=Summary&prodno=8166.0.80.001&issue=2013-14&num=&view=

Appendix 3: Definition of creative industry

TABLE 20. DEFINITION OF CREATIVE INDUSTRY

ANZIC 4 digit industry
5522 Music and Other Sound Recording Activities
9003 Performing Arts Venue Operation
5521 Music Publishing
5419 Other Publishing (except Software, Music and Internet)
5622 Cable and Other Subscription Broadcasting
5600 Broadcasting (except Internet), nfd
1612 Printing Support Services
5413 Book Publishing
7000 Computer System Design and Related Services
5500 Motion Picture and Sound Recording Activities, nfd
5900 Internet Service Providers, Web Search Portals and Data Processing Services, nfd
J000 Information Media and Telecommunications, nfd
5420 Software Publishing
5411 Newspaper Publishing
9000 Creative and Performing Arts Activities, nfd
5620 Television Broadcasting, nfd
5510 Motion Picture and Video Activities, nfd
5700 Internet Publishing and Broadcasting
6940 Advertising Services
5412 Magazine and Other Periodical Publishing
5400 Publishing (except Internet and Music Publishing), nfd
2591 Jewellery and Silverware Manufacturing
5410 Newspaper, Periodical, Book and Directory Publishing, nfd
5621 Free-to-Air Television Broadcasting
9001 Performing Arts Operation
5610 Radio Broadcasting
5514 Post-Production Services and Other Motion Picture and Video Activities
5511 Motion Picture and Video Production
1891 Photographic Chemical Product Manufacturing
6921 Architectural Services
6924 Other Specialised Design Services
9002 Creative Artists, Musicians, Writers and Performers
6991 Professional Photographic Services

Source: SGS, Valuing Australia's Creative Industries Final Report, 2013

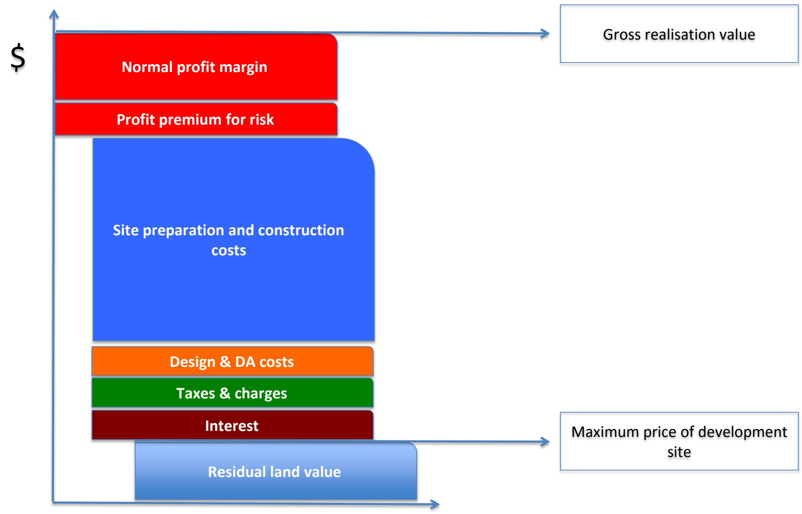
Appendix 4: Gross Realisation Value

The figure below details the components of the gross realisation value obtained by property developers (the revenue received upon completion of the project). This includes:

- a required profit margin,
- a required risk premium,
- operational and capital costs, and
- the residual land value.

The residual land value represents the maximum amount that a property developer would be willing to pay for the land, and will depend on the number of storeys that can be constructed. Increases in height controls or other favourable planning controls will raise the residual land value. The sale of development rights is aimed at capturing a reasonable proportion of this rise in land value. Where the revenue raised was not sufficient to meet total capital costs, targeted rates may also be used.

FIGURE 31. RESIDUAL LAND VALUE



Source: SGS Economics and Planning Pty Ltd

Appendix 4: Inner city precincts

FIGURE 32. INNER CITY DISTRICTS

Source: SGS Economics and Planning

8 GLOSSARY

Advanced Manufacturing: is the use of innovative technology to improve products or processes, driving improvements in marketability and competitiveness.

Agglomeration Benefits/Economies: the benefits that firms obtain by locating near each other ('agglomerating'). This concept relates to the idea of economies of scale and network effects.

Blue-collar Employment: generally this term is used to describe work carried out by a person using predominantly manual labour. Typically, exponents of these jobs require relatively low levels of education and few niche skills.

Business Improvement District (BID): a defined area within which businesses are required to pay an additional tax (or levy) in order to fund projects within the district's boundaries. The BID is often funded primarily through the levy but can also draw on other public and private funding streams.

Creative Industry: This is industry that has its origin in individual creativity, skill and talent and which has a potential for wealth and job creation through the generation and exploitation of intellectual property. Jobs in this sector are typically associated with the presence of a highly educated workforce.

Effective Job Density (EJD): EJD measures the numbers of jobs accessible from a particular location within a specified travel time, taking into account not only geographic proximity, but also the quality of transport infrastructure in considering ease of access to employment markets.

Fishermans Bend Ministerial Advisory Committee (FBMAC): FBMAC was set up in July 2015 by the Minister for Planning in response to community concerns regarding a lack of adequate planning for the early stages of Fishermans Bend. Among other things, FBMAC was to be responsible for the development of detailed plans for the five Fishermans Bend precincts, as well as an overarching infrastructure plan.

Gross Value Added (GVA): a productivity metric that measures the contribution to an economy, producer, sector or region. **Gross value added** provides a dollar **value** for the amount of goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production.

Knowledge-intensive: A term used to describe products, processes, jobs or industries in which professional knowledge plays a major role. Often the outputs of this industry rely on the input of large numbers of highly-skilled technicians. The term is often associated with advanced manufacturing.

Net Developable Land: Refers to the total area of **land** available for development, excluding main roads, buffer zones, structural landscaping, other uses such as local shops

Victorian Planning Authority: The Victorian Planning Authority (VPA) is a government authority that reports directly to the Minister for Planning, seeking to manage strong population growth by planning for residential and employment land in a number of strategically important areas of Victoria.

White-collar Employment: this term is used to describe the jobs performed by professional, managerial or administrative workers. Typically, these roles have a ‘knowledge component’, in that they require highly educated individuals with highly-refined skills. This sector is strongly linked to both creative industries and advanced manufacturing.

Contact us

CANBERRA

Level 6, 39 London Circuit
Canberra ACT 2601

+61 2 6263 5940
sgsact@sgsep.com.au

HOBART

PO Box 123
Franklin TAS 7113

+61 421 372 940
sgstas@sgsep.com.au

MELBOURNE

Level 14, 222 Exhibition Street
Melbourne VIC 3000

+61 3 8616 0331
sgsvic@sgsep.com.au

SYDNEY

209/50 Holt Street
Surry Hills NSW 2010

+61 2 8307 0121
sgsnsw@sgsep.com.au

SGS Economics & Planning