

# FACTBase Fremantle

Bulletin 4, September 2015

## Economic Investment Flows of Greater Fremantle: An Entrepôt of Global Activity

Kirsten Martinus

### Introduction

Reflecting its port history, Fremantle has long symbolised Perth's economic connectivity and in turn entrepreneurship as it leverages diverse flows of people, ideas and goods. However, measuring this type of economic investment in a metropolitan sub-region, such as Greater Fremantle is difficult given the complexity of finance, labour and business interactions. The capacity to attract investment is due to connectivity across various trade and labour networks (Martinus and Tonts, 2013). Positive reinforcement of old patterns and the creation of new opportunities is caused by generations of economic engagement. Fremantle's successful hosting of the America's Cup in the 1980s is a good illustration of this. Not only did it introduce Perth to the world, the America's Cup helped consolidate an industry which paved the way for ASX-listed global ship building operations at Henderson. As such, Fremantle's linkages at different metropolitan, national and global levels are the result of historic processes driven by a myriad of economic and organisational behavioural responses (see Kominek and Scheffran, 2012).

This FACTBase Bulletin investigates Fremantle's investment flows using network connectivities in trade and labour commuting as proxies for broader economic movements. Social network analysis highlights links to other locations across Perth, the nation and the globe. The first section focuses on trade flows using international port and Western Australian (WA) locational data (Fremantle Ports, 2006, 2012, 2014). The second section details labour commuting using 2011 ABS journey-to-work data by Local Government Areas (LGAs) at the national and Greater Perth and Peel Metropolitan levels.

### Trade connections

The gradual increase in total trade activity (both imports and exports) since 2004/05 is largely tied to WA's resource economy (Fremantle Ports, 2014), with major trading partners found across the globe in the Asia-Pacific region (e.g., China, Singapore, Malaysia, Japan, South Korea and Indonesia), the United States of America, United Arab Emirates, New Zealand and with select West European partners. Export trade from Fremantle Port is primarily in value-add and raw product (around 13% and 67% respectively, with 20% undefined as 'other'; see Fremantle Ports,

2014) based on WA's diverse range of agriculture and resources. Greater Fremantle holds a unique position within the Perth Metropolitan Region, acting as a critical hub in the network of sea and road routes between WA and the rest of the world.

This section discusses Greater Fremantle's role as an articulation point or hub in the State and national economy using container trade as a proxy. Total shipping trade (both import and export totals of full and empty containers) to and from Fremantle Port rose by 247,306 containers between 2005/06 and 2013/14 (see table 1), mainly due to significant increases in trade with the United States (up 8,545 containers) and Asian-Pacific neighbours of China (up 103,310), Singapore (up 34,649), Malaysia (up 32,778), as well as Vietnam, Thailand, India and Indonesia (each up between 5,500 and 9,300 containers). The largest declines were with historically strong trading partners Japan (down 9,362) and New Zealand (down 6,546). Figure 1 maps total import and export flows between major trade nations. It reveals the strong regional nature (focused on Asia) of Fremantle's, and more broadly Western Australia's, connectivity with the rest of the world.

**Table 1: Total container movements (number of import and export of full and empty containers), top 20 countries in 2014 and total for all nations**

Country	2006	2014	Absolute change (no.)	Percentage change (%)
China	61,457	164,767	103,310	↑ 168
Singapore	76,801	111,450	34,649	↑ 45
Malaysia	29,258	62,036	32,778	↑ 112
Japan	42,702	33,340	-9,362	↓ -22
South Korea	12,445	25,390	12,945	↑ 104
Indonesia	18,930	24,814	5,884	↑ 31
Thailand	15,469	24,203	8,734	↑ 56
United States	13,650	22,195	8,545	↑ 63
Vietnam	6,065	15,309	9,244	↑ 152
India	6,278	11,868	5,590	↑ 89
Taiwan	9,274	10,752	1,478	↑ 16
New Zealand	16,908	10,362	-6,546	↓ -39
United Arab Emirates	4,157	9,107	4,950	↑ 119
Germany	6,087	8,839	2,752	↑ 45
Italy	7,089	7,840	751	↑ 11
United Kingdom	6,450	7,787	1,337	↑ 21
Netherlands	7,280	7,280	0	0
Philippines	4,166	4,906	740	↑ 18
Belgium	4,710	4,444	-266	↓ -6
South Africa	6,702	4,259	-2,443	↓ -36
<b>Total (including nations not mentioned above)</b>	<b>456,021</b>	<b>703,327</b>	<b>247,306</b>	<b>↑ 54</b>

Source: adapted from Fremantle Ports (2006, 2014)

**Figure 1: Flow of imports and exports between Fremantle and major trading partners, width and darkness (yellow to green) of lines indicates container numbers**



Source: adapted from Fremantle Ports (2014)

# FACTBase Fremantle

Bulletin 4, September 2015

Fremantle's global connectivity is associated with its role as a key WA distribution and logistics hub, with overseas container trade mirrored by domestic flows between Fremantle and the rest of Western Australia. Table 2 gives the percentage breakdown and change in the distribution of major pack and unpack locations of containers in WA between 2004 and 2011; Figure 2 maps 2011 percentage volumes.

Across both periods, the most significant location of Kewdale/Forrestfield/Welshpool corresponds to

Perth Metropolitan's strong manufacturing, logistics and distribution centre adjacent to its international and domestic airports. This is closely followed by the O'Connor/Spearwood/Bibra Lake industrial areas and a growing proportion of containers from Kwinana/Rockingham/Naval Base/Henderson indicating the export importance of these manufacturing regions. Declines in trade between Fremantle and regional Western Australia may reflect WA's weakening resource sector as well as container diversion to other ports.

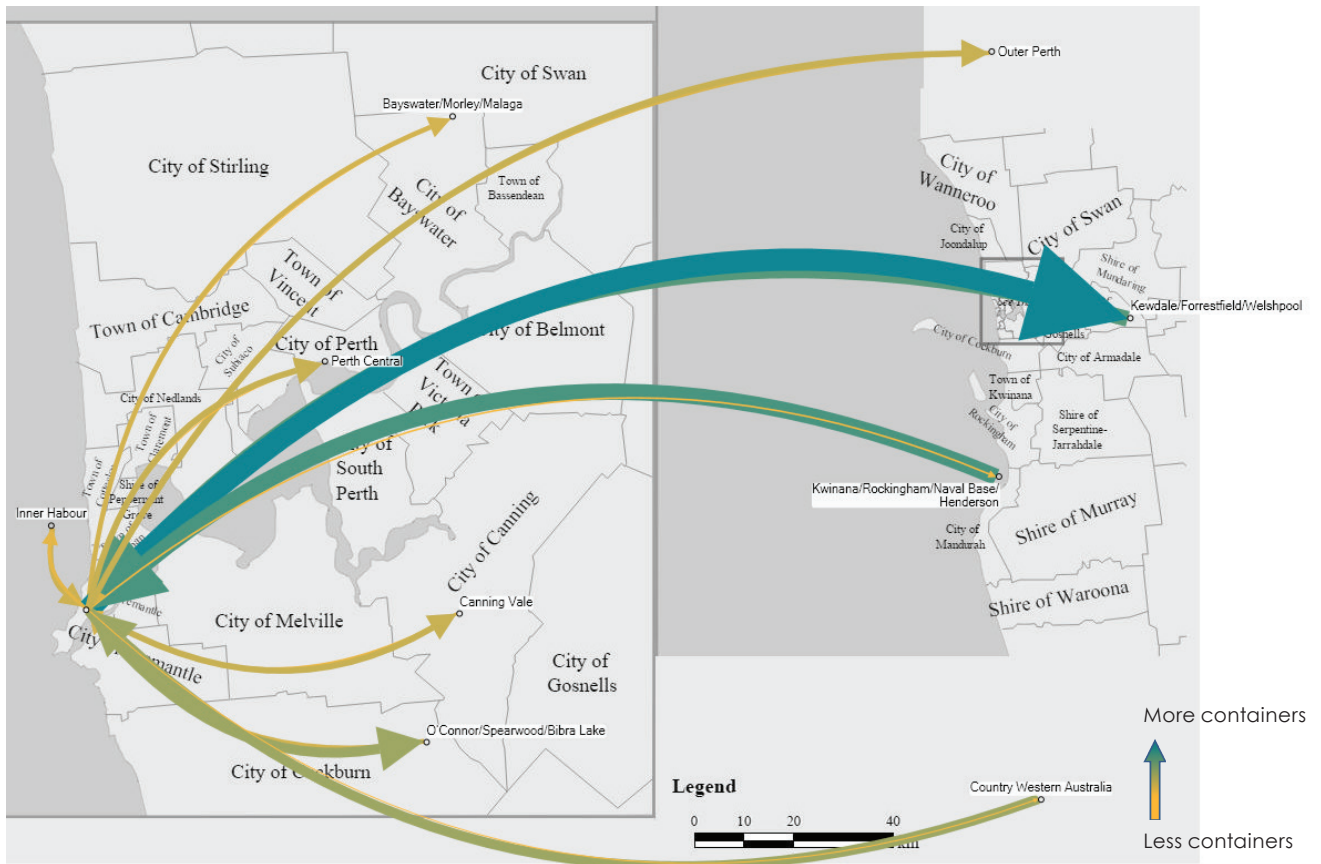
This overview of global and local container flows demonstrates Fremantle's continuing position as a trading hub for goods and services movement between Western Australia and the rest of the world. Stakeholder focus on business and economic activity in Perth City often overshadows the critical trading role of Fremantle and its sophisticated supply chains. A key policy issue for Fremantle is to capitalise on its strategic advantage as Perth's window to global trade.

**Table 2: Distribution of major pack and unpack locations, by 2004 and 2011 percentages**

	Distribution of unpack locations (%)			Distribution of pack locations (%)		
	2004 (%)	2011 (%)	Percentage change (%)	2004 (%)	2011 (%)	Percentage change (%)
Bayswater/Morley/Malaga	6	8	↑ 33	2	2	0
Inner Harbour	3	6	↑ 100	2	9	↑ 350
Kewdale/Forrestfield/Welshpool	39	35	↓ -10	16	25	↑ 56
Canning Vale	0	10	↑ -	0	5	↑ -
Kwinana/Rockingham/Naval Base/Henderson	2	3	↑ 50	5	26	↑ 420
O'Connor/Spearwood/Bibra Lake	14	16	↑ 14	18	8	↓ -56
Outer Perth	5	10	↑ 100	9	7	↓ -22
Perth Central	11	10	↓ -9	5	2	↓ -60
Country	20	2	↓ -90	43	16	↓ -63
<b>Total</b>	<b>100</b>	<b>100</b>		<b>100</b>	<b>100</b>	

Source: adapted from Fremantle Ports (2012)

Figure 2: Major unpack and pack locations, by 2011 volumes



Source: adapted from Fremantle Ports (2012)

## Labour connectivity

This section turns to a different indicator of connectivity by examining labour commuting movements using 2011 ABS journey-to-work data by Local Government Areas (LGAs) to highlight the attraction of Greater Fremantle as both an employment and residential location. This was achieved through two separate network analyses; one unpacking Greater Fremantle's labour movement in relation to all Australian LGAs, the other, its connectivity to Greater Metropolitan Perth and Peel LGAs. As such, the analysis will unpack the geography of

people who live in Fremantle but work elsewhere, as well as the people who live elsewhere but work in Fremantle.

Figure 3 shows Greater Fremantle has moderate significance as a labour commuting region (by size of the circle) in the national commuter network, though its connectivity across the Australian system is highly diverse. The greatest commuter flows occur between LGAs in Western Australia, Queensland and New South Wales. Excluding workers travelling between Greater Fremantle and the Perth and Peel Metropolitan region, there are slightly more



**Figure 3: Map of all Australian commuters, highlighting movements to and from Greater Fremantle, size of circles denoting degree to which LGA acts as network hub**



Source: adapted from ABS (2011)

commuters from Greater Fremantle to other LGAs across the nation than the reverse. Whilst this indicates Greater Fremantle's higher attraction as a residential location, the numbers are relatively low. There are 395 workers leaving Fremantle to work in regional Western Australia (mainly East Pilbara, Roebourne and other resource LGAs) or other States (Greater Metropolitan regions of Sydney, Melbourne and Brisbane) and 271 workers commuting to Fremantle (key areas being: Busselton, Augusta, Harvey, Kalgoorlie/Boulder and Roebourne, as well as Greater Sydney, Melbourne and Brisbane, and the Sunshine Coast).

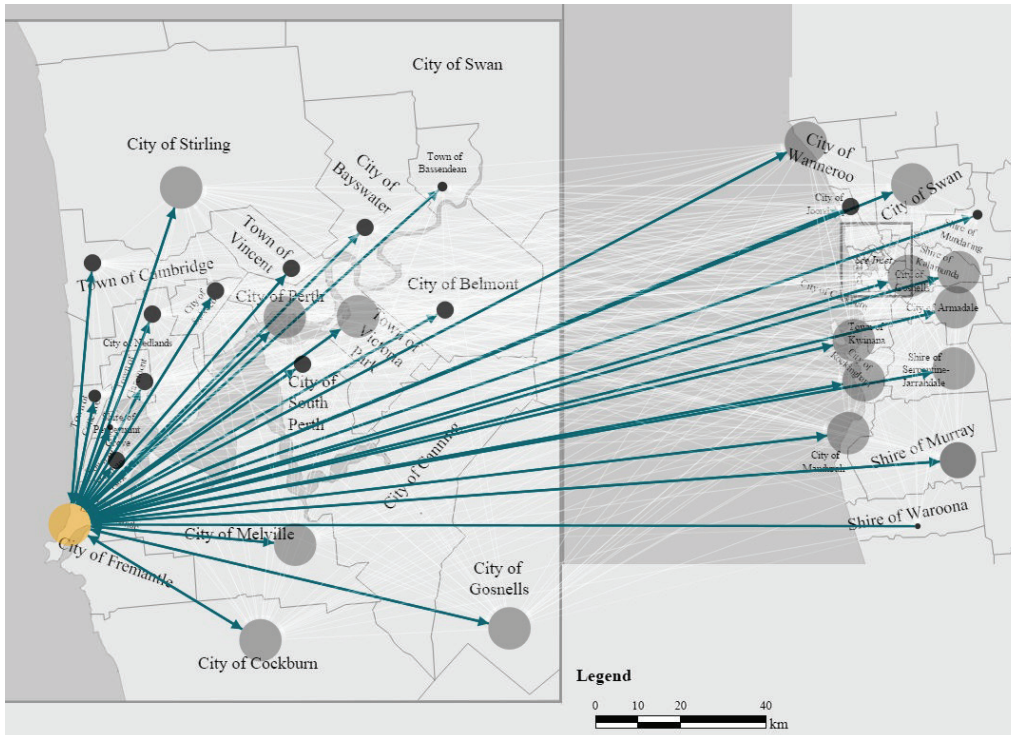
Greater Fremantle assumes a higher significance as a work location when the smaller spatial unit of Greater Perth is considered, with a total of 14,906 out-commuters and 26,355 in-commuters moving between Fremantle and all other Perth and Peel LGAs. Figure 4 illustrates worker movements, with the majority of LGAs sending more workers to Greater Fremantle than they receive (24 of the 30). Figure 5 demonstrates the LGAs of most significance to Greater Fremantle. The majority of Greater Fremantle commuters work in Perth City and Subiaco, as well as neighbouring LGAs of Cockburn, Melville and

Canning (figure 5a). Labour to Greater Fremantle comes primarily from southwest corridor LGAs of Cockburn, Melville, Rockingham and Canning, along with the northern LGA of Stirling (figure 5b). An analysis of the entire Perth and Peel Metropolitan labour commuting network highlights Greater Fremantle's central role as one of Perth's sixteen hub or bridging LGAs (shown by size of circles in figure 4) between other work commute LGAs.

# FACTBase Fremantle

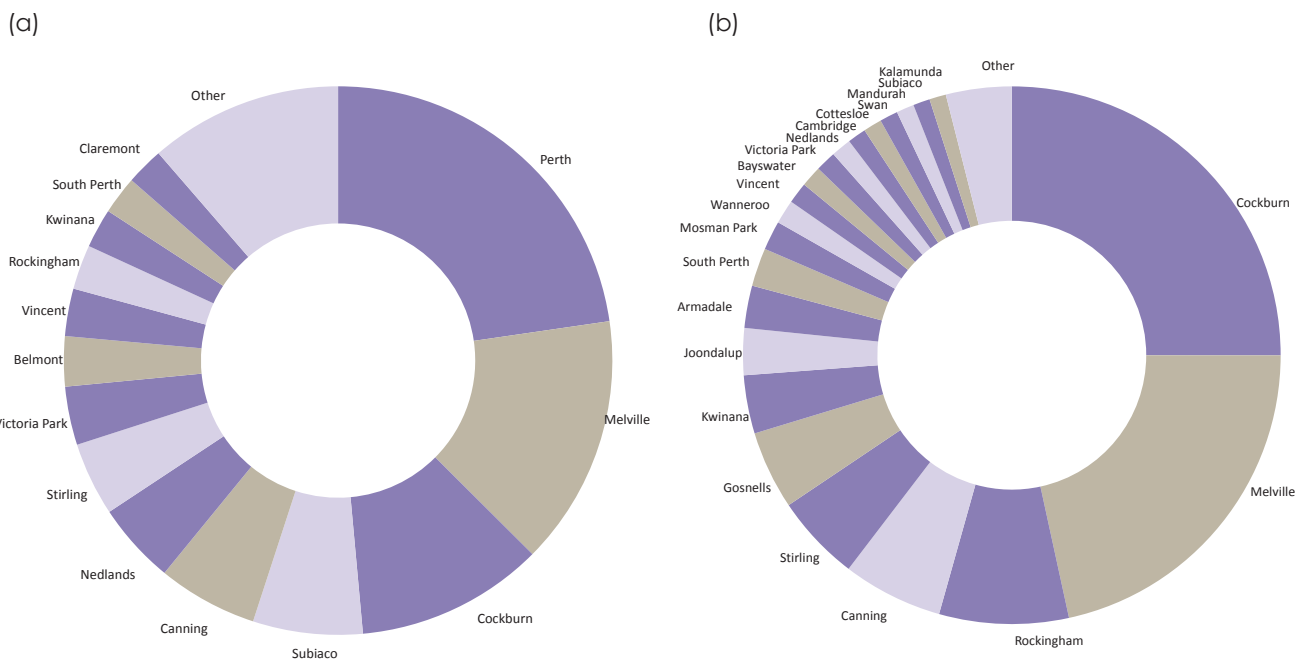
Bulletin 4, September 2015

**Figure 4: Map of Perth and Peel Metropolitan commuters, highlighting movements to and from Greater Fremantle, size of circles denoting degree to which LGA acts as network hub**



Source: adapted from ABS (2011)

**Figure 5: LGA of labour commuters coming from (a) and going to (b) Greater Fremantle, LGAs with over 200 commuters**



Source: adapted from ABS (2011)

## Concluding Comments

In recent years, connectivity has become increasingly more influential as an indicator of urban prosperity vis-a-vis trade, regional investment, and economic competitiveness. The connectivity of sub-regions is subordinate to conversations and analysis at the city level. Port cities can significantly shape metropolitan policies given their prominence as a barometer of global, national and regional connections.

Fremantle is most strongly connected to other ports in the Asian Pacific region. The high inflows from China are likely linked to the sale of cheap manufactured products, whilst large outflows to Singapore indicate its significance as a distribution and logistics hub for exports from Fremantle. These container flows continue through the Perth and Peel Metropolitan Region to and from their various international locations, with the highest container outflows (unpack destinations) leaving Fremantle for the major industrial areas (south and east) and the airports. The majority of containers leaving Fremantle Port originate in the heavy industrial regions located along Perth's southern coastline as well as the resource and agricultural areas of regional Western Australia.

Fremantle is also well connected through the movement of its labour force. It is a major residential location with most commuting to WA's resource regions or Australia's largest cities at the national level, and to surrounding and inner city LGAs at the Perth and Peel metropolitan level. It is also a key work location. Those commuting to Fremantle are primarily from other WA coastal LGAs or

the largest Australian cities at the national level, and from a diversity of LGAs at the Perth and Peel Metropolitan level – including Perth's outer LGAs.

Economic and social connectivity is deeply complex. How Fremantle connects to the rest of the world provides insight into its economic attractiveness. Understanding the source and destination of labour and goods moving through Fremantle allows the formulation of more effective strategies and policies targeting road, rail and port infrastructure improvement. This is critical to ensure its capacity to act as a hub of West Australian and global economic activity.

## References

Australian Bureau of Statistics [ABS] (2011) *Census of Population and Housing*. Australian Bureau of Statistics, Canberra.

Fremantle Ports (2006) *Fremantle Ports Corporate Progress 2006: Incorporating the 2006 Concise Annual Report*. Fremantle Ports, Fremantle.

Fremantle Ports (2012) *Fremantle Port Container Movement Study, 2012*. Fremantle Ports, Main Roads Western Australia, WA Department of Transport and Freight and Logistics Council of Western Australia, Perth.

Fremantle Ports (2014) *Fremantle Ports Annual Report*. Fremantle Ports, Fremantle.

Kominek, J. and Scheffran, J. (2012) Cascading processes and path dependency in social networks. In Soeffner, H. (Ed.) *Transnationale Vergesellschaftungen*, Springer, Wiesbaden, pp.1288.

Martinus, K. & Tonts, M. (2013) *Perth as a Globally Connected City*. FACTBase Special Report. Committee for Perth & The University of Western Australia: Perth.





## Copyright:

This paper is copyright of The University of Western Australia and the Committee for Perth. While we encourage its use, it should be referenced as:

Martinus, K. (2015) *Economic Investment Flows of Greater Fremantle: An Entrepôt of Global Activity*, FACTBase Fremantle Bulletin 4, The University of Western Australia and the Committee for Perth, Perth.

## Acknowledgement

The author would like to thank colleagues from UWA School of Earth and Environment, Professor Matthew Tonts and Dr Veronica Huddleston, for their contribution to earlier versions of this FACTBase Bulletin.

## About the author



Kirsten Martinus is an Assistant Professor at The University of Western Australia's School of Earth and Environment. Her research interests lie in urban and economic development, social capital formation, innovation and globalisation studies.



Future Freo is a project of the Committee for Perth and funded by the following organisations:

