

THOUGHT LEADERSHIP SERIES 2016 - GLOBAL RESOURCES CITIES

PERTH NOT AN ISOLATED CASE

A STUDY OF THE COMMODITY OF
OFFICE SPACE ACROSS
14 GLOBAL RESOURCE HUBS





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INTRODUCTION

Underpinned by the resources boom, over the past decade the Perth CBD has undergone significant transformation.

Between the recent opening of Elizabeth Quay and the 2004 completion of Woodside Plaza, the Perth CBD has grown by over 30% as new developments added over 550,000 sq m of new office space. This growth was driven by demand created by major resources companies and their suppliers. Our premium grade building stock is occupied by major multinational firms such as BHP Billiton, Chevron, Woodside and Rio Tinto. Engineering, construction and transport firms occupied significant secondary space to service major resources projects. Top tier multinational law firms, management consultancies and investment banks all opened up Perth offices.

Demand from these global resource players drove office vacancies in the Perth CBD to world lows of under 0.5%. Office space, the equivalent of just three floors in the Central Park building, were available to lease across the CBD and neighbouring West Perth. By the end of 2012, a Y Research study determined that up to 51.5% of office space occupied in the Perth CBD was directly or indirectly occupied by a resources firm. Factoring in State Government occupation, less than 30% of office space in the CBD was occupied by firms not involved in the resources sector.

As a result of this reliance on the resources sector, the transition from the investment phase of the resources boom to the operational phase has been difficult for the West Australian economy and our office markets.

Since the peak of iron ore spot pricing, \$149US a tonne in April 2012, prices for Western Australia's key commodities have fallen dramatically due to slowing demand from China and record global supply additions. In December 2015, the iron ore spot price reached as low as \$38.3US per tonne. The fall in global oil prices has been nearly as severe - down from a peak of \$125US per barrel in 2012 to as low as \$26.21US per barrel in February 2016. LNG prices have also tumbled as a result of falling oil prices; down 42% in the last 12 months to \$4.24 US per million British Thermal Units.

As commodity prices have fallen, investment in new projects has dried up. Resources firms and their suppliers have made significant staffing cuts which have flowed through to lower office space requirements. According to our 2016 Perth CBD Office Tenant Census, at the beginning of 2016, nearly 400,000 sq m of office space was vacant across the CBD. This represents a vacancy rate of 22.1%. By the end of this year, the Perth CBD vacancy rate is forecast to peak at over 24.5% due to the strong level of recent development, backfill vacancy and further downsizing. The elevated vacancy rate is largely due to the equivalent of over two Brookfield Place buildings in the CBD being vacated, directly or indirectly, by iron ore companies and their engineering partners.

While market conditions are new to a generation of younger Western Australians, the boom/bust nature of commodity prices, reflected in the cyclical performance of our property markets, is nothing new. WA has been through this before from the gold rush, the opening up of the Pilbara, the nickel boom of the 1970s and the development of the North West shelf. In a global context, Perth is not the only city stuck in this cycle. Across the world, oil and gas towns and iron ore cities are experiencing similar market conditions.

In the last 25 years, the economy has become global as trade barriers were removed, financial markets opened up by technology and political ideologies moved to embrace capitalism. The world economy has created a network of global resources hubs across most continents. From Houston in the United States of America to Aberdeen in Scotland and Kuala Lumpur in Malaysia, each hub has developed over time as the scale of their local commodity markets increased. Global companies, from our own Woodside and BHP Billiton through to international competitors such as Chevron, Rio Tinto, Inpex, Angelo America and Vale, occupy office space across the globe. Globally major resource producers are supported by the project partners ranging from engineers and builders through to lawyers, bankers and management consultants.

The worldwide fall in commodity prices since 2012 has impacted all global resources hubs in recent years. Multinational firms who geared up to service Chinese led demand have now sought

to dramatically cut their cost base. Staffing cuts and office downsizing, particularly through aggressive sub-leasing of space, has been a common approach across global operations. The completion of new developments, commenced during boom times, are now driving office vacancies well above global cities such as London, New York and Sydney.

As office vacancies in the Perth CBD, and other global resources hubs, continue to rise amid an uncertain short term outlook for commodities prices, in this thought leadership piece Y Research examines the network of global commodity hubs (highlighting Perth's place in the global hierarchy of resources cities) and reviews the approach each city is adopting to offset vacancies in the wake of lower commodity prices.

In this Thought Leadership Report we will:

- > Look at the performance of Perth's global resources peers across Asia, Europe, North America, South America and Africa.
- > Examine where the Perth office market ranks globally, in terms of market size, vacancy and development trends; and
- > Review the impact of economic diversity on resources hubs current market performance in order to determine potential measures Perth can adopt in the years ahead.



PERTH'S PLACE IN THE GLOBAL HIERARCHY OF RESOURCES CITIES

Perth as a city continues to evolve.

The resources boom over the last decade has helped shift the perception of Perth to the world. Record population growth and investment (from Government and the private sector) has led to:

- > infrastructure development such as Fiona Stanley Hospital, the expanded Perth Airport and the under construction Perth Stadium at Burswood;
- > a wave of new food and beverage options;
- > the attraction of international retailers ranging from Aldi to Zara;
- > cultural festivals such as the Giants and
- > international government meetings – GOGHM.

Perth, one of the planet's most isolated cities and labelled Dullsville by the outside world, opened up to embrace the opportunities provided to it as a resources hub. Much like the early Gold Rush, people flocked to Perth seeking wealth, not with a pick axe and pan handle but a fluoro vest and a hard hat. The Fly in Fly Out working arrangements saw Perth remain the hub of activity rather than remote outback towns across the mid-West and Pilbara. The rush to turn an exploratory discovery into a producing resource changed the pace of life in the city.

The strain of over 1,000 people moving here per week has fed into issues with urban sprawl and created congestion issues. The cost of living and doing business in Perth increased dramatically, in part due to demand but also because of our isolation.

There were significant trade-offs for the community as a whole, on top of those outlined above; increased revenue for government, strong orders for a range of local companies, increased property values, world low vacancies in our property and jobs markets and the highest retail sales growth in the country. At the same time the global financial crisis crippled developed economies across the world, particularly in North America and Europe.

In our office markets, developments the equivalent of 13 Brookfield Places (Perth's largest office building) have been completed across the metropolitan area, reshaping the CBD but also adding employment across suburban office markets such as Subiaco, Herdsman and Belmont. Until the last 12 months, new developments have been quickly occupied. Falling commodity prices has seen significant space, over 15%, in new CBD and suburban developments remain unleased.

While Perth likes to think of itself as an isolated example, many of the themes outlined above run across global resources hubs. The cyclical nature of the resources sector is reflected in the office markets of resources hubs. The common narrative across

these market would be:

1. Record demand for office space as new projects are built (Demand is from new entrants as well as project teams);
2. This demand leads to low vacancies which create spikes in current market rents;
3. Elevated market rents and strong leasing demand spurred a wave of new development, growing each cities' office markets by up to 50%;
4. As new resources projects are completed, project teams are closed, reducing demand from resources companies and their project partners;
5. At the same time, increases in global supply rebalance demand for commodities which leads to falling commodity prices, which in turn creates sub-lease vacancy as resources companies seek to cut costs;
6. This double dip in office demand leads to lower market rents and higher leasing incentives due to competition from owners of existing properties, sub-lessors and developments under construction;
7. New developments are completed based on demand from up to two years ago, further adding to vacancy;
8. High vacancy and lower market rents, limit future development. Tenants priced out the market during the boom time occupy space. Limited development, moderate demand from a range of occupiers and the withdrawal of stock for conversion to apartments, hotels, schools or demolition, create market conditions to recommence the cycle.

For this Report, Y Research compared Perth's office market against 13 global resources hubs. Global resources hubs across all inhabited continents were chosen. The selected cities are:

- > Australia – Perth and Brisbane;
- > United States of America – Houston, Denver and Pittsburgh;
- > Canada – Calgary, Vancouver and Edmonton;
- > Europe – Oslo and Aberdeen;
- > Asia – Singapore and Kuala Lumpur;
- > South America – Sao Paulo; and
- > Africa – Cape Town.

Cities were selected based on their known reliance on the resources sector and publicly available information on their office market. Emerging resources hubs across the Middle East, India, China and Africa have limited information on their office markets. Oslo has been used due to information constraints

regarding North Sea oil hub Stavanger. Cape Town was chosen as the closest major city to the only iron ore export facility in South Africa, at Saldanha Bay, as well as its role in global diamond and gold mining.

As shown in Figure 1, despite office developments adding over 30% to the Perth CBD over the course of the resources boom, our office market remains one of the smallest across the network of global resources hubs. At 1,814,491 sq m, Perth is the third smallest resources hub across selected cities. Only oil and gas hubs Aberdeen and Edmonton are smaller. Office markets for these cities is impacted by larger cities in close proximity. Despite being the capital of Alberta, Edmonton is not the largest city in the province. Calgary, less than 300 km to the south of Edmonton, is the hub for the oil and gas industry in Canada. The Calgary office market is 166% larger than Edmonton's. Remote Scottish hub for the North Sea oil fields, Aberdeen, is the smallest resources hub with less than a million sq m of office space. Scottish capital, Glasgow, and global business hub, London, act as British hubs for resources companies.

Similar western ports to Perth, Vancouver and Cape Town have slightly larger office markets than Perth. Vancouver has 17.2% more office space in its downtown core compared to the Perth CBD, with Cape Town containing 27.1% more office space. Coal hub and secondary LNG market, Brisbane, is currently 15.9% larger than the Perth CBD.

Core LNG Hub and capital city of Malaysia, Kuala Lumpur, Brazil's second city and home to major iron ore production, Sao Paulo, and historical energy city at the mouth of three rivers, Pittsburgh, are the only other global resources hubs to have less office space than the average market size of 4,847,743 sq m. The Perth office market in comparison is 62.6% smaller than the

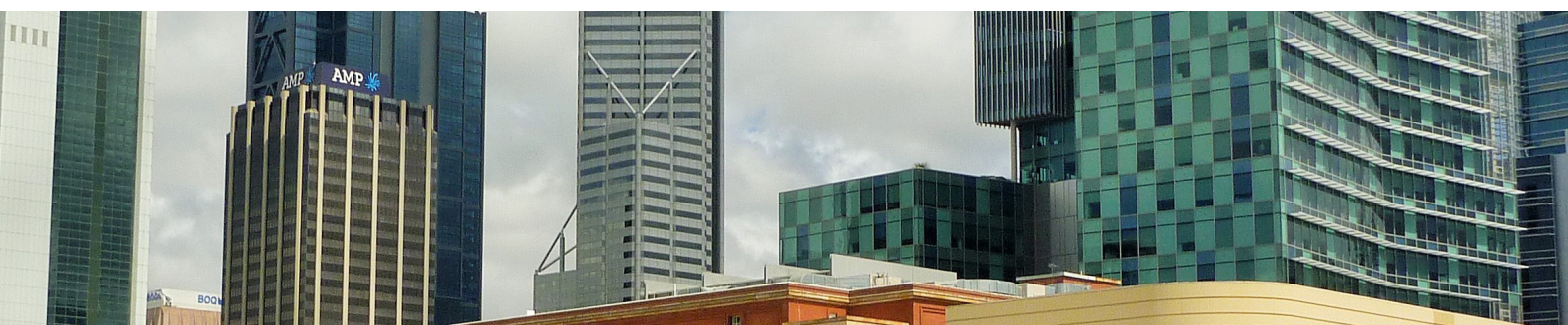
market average.

Four large markets account for 58.9% of office space in global resources hubs. Singapore and Oslo are capital cities where the office markets contain a higher proportion of Government occupation. American cities - Denver in Colorado and Houston in Texas - are the world's major global resources hubs by office space.

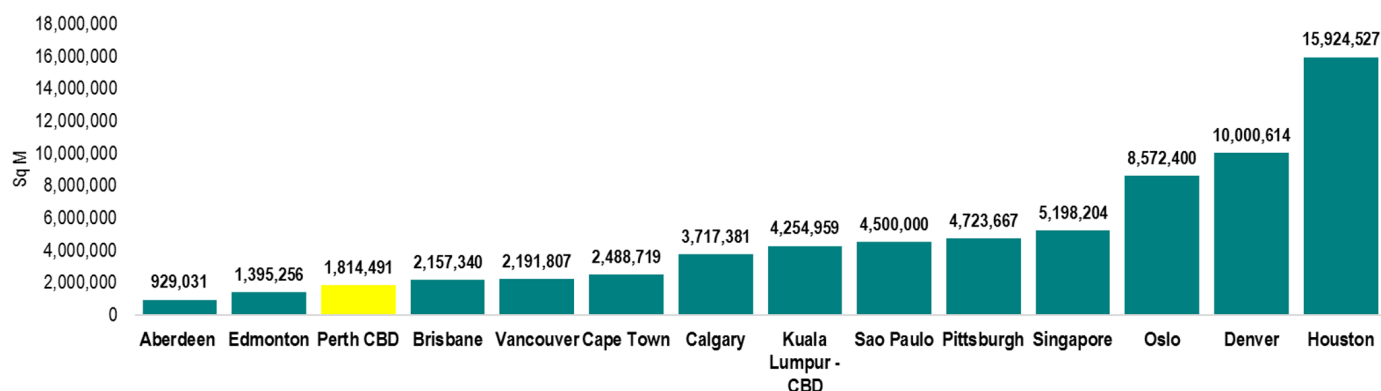
Denver, capital of Colorado, is the hub for a diverse range of mining activity ranging from gold, silver and base metals to energy products - coal, oil and gas. Denver is home to Newmont Mining whose WA office is in Subiaco. Houston has the largest office market containing nearly 16 million sq m of office space. Houston, the global energy city, is home to a range of occupiers servicing the oil and gas industry in the Gulf of Mexico. Companies with headquarters in Houston include Haliburton, Conoco Phillips, Flour, Apache and KBR. Chevron and Woodside have major office holdings in Houston. In comparison, Perth has office space the equivalent of 18.1% of the office space in Denver and just 11.4% of the Houston office market.

Beyond the scope of this report is the role of suburban office markets across the global resources network. Significant office space exists in the surrounds of each resources hub. Suburban office markets contain from 900,000 sq m in Edmonton to 12 million sq m in Houston. Perth and Brisbane have similar non-CBD stock levels to Calgary and Vancouver in Canada which each contain over 2.2 million sq m of office space on their city fringes.

Figure 1: 2016 Office Market Size – Perth compared to Global Resources Peers



Global Resources Hubs - Office Market Size in 2016



IF WE BUILD IT, WILL THEY COME? 2016 OFFICE DEVELOPMENT TRENDS IN GLOBAL RESOURCE HUBS

The resources boom of the past decade spurred a wave of new development across global resources hubs.

As outlined, Perth has added office space the equivalent of 13 Brookfield Places buildings. Kings Square, Raine Square and 140 William Street added significant office stock beyond St Georges Terrace.

New developments have been completed as a result of three distinct periods of demand for West Australian office space across the past decade,

1. "2006-2008 – the race for any office space". The onset of the resources boom which featured record annual demand of over 100,000 sq m per annum. The demand for office space outstripped current supply and nearly all office space in the CBD and West Perth was occupied. Buildings starting with 235 St Georges Terrace through to 140 William Street were developed to meet market demand.
2. "2010-2012 – the race for project space". After a GFC led adjustment of office space requirements, companies, largely engineering and construction firms, sought to lock up available space in order to tender for the next round of resources projects. The race for project space was also a pre-emptive strike against their competitors leasing space. The current high sub-lease vacancy is a consequence of this pre-emptive leasing. Brookfield Place and Raine Square were the major developments completed during this period.
3. The last wave of development has significantly been underpinned by new State Government projects – the Perth City Link and the Old Treasury precinct redevelopment. In addition to Brookfield Place – 2, office developments completed in the past 12 months have grown the CBD by 7.9%. A significant proportion of this development is currently vacant including sub-lease space made available by downsizing lessors. Further backfill vacancy has been created by tenants relocating to new developments.

The completion of new supply coinciding with lower commodity prices has created a perfect storm for office markets in global resources hubs. A key determinant of current market performance has been the level of office supply added as demand has weakened.

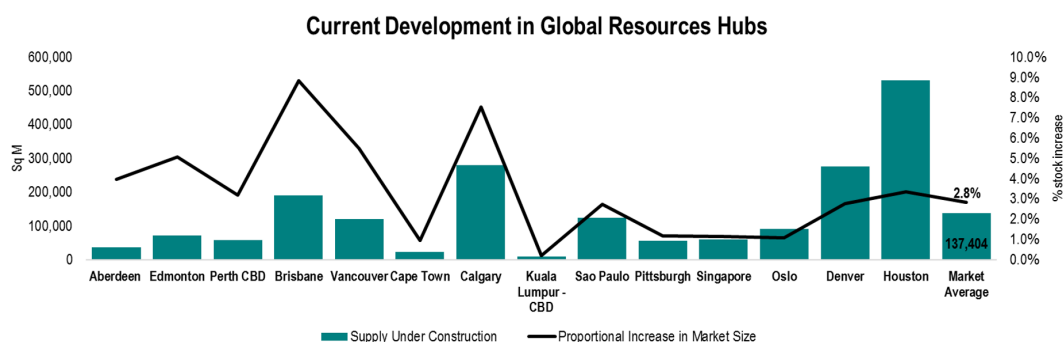
Across the 14 resources hubs, an average of 137,404 sq m of office space is currently under construction per market. Upon completion this level of development will add 2.8% to office stock across each hub. 7 resources hubs, including Perth, are continuing to add office stock above the market average. Developments currently under construction in the Perth CBD – the new Woodside headquarters on the Old Emu Brewery site and the new studio for Channel 9 at 257 St Georges Terrace – will add 3.2% to Perth's office stock. While these developments are fully pre-committed and Channel 9 is relocating from the suburbs, Woodside's move will create significant backfill vacancy in their current headquarters as well as potential sub-lease vacancy in the new development. This will keep Perth's office vacancy rate elevated across 2018/19.

Brisbane and a trio of Canadian cities – Calgary, Vancouver and Edmonton are global office development hotspots. Developments under construction will grow each cities' office market by over 5%. Three major developments, 1 William Street (75,853 sq m – 100% pre-committed to the State Government), 180 Ann Street and 480 Queen Street will add over 190,000 sq m of office to Brisbane's office market by the end of 2017. Upon completion these developments will add 8.8% to office stock in Brisbane. This is the highest proportional increase across global resources hubs. The resources sector, emerging technology hubs and government underpin 470,151 sq m of office development across major Canadian markets. Over half of the development is located in Calgary. Just under 280,000 sq m is under construction which will add 7.5% to Calgary's office market. Vancouver's office market is set to grow by 5.5%, with Edmonton growing by 5.1%. Aberdeen will grow by 4% in 2016 despite adding just under 37,000 sq m to stock.

531,700 sq m is being developed in the core of Houston; this is the highest amount across global resources hubs. These developments, set to be occupied by resources companies and medical firms, will grow the Houston office market by 3.3%. Denver and Sao Paulo are set to grow by 2.8% and 2.7% respectively. According to JLL, Sao Paulo has added over 600,000 sq m of office space in the past 2 years. This is highest amount across the globe outside of Shanghai in China. All other cities are drip feeding new development – growing at a rate of 1.2% or less.

Figure 2 outlines the current level of office development across global resources hubs and its proportional impact on existing stock.

Figure 2: Current Office Development in Global Resources Hubs



MARKET PERFORMANCE OF GLOBAL RESOURCE HUBS

Up to a decade of strong supply additions, combined with the transition from the investment phase of the resources boom to the operational phase, has seen vacancy rates rise across office markets in global resources hubs.

In general, vacancies across global markets have largely been created by three factors:

1. Downsizing tenants;
2. Backfill vacancy created by tenants relocating to new developments or higher quality properties; or
3. Vacant space available in new developments.

With the exception of Cape Town and Singapore, office vacancies across resources hubs are higher in 2016 than 2014. This trend is tipped to continue heading into 2017, with office vacancies forecast to rise across 12 of the 14 global resources hubs. Only capital cities Singapore and Oslo are forecast to record office vacancies at levels similar to or lower than 2016.

In a global context, the current level of vacancy in the Perth CBD is among the highest across global resources hubs.

According to Y Research, nearly 400,000 sq m of office space was vacant in Perth at the beginning of 2016. This represents a vacancy rate of 22.1%. The last time the vacancy rate rose above 20% was 1990/91. In context, as a result of the global financial crisis, the Perth CBD office vacancy peaked just below 10% in the second half of 2010.

The scale of office vacancy is highlighted by the number of buildings recording vacancies. Over half of Perth's office properties currently have a vacancy. Over 10% of Perth's office buildings are currently fully vacant.

The third wave of office development coinciding with the completion of major resources projects and the resulting downturn in commodity prices has been the catalyst for the significant jump in Perth office vacancies. Just under 100,000 sq m is vacant in developments completed since the GFC with 59.5% of this vacancy in developments completed in the last 15 months. New development has also created significant backfill vacancies, largely in older, secondary stock, as tenants took up

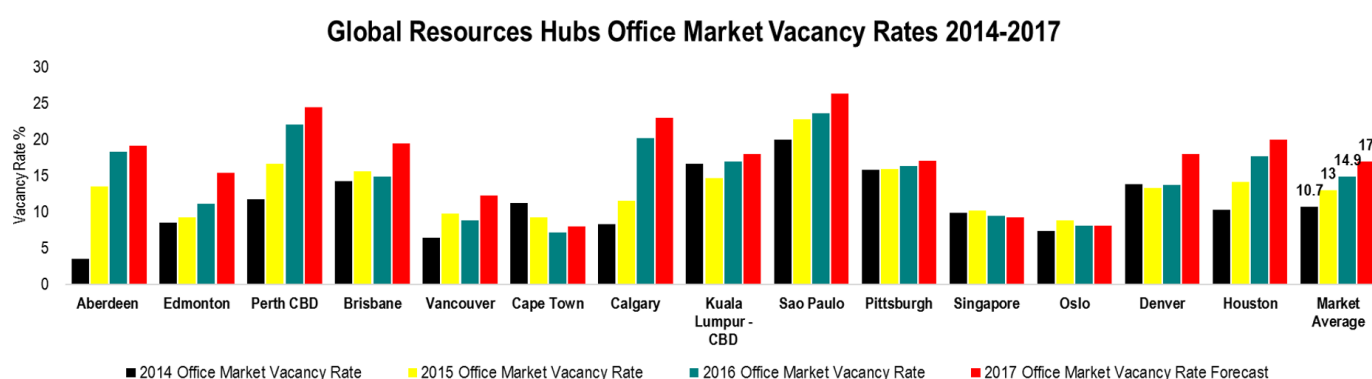
their pre-committed space.

Perth's dual exposure to iron ore as well as oil and gas is unique across global resources hubs. Most resources hubs are energy cities powered by oil and gas or coal. Of all office markets in the network of global resources hubs, Perth would have the largest exposure to iron ore. As such, our higher vacancies are reflective of the downturn in major commodities, particularly iron ore, due to major supply additions and weaker global demand led by China. The concern for Perth, based on the experience of other global resources hubs, is we are yet to record significant downsizing from energy tenants. Occupancy levels in the Perth CBD for the oil and gas sector remain at levels similar to 2012.

While the Perth CBD vacancy rate is forecast to remain below the vacancy peak of the 1990s, as Figure 3 demonstrates, across the past three years Perth has recorded one of the highest office vacancies across global resources hubs.

- > In 2014, Perth's office vacancy rose to 11.8% on the back of falling iron ore prices. Across the network of global resources hubs, the average office market vacancy rate was 10.7%. Perth had the 6th highest office vacancy rate in the network behind Brisbane, Denver, Kuala Lumpur, Pittsburgh and Sao Paulo.
- > In 2015, Perth's office vacancy rate rose again to 16.6% due to continued downsizing of project space. The market average in global resources hubs was 13%. Perth had the second highest vacancy rate behind only Sao Paulo.
- > In 2016, continued cuts in iron ore companies and suppliers to the oil and gas sector, combined with new supply, has driven Perth's vacancy rate to 22.1%, second only to Sao Paulo. The average vacancy across global resources hubs is 14.9%.
- > In 2017, the Perth CBD vacancy rate is forecast to peak around 24.5%. The market average across global resources hubs is also forecast to increase significantly to 17% due to supply completions and weak commodity prices. Again, only Sao Paulo in Brazil is forecast to have a higher vacancy rate than Perth.

Figure 3: Office Vacancy Rates across Global Resources Hubs 2014-2017



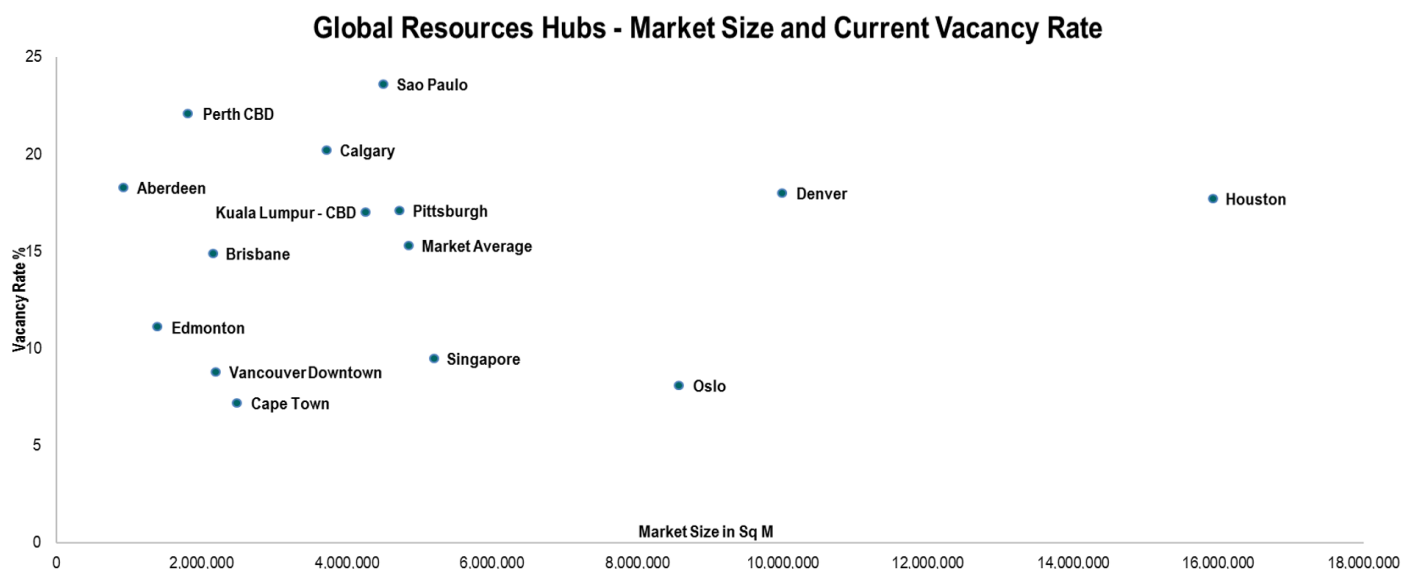
Two other factors need to be considered when analysing vacancies. A number of international reports note the existence of ghost vacancy – office space that is currently vacant but not made available to the market. The main drivers of ghost vacancy are keeping space for future expansion, limited sub-lease options and the reputational impact of downsizing on employees and investors.

In addition to ghost vacancy, there exists a proportion of underutilised office space where half a floor may be vacant. Across the globe, accounting for idle, underutilised space remains difficult from a research perspective. The consensus view is that the inclusion of ghost vacancy would increase the vacancy rate across most markets by up to 5%.

To demonstrate where the Perth CBD office market sits in

comparison to our global resources peers, Figure 4 graphs each resources hub, by market size and their current office vacancy rate. Perth is a small office market with a globally high vacancy rate. Most office markets in global resources hubs are running above the market average, or will be by 2017. This demonstrates that in a global marketplace, the performance of local markets is strongly tied to flow of the global economy. On the flipside, the 5 best performing markets are a mix of capital cities (Singapore and Oslo) and three (west coast) cities – Edmonton, Vancouver and Cape Town, who have been undergoing economic diversification to set up their office markets post the resources boom.

Figure 4: Comparison of current Office Vacancy Rate and market size across Global Resources Hubs





ROADMAP TO RECOVERY - CONCLUDING THOUGHTS FOR THE FUTURE

Perth has undergone a transformation in the last decade. The resources sector, fuelled by billions in project investment, has attracted over 400,000 new people to Western Australia; added the term FIFO to our lexicon; expanded our business relationship with major Asian trading partners and, most importantly for our industry, directly and indirectly underpinned record commercial property demand and construction.

It can be argued that, prior to the Global Financial Crisis, no office market in the world benefitted from the resources boom as much as Perth. In the subsequent years, a perfect storm of slowing global demand for commodities and continued development of office stock led Perth to record a vacancy rate in excess of our global resources peers, outside of Brazil, in 2016. A situation that is likely to continue into 2017.

Looking forward – other than time, what measures should Perth adopt to rebalance its office market?

Given the outlook for commodity prices and investment in new projects, increasing tenant diversity in the CBD tenant base is critical. Renowned demographer Bernard Salt noted in the Australian recently, “The fact is that Western Australia is a frontier community with a thin population base. When the cycle turns down in one industry such as mining, there is insufficient scale in other sectors to cushion the fall.” The cyclical nature of the resources sector means that it is likely to take years before we see a full recovery. In the interim, we need to identify emerging sectors of the economy and facilitate their growth as office space occupiers in the CBD.

Across global resources hubs, the best performing office markets are those which have reduced their reliance on the resources sector by diversifying their tenant base. Across office markets globally, four industries are the focus of growth in the post resources boom economy – education, medical, technology and shared work spaces.

In Perth these sectors are growing. As of 2016, these users collectively occupy 6.3% of CBD office space, up from 4.6%

in 2012.

The best performing non-capital city markets, Edmonton, Vancouver and Cape Town, are all growing as technology hubs. Vancouver, to quote the local press “is slowly becoming, an increasingly attractive destination for global digital media giants.” Vancouver is now home to Amazon, Microsoft and Sony Pictures. Sony Pictures recently opened their new global headquarters for Imageworks (their animation and effects arm) in Vancouver. Edmonton is at the forefront of video game development in Canada (the world’s third largest market for video game development). Cape Town is increasingly being referred to as the Digital Gateway of Africa. Nearly 60% of digital start-ups in South Africa are located in Cape Town. These towns have grown due to incentives offered to companies to relocate, such as Payroll Tax exemptions as well as strong private and public support structures.

Founder of technology incubator, Y Combinator, Paul Graham has written that “The recipe for a start-up cluster is having a great university near a town that smart people like.” Given the strong global rankings of our Universities, lifestyle and increasing amenity, Perth perfectly fits this description. In a globally competitive marketplace, attracting technology expertise to Perth will take a co-ordinated approach from Government, the Perth start-up scene and the property industry.

Aside from technology, classrooms will increasingly replace office cubicles. Since 2012, education providers have been the stand out sector in terms of office space occupancy - collectively occupying nearly 40% more office space in the Perth CBD. Universities have expanded their occupancy in the Perth CBD, underscored by Curtin University’s new law school on Murray Street. Major education provider, Navitas, relocated from Mount Pleasant into the Perth CBD as did Murdoch College at 50 William Street. In the years ahead, greater collaboration with industry will see universities increase their footprint in the Perth CBD. After the success of the new High School in the CBD, further vertical schools (primary and secondary) are being considered.

Given our geography and educational assets, Perth has an opportunity to become the boarding school of our region.

Currently a small percentage of international students choose to study in WA. According to the Federal Government, the value of the international student market in Australia was worth \$17 billion dollars in 2014. Just 7.4% of the market is spent in Western Australia, despite our proximity to the region's student base.

Increasing the number of international students will increase demand for residential property. With our growing stock of inner city apartments, encouraging students to live and learn in Perth should become one of our key economic strategies as should increasing student accommodation options. If we increase the proportion of international students in West Australian universities from its current 14.1% to 20%, this would create demand for 7,124 beds.

In addition to being home to NASA and a large aeronautical industry, Houston has diversified its economy by becoming the medical hub of America. The Texas Medical Centre is the world's largest medical centre containing over 50 medicine related institutions including 21 hospitals. A significant proportion of office space in Houston is tied to medical research. Outside of smaller medical practices, there is limited office space in the Perth CBD occupied for medical use.

Perth is just scratching the surface of demand for shared work spaces. In the United States, according to a recent Forbes article, 34% of Americans work in a freelance capacity, with the proportion of American workers working in a freelance capacity tipped to pass 50% by the end of the decade. Technology is making it easier to work from anywhere and find clients across the globe. The next generation of office workers will not work the traditional 9-5, preferring more flexible schedules to suit work/life balance. As a result, co-working spaces are becoming increasingly popular across the globe offering flexible access to CBD properties and traditional workplace amenities. Shared work spaces foster collaboration with self-employed people more likely to hire self-employed people. In Perth, shared work spaces such as Spacecubed have served as popular meeting hubs for a range of businesses. The new Flux shared work space by Spacecubed and property owner Hawaiian will activate 1,300 sq m of ground floor space in the core of the CBD. New operators, including traditional serviced office operators, are also expanding in this market, with operators looking for niches such as the new Bub space, in Northbridge, which caters to working mothers. Finding a model to grow the size of shared work spaces, that works for the operator and the property owner, is a key challenge in upscaling this sector's growth as an office occupier in Perth. The partnership example of Flux is an illustration of how future arrangements may work.

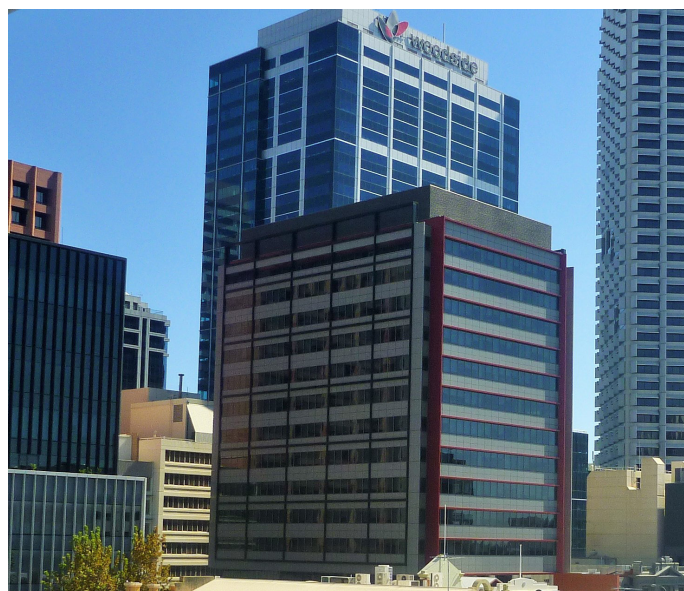
New growth sectors - health, education, technology and shared work spaces - are growing in Perth and across the globe. However, given the scale of current office vacancies, only one group of tenants is large enough to refill Perth's empty office buildings, the resources sector. Commodities and Perth are irreversibly linked. Despite the slowdown in construction, Perth is still a world leader in the supply of iron ore, LNG, alumina, diamonds and, importantly, lithium. There are decades of global demand for these resources ahead.

The level of office vacancies in many larger global resources hubs (Houston, Denver, Pittsburgh and Kuala Lumpur) demonstrates that a global resources hub cannot be big enough or diverse enough to be totally immune to lower commodity prices. The collection of major producers, such as Chevron, BHP Billiton and Rio Tinto and their associated supplier network, are major occupiers across many office markets. Cost cutting measures impact all global operations and office markets.

New economic drivers in Western Australia, in particular agriculture, health care, logistics and retail trade, have limited impact on office markets. Efforts to diversify the West Australian economy and boost office demand need to be rooted in our global edge as a Resources Hub.

As outlined, education is a key growth market for Western Australia. Already located in the Perth CBD, is Curtin Business School's Department of Mineral and Energy Economics. This internationally recognised Department prepare students for senior roles in the resources industry. Perth, along with resources hubs Aberdeen and Colorado is one of only a handful of global cities to offer such a program. The school caters to a growing number of mid-level executives from major resource companies including Woodside, Shell, Rio Tinto and BHP Billiton. Can this program be scaled to become a global finishing school in project management and development? Numerous training programs, both in-house and by private contractors, were developed and run during the boom. Can these programs be marketed globally?

Given Sydney's role as Australia's global city, it is unlikely that Perth will attract the Google, Facebook and Amazon level technology crowd to our isolated outpost. However, using technology focused on resources projects will allow the State to develop the expertise that can be expanded to the broader economy in the years ahead. A visit to the remote operations facilities of the major resources firms demonstrates the level of automation that already exists in major projects. Improving the connectivity, via technology, of remote work sites and office hubs will continue to be an area of focus in the years ahead. Growing Western Australia's local technical expertise can help facilitate greater local spending on research and development as well as



foster innovation in exploration techniques.

The next resources boom, be it iron ore, LNG or lithium, will come to our remote outpost based on trends in global demand and development. The challenge for the Perth CBD, and Western Australia more broadly, is to move beyond the resources we can extract out of the ground (or graze on our land) to value added industries focusing on Australia's edge as a knowledge and service based economy.

Rebalancing our office market also needs changes to office supply. With limited office development between 1991 and 2004, the Perth office market had a high proportion of older office stock. The level of new development since 2004 has altered the equilibrium with new, modern buildings now constituting a significant proportion of office stock. Owners of older secondary buildings have disproportionately benefitted from the resources boom, being able to command asking rents well in advance of historical pricing due to office space shortages. These older buildings are now recording significantly higher vacancies than new stock. In recent years, due to market conditions, owners of these buildings have had limited incentives to upgrade their buildings to the standards expected in modern office buildings. In response to current vacancies, a number of secondary properties have dropped their asking rents to near record lows to compete on price with higher quality spaces. Across the market, the shift to quality will render a percentage of older stock unsuitable for continued use as office buildings.

Owners in this scenario are left with four options:

1. Do nothing.
2. Refurbish their building for continued use as an office building.
3. Explore the potential for conversion to residential, education, retail or tourism use.
4. Demolish for new development – office, residential or tourism.

Across the globe, including the east coast of Australia, buildings are being removed for adaptive re-use. Outside of the potential redevelopment of 100 James Street in Northbridge for a hotel, Perth has yet to record significant stock withdrawals due to construction costs and asset values that make conversions financially unviable.

The next decade will see a wave of stock withdrawals for change of use and demolition across the Perth CBD in order to facilitate

growth in apartment living and to a lesser extent tourism, medical or educational developments. New retail offerings such as vertical supermarkets are likely as our inner city apartment market matures. Instead of the milk being in aisle 3, could the milk be on level 3? Large format retailer, Bunnings, recently occupied an older office building on the fringes of the Melbourne CBD. Given the dearth of office tenants, Perth office property owners need to expand the search for potential occupiers.

Y Research forecasts that at least 100,000 sq m of stock withdrawals are required to lower vacancies. While it is unlikely that this level of stock will be withdrawn in the short term, the removal of even a proportion of vacant stock would have a significant impact on the Perth CBD office vacancy rate in 2016 and beyond.

Outside of office supply and demand, Perth needs to better define and articulate a plan for the future if we wish to avoid the fate of other resources hubs such as Aberdeen. In late 2015 the founder of Wood Group, Sir Ian Wood, noted "Aberdeen right now hasn't given any serious thought to what happens as the oil industry winds down." Given the city's widespread job losses, the local government is seeking additional funds from the Scottish and British governments (sounds familiar).

After a decade of unprecedented growth, Western Australia and the Perth CBD needs to prepare for the next resources cycle during the current economic slowdown. Once the next investment boom commences it will be too late to adjust. Given the scale of the current change in our office market, the changes required to rebalance our market are beyond one single owner. Perth needs a city wide approach based on the answer to one single question – What do we want our city to be in the years ahead?

- > Are we the foodbowl of Asia?
- > Are we the boarding school of our region?
- > While it is unlikely that Perth will become the next Silicon Valley, given our mineral sands deposits, can we aim to become Silica Valley?
- > Are we the centre of excellence for medical research and health care?



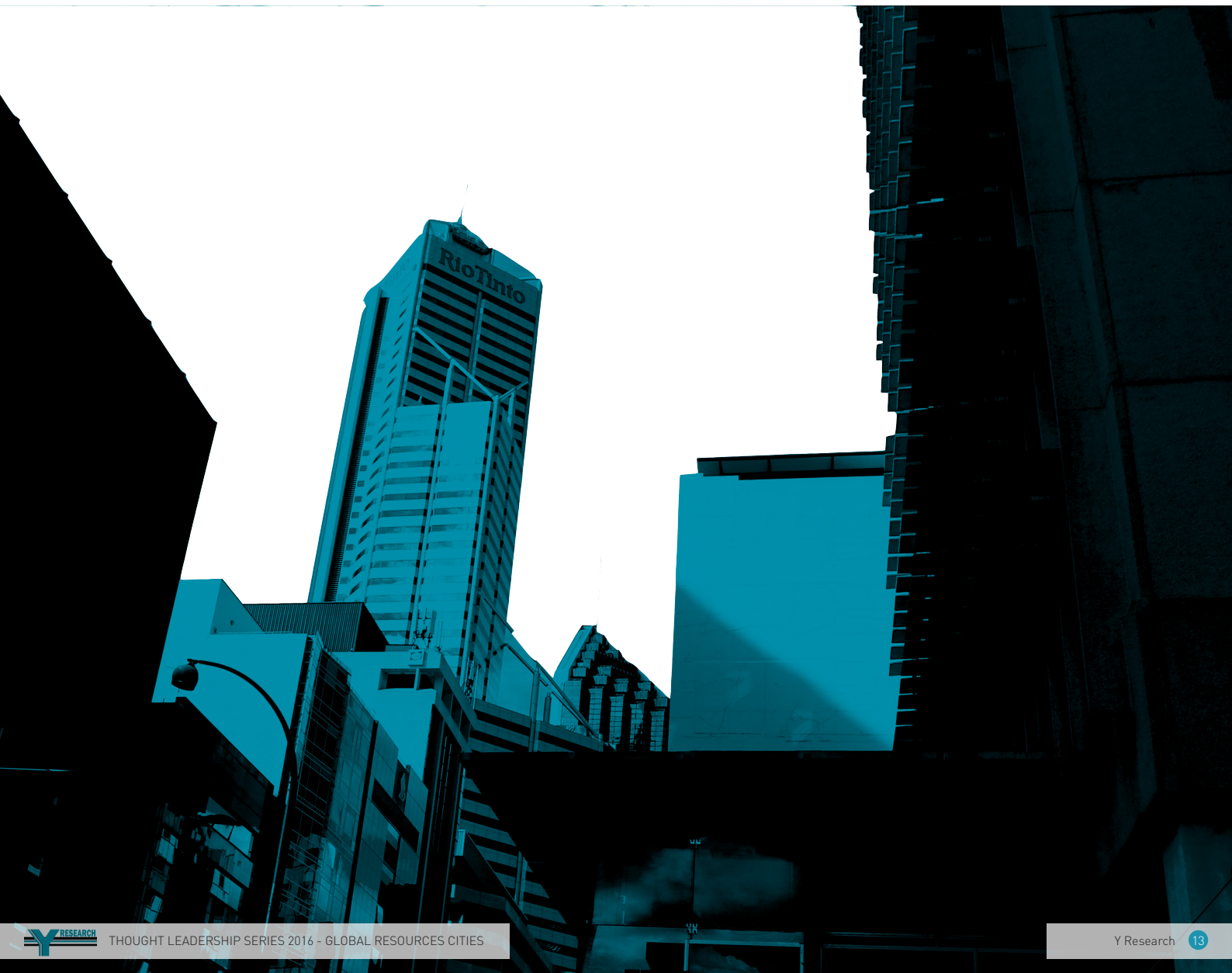
- > Do we focus on the development of remote housing options?
- > Do we need to change at all?

Based on the answer to that question, we will be better placed to target the industries and occupiers Perth needs to attract. Rather than rolling out the welcome mat, Perth needs to be aggressive in getting in front of global decision makers. Perth, given our geography and market size, will never be a low cost market. We need to position ourselves based on quality – quality of work, quality of our skills base, quality of lifestyle and quality business community.

The resources boom has left a significant legacy for our state beyond Elizabeth Quay, Fiona Stanley Hospital, the new, redeveloped Perth Airport and the Burswood Football Stadium. The real legacy of this current boom is a larger population with significantly higher incomes compared to 2004. Combined with record growth in property development in metropolitan and regional areas, Perth will be better prepared for the next boom than it was for the last.

While there is likely further pain in 2016, the cyclical nature of the resources industry, and underlying global demand for the resources we have been endowed with by nature, will see improved economic conditions in Perth from 2017 onwards. Stability in global commodity prices will allow resources companies to start investing in their future. This confidence in the future will flow through to improved demand for the commodity that is Perth CBD office space. Adopting the lessons learned from our global peers to broaden our tenant base, while reducing the level of office supply, will put the Perth CBD office market on the road to recovery.

Continued development of our resources will see Perth continue to grow globally as a resources hub, a focus on the sectors set to drive the world economy in the years ahead (education, technology, medical and shared work spaces) will see Perth truly graduate to the global city it aspires to be.



WANT MORE INFORMATION ON WEST AUSTRALIAN OFFICE MARKETS?

Subscribe to Y Research's 2016 Office Market Research Package

The yearly subscription includes copies of the 2016 Perth CBD Office Tenant Census as well as the bi-annual West Australian Suburban Office Market Report.

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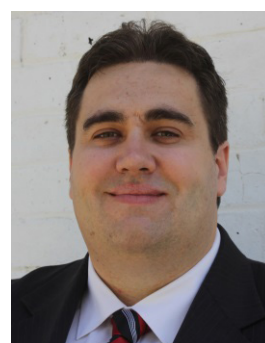
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ABOUT Y RESEARCH

Y Research is an independent Western Australian property information and research firm.

Y Research has a wealth of experience across West Australian office, retail, industrial, apartment and tourism markets. Y Research has developed its own proprietary databases and grading systems through the physical inspection of over 25,000 West Australian property assets. Our databases are supported by a wide variety of industry sources and extensive monitoring of the West Australian commercial property markets.

Y Research produces a series of regular reports on Western Australia's office, retail, industrial, apartment and tourism markets, as well as providing consultancy and advisory services to a range of clients.

Y Research aims to provide high quality and more useful information to our clients, ensuring that they are better equipped to make decisions regarding their business.

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METHODOLOGY

This Report was compiled from publicly available information via company websites or in the media. A full list of sources is listed below.

In the preparation of this Report, figures relating to office markets excluding Brisbane were converted from square feet to square metres. While all care was taken, there may be small discrepancies due to rounding.

In a limited number of markets, exact figures were not publicly available. In these cases, figures used in this Report have been adjusted from estimates provided by local market practitioners. As such, these figures provide a guide to selected markets rather than an exact reflection.

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