

# The evolution of our cities

## Land – A Valuable Resource

White Paper

Global Listed Property Securities



## Contents

Trends that drive land values higher	2
Case study: The City of Sydney	10
The impact of technology on retail – solving the last mile dilemma	13

### Disclaimer

This document is directed at persons of a professional, sophisticated, institutional or wholesale nature and not the retail market.

This document has been prepared for general information purposes only and is intended to provide a summary of the subject matter covered. It does not purport to be comprehensive or to give advice. The views expressed are the views of the writer at the time of issue and may change over time. This is not an offer document, and does not constitute an offer, invitation, investment recommendation or inducement to distribute or purchase securities, shares, units or other interests or to enter into an investment agreement. No person should rely on the content and/or act on the basis of any matter contained in this document.

This document is confidential and must not be copied, reproduced, circulated or transmitted, in whole or in part, and in any form or by any means without our prior written consent. The information contained within this document has been obtained from sources that we believe to be reliable and accurate at the time of issue but no representation or warranty, express or implied, is made as to the fairness, accuracy or completeness of the information. We do not accept any liability for any loss arising whether directly or indirectly from any use of this document.

References to “we” or “us” are references to Colonial First State Global Asset Management (CFSGAM) which is the consolidated asset management division of the Commonwealth Bank of Australia ABN 48 123 123 124. CFSGAM includes a number of entities in different jurisdictions, operating in Australia as CFSGAM and as First State Investments (FSI) elsewhere.

Past performance is not a reliable indicator of future performance.

Reference to specific securities (if any) is included for the purpose of illustration only and should not be construed as a recommendation to buy or sell. Reference to the names of any company is merely to explain the investment strategy and should not be construed as investment advice or a recommendation to invest in any of those companies.

### Hong Kong and Singapore

In Hong Kong, this document is issued by First State Investments (Hong Kong) Limited and has not been reviewed by the Securities & Futures Commission in Hong Kong. In Singapore, this document is issued by First State Investments (Singapore) whose company registration number is 196900420D. First State Investments and First State Stewart Asia are business names of First State Investments (Hong Kong) Limited. First State Investments (registration number 53236800B) and First State Stewart Asia (registration number 53314080C) are business divisions of First State Investments (Singapore).

### Australia

In Australia, this document is issued by Colonial First State Asset Management (Australia) Limited AFSL 289017 ABN 89 114 194311.

### United Kingdom and European Economic Area (“EEA”)

In the United Kingdom, this document is issued by First State Investments (UK) Limited which is authorised and regulated in the UK by the Financial Conduct Authority (registration number 143359). Registered office: Finsbury Circus House, 15 Finsbury Circus, London, EC2M 7EB, number 2294743.

Outside the UK within the EEA, this document is issued by First State Investments International Limited which is authorised and regulated in the UK by the Financial Conduct Authority (registration number 122512). Registered office 23 St. Andrew Square, Edinburgh, Midlothian EH2 1BB number SC079063.

### Middle East

In certain jurisdictions the distribution of this material may be restricted. The recipient is required to inform themselves about any such restrictions and observe them. By having requested this document and by not deleting this email and attachment, you warrant and represent that you qualify under any applicable financial promotion rules that may be applicable to you to receive and consider this document, failing which you should return and delete this e-mail and all attachments pertaining thereto.

In the Middle East, this material is communicated by First State Investments International Limited which is regulated in Dubai by the DFSA as a Representative Office.

### Kuwait

If in doubt, you are recommended to consult a party licensed by the Capital Markets Authority (“CMA”) pursuant to Law No. 7/2010 and the Executive Regulations to give you the appropriate advice. Neither this document nor any of the information contained herein is intended to and shall not lead to the conclusion of any contract whatsoever within Kuwait.

### UAE – Dubai International Financial center (DIFC)

Within the DIFC this material is directed solely at Professional Clients as defined by the DFSA’s COB Rulebook.

### UAE (ex-DIFC)

By having requested this document and / or by not deleting this email and attachment, you warrant and represent that you qualify under the exemptions contained in Article 2 of the Emirates Securities and Commodities Authority Board Resolution No 37 of 2012, as amended by decision No 13 of 2012 (the “Mutual Fund Regulations”). By receiving this material you acknowledge and confirm that you fall within one or more of the exemptions contained in Article 2 of the Mutual Fund Regulations.

Copyright © (2016) Colonial First State Group Limited

### USA

This material is solely for the attention of institutional, professional, qualified or sophisticated investors and distributors who qualify as qualified purchasers under the Investment Company Act of 1940 (hereafter the “1940 Act”), as accredited investors under Rule 501 of SEC Regulation D under the US Securities Act of 1933 (“1933 Act”), and as qualified eligible persons as defined under CFTC Regulation 4.7.

Copyright © (2016) Colonial First State Group Limited

All rights reserved.



**Stephen Hayes**  
Head of Global Property Securities

## The way we work, commute and shop is changing – and how well our cities adapt to these changes determines how fast land values can rise.

In this whitepaper, First State Investment (FSI) Global Head of Property Securities, Stephen Hayes, isolates the factors that elevate land values over time. He then looks at which trends are impacting shopping center land values, the landlords set to profit and how social and technological advances fall into the bricks and mortar vs online retailing debate.

Stephen is responsible for management of the Global Property Securities team, one of a number of FSI investment teams. The team manages Domestic, Asian and Global Property Securities portfolios for a number of funds.

Prior to joining FSI in September 2012, Stephen founded Perennial Real Estate Investments in January 2006, where as Managing Director he was successful in building the largest real estate securities boutique in Australia. Formerly Stephen had been Head of Property Securities at FSI between 1999 and 2005.

Stephen holds a Bachelor of Commerce (Economics and Management) from the University of Wollongong and is a Fellow of the Financial Services Institute of Australia.



Source: Getty Images.

# Trends that drive land values higher

Current estimates predict that the total global urban population will grow to 5 billion by 2030.

2008 marked a major milestone in mankind's co-habitation; for the first time in human history there were more humans living in cities than in rural areas. Our cities have been evolving for centuries. It is estimated that the first city to reach a population of more than 1 million was Rome in 133BC, followed by London in 1801, Paris in 1850 and New York in 1874. Today the world has 28 mega cities each containing more than 10 million inhabitants; and a total global urban population of 3.9 billion. Tokyo is the largest city by built up area, with 38 million inhabitants. Current estimates predict that the total global urban population will grow to 5 billion by 2030, containing 41 mega cities and a total land area of 1.2 million km<sup>2</sup>.

Our cities now contain 54% of the world's population. Urbanization is having a profound effect on our societies, with city populations expanding rapidly in absolute terms. Growing populations require more civic infrastructure. As cities expand this becomes more challenging, and as land scarcity increases it becomes much more expensive and more logistically difficult to build out civil amenity. This not only places a greater social responsibility on commercial landlords; it also pushes up the value of their land significantly.



Tokyo sky tower

Source: Getty images.

## Trends that drive land values higher

Technological advances and labor specialization continue to develop at a rapid pace, while old-world industry and traditional manufacturing centers are becoming much less labor intensive. As this well-defined trend progresses, traditional businesses are giving way to service, leisure and technology industries, which require greater levels of human engagement. As a consequence cities are growing rapidly, particularly in the developing world. The long term trend of following jobs and wealth is likely to become more pronounced in the future as technology rapidly advances. However, as computing technology and the internet evolve, and hand-held devices become increasingly common, our cities'

infrastructure is failing to keep pace. The way we spend our leisure time, the way we shop, how we are treated when we are ill, the way we commute, the way we are educated and way we use space will all be different in the future.

City land values are driven by scarcity, the nature of its current and future usage, population and building density, city liveability, the quality of the surrounding infrastructure and the vicinity's level of commerce. Accordingly, as cities evolve, the land within them becomes very valuable and an excellent source of wealth and wealth creation. Land values may fluctuate over shorter periods of time with economic cycles. However, as building density and populations increase, and commerce levels and productivity improves, the land only ever becomes more valuable over the longer term. The land in our most thriving cities is the most valuable globally. While the use of space on the land's surface determines cash flow returns over the shorter and medium term, it's the land underneath that will become increasingly valuable over the longer term. A study by Rutgers University showed that Manhattan land values have increased by 5.1% per annum in real terms since 1950. As barriers to entry grew and densification increased through growing commercial activity levels and population numbers, the growth in land values accelerated, increasing by 15.8% per annum over the past 30 years.

Land is finite and cannot be readily created. Through reclamation and with much effort, harbors can be filled in to create land. There is also a real estate legal concept known as "alluvial accession", where alluvium deposits from rivers as one example, may extend a landlord's property. However cities are often governed by geographical constraints such as oceans, lakes and mountain ranges. As cities become more densely populated, available land typically becomes scarcer.

According to City Mayors, the city with the highest population density is Mumbai, with 29,650 occupants per km<sup>2</sup>. Other notable city densities are Shenzhen at 17,150, Shanghai at 13,400, Singapore at 8,350, London at 5,100, Tokyo at 4,750, Berlin at 3,750 and Los Angeles at 2,750 occupants per km<sup>2</sup>. Increased population density leads to greater demand for residential and commercial accommodation, and for civil and social infrastructure. The resultant building area growth reduces the levels of available land, causing redevelopment and brownfield development

As computing technology and the internet evolve, and hand-held devices become increasingly common, our cities' infrastructure is failing to keep pace.



# Trends that drive land values higher

Rising wealth and productivity materially contribute to higher land values.

to overshadow greenfield development.

Cities in high and middle income countries generate 85% and 73% respectively of a nations' GDP. A city's commerce levels are a major factor in determining land values. There are different ways to analyse city wealth levels. By GDP, Tokyo is the world's wealthiest city with a city GDP of US\$1.52 trillion. This compares to New York at US\$1.2 trillion, LA at US\$789.7 billion, Seoul at US\$779.3 billion and London at US\$731.2 billion. The richest cities on a per capita basis in 2014 according to the Brooking Institute were Macau at US\$93,849 per capita, Hartford at US\$83,088, San Jose at US\$82,414,

Boston at US\$76,204 and Houston at US\$74,204.

A study by Arcadis analysing city infrastructure, ease of doing business, GDP per capita, mobile and broadband access and employment rates concluded that Singapore was the world's wealthiest city, followed by Hong Kong, London, Dubai and Zurich. The richest cities in the world in 2012 by gross wages, according to City Mayors, were Zurich, Geneva, Copenhagen, Oslo and Luxembourg. These measures are all reflective commerce levels, where rising wealth and productivity materially contribute to higher land values.

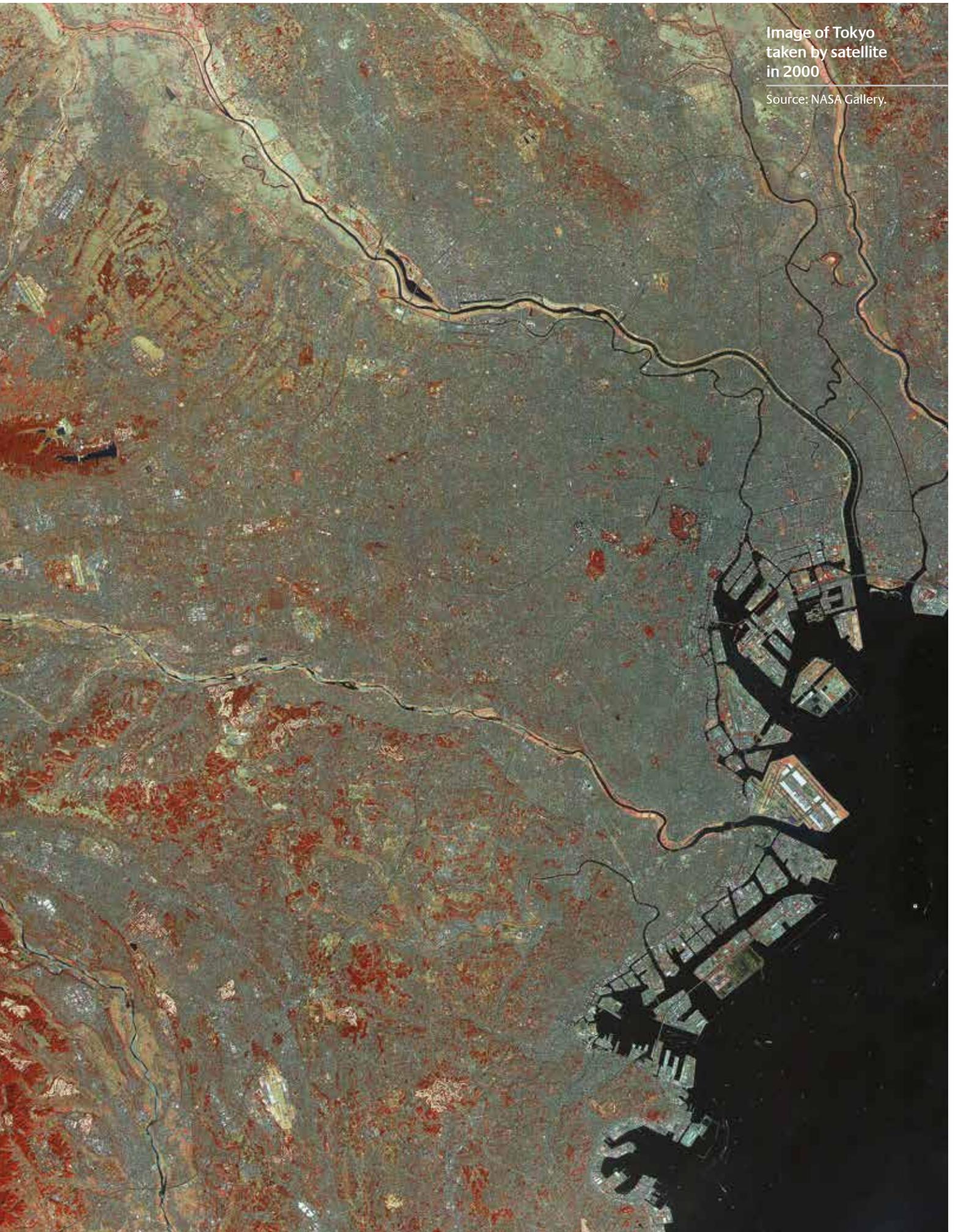
## Global apartment prices 2016

	Country/City	Buying Price for 120 sq.m. Apartment US\$ per Sq. M.	Price/Rent Ratio (x)	Rent per Month (\$)	Gross Rental Yield
1	Monaco	60,114	n.a.	n.a.	n.a.
2	London	34,531	31x	11,089	3.21%
3	Hong Kong	25,551	36x	7,024	2.75%
4	New York	18,499	26x	7,225	3.91%
5	Moscow	16,021	31x	5,158	3.22%
6	Geneva	15,495	30x	5,167	3.33%
7	Vienna	14,592	46x	3,174	2.18%
8	Paris	14,100	26x	5,478	3.89%
9	Tokyo	13,825	29x	4,744	3.43%
10	Singapore	13,748	39x	3,498	2.54%

Source: Global Property Guide.

Image of Tokyo  
taken by satellite  
in 2000

Source: NASA Gallery.



# Trends that drive land values higher

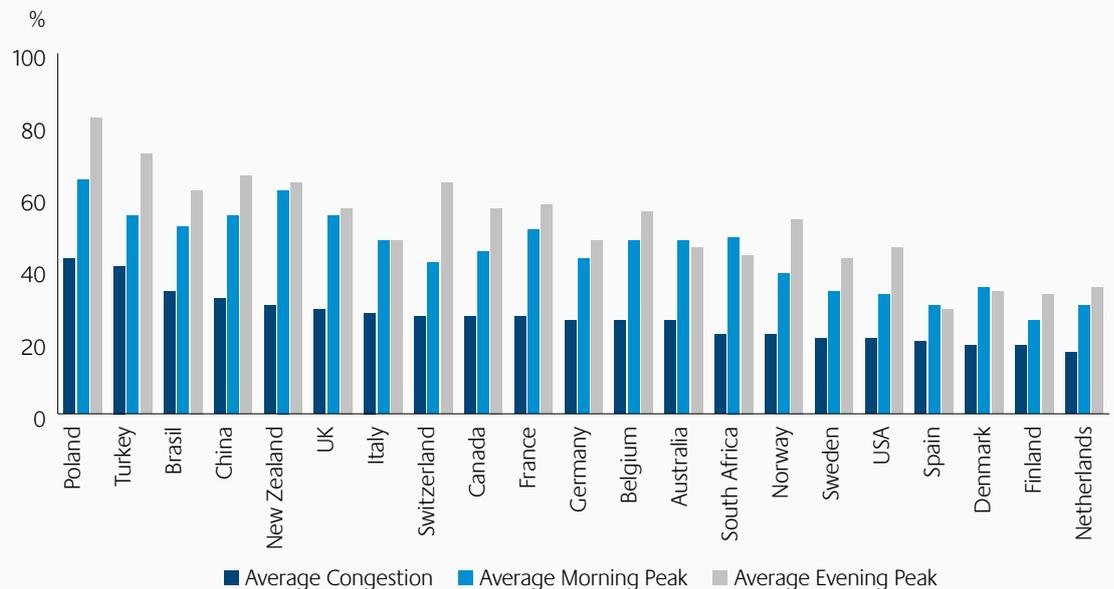
To determine actual land values is not an exact science. It is rare that well-developed cities contain vacant land that is easily comparable on a like-for-like basis.

Broadly speaking, total property values can be used as an inference to underlying land values. The ten most expensive apartment markets in the world correlate highly with city population density and city wealth. To determine actual land values is not an exact science. It is rare that well-developed cities contain vacant land that is easily comparable on a like-for-like basis. However a number of methods can be used to extrapolate estimated land values. Comparable sales are difficult to determine and typically problematic. The most accepted method is the residual land value calculation. Valuing a property and deducting both total development/redevelopment costs and normalized development profit margins leaves an estimated residual land value. However, this method can also be problematic, in cases where the property value may not fully reflect the longer term strategic value of the land. Strategic land may command a premium, for example where a landlord may benefit from planned

localized infrastructure and/or development, improving the localized area amenity. Landlords can also benefit from strategic site amalgamation, where a land value premium may be achieved through action by a developer or by the Government.

Land usage in the cities, which is governed by localized zoning regimes, is also a big factor in determining land values. These regimes may sometimes contain usage variation options; however the scope of the building's site coverage and height is usually very specific. Within these frameworks the landlord typically has considerable scope around the structure on the land, that is, the building's design and amenity within its zoned usage. The level of allowed zoned density can materially influence land values as the buildable square foot of land increases, particularly in situations where land is scarce.

**Average congestion levels by country**



Only showing countries with three or more cities in the Traffic Index. Source: TomTom.

# Trends that drive land values higher

Another factor which complicates the determination of land values is that the world's cities are far from being simple, well-thought-out locales. They can often be dishevelled, complex places. In many cases, civil and social infrastructure are failing to keep up with population density and social trends. City liveability is another important factor that influences land values. As cities have grown rapidly over the past century, traffic congestion has become an immense problem. The TomTom Index shows Mexico City as the world's most congested city, with extra travel time during peak hour of over 90%. Los Angeles ranks 10th with extra peak hour travel times of over 70%. Within London it takes on average 30 minutes to travel five miles; an average speed of ten miles an hour. The inefficiencies of time wasted in traffic and pollution (noise and air) are issues that affect a cities liveability and need to be addressed through the long term planning of efficient mass transit systems.

London has on average 1 million commuters travelling by Oyster Card on London rail during morning peak hour. As shown in the Commuter Trends map, there is clearly a great reliance on London rail for the basic functioning of the city. Commuter trends and employment

concentrations can lead to large increases in land values. The efficient funnelling of large populations via effective transport systems from residential zones into employment zones improves liveability and increases land values in both zones.

It is important that cities remain bustling places, which can provide wellbeing for their inhabitants. As cities grow, population density can bring many social issues. It is imperative that social infrastructure and employment levels expand with population growth and population density. Many examples can be found where this has not been the case, and where lower socioeconomic areas have become ghettos. As cities continue to evolve, ghettos can be transformed over time through technology, gentrification and economic growth. While Governments can help by increasing social services in lower social economic areas, the city's landlords, developers and entrepreneurs are the main contributors to city gentrification.

Landlords have a vested interest in the welfare of the urban fabric and the quality of the urban experience. Landlords are very reliant on the Government for the broader social wellbeing of a city's residents. The overall

Commuter trends can lead to large increases in land values.



**Commuter trends – Top method of travel to work in London**

Source: Consumer Data Research center, UCL Geography data from 2011 Census.

# Trends that drive land values higher



Liverpool station,  
London

Source: Getty images.

wellbeing of their occupants is fundamental and inextricably linked to their buildings' cash flows over the medium term. Within the wealthiest cities, land and buildings are very expensive, making any decision to purchase a building or land, or to develop and/or redevelop existing buildings very important strategic decisions, which are important drivers of medium term returns. It is virtually impossible to reverse these decisions, making it imperative that all risk factors and opportunities are properly assessed. Landlord expertise, vision and access to capital are absolutely fundamental to medium term returns – and to the evolution of our cities.

The piecemeal approach that we frequently see being taken to town planning and city development is lagging technological advancement. This is clear in the United States, where State and local infrastructure spend as a proportion of GDP are at 30 year lows, and are currently tracking at below 2%. Infrastructure spend as

a proportion of GDP has also fallen since 2008 in the UK, Italy, Australia, South Korea, Brazil, India, Russia, Mexico and Saudi Arabia. Across the Eurozone, infrastructure spend is around 15% below pre-crisis levels. Current fiscal imbalances are not solely to blame. In a financial system where economic theorists blame the current low interest rate environment not on central bank policy but on an extended global savings glut, private investment via public-private partnerships and/or private investment is under-represented. According to the World Bank, private participation in infrastructure (PPI) globally totalled US\$111.6 billion in 2015. This was broadly in line with the past five year's average of US\$124.1 billion.

However, excluding the US\$35.6 billion development of Istanbul's new international airport, private infrastructure spend would have fallen materially. Global PPI in 2015 was a very small 0.4% of global GDP. With an expected increase in PPI over the next decade, PricewaterhouseCoopers estimates that the world's

## Trends that drive land values higher

total infrastructure spend will reach US\$9 trillion by 2025; approximately double today's levels. As our cities develop, the emphasis on infrastructure spending tends to evolve; from fundamental housing and water; to the basic services of power stations, roads, waste and sewage, schools and hospitals; to advanced services such as mass transit, commercial property and education and research. Services in the future will likely focus on leisure, eco living and working, elderly care and highly efficient mass transportation.

The advanced and future services are the most significant for a city's major landlords. It is during this phase of a city's evolution that population density and commerce levels, combined with increases in city liveability, lead to the rapid acceleration of land values. During this phase, landlords' wealth, along with social responsibility, materially increases. Providing for the city's future amenity will contribute to the city's liveability, commerce levels and evolution. Planning

for the future space and amenity above the land, and considering how it can best serve its occupants given technological advancement, social change and levels of surrounding social and civic infrastructure, are integral to the evolution of our cities and the maximisation of land values.

This puts large commercial urban landlords in a happy position. They directly benefit from public and private expenditure on cities through basic and advanced infrastructure spend. The resulting improved amenity and liveability represents a major windfall benefit for landlords. While the redevelopment of a building usually requires some public amenity contribution, the return on redevelopment capital employed for the landlord in urban areas is usually compelling. Landlords globally typically pay some form of land tax as compensation for this windfall. However, the end outcome makes the landlord a major beneficiary of the public and private funding of the evolution of our cities.



The piecemeal approach that we frequently see being taken to town planning is lagging technological advancement.

Aerial image  
of London

Source: Getty images.

# Case Study: The City of Sydney

Landlords in this vicinity will receive a material economic benefit, not only through short term and medium term cash flows, but also through sustained increases in land values.

The City of Sydney in Australia is currently undertaking works to make a section of the Central Business District's (CBD) busiest street accessible to light rail and pedestrians only. The City of Sydney is funding the George Street project, contributing A\$220 million, with the NSW State Government funding the A\$1.8 billion light rail extension. As a result of the improved amenity and liveability, landlords in this vicinity will receive a material economic benefit, not only through short and medium term cash flows, but also through sustained increases in land values.

An Australian publicly traded landlord recently completed the development of a premium grade office tower at Harbour end of George Street. The tower at 200 George Street was developed to a 6 Star Green – Office Design (v3) rating and 5 Star NABERS Energy rating, with a triple glazed glass façade the latest smart meter and computerised shutter technology.

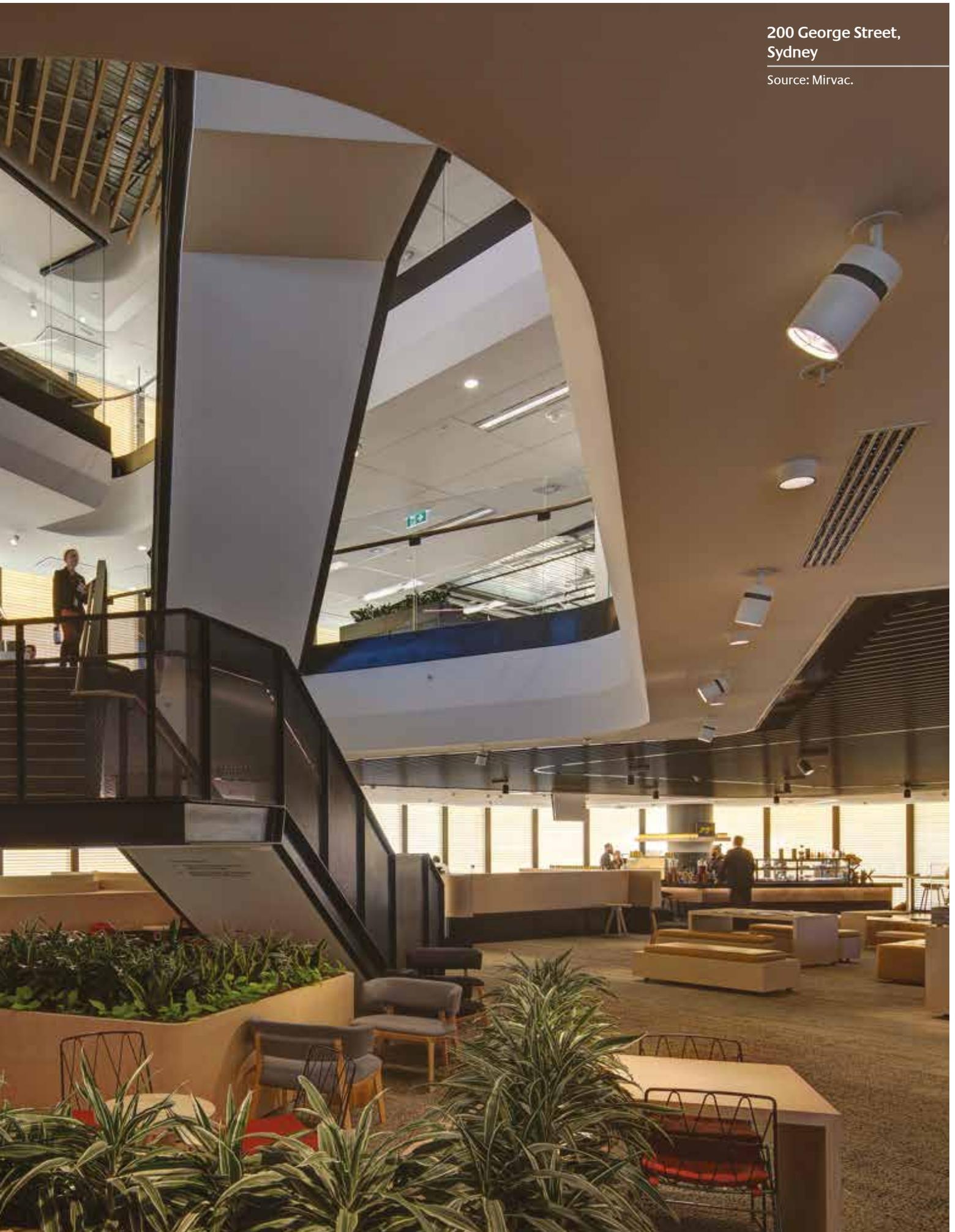
It is Australia's first fully LED-lit building. The building opened fully-leased. The site had been patiently amalgamated over the course of the last 15 years. The landlord first purchased a "C" grade building in 2001, before purchased a neighbouring "B" grade building and an adjacent laneway in 2003, While optioning a third building to amalgamate the full site. The completed development is yielding 7.7% on cost, delivered a 52% development Internal Rate of Return (IRR) and a 33% total return on investment.

The landlord is also set to benefit in the future, as land values continue to appreciate with the city's continued evolution.



200 George Street,  
Sydney

Source: Mirvac.



## Case Study: The City of Sydney

The existing mall today does over A\$1.1 billion in sales and +20,000sqm in sales productivity, making it one of the most productive malls in the world.

A publicly traded Australian shopping mall landlord recently purchased the iconic David Jones department store in the Sydney CBD in joint venture (JV) with an Australian superannuation fund. The landlord paid A\$182.5m for a 50% interest. The land underneath is separately owned in a strata title. The total site area is 2,150 square metres (sqm). Attributing little value to the aged façade, the price paid equates to a land value of \$167,441 per sqm, equivalent to 3.4 kilos of gold per sqm. It is fair to say this land is extremely valuable.

The building is located within one block of the current State Government George Street works, and adjacent to the landlord's existing shopping mall, located on the highly successful Pitt Street Mall shopping precinct. David Jones will continue to occupy the building until 2019. While development approval is sought for the redevelopment of 10,000 sqm of luxury retail, which will be further integrated with the existing mall. The JV partner will seek to build podium office space and a luxury apartment tower above. The landlord first started

amalgamating the site for the original shopping mall in 2001 by purchasing the Centrepoint Tower. In 2003 they purchased Sydney Central Plaza, followed by Sky Garden and the Imperial Arcade in 2004. In 2006, they applied for Stage 1 development approval. In 2011 they completed the existing mall – a 40,000 sqm multi-level shopping center with a fully let 66,000 sqm office tower above. The total cost was A\$1.6 billion; the process took 10 years, from the start of the site amalgamation to completion.

The existing mall today does over A\$1.1 billion in sales and +20,000sqm in sales productivity, making it one of the most productive malls in the world. The next evolution of the shopping mall will take place from 2019 when the David Jones department store redevelopment is expected to commence. While the underlying land is very valuable today, it is only cents in the dollar of its likely longer term future value.



Westfield Sydney Shopping Center

Source: Scentre Group.

# The impact of technology on retail – solving the last mile dilemma

So what does the future look like for our cities? The next iterations of city evolution is likely to be driven by technological change. Technological advances are impacting city dwellers in all facets of life. One area where this is very clear is in our changing shopping habits. As global consumers, many channels are now available to us to purchase goods and services, from the ancient market place concept to the internet. The internet's ability to easily compare the pricing and availability of goods and services has led to increased transparency and a more efficient market place. This has been a major windfall for the consumer; efficient pricing has had a deflationary effect (this concept is lost on central banks) with increased productivity (acquiring the good and/or service in less time for less effort) freeing up more time for work and leisure.

It is estimated that there are now 3.4 billion internet users globally from a total world population of 7.4 billion, with approximately 2 billion smart phone accounts. Etailing – the purchasing of goods and services over the internet – is now a global phenomenon, and continues to grow at a remarkable rate. According to eMarketer (the research firm), total global retail sales for 2016 are estimated to be US\$22 trillion. eCommerce sales estimates for 2016 are projected at US\$1.915 trillion, a year over year (yoy) increase of +23.7% and an 8.7% share of the total. These estimates include Consumer to Consumer (C2C) purchases; and motor vehicles and parts and gas. Services such as travel and restaurants have been excluded.

Asia-Pacific is the largestetailing region in the world. According to Morgan Stanley, China's estimatedetailing sales for 2016 will be US\$899 billion (a 47% share of the total). China's online shopping sales totalled US\$167.51 billion in the June quarter of 2016, a yoy increase of +27.6%. Etailing's market share of total retail sales in China is now up to 14.3%. Online shopping by mobile device in China during the June quarter was US\$117.4 billion, with Alibaba achieving a staggering 80% market share.

If we include only the sale of new physical goods – that is, no services or C2C - total globaletailing sales for 2016 are estimated at US\$1.18 trillion. Chinaetailing sales are estimated at US\$376 billion, followed by the US at US\$322 billion and Great Britain at US\$84 billion. The goods categories are led by fashion (US\$332.1 billion), electronics and media (US\$290 billion), food and personal care (US\$105 billion), furniture and appliances (US\$66.34 billion), and toys, hobbies and DIY (US\$76.161 billion). The number of currentetailing users is 530.2 million, with 47.1% penetration rate for 16-24 year olds globally.

As the 16-24 year old cohort ages and new generations come through whose penetration rates are likely to be higher still, we will eventually reach the point where the majority of goods and services purchases are made through the internet. This clear defined trend still faces some major challenges; not at least the inefficient and expensive “last mile” dilemma. The logistics of the “last mile” are labor intensive, inefficient, environmentally unfriendly and costly. The best we have been able to come up with is daytime delivery, with a man and his van ferrying goods from remotely located sorting centers, delivering non-standardised, non-modulated goods via disembarking and walking to the final drop off point.

Technology has now progressed to Electronic Proof of Attempt, which gives the delivery person the geo-coordinates of drop-off points and digital signature technology, as well as tracking options for the customer. Despite this, the rule of thumb is that the “last mile” represents 35% of the total delivery cost. Amazon and Alibaba have toyed with the idea of using drones as a part-solution to the “last mile” dilemma; Uber is currently trialling the driverless car in the US city of Pittsburgh. In Hong Kong, a logistics company is offering a cloud-based total logistics solution, where the consumer will end up picking up the purchased goods from e-Lockers located throughout the city.

Today, omnichannel retailers have a distinct advantage over the pureetailers. With their physical store footprints they have existing infrastructure in place which directly interfaces with the consumer. This tactile experience builds brand recognition and offers the added benefit of in-store pick up. The option of “ship from store” also goes part of the way to solving the “last mile” challenge. While still inefficient, it is a little less costly.

# The impact of technology on retail – solving the last mile dilemma

It is estimated that 95% of developed city populations reside within five miles of a shopping center.

As our cities have evolved, little thought has been given to future technologies, population growth or social change. This puts urban commercial landlords in a position where they control a valuable and scarce resource; that is, strategic land parcels located within densely populated cities. Through redevelopment, they are in the lucrative position of being able to innovate in order to be part of the future logistics solution.

Retail real estate continues to evolve. Department stores have lost their dominance over the past century and continue to lose market share. Over the past 60 years we have witnessed the evolution of the shopping center and the hugely successful supermarket concept. At their peak in the mid 1900's, department stores were present in every major US city, with this retail concept dominating the downtown city landscape. In the 1920's two merchant families, Saks and Gimbel, amalgamated a site between 49th and 50th Street on 5th Avenue in Manhattan, New York for a total purchase cost of approximately US\$6,000,000. The Saks Fifth Avenue Department store was developed and opened in 1924. While the retail concept has today lost its dominance, we conservatively value the Saks Fifth Avenue site today, with 66,250sqf of land without the air right entitlements, at US\$3.3bn. This reflects an IRR of 6.8% from the land alone, for each year over the past 96 years.



Fifth Avenue in New York

Source: Getty images.

## The impact of technology on retail – solving the last mile dilemma

Today, it is estimated that 95% of developed city populations reside within five miles of a shopping center. As retail real estate urban convenience continues to evolve, sub-regional and regional shopping centers have the potential to be radically transformed in the future. As cities densify, land parcels currently being used as shopping centers are well placed to be transformed into hybrid retail shopping/sorting centers. This would eliminate the need for separate sorting centers, materially increasing efficiency. Goods going both to homes and showrooms could then be shipped straight from distribution warehouses to hybrid retail shopping/sorting centers. With the expansion of delivery bays, the centers could be redeveloped into mini distribution centers, containing expanded cool rooms and sorting hubs. The potential transformation of these centers provides a logical solution for omnichannel retailers and e-tailers, who could look to these hybrid centers for their showrooms, market place concepts and mini distribution and sorting hubs. Currently, third-party logistics firms control the “last mile” market. This could change to a scenario where e-tailers and retailers will look to the shopping center landlords to provide the infrastructure, to directly solve the “last mile” dilemma.

A number of different “last mile” logistical models could evolve as the volume of goods being delivered

to city homes rapidly increases. While there are likely to be many iterations, the second iterations proposed are expected to evolve beyond the current “man and his van” to purpose-built electronic shuttles (initially manned) with motorized arms. The goods themselves will evolve to be designed to fit into standardized modular packaging. Some future modelling anticipates the development of personalized cabinets (partly refrigerated) at final drop off points located adjacent to people’s homes and drive-ways. It is expected deliveries (ferrying goods from localized hybrid centers to homes) will eventually occur between 10pm and 5am, when the city’s citizens are not using the city’s infrastructure. This will also increase efficiency and reduce traffic congestion.

It is assumed that the following round of iterations are likely to coincide with the advent of driverless autonomous vehicles. Current estimates are that by 2045, fully autonomous vehicles will be operational within our cities. This will dramatically reduce the need for on grade and decked car parking, freeing up land for the future expansion of shopping/hybrid centers, and further driving up land values. As city populations densify, the hybrid center expansion could logically go vertical, with sorting and delivery functions conceivably located above the centers and accessed via “ramp ups”,

Land parcels currently being used as shopping centers are well placed to be transformed into hybrid retail shopping/sorting centers.



New AU\$300m  
130,000sqm  
distribution being  
built by a publicly  
traded logistics  
landlord in  
Osaka Bay, Japan

Source: Goodman Group.

## The impact of technology on retail – solving the last mile dilemma

### Publicly traded real estate securities are the world's largest landlords.

as currently seen in modern distribution centers in Japan where land is relatively scarce. Direct interface with the consumer would be offered on-grade and lower levels via showrooms, market place concepts and restaurants.

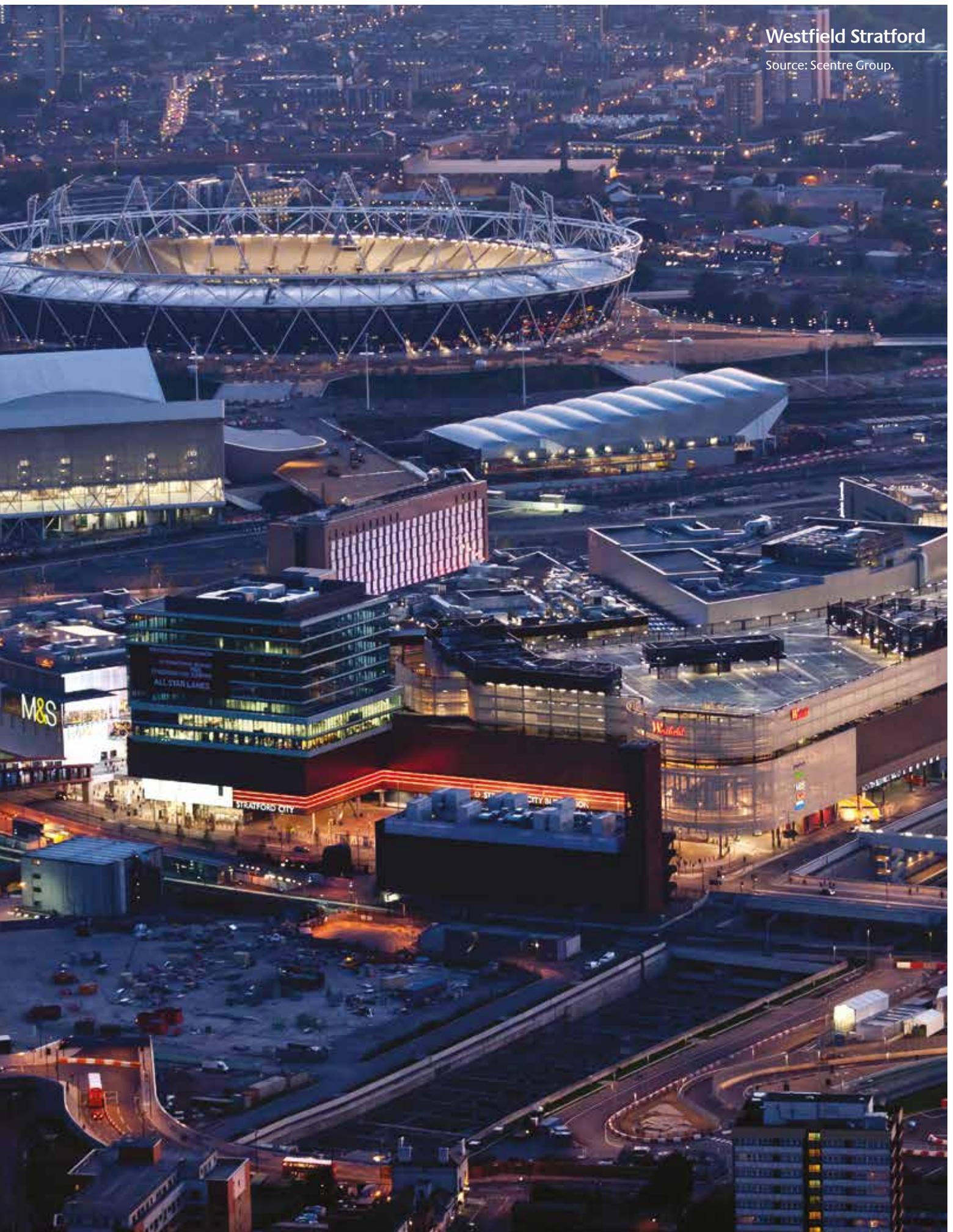
With technological advances driving the city's evolution, one of the elements of change for above-ground usage is likely be the shopping center, as it transforms to provide not only for human interaction and the physical interface with the retailer, but also for the infrastructure required to cater for changing consumer shopping and leisure habits.

Publicly traded real estate securities are the world's largest landlords. They are the dominant landlords of our major cities and have a very good understanding of land values and its best usage. The amalgamation of sites in urban infill locations is a patient game, but the rewards can be very high. As cities evolve, sites are likely to become more densified and convert to mixed use. As land values appreciate, publicly traded landlords are already densifying their shopping centers by including apartment buildings and medical facilities; office buildings and office towers are being developed with hotels and retail in the same complex; and hospitals are being developed next to universities. As employment and population densification increases, it is not unreasonable to consider cities with sporting stadiums and concert halls that are located above centralised transport nodes, sitting on top of entertainment and retail complexes. As a finite resource our cities land is

already valuable, and as the cities continue to densify it will become increasingly so. With this increase in wealth comes great social responsibility and with innovation, expertise, vision, patience and access to capital our landlords will be a major driving force in the future evolution of our advancing cities. Whatever the future has in store, publicly traded urban landlords are in an enviable position to create true long term wealth, through their control of a valuable and scarce resource.

# Westfield Stratford

Source: Scentre Group.



## **Auckland**

### [First State Investments](#)

ASB North Wharf  
12 Jellicoe Street  
Auckland Central,  
New Zealand  
PO Box 35  
Auckland  
New Zealand  
Telephone: +64 9 448 4922

## **Dubai**

### [First State Investments](#)

The Gate Building  
Dubai International Financial center  
P.O. Box 121208  
Dubai  
United Arab Emirates  
Telephone: +971 4 401 9340

## **Edinburgh**

### [First State Investments](#)

23 St Andrew Square  
Edinburgh EH2 1BB  
United Kingdom  
Telephone: +44 (0) 131 473 2200

## **Frankfurt**

### [First State Investments](#)

Westhafen Tower  
Westhafenplatz 1  
60327 Frankfurt a.M.  
Germany  
Telephone: +49 (0) 69 710456 – 302

## **Hong Kong**

### [First State Investments](#)

Level 25  
One Exchange Square  
8 Connaught Place  
Central Hong Kong  
Telephone: +852 2846 7555

## **Jakarta**

### [First State Investments](#)

29th Floor Gedung Artha Graha  
Sudirman Central Business District  
Jl. Jend. Sudirman Kav.  
52-53 Jakarta 12190  
Indonesia  
Telephone: +62 21 2935 3300

## **London**

### [First State Investments](#)

Finsbury Circus House  
15 Finsbury Circus  
London EC2M 7EB  
United Kingdom  
Telephone: +44 (0) 20 7332 6500

## **Louisville**

### [First State Investments](#)

400 West Market Street Suite 2110  
Louisville, Kentucky 40202  
United States of America  
Telephone: +1 502 912 5506

## **Melbourne**

### [Colonial First State Global Asset Management](#)

Level 10  
357 Collins Street  
Melbourne VIC 3000  
Australia  
Telephone: +61 3 8628 5600

## **New York**

### [First State Investments](#)

599 Lexington Avenue,  
17th Floor New York,  
New York 10022 United States of America  
Telephone: +1 212 848 9200

## **Paris**

### [First State Investments](#)

14, avenue d'Eylau,  
75016 Paris  
France  
Telephone: +33 1 73 02 46 74

## **Singapore**

### [First State Investments](#)

38 Beach Road  
#06-11 South Beach Tower  
Singapore 189767  
Telephone: +65 6538 0008

## **Sydney**

### [Colonial First State Global Asset Management](#)

Ground Floor, Tower 1 Darling Park  
201 Sussex Street  
Sydney NSW 2000  
Australia  
Telephone: +61 2 9303 3000

## **Tokyo**

### [First State Investments](#)

8th Floor, Toranomom Waiko Building  
12-1, Toranomom 5-chome  
Minato-ku  
Tokyo 105-0001  
Japan  
Telephone: +81 3 5402 4831