

Future Cities

The Rise of Multi-Storey Warehousing

VIEWPOINT

CBRE RESEARCH
SYDNEY, AUSTRALIA
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A multi-storey warehouse is a facility consisting of more than one level, increasing the usable floor space per square metre of land. Access is provided via a set of ramps or lifts.

Multi-Storey vs. Multi-Level

Multi-storey warehousing is driven by high land values, low vacancy rates and minimal new land supply. It is typically identified by heavy vehicle access via a ramp (or lift) to the upper floors, meaning each floor can operate as an independent warehouse (used by multiple occupiers). The upper floors also contain docks and doors. Investors/developers will charge rent for each lettable square metre on each floor.

Multi-level warehousing is largely driven by operational efficiencies. The larger the warehouse the more travel time from docks to storage. Automation is currently utilised to make operations more efficient. These automated robots work best vertically, which allows occupiers to use multiple levels within the building. However, all docks are still at ground level. As a result, the facility can typically only be used by one occupier and rent is only charged for lettable area on the ground floor.

Still in its infancy in Australia, large e-commerce and online grocery retailers have taken-up multi-level facilities in Sydney's West.

Figure 1: Multi-storey facility – Goodman Sakai, Osaka



Figure 2: Multi-level facility – Amazon Kemps Creek



Figure 3: APAC multi-storey and multi-level warehouses



Source: Goodman, ProLogis, Amazon.

Why Multi-Storey Warehousing?

Some major markets within the Asia Pacific region have had similar land constraint issues that mirror that of South Sydney. Cities such as Hong Kong, Shanghai and Tokyo have built vertical warehouses in order to keep up with occupier demand for precincts with extremely limited space available. As Sydney’s industrial land supply continues to dwindle, Sydney looks to Asia and beyond for inspiration to solve its warehousing needs.

Figure 4: Advantages and disadvantages of multi-storey warehousing

Advantages	Disadvantages
Increases floorspace ratio of site, boosting gross lettable area (GLA).	More expensive to construct (an average of 83%* more in construction costs), and therefore rents must justify construction costs.
Height and visibility – assists marketing purposes.	Large trucks may struggle to manoeuvre ramps.
Occupiers can be positioned closer to the consumer – minimising costs associated with transportation.	Rents on upper floors are relatively less when compared to the ground floor.

Transportation represents a large share of overall supply chain costs for transport/logistics operators, accounting for an average of 50% of the total. Occupancy costs however account for around 10%. As such, location is paramount particularly for those occupiers who transport time sensitive goods. Occupiers with a stronger requirement to lower transport costs (including fuel, tolls, etc.) will have a greater elasticity to pay a rental premium.

“It takes roughly an 8% increase in fixed facility costs to equal the impact of just a 1% increase in transportation costs.”

Figure 5: Anatomy of a company’s logistics spend



Joe Dunlap

Managing Director of CBRE Supply Chain Advisory



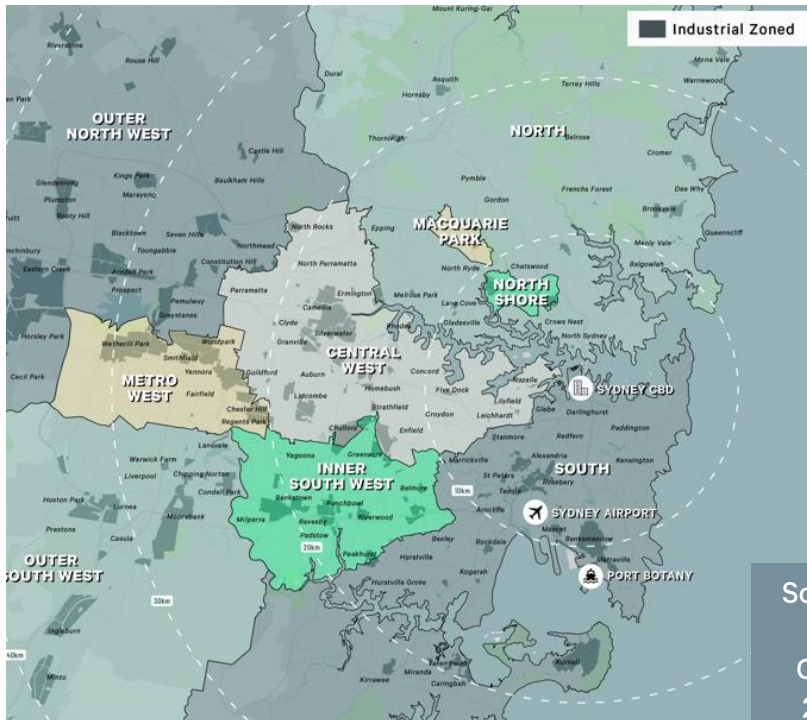
Source: CBRE Supply Chain Advisory, CBRE Research, Rawlinsons Australia Construction Handbook Edition 36.
*Multi-storey facilities up to six levels

Sydney is one of the most sought after, as well as land constrained, industrial and logistics markets in Australia

Based on our recent CBRE research report *Sydney Industrial and Logistics Land Supply 2021*, only 5% of total industrial zoned land in Sydney is undeveloped and serviced. Of the land supply that is undeveloped and serviced, not all is available for immediate development. Therefore, there is an expectation that land values will continue to appreciate as availability of land in the market remains limited over the next 18 months.

The lack of available land is particularly evident in the Inner precincts (South Sydney, Inner South West, Central West and North Sydney), where these areas are becoming ever more sought after as ‘last mile’ distribution hubs due to recent and forecasted growth in e-commerce. This is expected to continue to place upward pressure on rents and land values.

Figure 6: Sydney industrial zoned land and precinct boundaries



Source: Employment Land Development Monitor, CBRE Research.

South Sydney has strong access to the Port of Botany, airport, and CBD. However, accounts for only 2.5% of Sydney’s total supply of undeveloped and zoned land.

There is limited to no land available in the Inner Sydney precincts

Australia’s current e-commerce penetration rate (as at 4Q21)



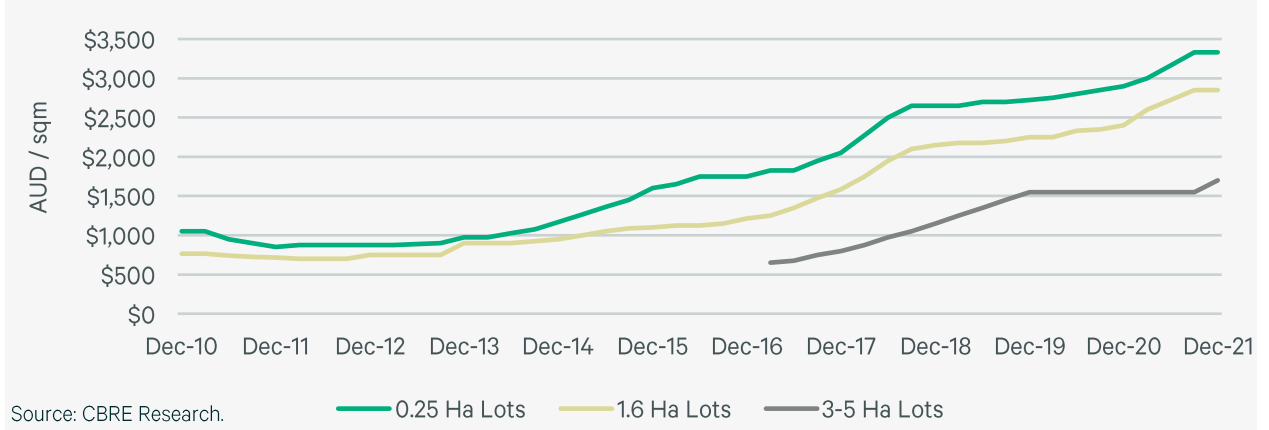
Sydney’s industrial vacancy rate (as at 2H21)



Average land value appreciation for Sydney 1.6 ha lots over the past 12 months (as at 4Q21)



Figure 7: South Sydney land values, by lot size, 2010-2021



Source: CBRE Research.

— 0.25 Ha Lots — 1.6 Ha Lots — 3-5 Ha Lots

GREATER NEED FOR LAST MILE SPACE

Floorspace take-up in the Sydney market, similar to national levels, has reached record levels in 2020 and 2021. Over 1 million sqm of floorspace has been leased each year over the past two years, which is significantly above the long-term average of 878,000 sqm.

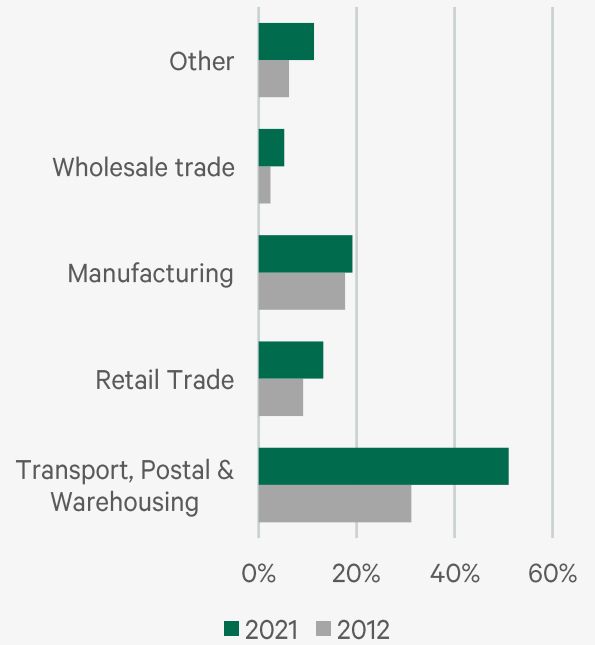
Transport, Postal and Warehousing and Retail Trade occupiers combined accounted for 64% of total take-up in Sydney in 2021, compared to 40% in 2012. As e-commerce penetration rates rise, occupiers servicing this sector have required more industrial and logistics floorspace as well as a greater need for last mile distribution hubs (optimally located close to the end consumer).

“ Last mile is a specific focus here in Australia. Investment sales for ‘infill’ assets represented 34% of total sales in 2021, compared to 14% in 2020. ”

Christine Miller

Senior Director – Supply Chain Advisory - Pacific

Figure 8: Sydney gross take-up, by industry sector, 2012 vs. 2021

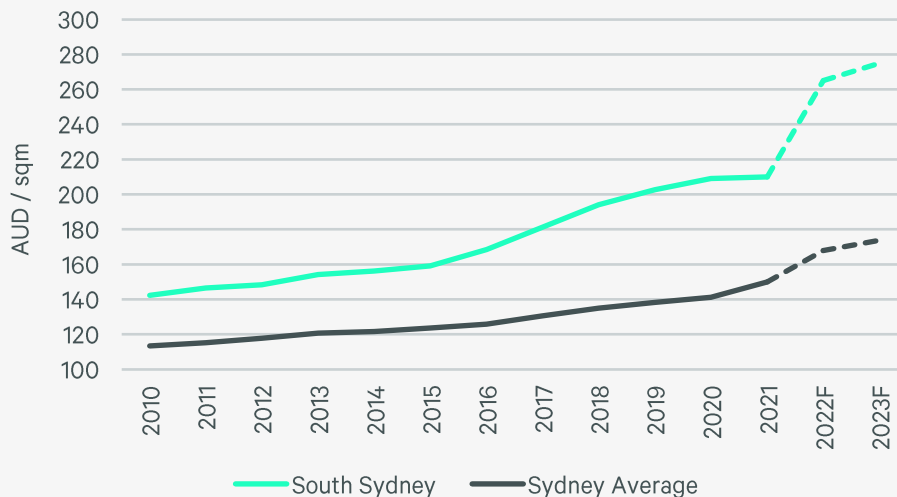


Source: CBRE Research.

RENT GROWTH TO ACCELERATE

Given supply constraints, coupled with persistent demand pressures, the current vacancy rate in Sydney stands at an all-time low of 0.4% - the tightest in the country. We forecast the Sydney average super prime net face rent to therefore increase by 5.2% per annum between 2022 and 2026. The greatest movement in rents is expected to occur in the South Sydney precinct, increasing by an average 9.4% per annum for super prime grade assets, 9.5% and 6.8% per annum for prime and secondary grade assets, respectively.

Figure 9: South Sydney vs. Sydney average super prime net face rents, 2010-2023F



Average super prime rents in South Sydney have increased at an annual average rate of 4% since 2010 and are expected to rise by 9% p.a. over the next 4 years.

Source: CBRE Research, Employment Lands Development Monitor (ELDM).

SOUTH SYDNEY IS AN ATTRACTIVE LOCATION FOR MULTI-STOREY WAREHOUSING



Low vacancy rate of 0.6%, and expected to remain at sub-1% due to limited scope for new floorspace development.



Strong access to two strategically significant transport nodes (port and airport) and access to 66% of the Sydney population within 30 minutes. Therefore, the area is highly sought after by occupiers specialising in import cargo/goods or air freight, as this will minimise supply chain costs created by road transport.

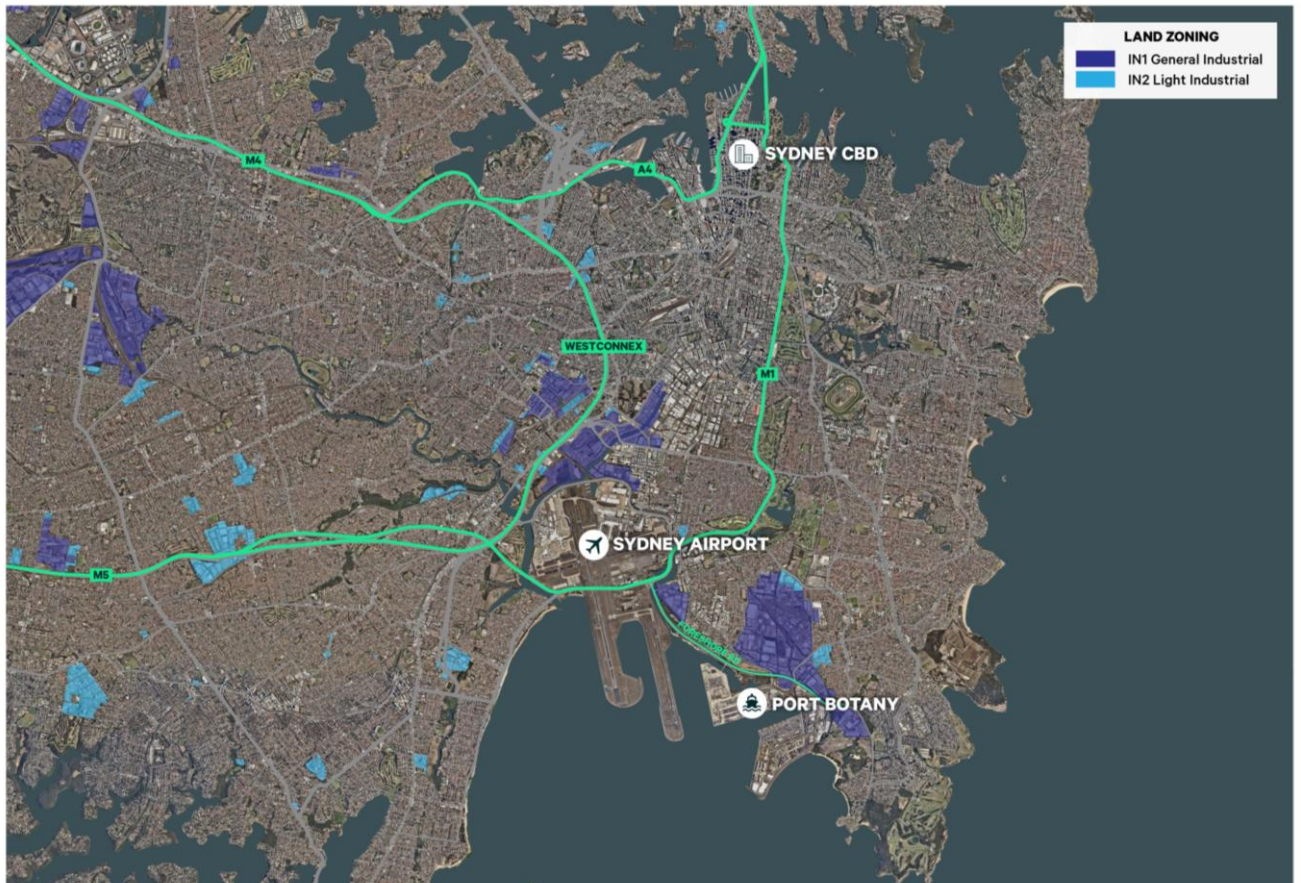


The highest land values in the country, averaging AUD 2,850 / sqm for 1.6 ha lots, therefore justifying construction costs. CBRE Research EMEA found that if land costs make up more than 50% of total construction costs, it makes sense to go vertical. Construction costs for multi-storey facilities up to six levels are approximately AUD 1,600 / sqm in Sydney.



The highest rent in the country, averaging AUD 225 / sqm for super prime grade assets.

Figure 10: South Sydney industrial zoned areas



Source: CBRE Research, Rawlinsons Australia Construction Handbook Edition 36.

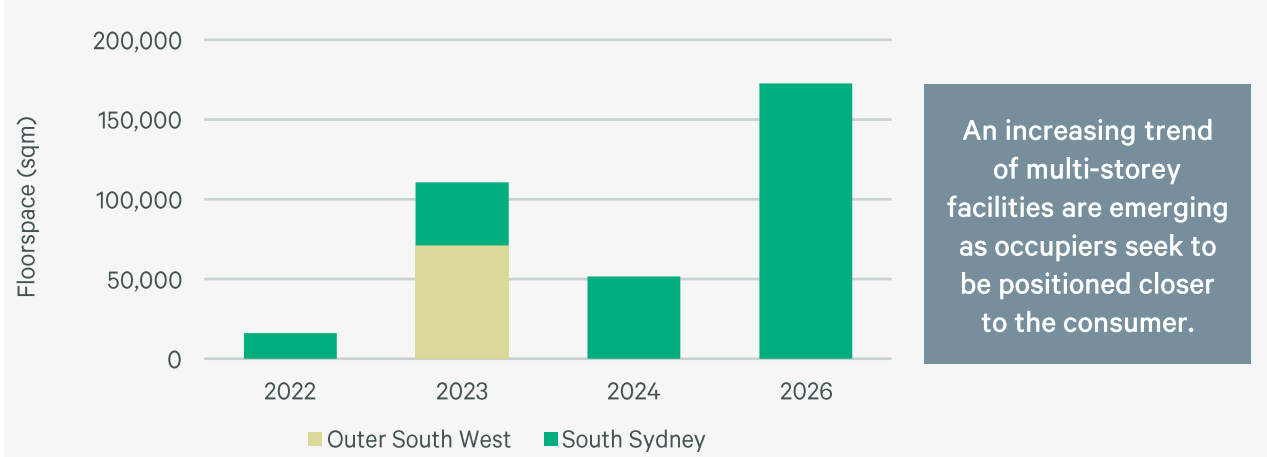
Note: Construction costs exclude demolition of any existing structures or basement constructions and groundworks.

Multi-Storey Development Supply Pipeline

A total of approximately 351,026 sqm of multi-storey floorspace is forecast to be delivered between 2022 and 2026, across 14 projects in Sydney.

Notable multi-storey facilities in the pipeline include a development by LOGOS, located in Mascot totalling 172,702 sqm across multiple warehouses expected to reach practical completion in 4Q26. As well as a 51,664 sqm three-level ramp warehouse in St Peters developed by Goodman to be delivered in 1Q24.

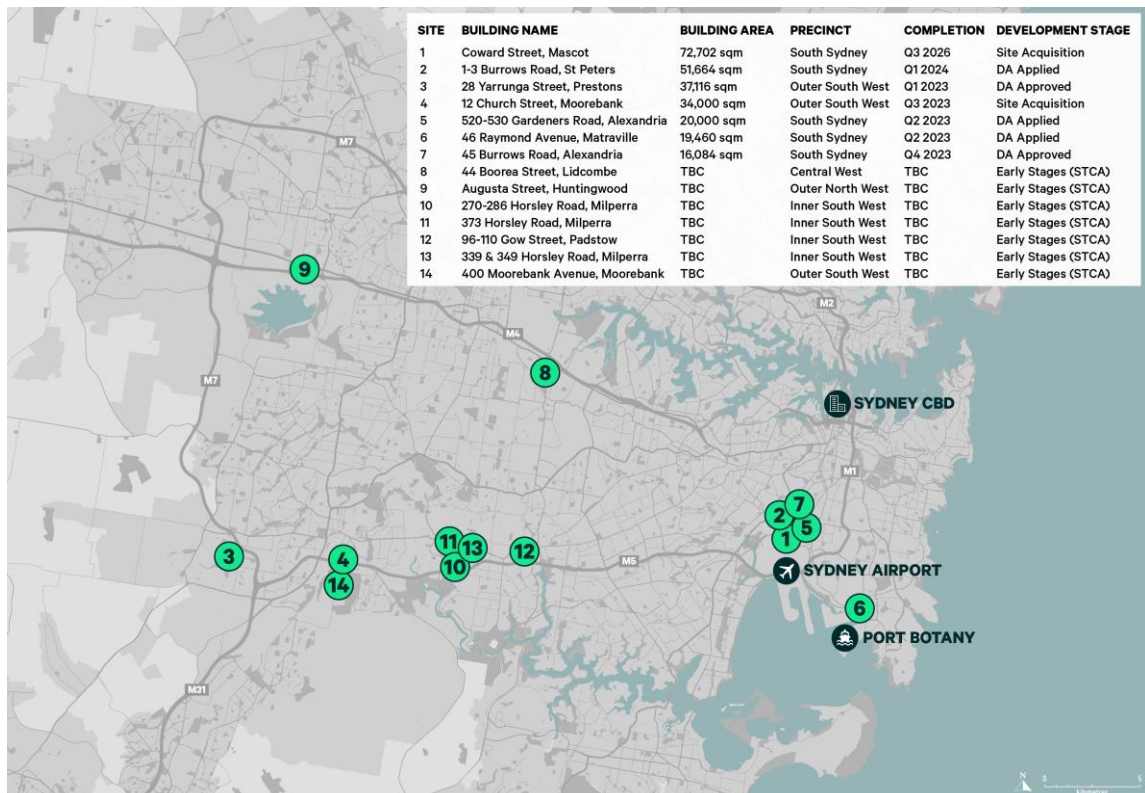
Figure 11: Sydney multi-storey development supply pipeline, 2022-2026



Source: CBRE Research. As at April 2022. To note: captures projects >5,000 sqm.

The Outer South West accounts for around 20% of multi-storey developments in Sydney (by floorspace), despite making up 43% of ready-to-build industrial land. This is in contrast to South Sydney, which accounts for only 2.5% of zoned and undeveloped land, however makes up 80% of the Sydney multi-storey development pipeline (by floorspace).

Figure 12: Sydney multi-storey projects, 2022-2026



Source: CBRE Research.

Note: Early Stages (STCA) – projects are in early planning stages for multi-storey developments and are subject to change.

Case Study: Tokyo Bay Area

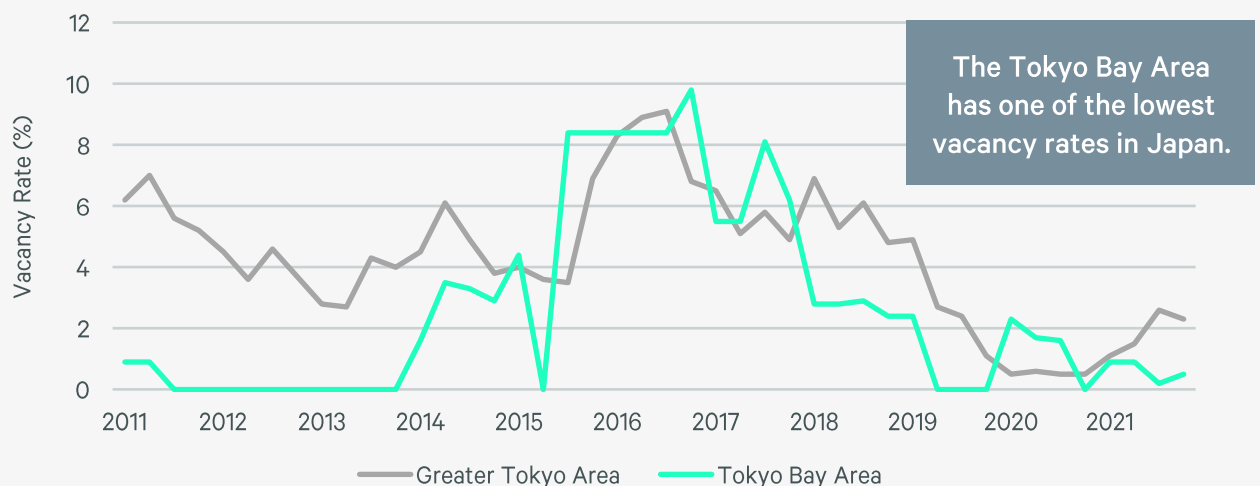
The Tokyo Bay Area is a heavily industrialised precinct with proximity to the Haneda Airport, Port of Tokyo and access to one of the most densely populated cities in the world (37,274,400 residents).

Greater Tokyo already has an established network of Large Multi-Tenanted (LMT) facilities, which are multi-storey warehouses with a floorspace greater than 10,000 tsubo (i.e. ≈33,000 sqm). LMT facilities in the Tokyo Bay Area are generally six to eight stories high, with no single-storey warehouses located in the precinct.

Similar to South Sydney, the main drivers for LMT facilities in the Tokyo Bay Area are low vacancy rates (averaging 0.5% as at 4Q21) and relatively high land values (averaging AUD 2,838 / sqm in 2021) due to the lack of industrial zoned land. A variety of occupiers are interested in the precinct, including e-commerce operators looking for last-mile solutions, as well as logistics operators seeking to take advantage of the port. This strong demand has driven rents in some facilities to be at par with office rents, and currently average AUD 297 / sqm (as at 4Q21).

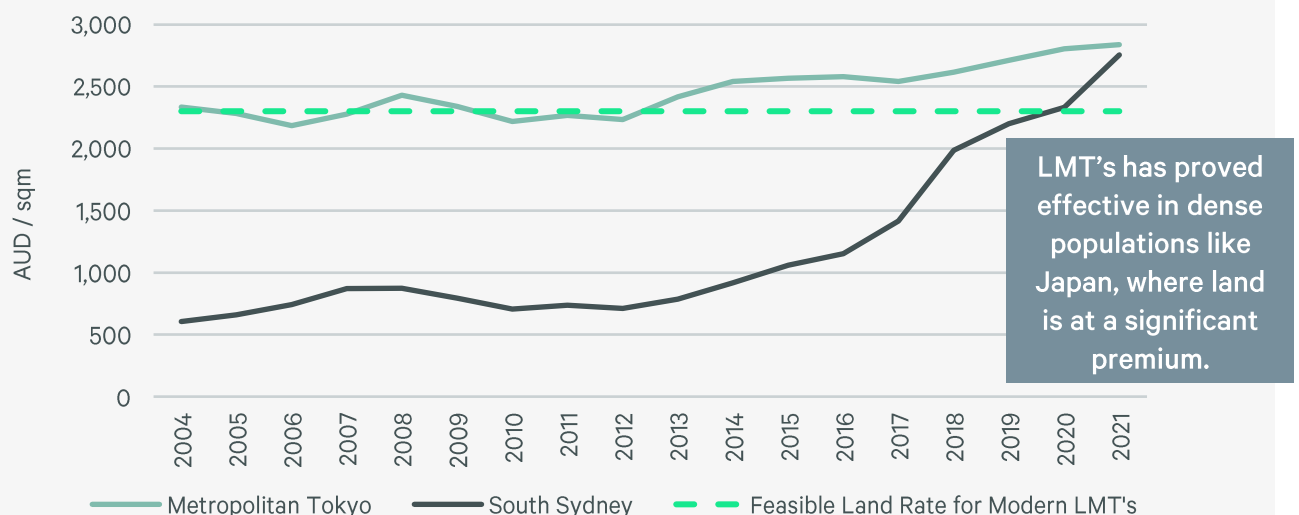
Heightened levels of occupier demand, coupled with limited supply, has seen consistently low vacancy levels for the past 10 years. Highly desirable locational attributes has resulted in minimal net absorption, with the precinct being one of the mostly tightly held in the Greater Tokyo Area.

Figure 13: Greater Tokyo vs. Tokyo Bay Area vacancy rates, 2011-2021



Source: CBRE Research.

Figure 14: Metropolitan Tokyo lots vs. South Sydney 1.6 ha lots 2004-2021



*Average size of Metropolitan Tokyo lots are 9,740 sqm

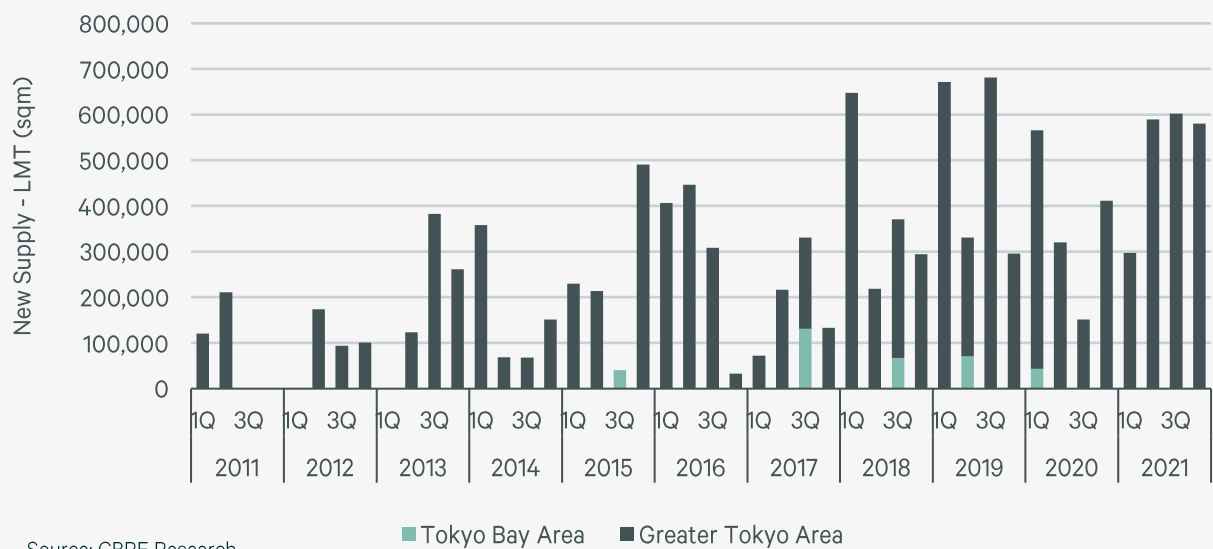
Source: CBRE Research, Ministry of Land, Infrastructure, Transport and Tourism.

Tokyo’s first modern LMT was completed in 2003, where land values were approximately AUD 2,300 / sqm. As land values continue to rise at strong rates, we predict the South Sydney precinct to follow the same multi-storey development trends as the Tokyo Bay Area.

One of the most densely populated regions in the world, the Tokyo Bay Area has a severe lack of ready-to-build industrial land. The vast majority of developments occurring are demolitions of existing buildings, making way for taller warehouses, tailored for automation and e-commerce.

The Tokyo Bay Area accounts for approximately 3% of new LMT supply (by floorspace) since 2011 in Greater Tokyo (Figure 15), with CBRE Research forecasting the Tokyo Bay Area to account for 8% of new LMT supply from 2022 to 2023. With an already tight supply pipeline, coupled with a growing residential apartment market, we expect new LMT supply to remain subdued in the medium-term. Consequently, land values are expected to increase, with the vacancy rate to remain the lowest in the city.

Figure 15: Greater Tokyo Area vs. Tokyo Bay Area new LMT supply, 2011-2021



Source: CBRE Research.

Outlook

As the Sydney market continues to experience unprecedented levels of growth, we expect multi-storey facilities will become an intrinsic part of Sydney’s industrial landscape. The significant increase in construction costs associated with multi-storey warehouses are offset in precincts such as South Sydney, where land is at a significant premium, and the desire to be located close to the consumer is increasingly becoming important to minimise supply chain costs as the e-commerce penetration rate accelerates.

Occupiers from Sydney’s West will benefit greatly from the completion of WestConnex in 2023, further increasing connectivity with the port and the CBD. As land values appreciate across the city, we expect multi-storey warehousing in Outer precincts (such as the Outer North West and the Outer South West) to be further considered by developers in the medium to long run.



Source: LOGOS.

*Artist’s impression only, subject to planning approval.

Key Points



Multi-storey warehousing is driven by high land values, low vacancy rates and minimal new land supply. South Sydney has the highest land values in the country, averaging AUD 2,850 / sqm for 1.6 ha lots.



CBRE Research EMEA found that if land costs make up more than 50% of total construction costs, it makes sense to go vertical.



Transportation represents a large share of overall supply chain costs for transport/logistics operators, accounting for an average of 50% of the total. Occupancy costs however account for around 10%. Many occupiers are willing to pay a rental premium for multi-storey facilities located in infill markets to minimise their transportation costs.



Sydney average super prime net face rents are forecasted to increase by 5.2% per annum between 2022 and 2026. South Sydney rents for super prime grade assets are expected to increase an average of 9.4% per annum.



A total of approximately 351,026 sqm of multi-storey floorspace is forecast to be delivered between 2022 and 2026 in Sydney. South Sydney, which accounts for only 2.5% of zoned and undeveloped land, makes up 80% of the Sydney multi-storey development pipeline (by floorspace).



Tokyo's first modern LMT was completed in 2003, where land values were approximately AUD 2,300 / sqm. As land values continue to rise at strong rates, we predict the South Sydney precinct to follow the same multi-storey development trends as the Tokyo Bay Area.

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