

Ramp-Up Warehouses and their Relevance in Land-Scarce Singapore

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Land-scarce countries such as Singapore are constantly exploring and embracing innovative real estate products which provide land optimisation advantage amongst other benefits. One such product is the ramp-up warehouse which has been introduced in recent years as an alternative to conventional multi-storey warehouses. Could ramp-up warehouses be the way forward for Singapore?

Singapore's logistics facilities have come a long way from the very early days of godowns lining the banks of the Singapore River. Logistics facilities have evolved from simple storehouse structures for stowing goods and merchandise to multi-storey warehouse developments equipped with cargo lifts, hybrid warehouse developments comprising ramp-up facilities and cargo lifts, and full ramp-up developments.

This paper thus aims to look at the ramp-up warehouse developments which are fast gaining popularity amongst logistics service providers and industrialists.

What Are Ramp-Up Warehouses?

Ramp-up warehouses can be likened to a conventional multi-storey warehouse development but with a difference. In a conventional multi-storey warehouse development, access to warehouse units on the upper floors is possible only via lifts, be it cargo lifts or passenger lifts or the like. In a ramp-up warehouse development, however, a ramp is added to the multi-storey building so that direct vehicular access is created for all warehouse units at each level.

Tracing the Development of Ramp-Up Warehouses

Hong Kong is believed to be one of the very first countries to develop ramp-up facilities with the Kerry Cargo Centre standing at twenty storeys being one of the tallest ramp-up warehouse buildings in Hong Kong today.

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One of the earliest ramp-up warehouse developments in Singapore was the Jurong Logistics Hub at Jalan Buroh. Completed in 4Q 2000, this eight-storey multi-user warehouse complex has a two-way vehicular ramp for easy access by 45-footer container trucks to every floor level under all weather conditions.

Ramp-up warehouses have grown in popularity among developers, logistics service providers and industrialists. To-date, the stock of ramp-up warehouse space stood



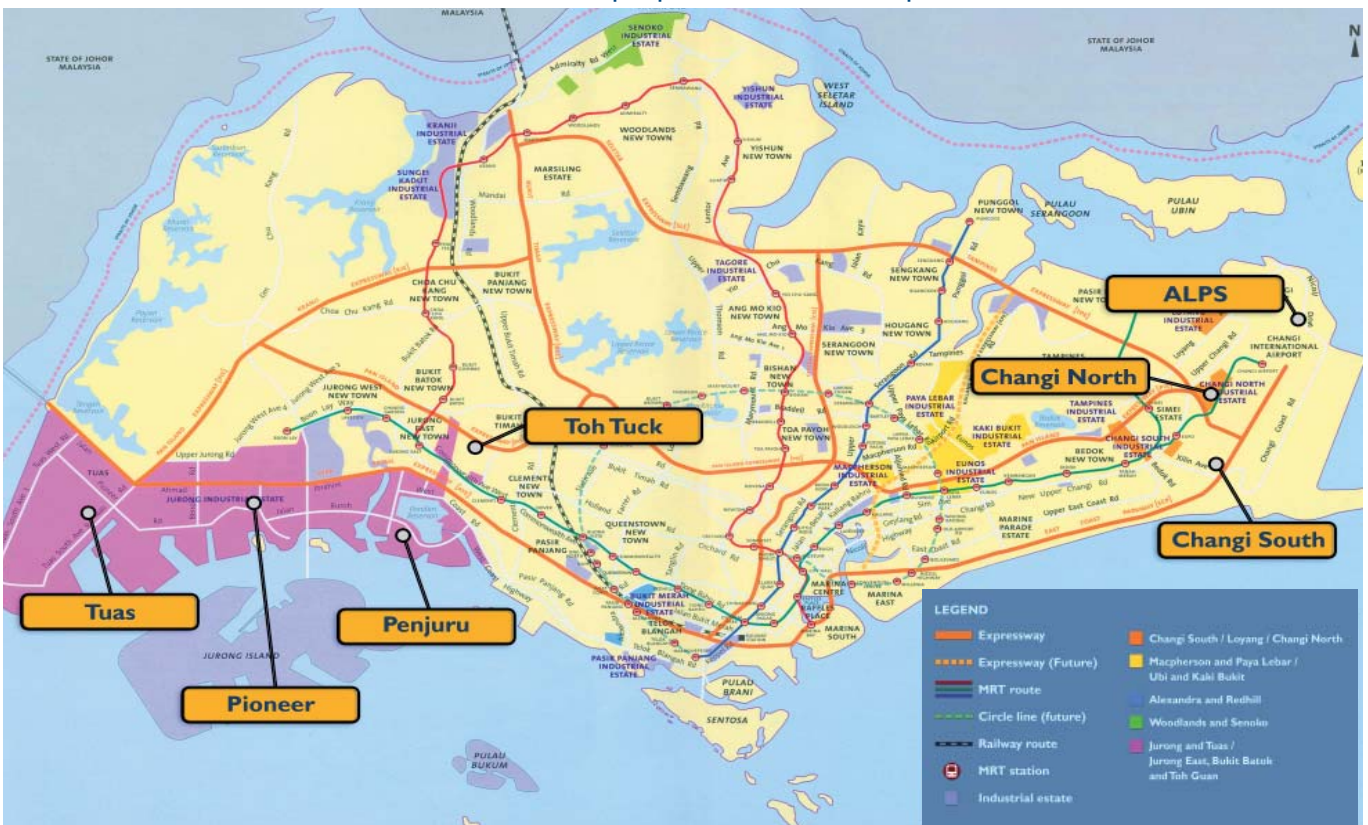
Jurong Logistics Hub
Source: Colliers International Industrial

at approximately 13 million sq ft. This is equivalent to an estimated 19% of the 69.4 million sq ft of total warehouse space in Singapore.

Ramp-up warehouses are located mainly in the Eastern and Western regions of Singapore. In the East, the bulk of ramp-up warehouses is found in the Airport Logistics Park of Singapore (ALPS) whilst in the West,

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Locations with Ramp-Up Warehouse Developments



Source: Colliers International Singapore Research

Locations with Ramp-Up Warehouse Developments

Location	Estimated Ramp-Up Warehouse Stock as of 2Q 2008 (sq ft)
East	
Airport Logistics Park of Singapore (ALPS)	3,200,000
Civil Aviation Authority of Singapore (CAAS) Megaplex	250,000 to 300,000
Changi North	820,000
Changi South and Changi Lane	600,000
West	
Jalan Buroh	1,810,000
Penjuru	5,193,000
Tuas	1,045,000
Toh Tuck	200,000

Source: Colliers International Singapore Research

Estimated Future Supply of Ramp-Up Warehouse Space (as of 2Q 2008)

Building Name	Location	Estimated Gross Floor Area (sq ft)	Estimated Year of Completion
15 Pioneer Walk	Pioneer Walk	980,053	2008
Extension to CWT Commodity Hub	Penjuru	1,200,713	2009
C&P Logistics Hub 3	Penjuru	806,431	2009
Tuas Bay Drive	Tuas Bay Drive	750,000	2009
SH Cogent	Tuas	500,000	2010

Source: Realis, URA / Colliers International Singapore Research

they are common in the Penjuru area. In fact, with an estimated 5.2 million sq ft of ramp-up warehouse space, the Penjuru area holds the largest stock of ramp-up warehouses in Singapore. Major ramp-up warehouses found in the Penjuru area include CWT Commodity Hub, C&P Logistics Hub and CWT Logistics Hub One and Two.

Additionally an estimated 4.24 million sq ft (gross floor area) of ramp-up warehouse space, all in the Western planning region, is currently under construction. When completed by 2010, it will increase ramp-up warehouses' share of overall warehouse stock from the current 19% to 23%.

The Attractions of Ramp-Up Warehouses

From the perspective of developers, ramp-up warehouses offer numerous benefits.

Firstly, at the development stage, the absence of vertical goods and human transportation facilities such as cargo and passenger lifts reduces the need for

mechanical and electrical equipment. This reduces capital expenditure for the developer.

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Secondly, ramp-up warehouses are able to generate higher rental income for the developer. This is because a higher building efficiency¹ can be achieved with a ramp-up development than for a conventional multi-storey development as the former does not require the provision of cargo lifts and common areas. In fact, a high efficiency rate of 95% has been known to be possible for a well-designed ramp-up warehouse development

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compared to the 80% to 85% typically achieved for a conventional multi-storey warehouse development. A higher building efficiency will translate to higher rental revenue for the developer.

“... with direct vehicular access, every floor level in a ramp-up warehouse development is effectively a ground floor level. It thus allows developers to charge ground floor rents for every unit in the development.”

Besides, with direct vehicular access, every floor level in a ramp-up warehouse development is effectively a ground floor level. It thus allows developers to charge ground floor rents for every unit in the development. This is in contrast to a conventional multi-storey warehouse development where upper floor units command lower rentals compared to their ground floor counterparts due to the inconvenience of loading and unloading via cargo lifts.

The rental differentials between ground and upper floor warehouse space in a conventional multi-storey

Comparison of Rents in Ramp-Up and Conventional Multi-Storey Warehouses in Penjuru and Changi Areas (as of 2Q 2008)

Type	Average Monthly Gross Rents (\$ per sq ft)	
	Penjuru	Changi
Multi-Storey Warehouse with Cargo Lifts (Upper Floors)	\$1.00 - \$1.20	\$1.40 - \$1.60
Ramp-Up Warehouse	\$1.30 - \$1.50	\$1.70 - \$1.80

Source: Colliers International Singapore Research

warehouse development can range from \$0.20 to \$0.50 per sq ft per month depending on locations. Hence, in the Penjuru area for instance, upper-floor warehouse space in a ramp-up development currently commands monthly gross rents averaging between \$1.30 per sq ft and \$1.50 per sq ft whilst upper-floor warehouse space in a conventional multi-storey development of ramp-up warehouse space commands a lower average monthly gross rents ranging between \$1.00 per sq ft and \$1.20 per sq ft.

Thus, the opportunity to charge ground floor rents for every unit on every level in a ramp-up warehouse development can potentially raise a developer’s rental revenue by as much as 30% for now. In the future, when more industrial developments go high rise, the rental gap could widen further. In Hong Kong, ramp-up multi-storey logistics space is believed to command a 40% premium on average over multi-storey warehouse space without ramps.

“From the tenants’ perspective, they can expect to pay lower service charges by about \$0.20 per sq ft per month compared to that payable for conventional multi-storey warehouse space.”

From the tenants’ perspective, they can expect to pay lower service charges by about \$0.20 per sq ft per month compared to that payable for conventional multi-storey warehouse space. This is because facilities such as cargo lifts provided in a conventional multi-storey warehouse development consume a large amount of electricity and require higher maintenance.

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In addition, ramp-up warehouse developments improve tenants’ operational efficiency. For example, multiple loading docks on each floor of a ramp-up warehouse development allow fast and efficient loading and

unloading of goods. This results in more effective use of manpower resources, thereby lowering the costs of operation.

“Another edge ramp-up warehouses have over conventional multi-storey warehouses in Singapore would be their higher building specifications.”

Another edge ramp-up warehouses have over conventional multi-storey warehouses in Singapore would be their higher building specifications. Generally, most ramp-up warehouse space in Singapore come with higher floor-to-ceiling height and wider column-grid spacing compared to those provided in a conventional multi-storey warehouse building. This gives tenants/occupants greater flexibility in stacking their goods in a ramp-up warehouse development.

A comparison of the building specifications generally found in the two types of warehouse developments is tabulated in the following table.

For these reasons, ramp-up warehouses have been particularly popular with third party logistics (3PLs) service providers and industrialists. Some examples of 3PLs service providers and industrialists operating from ramp-up warehouses include BAX Global, CWT, DHL Exel, Expeditors, DB Schenker, SDV International Logistics and Sony Electronics.

The Concerns and Constraints

While the development and use of ramp-up warehouses have become more common in recent times, there

are some who may still have reservations about such buildings.

For instance, some may fear that there would be vehicular congestion when commercial vehicles and private cars use ramp facilities to gain access to the warehouse units. This concern has also led to the misconception that ramp-up warehouse development is suitable only for a single-user occupier.

But with proper ramp design, vehicular access for commercial vehicles and private cars to each unit can be separated. For example, Soilbuild Group Holdings Ltd’s new stack-up development at Tanjong Kling features a basement carpark to segregate heavy and light vehicular traffic and a layout that facilitates smooth vehicular movement within the building. Kerry Cargo Centre in Hong Kong has a computerised traffic control system which registers vehicle upon entry to avoid congestion within the building.

As such, ramp-up warehouse buildings can be successfully developed as a multi-user development as well. In fact, Jurong Logistics Hub which is one of the earliest ramp-up warehouse developments in Singapore, is a multi-user building with tenants such as Sony Electronics, SDV International Logistics, Yusen Air & Sea and KWE-Kintetsu. The yet-to-be completed ramp-up warehouse building at 15 Pioneer Walk is also being developed as a multi-user development with Tyco Healthcare already pre-committing to some space there.

Moreover, the sizeable amount of land required to set aside for the construction of ramps necessitates a regular shaped plot of at least 215,000 sq ft. Continual improvement in the building design may, however, mitigate such requirements in the near future.

Specifications of Ramp-Up and Conventional Multi-Storey Warehouses

Description	Ramp-Up Warehouse	Conventional Multi-Storey Warehouse
Floor Loading	20 - 25 KN/m ²	15 - 20 KN/m ²
Electrical Loading	100 - 300 amp, 3 phase	100 - 300 amp, 3 phase
Floor to Ceiling Height	8m - 11m	6m - 7m
Loading Bays	Individual Raised loading bays with dock levellers at every level	Provided only on the ground level for shared usage
Column Spacing (Grid Size)	11.4m by 11.4m	11m by 11m
Cargo Lifts' Capacity	NA	Four to six tonnes

Source: Colliers International Singapore Research

Conclusion

With Singapore's economy strongly dependent on trade for growth, it is imperative that the right infrastructures are in place to support the continued growth of the logistics industry and maintain its status as the leading logistics hub in the world.

Just as the availability of good quality office space is pivotal in Singapore's drive to be a leading financial hub in the region, the availability of good quality warehouse space offering efficient loading and unloading facilities in particular, is paramount in Singapore's continued drive to draw more logistics providers so as to enhance its status as a leading logistics hub in the region.

In land-scarce Singapore, therefore, ramp-up warehouses which combine the land-optimisation

¹ Building efficiency refers to the proportion of net lettable area to the gross floor area in a building.

"In land-scarce Singapore, therefore, ramp-up warehouses which combine the land-optimisation benefits of conventional multi-user warehouses with ground floor convenience of loading and unloading of goods at every level are predictably one of the ways forward."

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