

Adaptive Spaces

VIEWPOINT
HONG KONG

Brownfield land resumption in the Northern Metropolis: What does it mean for industrial real estate?

CBRE RESEARCH
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Brownfield relocation set to unlock new industrial leasing demand

As part of the government's long-term development plan for Hong Kong, the coming years will see the transformation of the northern part of the New Territories into a world-class innovation and technology (I&T) hub known as the Northern Metropolis. This project will take two decades to be completed and will require existing brownfield users to be relocated to facilitate high-rise and infrastructure development. Innovative solutions to accommodate the real estate needs of relocating brownfield site users will create significant opportunities for existing and future industrial building owners.

Large-scale brownfield displacement is underway

Unveiled by then Chief Executive Carrie Lam in 2021, the Northern Metropolis will be situated upon 30,000 hectares of land from the east to the west of the northern part of Hong Kong's New Territories (see *CBRE's Hong Kong Infrastructure Outlook – Opportunities in the Future Metropolises, 2022*). The goal is to transform the area into a world-class I&T hub, backed by high-end industrial, logistics and other high value-add economic activity, within the next 20 years.

Although the region includes three fully developed pre-existing towns (Fanling-Sheung Shui, Tin Shui Wai and Yuen Long), it also encompasses 1,500 hectares of brownfield sites currently in use. Over 65% of these brownfield operations will need to be relocated to allow for high-rise and infrastructure developments in the next 10-15 years, involving circa 1,000 hectares of land resources.

CBRE estimates that the relocation of brownfield land users will create 31 million sq. ft. of demand for different types of industrial properties, creating significant opportunities for industrial landlords.

Total size of brownfield land to be resumed for new town development

1,044

hectares

Estimated volume of relocation demand from brownfield resumption

31

million sq. ft.

Projected new industrial & logistics supply

164,100

sq. ft. from 2024-2026

14.5

million sq. ft. from 2027-2029

Measuring Hong Kong’s brownfield landbank

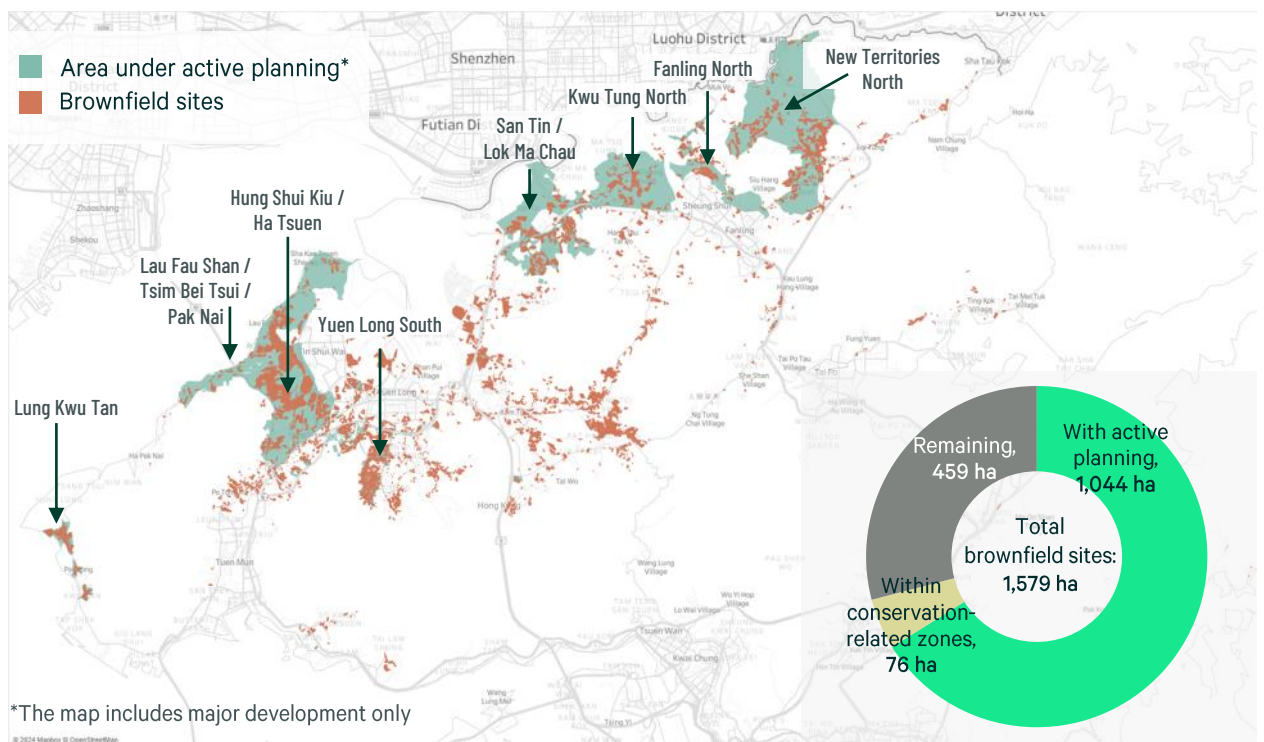
Developing the Northern Metropolis and various nearby areas of the New Territories will require the relocation of a substantial volume of economic activity currently operating on slightly over 1,000 hectares of scattered brownfield sites. Prior to the Chief Executive’s 2023 Policy Address, the government was mandated to facilitate in-situ land exchanges for brownfield land zoned for residential use within the Northern Metropolis boundary. The arrangement has since been extended to cover sites planned for industrial and private community/welfare use. Government land resumption has therefore become a solution for recycling land resources for future development. Private landowners are also able to trigger redevelopment once they have accumulated ownership of no less than 90% of a land plot with eligible zoning. Below is a broad distribution of the brownfield land involved in the Northern Metropolis and adjacent areas:

- 246 hectares in Hung Shui Kiu / Ha Tsuen New Development Area (NDA)
- 163 hectares at near Man Kam To and the area identified for the future New Territories North New Town
- 126 hectares at the area identified for the San Tin / Lok Ma Chau Development Node
- 94 hectares in Yuen Long South
- 70 hectares in Kwu Tung North / Fanling North NDA
- 63 hectares in Lau Fau Shan, Tsim Bei Tsui and Pak Nai
- 35 hectares in Lung Kwu Tan*, and;
- 247 hectares in various other locations*.

Government land resumption for the Northern Metropolis commenced in 2019/2020, with 25 hectares of land in Kwu Tung North, Fanling North and Hung Shui Kiu. Authorities plan to resume 320 hectares of land across the region by end-2026, followed by 371 hectares in 2027-2029 and 166 hectares in 2030-2032. The remaining 137 hectares will be executed after 2032 (see Figure 3 for details).

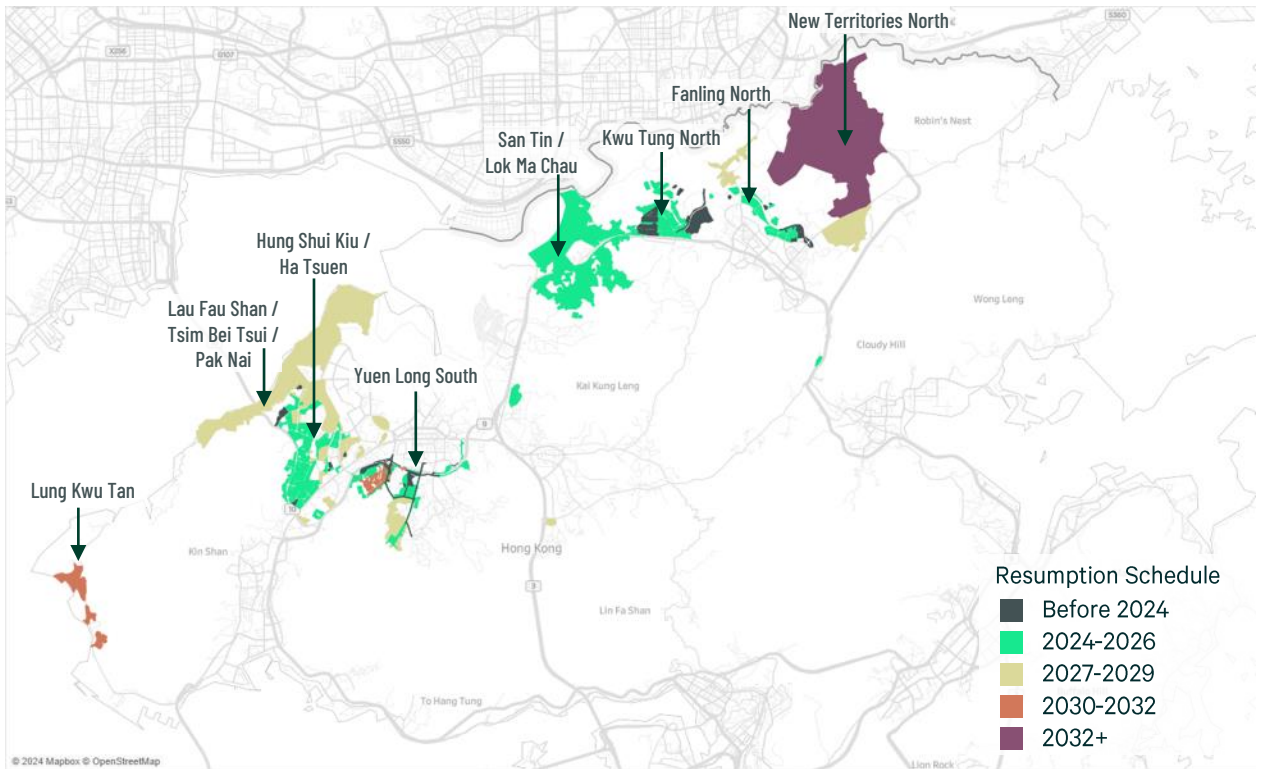
*not within the Northern Metropolis region

Figure 1: Distribution of brownfield sites



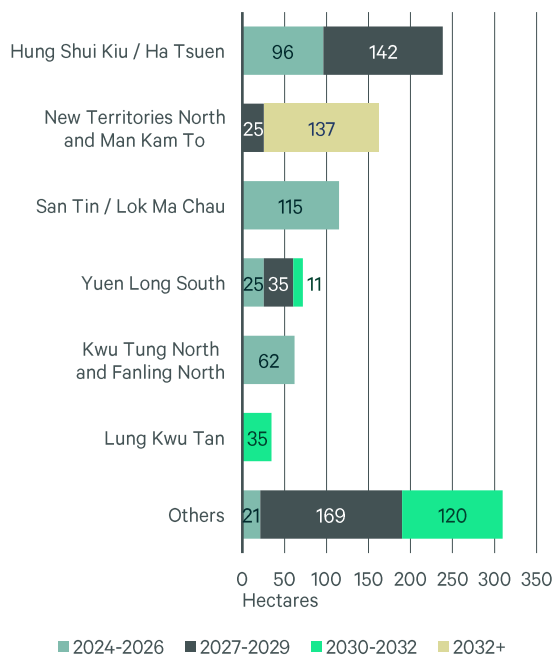
*The map includes major development only
 Sources: Planning Department, CBRE Research, March 2024

Figure 2: Land resumption schedule



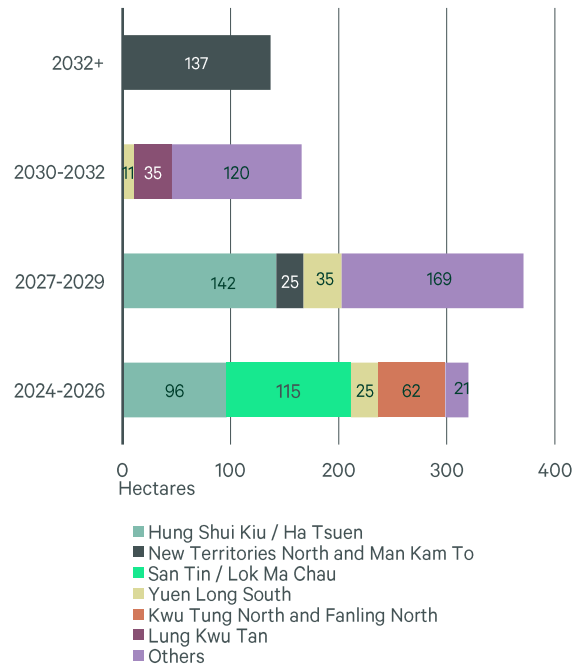
Sources: LegCo, Town Planning Board, CBRE Research, March 2024

Figure 3: Brownfield sites resumption by development area post-2024



Source: LegCo, Planning Department, CBRE Research, March 2024

Figure 4: Brownfield sites resumption by time batch schedule post-2024



Source: LegCo, Planning Department, CBRE Research, March 2024

The brownfield economy

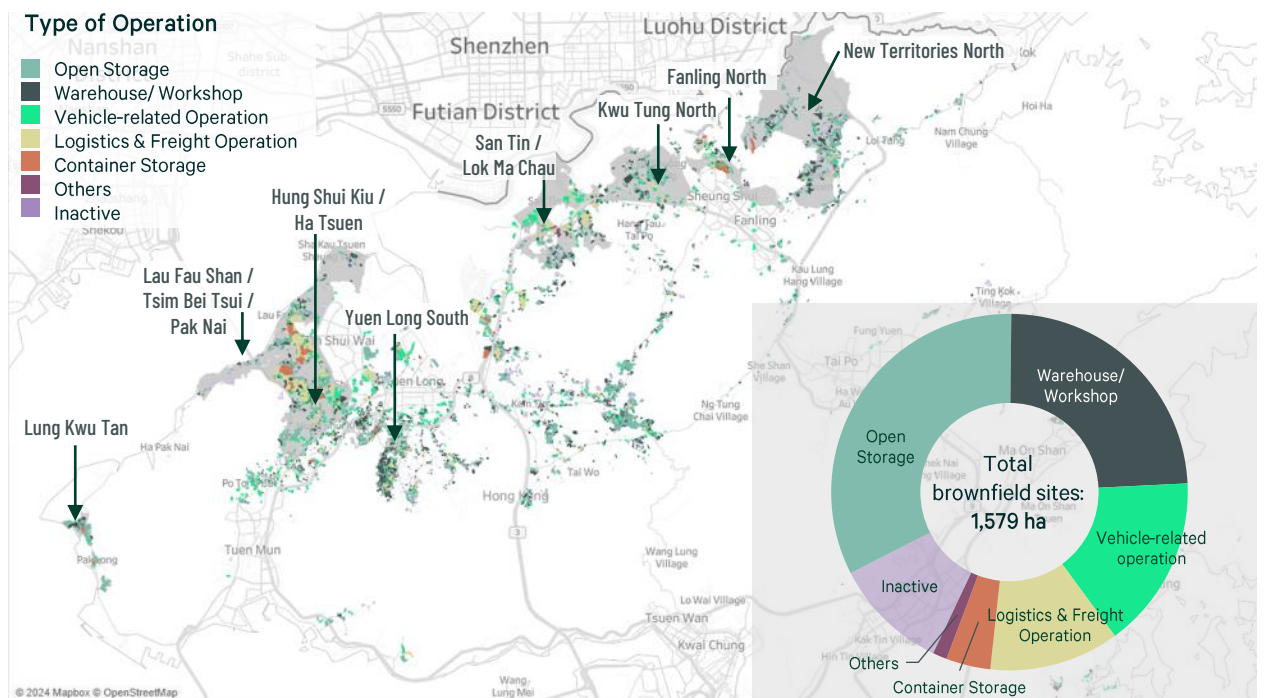
Brownfield sites are commonly used for industrial activity either not suitable for upstairs operations or by those with budget and space constraints. Since 2019, the Town Planning Board has handled 3,800 planning applications, with 1,120 approved for various types of business operations on 500 hectares of brownfield land plots. This translates into 16.3 million sq. ft. of operational GFA.

Storage is a common use for brownfield sites. Tin sheds are in high demand among logistics operators, partly due to the low vacancy for purpose-built warehouses witnessed in recent years. Mostly consisting either of one or two storeys, tin sheds are keenly sought after for their high operational efficiency and are therefore ideal for storing lower value products such as fast-moving consumer goods.

According to the Planning Department, 33% of brownfield sites in the area under study are used for open storage; 24% for warehouses/workshops; 16% for vehicle-related operations; and 12% for logistics and freight operations. Many of these industries are capable of running operations in higher floors of traditional brick-and-mortar industrial buildings, with CBRE estimating that about 30% of such operations will ultimately be moved upstairs. While it is possible to conduct vehicle maintenance and repairs in buildings with purpose-built floors to meet environmental and operational needs, other heavy and recyclable waste industries, which are also commonly found on brownfield sites, are less likely to be located in multi-storey buildings.

Many brownfield sites are large in size and will therefore result in sizable requirements for traditional industrial space when relocations commence. Nearly 2,000 sites have a footprint of over 20,000 sq. ft. and about 800 are currently used for logistics and warehousing purposes. Another 130 sites are larger than 100,000 sq. ft. and are predominately occupied by open storage and logistics operators.

Figure 5: Existing usage of brownfield sites



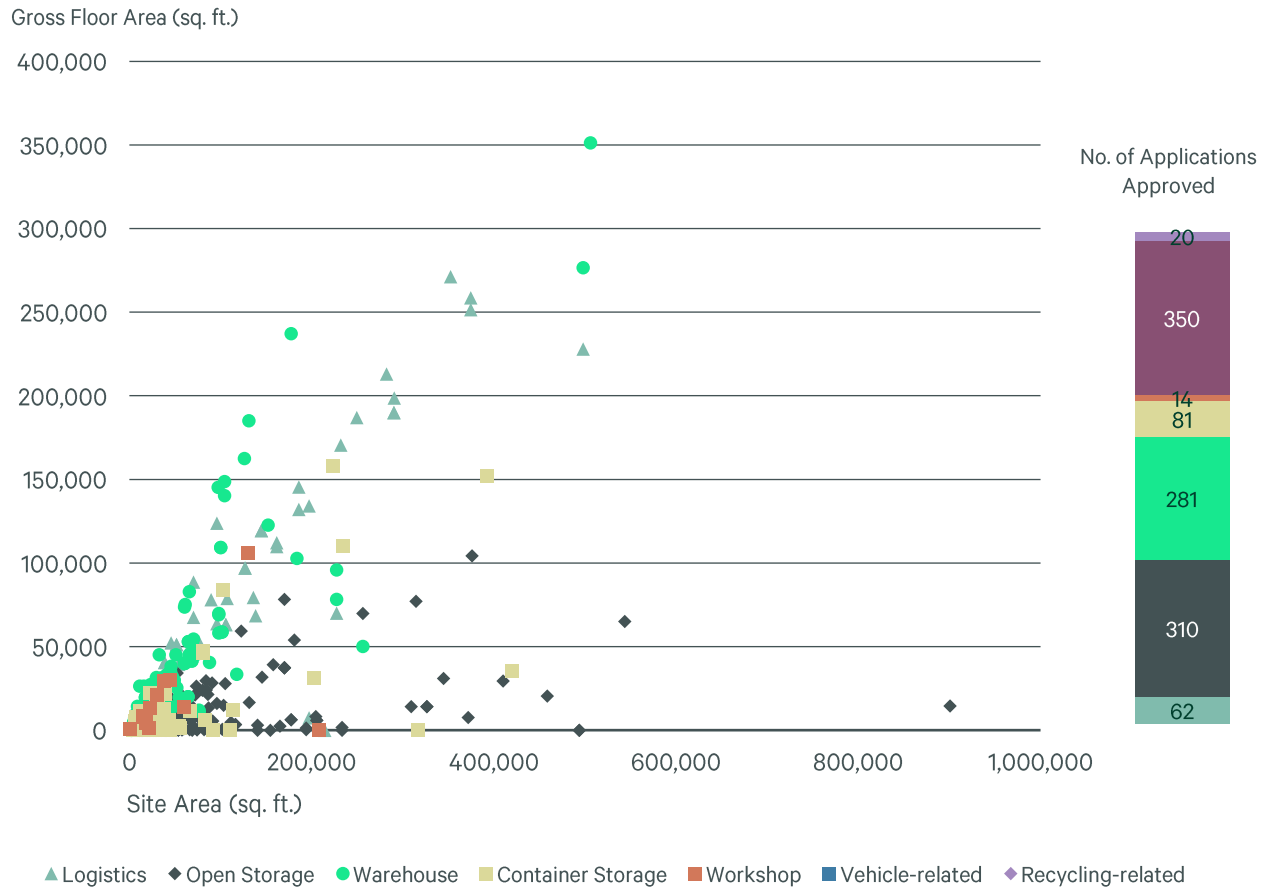
Source: Planning Department, CBRE Research, March 2024

Figure 6: Number of brownfield sites by operation type and site area



Source: Planning Department, March 2024

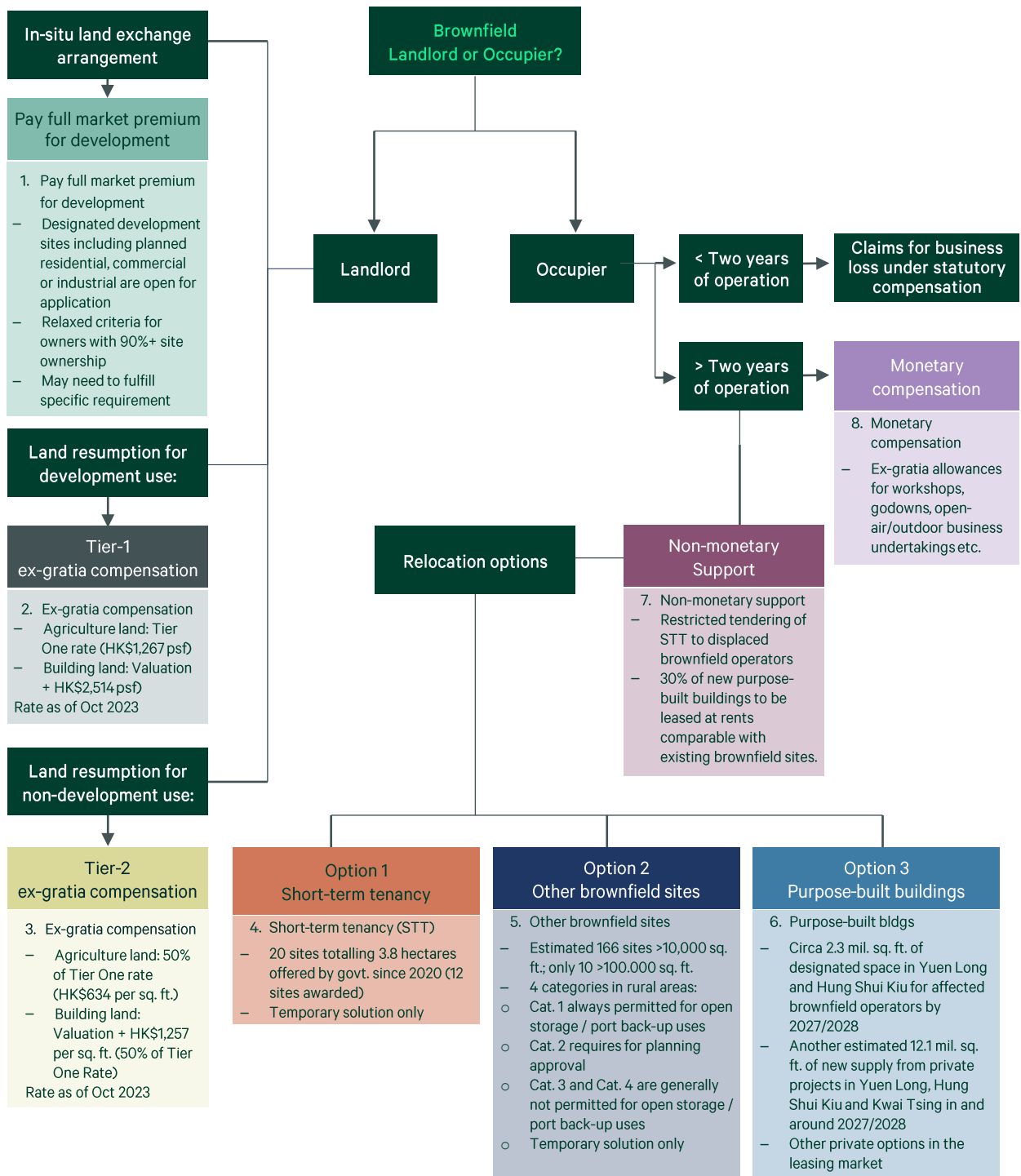
Figure 7: Planning application for brownfield usage since 2019



Source: Town Planning Board, CBRE Research, March 2024

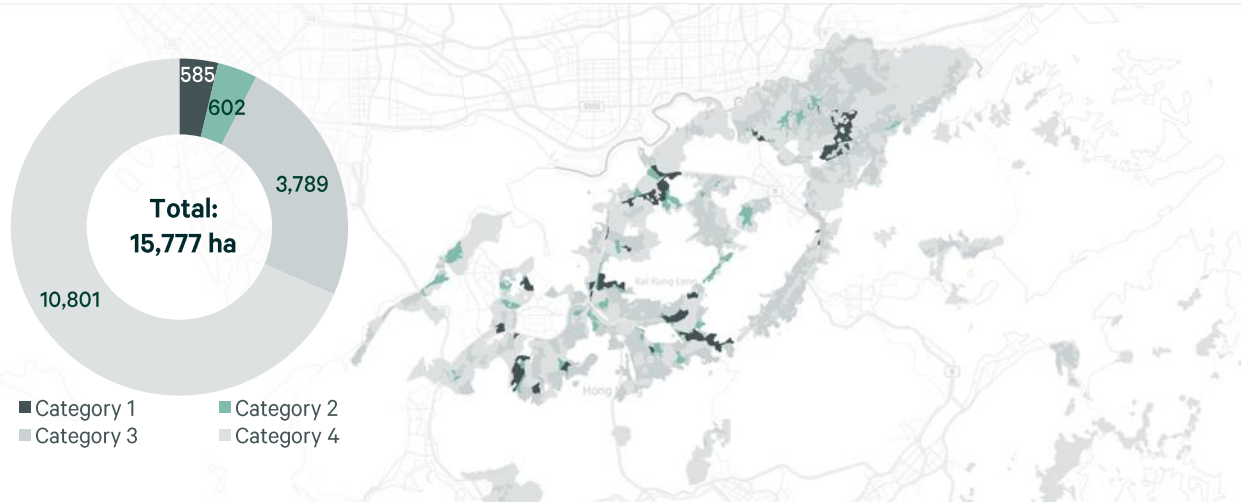
Impact on current landlords and occupiers of brownfield sites

With the government determined to accelerate the development of the Northern Metropolis, there will be consequences for current landlords and occupiers of brownfield sites. While authorities have offered alternative brownfield sites and vacant plots, these options are limited and may not be suitable for all kinds of users. CBRE estimates that based on the nature and scale of existing operations, and assuming users will retain the same levels of operational GFA, 31 million sq. ft. of industrial space will be needed to accommodate relocation demand from affected brownfield users. The chart below summaries the various options available for both brownfield landlords and occupiers.



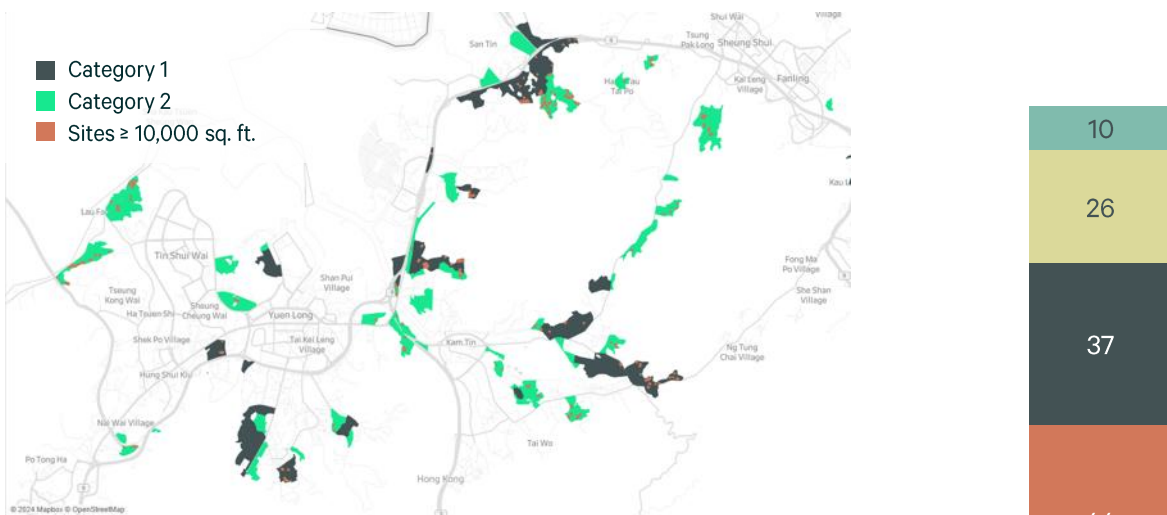
Source: Lands Department, Town Planning Board, CBRE Research, March 2024

Figure 8: Four categories of brownfield sites in rural areas



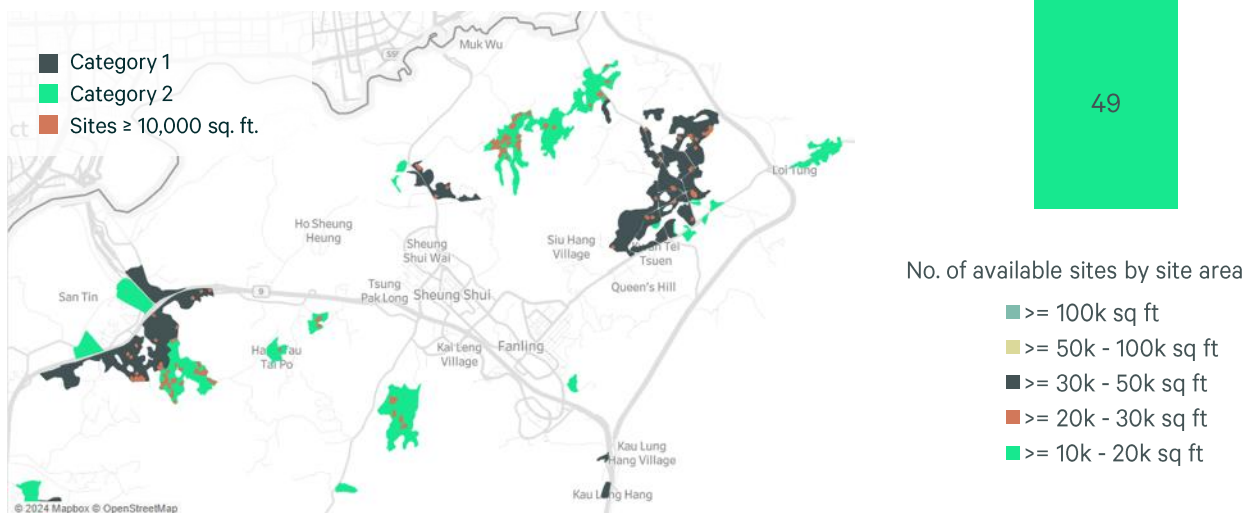
Source: Town Planning Board, March 2024

Figure 9: Available Category 1 and Category 2 brownfield sites, Northwest



Source: Town Planning Board, CBRE Research, March 2024

Figure 10: Available Category 1 and Category 2 brownfield sites, Northeast



Source: Town Planning Board, CBRE Research, March 2024

Industrial real estate in the Northern Metropolis

Many users of brownfield space will seek to continue operations in multi-storey buildings. However, Hong Kong's secondary industrial market has a low vacancy rate of 5.3% as of end-2023 and no new supply is expected until 2027, which will lead to intense competition for space.

Hong Kong's existing 2.6 million sq. ft. of warehouse vacancy will be insufficient to meet the potential demand of 23 million sq. ft. from suitable brownfield users set to emerge between now and 2029. Furthermore, up to 6.7 million sq. ft. of warehouse space will potentially be eliminated due to redevelopment and revitalisation during this period. Effective vacancy will remain at a very low level for the foreseeable future as no new supply is scheduled to come on stream in the next few years.

Although a sizable volume of brownfield land will be resumed for development, the Northern Metropolis is projected to accommodate a further 77 million sq. ft. of industrial and logistics space. This is equivalent to 24% of Hong Kong's total of 325 million sq. ft. of industrial stock (excluding specialised factories) in 2023. The Hung Shui Kiu/Ha Tsuen NDA, which is near both the Hong Kong International Airport and Shenzhen Baoan International Airport, is expected to host the largest portion of future logistics space in the region (43%) and will likely focus on higher value-add freight.

The government recently announced plans to tender industrial and logistics sites in the Northern Metropolis by 2024. The first batch will include a site in Yuen Long and two sites in Hung Shui Kiu. The Yuen Long site will have 1.7 million sq. ft. of industrial GFA and the Hung Shui Kiu sites will have 5.9 million sq. ft. of industrial GFA, all of which are expected to be delivered by 2027/2028. Winning bidders of these sites will be obligated to allocate 30% of the developed GFA (approximately 2.3 million sq. ft. combined) to the government for leasing to brownfield land users who were affected by land resumption at discounted rents for the first five to ten years. Authorities have also earmarked another 101 hectares of future industrial land in Hung Shui Kiu, Yuen Long South, Fanling North, and San Tin, with another 284 hectares under review in Lung Kwu Tan (210 hectares) and New Territories North (74 hectares), all of which will include similar support for brownfield land users affected by land resumption.

The government has also allocated four parcels of logistics sites, covering an area of 19 hectares, in Kwai Chung/Tsing Yi to aid the logistics industry in achieving higher value operations. SME logistics operators who meet the eligibility criteria will be given the opportunity to lease a portion of future GFA at affordable rents. These sites will be made available periodically between 2024 and 2027 and will be handed over towards the end of the current decade.

Figure 11: Major future land resources for logistics-related development

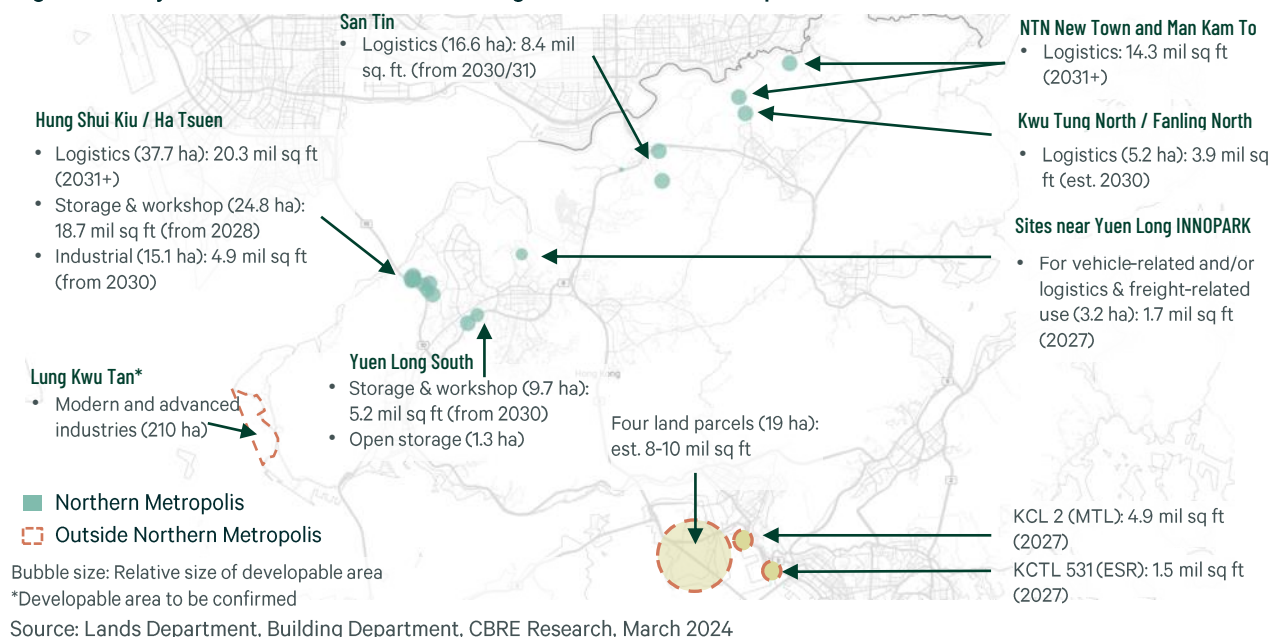
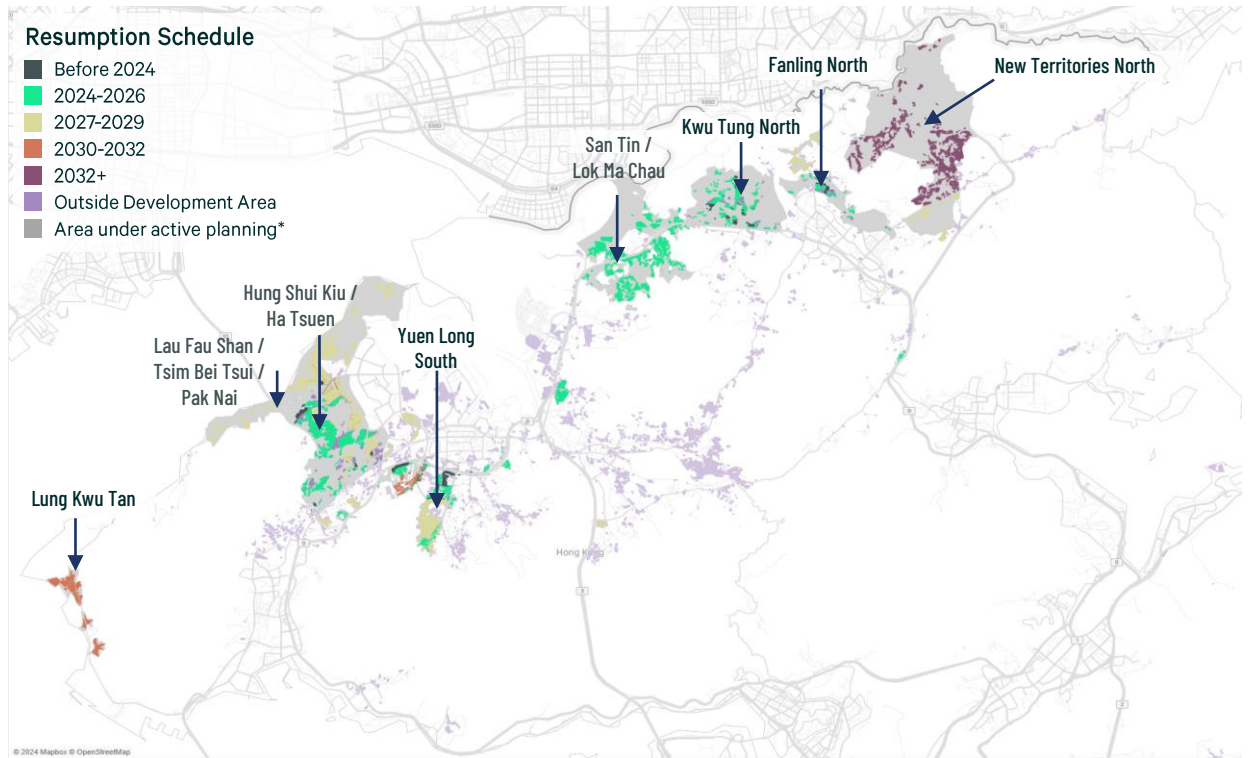
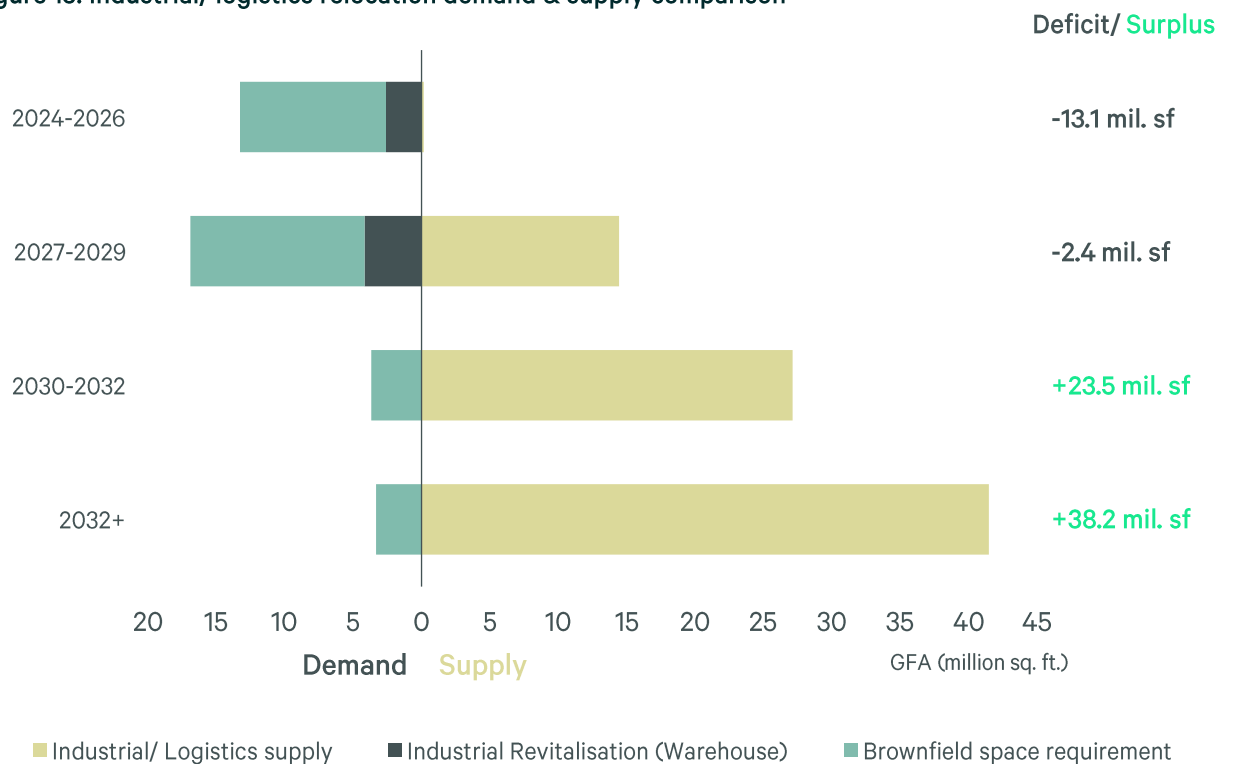


Figure 12: Land resumption schedule for brownfield sites



Source: LegCo, Town Planning Board, CBRE Research, March 2024

Figure 13: Industrial/ logistics relocation demand & supply comparison



*Does not include potential supply from 19 hectares logistics land in Kwai Tsing

Source: LegCo, Town Planning Board, CBRE Research, March 2024

Warehouse automation as a solution

Brownfield storage, which commonly takes the form of a single-floor tin shed format, offers users high floor efficiency (usually around 90%) and high ceilings (often up to 10 meters). These features are not typically available in purpose-built multifloored warehouse buildings, many of which have floor efficiency of just 55%-75% (lower range for ramp-access schemes and higher range for lift-access schemes) and a ceiling height of up to 4.5 meters.

Relocating from tin sheds to purpose-built storage floors involves a trade-off in operational efficiency and requires additional floor space to compensate. This, coupled with rental premiums that could potentially reach as high as 50% to 100% depending on before and after scenarios, makes such relocations difficult to justify. Multi-storey warehouses, however, offer occupiers greater security and power supply provisions, thereby facilitating more sophisticated operations and effective storage of high-value goods.

To make upstairs relocations financially viable, logistics operators are advised to leverage automation technology. Warehouse automation allows logistics operators to reduce labour costs and improve accuracy, efficiency, inventory management and productivity by using big data, robots, and cobots throughout the logistics chain. Automating a warehouse plant can help offset real estate efficiency losses during the transition from tin sheds to multifloored premises. By adopting modern logistics technologies such as automated guided vehicles (AGVs) and autonomous mobile robots (AMRs), leading industry players have achieved 30%-80% gains in storage capacity and were able to reduce labour costs by 30%-60%. CBRE's aforementioned 31 million sq. ft. of potential relocation demand from existing brownfield operators considers a wider diffusion of warehouse automation.

Not all industrial buildings are suitable for warehouse automation, which typically requires a minimum ceiling height of 4 meters; high floor loading capacity; large floorplate; and wider column spacing. Other challenges for logistics operators who invest in warehouse automation include risk arising from short outsourcing contract terms and real estate leases. Longer commitments allow investors to spread the cost of the investment over a longer period, which results in better amortisation and return on investment (ROI). With it usually taking at least three to six years for a bespoke automation logistics plant to break even, landlords should consider signing longer leases with logistics operators that exceed traditional lease terms.



The need for high-specification industrial buildings

In addition to adopting warehouse automation, industrial occupiers shifting to capital-intensive and knowledge-based operations are seeking buildings with higher specifications. However, most industrial buildings in Hong Kong were originally built for manufacturing and storage when the city was a factory hub in the 1970s. With the migration of manufacturing to mainland China, demand for industrial land decreased, leading to a long period of low industrial land supply and an ageing industrial real estate market.

Many high-value users such as those involved in cold chain logistics, specialty goods logistics, e-commerce, and data centres, now require buildings with larger floorplates, higher ceilings, greater floor loading capacity, and stronger power availability. In addition, listed enterprises are increasingly demanding greener industrial buildings to ensure compliance with ESG commitments. Landlords, particularly those of single-owned buildings, have a vital role to play in upgrading building specifications to cater to occupiers' requirements.

With Hong Kong's Clean Air Plan aiming to phase out the sale of new petrol-engine cars by 2035, there will be a need to develop built-to-suit properties to accommodate vehicle maintenance workshops. Landlords are advised to collaborate with the industry to design real estate suited to its needs. A total of 223 vehicle maintenance workshops will be affected by the development plan for the Northern Metropolis and may need to be upgraded during relocation.

As new industries emerge and demand for high-quality industrial facilities increases, limited availability of suitable buildings will hinder the expansion plans of sophisticated industrial occupiers. An occupier requiring a 50,000 sq. ft. floor space, 15 ft. ceiling height, and 200 lbs per sq. ft. floor loading capacity would currently be able to choose from just 17 single-owned buildings equivalent to 27 million sq. ft.



Hong Kong logistics market outlook

By developing the Northern Metropolis into a technological and innovative hub, the government aims to enhance Hong Kong's logistics and tech industries in the long term. Located next to the Shenzhen border crossing, the Northern Metropolis will provide nearly 80 million sq. ft. of industrial and logistics space to cater to the future demand of industrial and logistics operators.

Despite a range of factors slowing down trade growth in recent years, Hong Kong's import/export market has undergone significant transformation, with the city now emerging as a high-value product logistics hub. The trade of high-tech products accounted for 68% of the city's total trade in 2022, up from 47% from a decade ago. During the COVID-19 pandemic, logistics for cold-chain as well as healthcare, medical and pharmaceutical products witnessed tremendous growth. Hong Kong has also become a major hub for art trading, leading to increased demand for temperature-controlled logistics and storage services. The Hong Kong International Airport has recently obtained certification for handling pharmaceutical products, perishable goods, and live animals logistics.

The adoption of new methods of consumption has driven an increase in online retailing globally as well as in Hong Kong, with the e-commerce's percentage of total retail sales in the city increasing from 6.3% to 9.8% between 2020 and 2022. This has led to major changes in warehouse and logistics planning to meet demand for time-sensitive and specialised orders.

China's dual circulation development model has designated Hong Kong as a "super-connector" that will bring international goods and technology to mainland China; a phenomenon already evident from the rapid growth in cross-border e-commerce. Although Hong Kong's logistics industry plays a critical role in the import and export of high-value products to and from mainland China, geopolitical tension has the potential to redefine the global supply chain, which could impact Hong Kong's trading sector.

Thanks to its strategic geographical location, world-class infrastructure, and robust connectivity, Hong Kong has become a crucial logistics gateway in China's Greater Bay Area (GBA). China's "Outline of the 14th Five-Year Plan for the National Economic and Social Development and the Long-Range Objectives Through the Year 2035" has underscored Hong Kong's role as an international trading hub.

Hong Kong International Airport handles around 75% of the international air cargo from the GBA, connecting it to 170 international destinations and 50 destinations in mainland China. In contrast, Guangzhou Baiyun International Airport, the second-best accessible airport in the GBA, serves only 90 international destinations and 130 domestic destinations. Additionally, the Hong Kong International Airport, which is already the world's busiest cargo airport, expects its air cargo volume to reach 10 million tonnes by 2035, twice the peak volume in 2018, once its three-runway system becomes fully operational in 2025.

Growing regional cooperation, as evidenced by initiatives such as the Regional Comprehensive Economic Partnership (RCEP) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), will continue to benefit Hong Kong as a trans-shipment hub. China is a member of RCEP and is in the process of applying for CPTPP membership, while Hong Kong is also pursuing membership of the RCEP.

Conclusion

While the development of the Northern Metropolis will transform rural areas into new towns and bring untold economic benefits, it will exacerbate Hong Kong's current shortage of available industrial space by reclaiming 1,044 hectares of brownfield land.

Despite the government's efforts to increase the supply of Category 2 rural land plots in the New Territories and offer alternative short-term leases to affected brownfield operators, it will be challenging for Hong Kong's industrial market to cater to large-scale relocation demand within such a short timeframe. When comparing projected relocation requirements to supply, there is potential shortage of 15.5 million sq. ft. of industrial space during 2024-2029, which will lead to intense competition for legitimate industrial space. Transitioning from brownfield tin sheds to multi-floored industrial premises will also require a trade-off in operational efficiency.

One possible solution to the scarcity of available land and rising labour costs is warehouse automation. Over time, growing demand from emerging industries, a stronger focus on corporate environmental, social and governance issues, and the shift towards high-value logistics will drive demand for buildings with advanced specifications.

The development of the Northern Metropolis will require the resumption of brownfield land, which will generate substantial relocation demand from current occupants of brownfield sites, thereby creating significant opportunities for industrial landlords. Industrial occupiers are advised to move swiftly to secure suitable properties for relocation, as competition for land will be intense in the short term. Industrial landlords are recommended to capitalise on changing market dynamics and meet occupiers' future needs by upgrading building specifications to accommodate the requirements of those industrial space users who will need to relocate.



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