INDIA INSIGHTS

IN-CITY WAREHOUSING: THE EMERGING BACKBONE FOR QUICK COMMERCE

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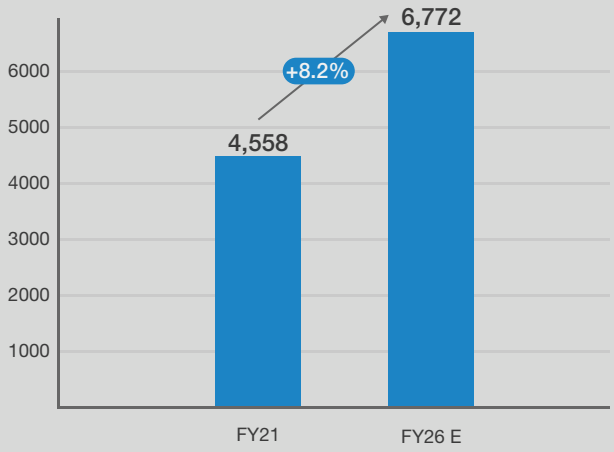
Growth in global e-commerce market ($ Bn)



E-commerce market share of total retail (%)

E-commerce Market share by %

	China	USA	Europe	India
FY21	~30	~17	10	4
FY26 E	30-33	15-17	8-10	8-10

Importance of last-mile delivery

Last-mile deliveries and reverse logistics contribute 10-15 per cent of kilometers traveled in the overall value chain - yet lead to nearly 50 per cent of the delivery costs in e-commerce. Improvements in urban logistics are being developed to help solve these issues pertaining to freight traffic in the city by analyzing distribution patterns based on characteristics of the town.

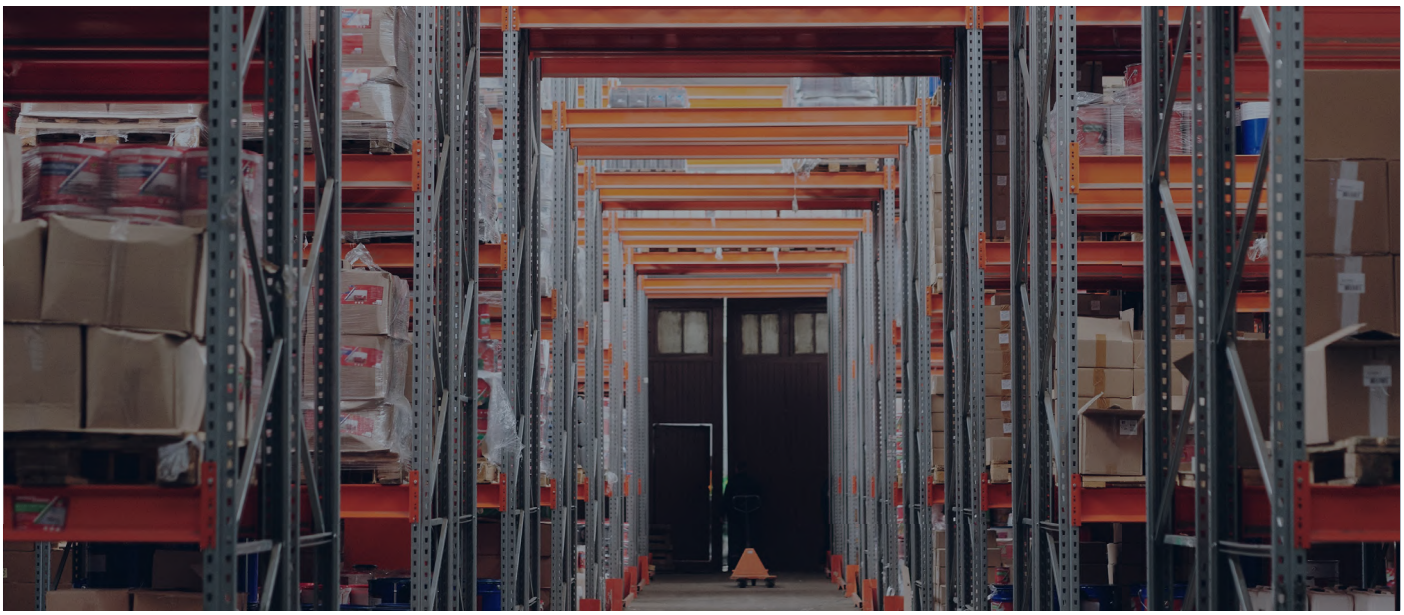
Why is in-city warehousing necessary?

There is a need to set up in-city warehouses and fulfillment centers closer to the end customer to:

01 Enable quick commerce (expected to become three percent of overall e-commerce by FY'27).

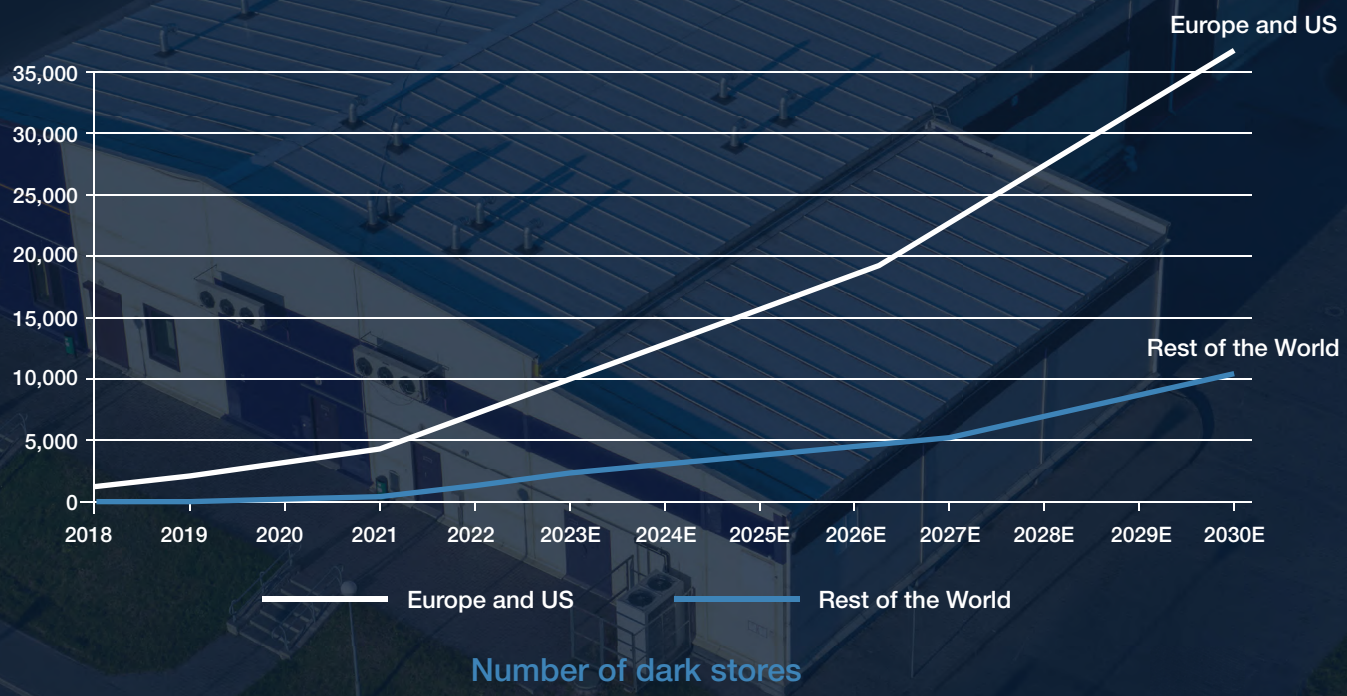
02 Act as a dark store and substitute front-end real estate needed for retail.

In-city warehousing should play a pivotal role in city development and the development of infrastructure with the increasing trends of urban distribution and improving e-commerce penetration. This should include different models of in-city warehousing such as dark stores, micro fulfillment centers (MFC), mini warehouses, ghost kitchens, etc.



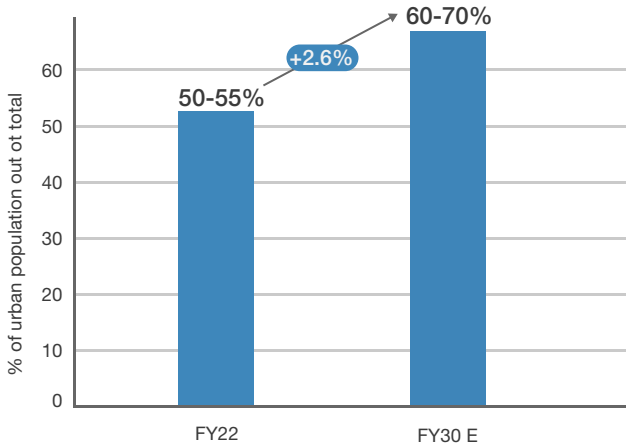
Source: A&M Analysis, Secondary Research

Global in-city warehousing market



The number of dark stores globally is expected to reach 45,000-50,000 by 2030, with majority of them expected to open in Europe and the United States. Dark stores have recently opened across the United States and Europe with businesses such as Amazon and French multinational Carrefour being the early adopters. 50-55 per cent of the global population resides in urban areas, and the need for faster deliveries is pushing the growth of in-city warehousing.

Trends in urbanization



The current urbanization of 50-55 per cent is expected to increase to 60-70 per cent over the next seven to eight years, which will boost the growth of the urban logistics.

Source: A&M Analysis, Secondary Research

In-city warehouses have different potential use cases:

01 Dark stores predominantly cater to e-commerce and quick commerce companies, typically targeting deliveries within 10-30 minutes in the e-grocery category and within one day for other emerging categories such as direct-to-consumer (D2C) brands, apparel, etc.

02 Micro fulfillment centers (MFCs) primarily cater to fast-moving consumer goods (FMCG) companies such as ITC, HUL and others. These centers are responsible for receipt and consolidation of consignments and distributing them to local mom-and-pop stores in addition to large grocery chains.

03 MFCs in certain developed countries have demonstrated use-cases for business-to-business (B2B) requirements such as overnight delivery of spare parts to dealers and/or service technicians.

04 MFCs are also increasingly being used by D2C brands to provide same-day delivery services to retail customers. Fulfilling orders within a two-to-six-hour (TAT) period allows the brands to tap into consumers' impulsive nature of purchase and ensure high conversion of orders.

05 Mini warehouses work with apparel and similar retail stores and are responsible for providing forward storage facility to these retail stores within the city, thus saving real estate rentals for such outlets.

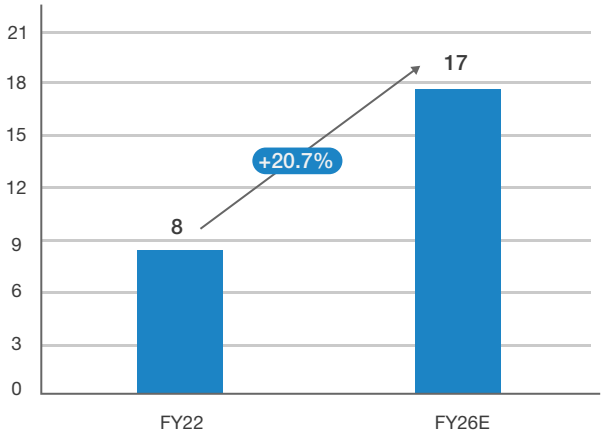
06 Ghost kitchens are online-only food delivery stores, which have partnered with third-party aggregators (e.g., Zomato and Swiggy) to deliver food on an average of 20-40 minutes. However, recently food delivery platforms have endeavored to deliver food within 10 minutes, thus enhancing the scale of ghost kitchens.

08 In-city warehouses, depending on their format, cover a delivery radius ranging from 1-3 kms for dark stores and up to 20-40 kms for micro fulfillment centers and/or mini warehouses.

09 Market size of in-city warehousing (in terms of total space) is expected to be approximately 8 Mn sqft in FY'22 and is estimated to increase to approximately 17 Mn sqft by FY'26.

Source: A&M Analysis, Secondary Research

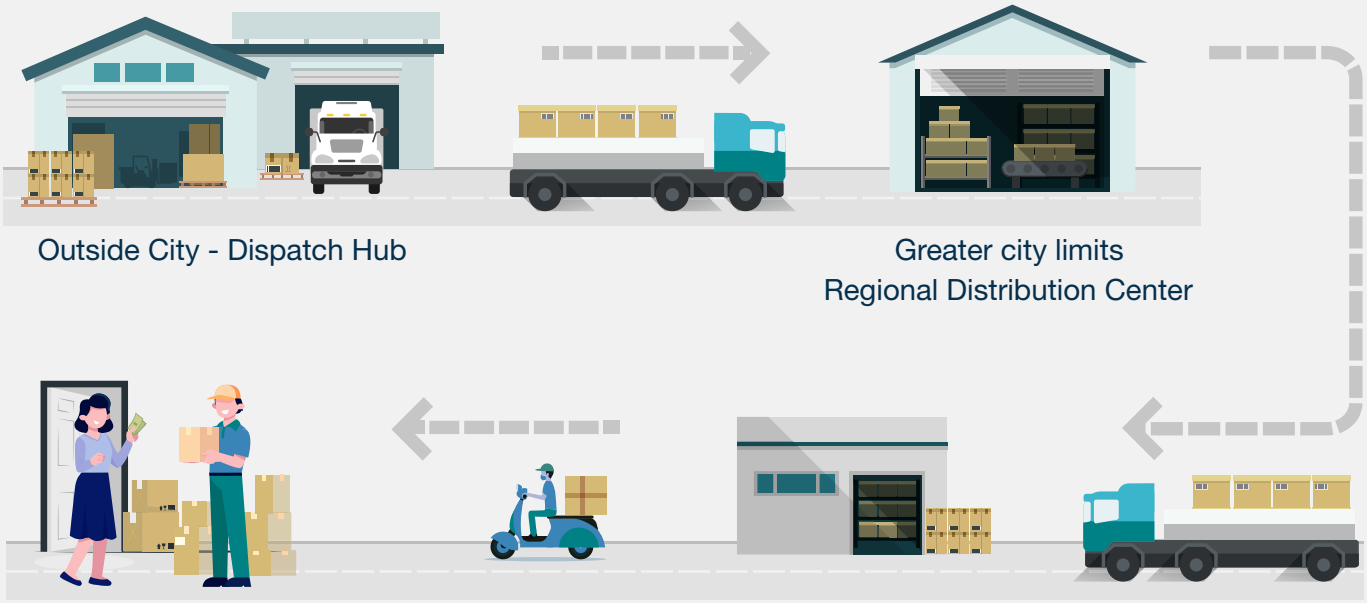
In-city warehousing space growth (Mn. sqft)



Dark stores by key quick commerce players (FY'22)

Category	Swiggy	Dunzo	Blinkit	Zepto
#of cities	25-30	5-10	20-25	11-15
#of dark stores	250-280	120-150	300-400	180-220
Claimed delivery time (mins)	15-30	19	10	8-10
Optimal # of dark stores	80-110 (for mega metros)			

A schematic representation of a value chain for a dark store:



Source: A&M Analysis, Secondary Research

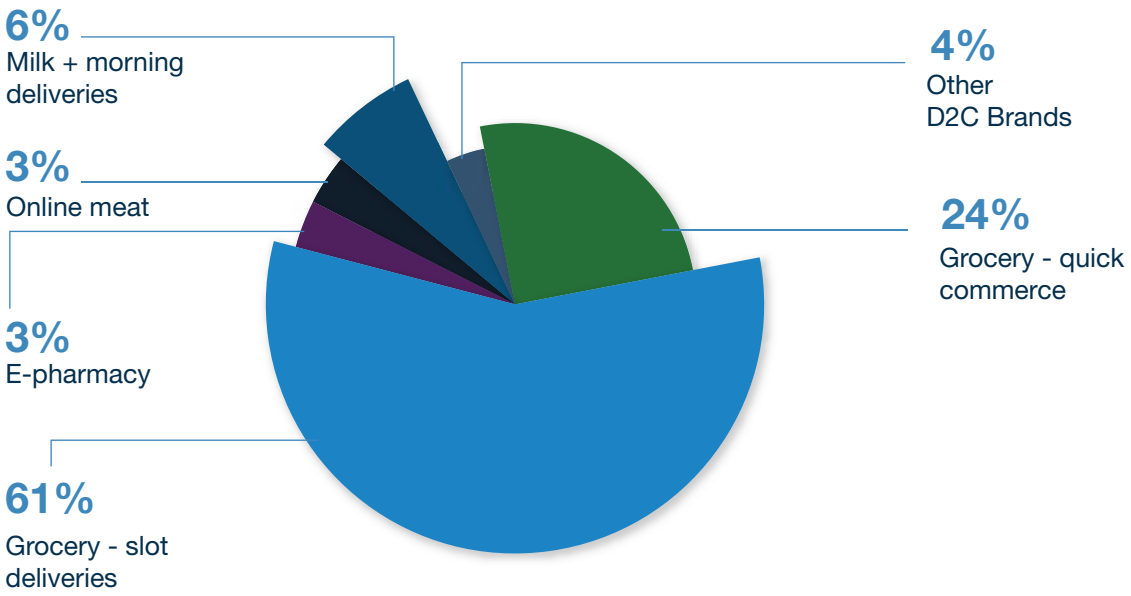
Adoption and trends in India

01 Currently, the majority of in-city warehousing is in the form of commercial complexes like unused office spaces, defunct supermarkets and grocery stores, closed restaurants, hotels, cinema halls and unused covered parking spaces. Mini warehouses and micro fulfillment centers (inventory fulfillment centers for other businesses) are understood to have relatively lower specifications and likely to be developed on repurposed real estate.

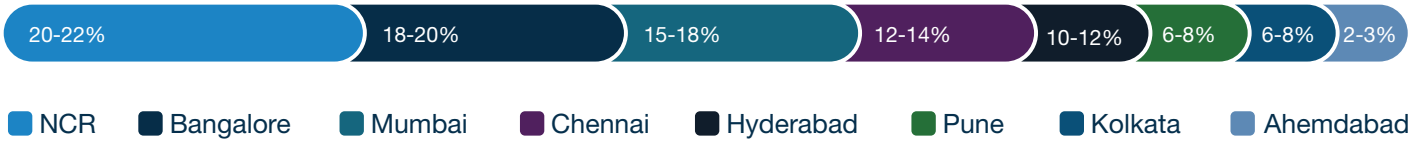
02 It is expected that with large national developers entering the in-city warehousing space, they will use their existing residential and commercial real estate to build these warehouses. A higher specification product, which will be close to Grade A-equivalent in terms of height, floor size, loading bays, etc., will be constructed, and this market is estimated to grow to approximately 4 Mn sqft by FY'26. The majority of this Grade A product is estimated to be consumed by dark stores (end consumer-based delivery model) where the turnaround time is very critical. Thus, dark stores around major demand centers are likely to be built on non-repurposed land within 1-3kms proximity of the customer, with a desired location, docks, space, etc.

03 Another driving factor for the increase in adoption in India is that, unlike in the U.S. and the U.K. where micro fulfillment centers are used by large grocery chains, the penetration in India for these centers could increase by catering to the hyper local demand for unorganized retail (local kirana). Therefore, the delivery radius and proximity to the customer for these centers catering to hyper local needs will be smaller compared to its global counterparts. Further, with a 10-minute delivery promise by large food aggregating platforms, ghost kitchens are likely to grow at a fast pace with the delivery radius being limited to 1-2 km.

Current footprint by end use industries:



Current footprint of dark stores by top 8 cities (2021)



Source: A&M Analysis, Secondary Research

Other Trends

Currently, most of these dark stores and fulfillment centers are set up on the ground floor, but with the increase in demand in major urban centers such as metros and Tier 1 cities, these in-city warehouses could adopt G+2- and G+3-like structures.

Rental costs currently are estimated to be INR 60-85 per sqft, and vary widely from one city to another. Rentals for in-city warehouses are higher compared to traditional, larger Grade A warehouses, which are in the outskirts of the city with closer proximity to major national highways.

Challenges and solutions

01 **Location selection:** Poor location selection has been one of the key reasons globally for the failure of dark stores. In locations where the vast majority of the population does not make digital purchases, there is traffic congestion which causes poor delivery TAT and G+2- and G+3- like structures add to the delivery time and are not ideal for having a dark store. An ideal location should have a robust route which is mapped to all the key demand centers within the delivery radius to avoid traffic congestion.

Solution: Some of the key factors that need to be assessed include:

02 **Product specification:** With national developers entering this space, the size of these boxes may be as large as 10,000 sqft and may also require adequate loading bays. Since the spaces being used presently are mostly the repurposed ones, the industry is demanding more custom built spaces to improve efficiency of operations.

Source: A&M Analysis, Secondary Research

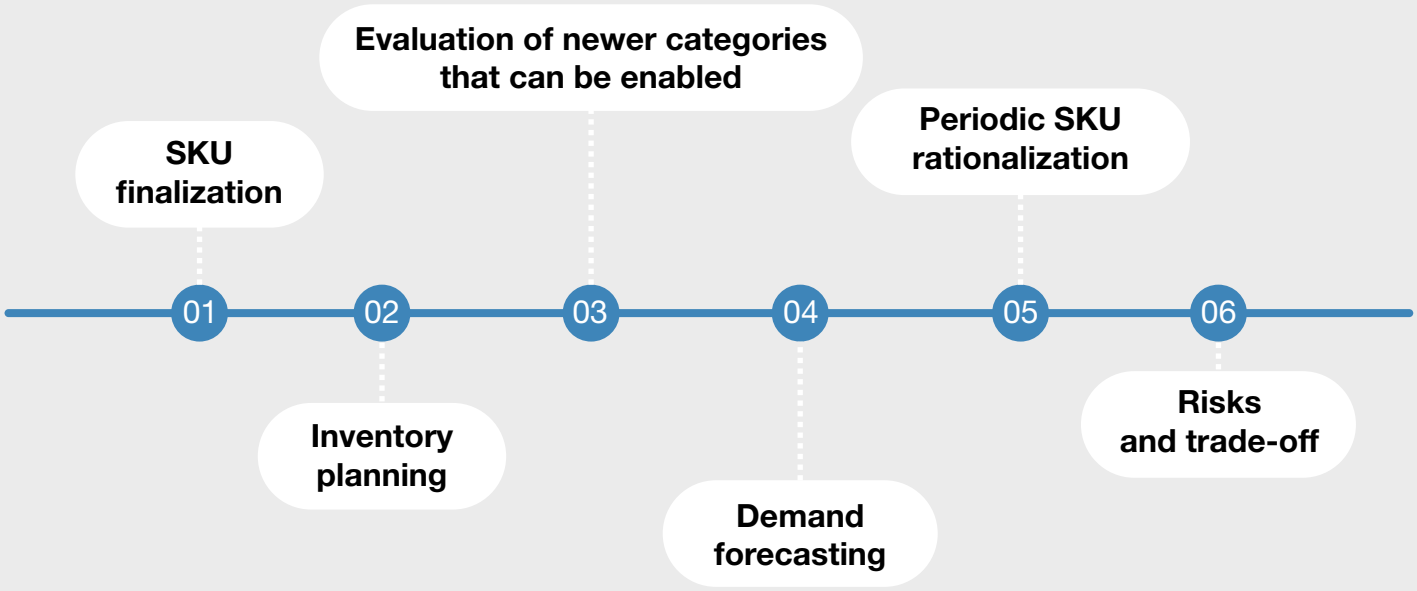
Solution: As this segment gains traction with national developers, better product specifications are expected. These should then get defined as the Grade A specifications for dark stores. We believe that these Grade A specifications are not going to be static but will change and evolve with time. Since these boxes are constructed with at least a 10-year horizon, it's paramount that developers understand the evolution of end-use industries like e-commerce and grocery delivery; otherwise, there is a high risk of product specification getting outdated sooner.

Traffic management, along with the local urban body, can minimize the impact of in-city warehousing on existing and forecasted passenger traffic.

03 **Stock-keeping unit (SKU) planning and demand analytics:** Dark stores and micro fulfillment centers offer approximately 1,500-2,000 SKUs and, therefore, the stockout situation becomes a key challenge owing to a large number of SKU holding.

Solution: Getting SKUs right is a critical enabler for this. Key factors to consider include:

SKU planning and rationalization



As per reports in the U.S. and the U.K., three to five percent of orders in grocery quick commerce in dark stores are not fulfilled owing to stockout situations, while in case of slot base delivery, the stockout situation is approximately one percent because the TAT is four to six hours, and procurement is being done from the mother hub.

04 **Route mapping:** Operational efficiency in delivery will (to a large extent) be driven by optimization of delivery routes and orders.

Solution: An initial analysis of the location is recommended, along with an assessment of trade-offs (e.g., cost vs service levels vs product categories that can be served, etc.) and a technology-backed real time analysis of demand patterns to drive this effort.

Source: A&M Analysis, Secondary Research

Learnings from global in-city warehousing

In countries such as the U.S. and the U.K., the primary category which accounts for the bulk of the demand for in-city warehousing is e-grocery followed by D2C brands. Another emerging customer segment is retail, which has been using third party mini warehouses in the U.S. for storing their fast-moving SKUs - typically within 30-50 kms radius of these outlets. As per reports in the U.K., more than 95 per cent of the in-city warehousing development is taking place on spaces repurposed from commercial complexes like unused office spaces, defunct supermarkets and grocery stores, closed restaurants, parking lots, cinema halls and unused covered parking spaces. Large developers such as British Land are using their land bank to develop custom made small dark stores and/or micro fulfillment centers in major urban demand centers on non-repurposed land where adequate repurposed space may not be available.

Currently, a vast amount of dark store development and construction is taking place on the ground floor in such markets with the primary reason being TAT sensitivity. When the demand increases, the preference would be to build and develop custom made warehouses on the available land.

Companies such as Mapbox in the U.S., which traditionally used to provide technology for location selection, are now using their existing database and analytics and doubling up as aggregators of repurposed land for developers to build in-city warehouses.

Source: A&M Analysis, Secondary Research

Key consideration for developers:

01 Parameters whilst selecting a location to build in-city warehouses, including the importance of the location selection for different formats;

02 Expected evolution of product specifications for building the in-city warehouse across different formats and end use requirement;

03 Evolution of product specifications from Grade B to Grade A and from repurposed land to non-repurposed land;

04 Demand outlook and potential for in-city warehousing by city/micro cluster and product type (Grade A/B/C);

05 Demand evolution for end-use industries like e-commerce, grocery delivery, etc.

06 Key unique selling propositions (USPs) when constructing in-city warehouses compared to competing projects with repurposed properties;

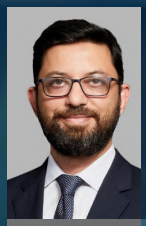
07 Lease structure, rental rates, renewals, rental escalations, and tenures;

08 Unit economics: the capital expenditure (CapEx) requirement including construction costs to build an in-city warehouse;

09 Availability of electric vehicle (EV) infrastructure is another crucial point as India is moving towards higher adoption of EVs, with two-wheelers and three-wheelers expected to have the maximum adoption. Factors such as charging infrastructure, parking space, battery swapping, etc., will play a significant role in deciding the in-city warehousing location;

10 Key execution risks for developing these spaces;

Source: A&M Analysis, Secondary Research



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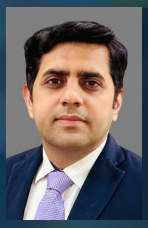

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