

RESEARCH

An aerial night photograph of a large industrial facility. The top half shows a modern warehouse with multiple loading docks, several semi-trailers parked in front, and bright interior lights visible through the open bays. The bottom half shows a port area with a large cargo ship docked at a pier, surrounded by numerous shipping containers and port cranes. The entire image has a blue color cast.

INDIA WAREHOUSING MARKET REPORT 2022

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Ahmedabad

Ambala-Rajpura

Bengaluru

Bhubaneswar

Chennai

Coimbatore

Guwahati

Hyderabad

Indore

Jaipur

Kolkata

Lucknow

Ludhiana

Mumbai

Nagpur

NCR

Pune

Surat

Vadodara

Vapi

Visakhapatnam

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Other Warehousing
Market

Agra

Cochin

Patna

Siliguri

Vijaywada

Mumbai HO

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FOREWORD



Shishir Baijal

Chairman and Managing Director

The past year which marked a period of recovery has seen us collectively overcome the worst of the pandemic. The business environment recovered dramatically once human mobility was restored, sparking a sharp recovery of 8.7% in GDP levels in FY 2022 compared to a contraction of 6.6% in the previous period.

Almost all real estate classes experienced a strong resurgence in demand after the second wave and the warehousing market was not left out. In fact, with the sharp revitalization of consumer demand, businesses were hard pressed to restore supply chains immediately and add warehousing capacity, which spurred the warehousing market to record large transaction volumes along with robust rent growth across markets.

In this report, we assess the warehousing market dynamics of key primary and secondary cities in India on parameters of demand, supply, occupancy and price. We also take note of the prominent themes that have taken root in the market and are expected to sustain in the foreseeable future. For instance, with the increase in land and construction costs, and a fundamental change in base expectations of Grade A warehousing properties, it is likely that rental levels will stay elevated going forward.

Given the extremely low penetration of organized warehousing in India compared to developed economies, and a concerted effort by the government to reinforce our logistics infrastructure with Multi-Modal Logistics Parks across the country, we believe that the Indian warehousing story has a long runway for growth. The ever-increasing institutional interest in owning, developing and operating warehouse assets ensures that there is no dearth of professional expertise to direct the course of this growing market as it matures. We have gathered great learnings while making this report and I am especially thankful to our industry stalwarts for contributing to this endeavor.

I hope that the report adds value to you and plays a part in promoting the Indian warehousing story. I look forward to your feedback and wish you and your loved ones safe and healthy times.

INDIAN WAREHOUSING SECTOR



Logistics and warehousing constitute a critical link in the supply chain that connects the manufacturer to the ultimate consumer. It is the efficiency of a business supply chain that dictates the reach, time to market and cost efficiencies which prove to be major enabling factors for businesses to stay relevant in today's ultra-competitive environment. This is especially true in an internet age where businesses are constantly compelled to cut costs and delivery timelines to acquire and retain consumers.

Managing cash flows is the biggest challenge businesses face when cutting costs, and inventory is the most significant component that locks cash up. Businesses need to ensure that adequate inventory is maintained to prevent a stock-out even during a spike in demand. While accurate demand estimation forms the foundation of this endeavour, it is the efficiency of the logistics chain that determines the cost and time saving that can be achieved. This need for a continual reduction in the inventory cycle has radically transformed the role of the warehouse from being a simple storage depot to a virtual pit-stop that facilitates inventory management, secondary packaging, cross-docking and extraction of products in the least possible time.

Logistics cost in India accounts for 13-17% of the Gross Domestic Product (GDP) which is nearly double (6-9%) the logistics cost-to-GDP ratio in developed countries such as France, Hong Kong and the US. Much of the increased cost can be attributed to the absence of efficient intermodal and multimodal transport systems. Earlier, the incentive for organized players to enter India's warehousing sector was minimal as the occupiers themselves were content to engage with fringe partners that offered low-cost options through a network of small storage facilities near consumption centres. Multiple state and centre level taxes made it sensible for companies to maintain smaller warehouses in each state. Further, this limited the focus on automation and higher throughput.

The services offered by organized logistics and warehousing providers are increasingly seeing higher demand from major occupier groups. A multitude of factors are driving this wave of change which include compliance requirements from regulators in the case of the pharma industry, quality consistency assurance from clients and regulators, statutory penalties on non-compliant warehousing facilities, economies of scale being achieved with larger warehouses, safety and security of goods, efficiency in operations, quicker turnarounds, the need for efficient warehousing designs, besides the advent of e-commerce and other multinational businesses that prefer to occupy compliant facilities. This shift was further accentuated by the implementation of the Goods and Services Tax (GST) in India.

The government's thrust to the sector by giving infrastructure status to the logistics sector, the 'Make in India' programme, the development of multimodal transport networks and initiatives to set up industrial corridors like the Delhi Mumbai Industrial Corridor (DMIC), the Delhi-Kolkata Industrial Corridor and logistics parks – have further fueled this demand.

Growing at a fast clip over the past five years, the Indian warehousing market is still a fraction of the size of its global, developed counterparts such as the US, the UK and China, in per capita space terms. The pandemic was the single-most disruptive event for supply chains across the country since the turn of the century, and caused transaction volumes to fall 23% YoY in FY 2021. Businesses that could not cope with its exigencies had to rethink their strategies and build in more resilience across their warehousing footprint.

Knight Frank have assessed the short and long-term impact areas in previous reports and some of these trends have solidified in FY 2022.



Escalating input costs, increase in base expectations, and rising demand to push rental levels up across markets

- Warehousing operators have had to contend

with increasing input costs that have pushed up the cost of construction by an estimated 10-13% across markets since the advent of the pandemic in early 2020. However, operators have not been able to increase rents due to weakening demand during this period. The strong recovery in demand during FY 2022 has tilted the market balance back in the operators' favour with rentals growing by a substantial 5.6% YoY across the eight primary markets under our coverage.

- As the industry matures, occupier expectations regarding the base level offerings have increased and these are now getting represented in the standard specifications rather than value-adds that were charged over the base rents. This improvement in basic offerings has also increased costs and will result in rents forming a higher base going forward.
- Warehousing transaction volumes for the eight primary markets are estimated to grow at a compounded growth rate of 19% in the FY 2021-2026 period. The 62% growth in volume seen in FY 2022 started this off on a very strong note, and the resilience built into supply chains with businesses maintaining comparatively higher inventory levels over multiple locations should help support demand and rent.



62%

Growth in volume seen in FY 2022



In-city warehousing and dark stores to grow on accelerated e-commerce demand

- The constant need to reduce delivery timelines had always made the entry of in-city warehousing in the Indian market just a matter of time. With the pandemic vaulting the e-commerce sector on a high growth trajectory and the entry of players such as the Tata Group and the Reliance Group in this highly competitive space, multi-storey warehouses could become mainstream phenomena much earlier than expected.
- Besides facilitating optimum land utilization in congested cities such as Mumbai, multi-storey warehousing will effectively reduce delivery timelines and transportation costs. Such solutions are already in place in Asian markets such as Singapore, Hong Kong and Tokyo. 3PL players have been scouting for in-city development opportunities across Mumbai, Delhi and Bengaluru. The high real estate costs in these cities, however, make it a challenging venture, and turnkey opportunities such as defunct mills, factory units or shuttered malls are also being considered.
- A more recent format within the ambit of in-city warehousing that has been gaining prominence is the dark store. A dark store is generally a warehouse that can either be used to facilitate a “click-and-collect” service such as that provided by D-Mart Ready, where a customer collects an item they have ordered online, or as an order fulfilment platform for online sales, generally in the grocery segment. These could be shuttered retail stores or basement premises that can be effectively converted into last-mile order fulfilment centres.
- Dark stores have risen in prominence in the past two years especially in the grocery segment, with e-commerce players such as Instamart, Dunzo, Blinkit and Zepto maintaining these premises at urban consumption centres. These businesses could take up good properties in urban centres as the retail industry has been under significant stress during this period. The dark stores have been instrumental in pushing sales and claiming market share from traditional retail formats with their unique proposition of delivering groceries

within the hour at discounted prices. While the discounts are a focused customer acquisition strategy, the rapidly increasing customer demand for this format is expected to continue to push demand for dark stores. The growth of dark stores in international markets fueled by the fast growing demand for online fulfilment and increasingly favourable unit economics also support the growth of this format in Indian markets.

Decentralization of global manufacturing to benefit India

- China accounted for 28.7% of the global manufacturing output in 2019 according to the United Nations Statistics Division. Global supply chains were heavily impacted when international travel as well as movement of goods to and from China was severely curtailed by other countries to prevent the spread of the pandemic. This prompted global corporations to scout for other manufacturing destinations so that their businesses would not be overly dependent on any single manufacturing destination.
- The Indian government launched a Production Linked Incentive (PLI) scheme to attract large investments in the mobile phone and specified electronic component manufacturing units. In November 2020, the PLI scheme was extended to ten more sectors, including food processing, battery storage, automobile components and specialty steel. Approximately 61 companies in the electronics industry (white goods) such as Samsung, Foxconn, Hon Hai, Rising Star, Wistron and Pegatron have set up component manufacturing plants at 111 locations across 14 states/union territories so far. Notwithstanding the competition from countries like Vietnam, Thailand, Indonesia and Philippines, industrial demand should get a boost as global corporations set up manufacturing operations in India.



Rajesh Jaggi

Vice Chairman - Real Estate
Everstone Capital Advisors

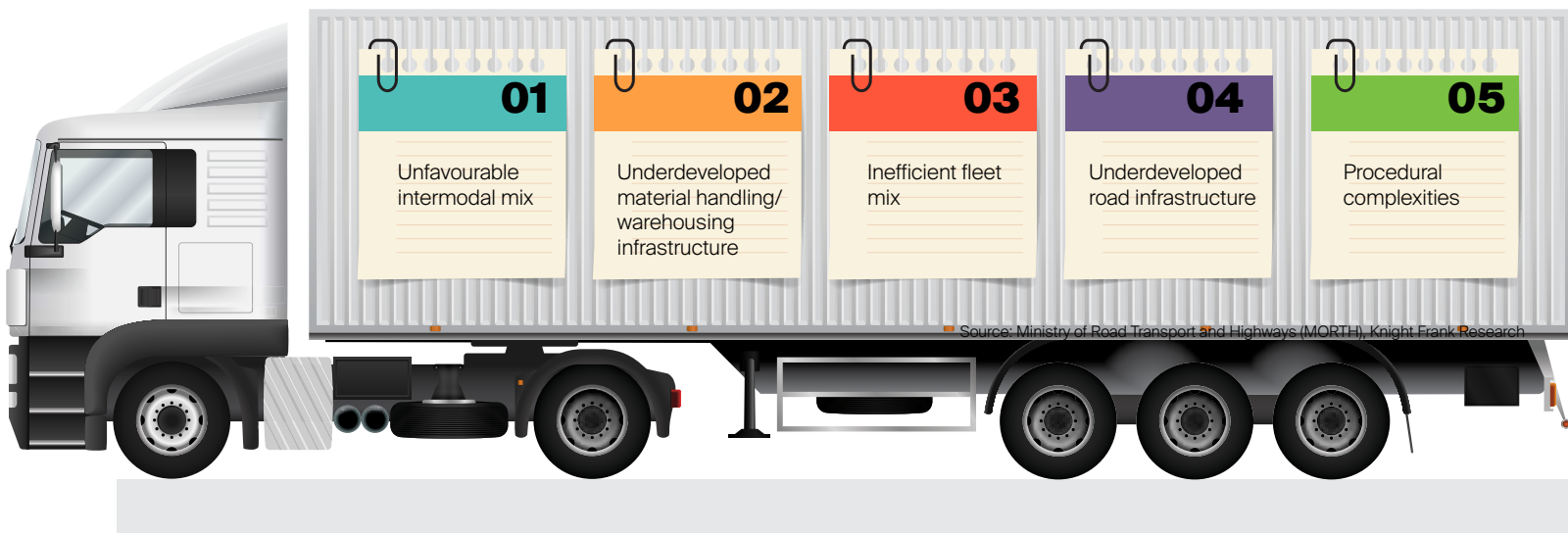


India is among the fastest growing markets for storage infrastructure. Over the past decade, the industry has evolved from a traditional warehouse model to a modern logistics and supply chain ecosystem. The country's thriving logistics industry has enabled a wide variety of warehousing needs, including temperature-controlled warehouses, high-density storage, and advanced distribution centers, among others. The industry is expected to expand further in the coming years, as logistics providers ramp up their capacity to meet the growing demand for logistics services. Additionally, the expansion of third-party logistics is also among the key drivers for demand in the warehousing sector along with the rise of e-commerce transactions and demand for storage in Tier I and Tier II cities strengthening the last-mile delivery to customers. The market growth and recovery can be attributed to government policy assistance and increased institutional investment. The government focus is to develop its own supply chain and build up the domestic manufacturing industry. It has introduced legislation to reform the warehousing industry, which will immensely contribute to the development of the sector. We believe that demand for storage and warehousing services will grow significantly in the coming years. The entire supply chain is facilitated by seamless storage and movement of goods. Variables such as technical improvements in warehousing with automation and robotic mechanization will transform the industry. In order to increase leasing, there will be a greater emphasis on upgrading and expansion in Tier I cities, as well as new market penetration in in-city warehousing and developing logistics hubs.

Multi-Modal Logistics Parks

Logistics cost in India accounts for 13-17% of the Gross Domestic Product (GDP) which is nearly double (6-9%) the logistics cost-to-GDP ratio in developed countries such as France, Hong Kong and the US. Much of the difference in logistics costs could be attributed to the absence of efficient intermodal and multimodal transport systems in India that form the backbone of the logistics supply chain of these developed nations. A comparison between India and the USA highlights the difference in road freight cost per ton per km (ptpk) – the cost in India (adjusting for Purchasing Power Parity) is INR 1.9 per ton per km, which is almost double that of the USA.

Key factors responsible for higher logistics cost in India



To address some of these inefficiencies, the Ministry of State Transport and Highways (MORTH) has initiated the development of multimodal logistics parks (MMLP) across 35 nodes in the country which account for approximately 60% of the freight movement in the country.

An estimation for 15 of these regions which account for close to 40% of the freight movement in the country has been detailed below:

S. No.	Park Location	Requirement (acre)	Storage (acre)	Infrastructure (acre)	Expansion and Landscaping
1	Delhi - NCR	856	357	285	214
2	Mumbai	813	339	271	203
3	North Gujarat	488	203	163	122
4	Hyderabad	295	123	98	74
5	South Gujarat	279	116	93	70
6	South Punjab	226	94	75	57
7	North Punjab	267	111	89	67
8	Jaipur	197	82	66	49
9	Kandla	305	127	102	76
10	Bengaluru	125	52	42	31
11	Pune	171	71	57	43
12	Vijayawada	203	84	68	51
13	Kochi	264	110	88	66
14	Chennai	153	64	51	38
15	Nagpur	174	72	58	43
Total (acres)		4,816	2,006	1,605	1,204

Source: MORTH, Knight Frank Research



Abhijit Malkani
CEO, ESR India

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Industrial and logistics real estate has proven its resilience and will continue to amplify, supported by robust leasing momentum and upbeat investor sentiments. Moreover, India's positioning to become a global manufacturing destination is in fruition; we have seen increased interest from several companies in the US and Europe wanting to invest in India and propelling the absorption of Grade A assets in key industrial micro-markets.

The sectors that have seen significant real estate expansion are automobile and auto-ancillary, retail, 3PL, and manufacturing. We have noticed a short-term dip in e-commerce expansion as they optimise operational efficiencies. There has been increased consumption of electric vehicles supported by government subsidies and escalation of fuel prices. As a result, production and ancillary units supporting EV production have gained prominence. In addition, the adverse effects of climate change have increased the adoption of renewable energy, leading to space requirements for producing and storing renewable energy components. The states that witnessed significant industrial activity are Maharashtra, Tamil Nadu and Gujarat. However, Delhi NCR, West Bengal, and Odisha noticed significant demand from retail and 3PL. Moreover, we foresee an increase in rental values, which is much needed to sustain this sector's growth and accommodate the rising cost of construction and land prices.

The pandemic has led to a behavioural shift in consumption patterns propelling quick commerce, 15 min to same-day delivery. However, there is a lack of compliant facilities within cities to support the continued growth. Therefore, multi-level in-city distribution centres in select tier 1 markets will also be one of our focus areas. However, land availability within cities constitutes a significant challenge. These modern multi-storey facilities will serve densely populated catchment areas within cities.

Construction delays have been a critical problem; rising input costs have delayed delivery timelines. However, there has been a stabilisation in recent times. Approvals have always been a challenge in this asset class; it takes almost 8 months to a year to start construction, which needs to be optimised. In addition, land prices are soaring, and the availability of land in strategic locations with clear titles is becoming scarcer, posing a challenge for future investments. Overall, the outlook for this sector is optimistic; it will continue to attract institutional investments and grow steadily.

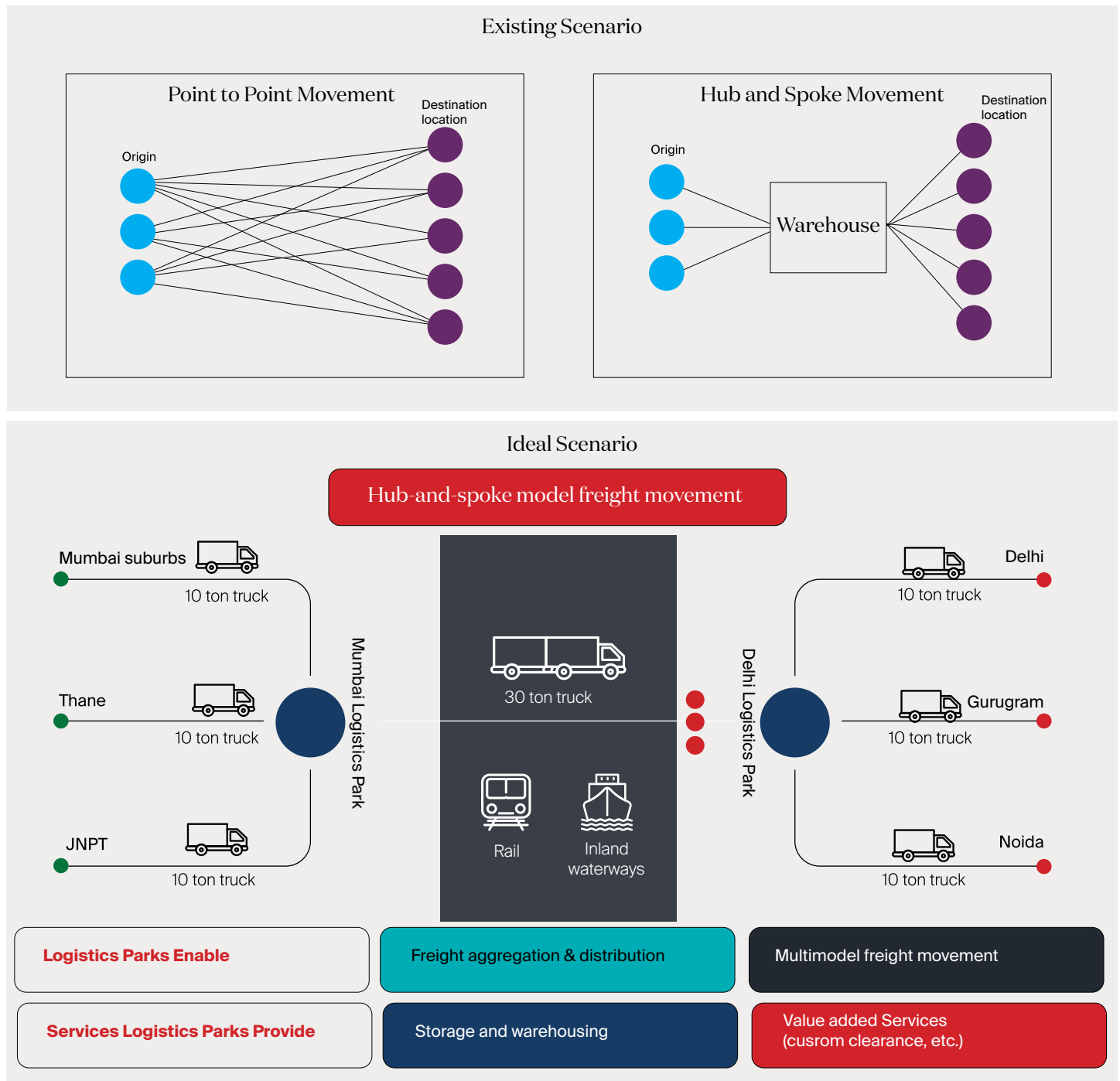
The MORTH is implementing the development of Multi Modal Logistics Parks (MMLP) under the aegis of an umbrella SPV called the National Highways Logistics Management Ltd (NHLML).

These multimodal logistics parks are expected to serve four key functionalities.

Freight aggregation and distribution

Logistics parks will typically be developed outside urban agglomeration zones and act as hubs for freight movement enabling freight aggregation and distribution. Freight from production zones will be shipped to nearby logistics parks, where it will be aggregated and shipped on a larger sized vehicle to a logistics park near the consumption zone. Freight arriving at the destination logistics park will be disaggregated and distributed to the consumption zones inside the city. Logistics parks acting as freight aggregation and distribution hubs enable line haul freight movement (between hubs) on larger sized trucks, thereby aiding in reduction of freight transportation cost.

Logistics in India – Existing and Ideal Scenarios



Source: MORTH

Multimodal freight transportation

Logistics parks with road and rail connectivity enable multimodal freight transportation. This aids freight transportation between hubs to shift from road to rail and waterways (wherever possible), thereby reducing the freight cost as rail costs are significantly lower than road costs. In addition, completion of the proposed rail dedicated freight corridors (Delhi to Mumbai, Ludhiana to Kolkata) and focus on developing coastal and inland waterways will accelerate adoption of rail and waterways for freight movement respectively.

Storage and warehousing

Logistics parks are envisaged to provide modern mechanized warehousing space, satisfying the special requirements of different commodity groups. For example, logistics parks will provide cold storage facilities required for perishables, racked warehousing space for storing palletizable cargo (eg. parcel, apparel, etc.). With a higher proportion of mechanized material handling, warehousing in logistics parks will reduce storing and handling losses.

Value added services

The logistics parks area is also envisaged to provide value added services such as customs clearance with bonded storage yards, warehousing management services, etc. Customs clearance at logistics parks will enable waiting time reduction at the ports and thereby reduce the freight transportation cost and time for export cargo.

Potential benefits of multimodal logistics parks

Transportation cost reduction

According to MORTH, logistics parks will drive an estimated 10% reduction in transportation cost for the top 15 nodes by enabling freight movement on higher trucks and rail. Larger sized trucks have approximately 60% lower freight cost on a per ton per km basis compared to smaller, lower trucks. Further, according to MORTH, freight cost by rail is nearly 45% lower on a per ton per km basis compared to average road freight cost.

Warehousing cost reduction

Shifting from warehouses currently operated inside city limits to logistics parks situated outside the city

limits will enable reduction in warehousing cost due to lower rentals in logistics parks. In addition, modern and mechanized storage solutions provided by logistics parks will enable reduction in storage and handling losses.

Pollution reduction

Increased freight movement on larger trucks and rail will enable reduction of carbon dioxide (CO₂) emissions by approximately 12% for the 15 priority nodes. The larger vehicles will result in lower CO₂ emissions on account of lower fuel consumption per ton per km. Further, freight movement by rail has approximately 65% lower CO₂ emissions compared to road freight on a per ton per km basis. Similarly, there

will also be a corresponding reduction in particulate matter, carbon (CO), hydrocarbon and oxides of nitrogen (HC+NOx) emissions.

Congestion reduction

According to MORTH, increased freight movement on larger trucks and rail to cater to the demands of the top 15 nodes will result in nearly 20% reduction in freight vehicles. In addition, shifting warehouses and wholesale markets – currently being operated inside the city or within its expanding periphery – to logistics parks would free up urban spaces, enabling congestion reduction.

A comparison of multi-modal logistics parks

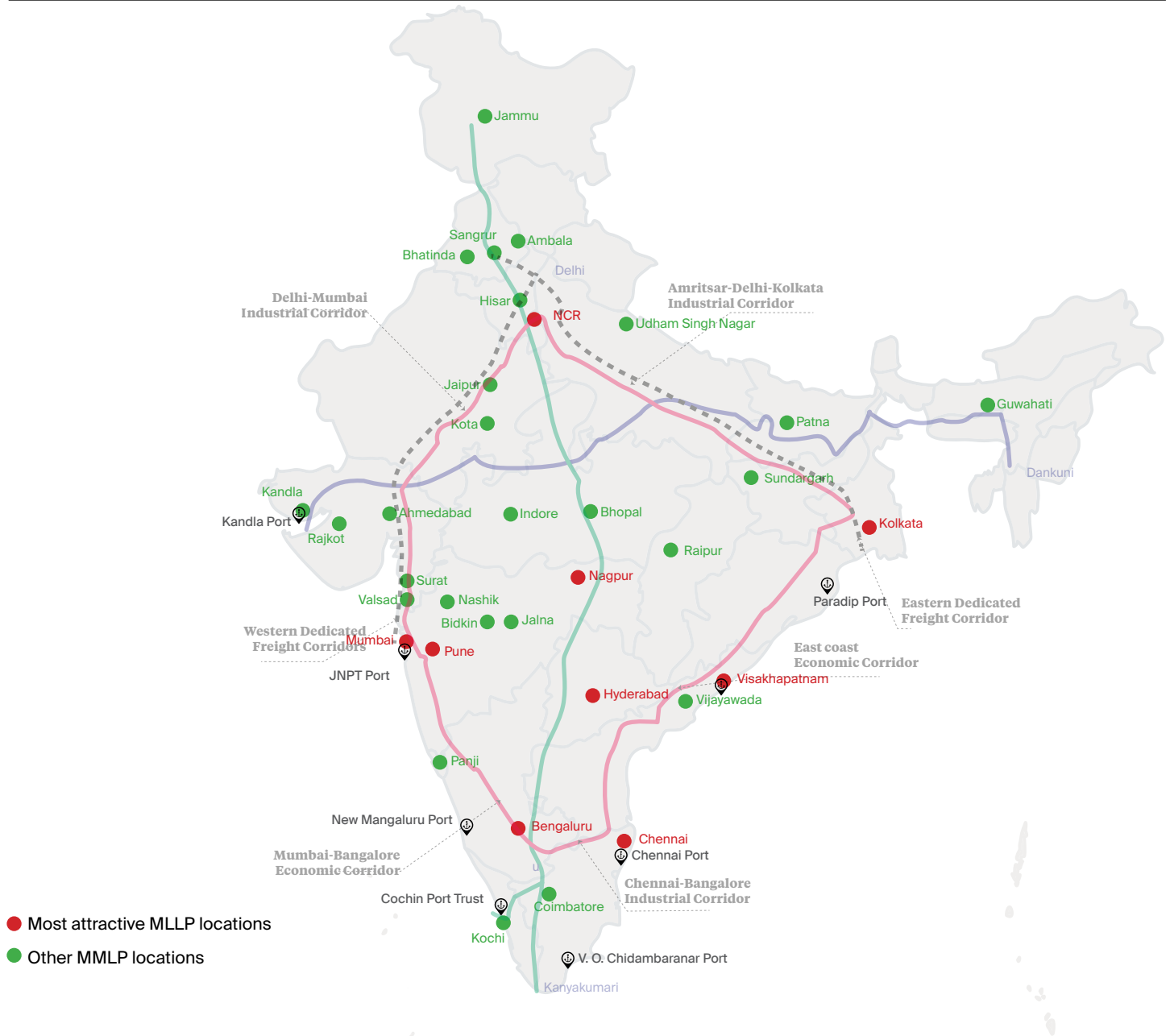
Multi-modal logistics parks represent an evolutionary leap in the logistics infrastructure landscape of the country. The locations identified for these MMLPs will organically develop as economic and industrial hubs given the scale of investment and resultant infrastructure that will be generated. Conceived and proposed to be developed under the Public Private Partnership (PPP) model, these MMLPs will attract capital from private sector funds, warehousing and logistics operators and other institutions.

With an investment outlay of an estimated INR 500 bn, it is pertinent to assess the attractiveness of locations for these MMLPs based on inherent advantages that some of these locations possess compared to others. While providing efficient connectivity to consumption and industrial hubs is the focus of an MMLP, its proximity to these centres will certainly add to the MMLP's value as an economically viable logistics and warehousing destination. With this in mind, we have assessed the MMLP locations based on the population, average income and the manufacturing output of districts which fall within a 100 km influence area of these MMLPs.

The size of the resident population within the influence area provides a reference point of the potential consumer base in the immediate catchment area. This, along with their average per capita income, renders a good estimation of the effective demand base of the influence area. Similarly, the Net Value Added (NVA) at the district level is an accurate depiction of the manufacturing output within the influence area. These parameters effectively capture the consumption and industrial environment of an MMLP's influence area at a macro level, and enable potential investors, logistics and warehousing operators and others to draw first-level comparisons. The scores have been calculated by allocating equal weightages to the population, per capita income and manufacturing output for the districts. While all the locations have the potential to develop into viable MMLPs, we have identified locations that are the most attractive based on our rating criteria. These locations will benefit from the economic and demographic make-up of their immediate vicinity, in addition to fulfilling longer-range logistics requirements that constitute the core of an MMLP.



MMLP Location Attractiveness Index



The most attractive MMLP locations reflect the best consumption markets and most industrial activity within the 100 km influence area of the respective locations.

Bids for the Chennai MMLP are likely to close in 2022 and this will be the first MMLP to be awarded under the Bharatmala programme. The Chennai MMLP will require an investment of approximately INR 7.9 bn from the private sector. Bids for the Nagpur and Bengaluru MMLPs are also expected to close by the end of 2022 according to the NHLML. The Nagpur and Bengaluru MMLPs will require a private sector investment of approximately INR 6.0 bn and INR 9.4 bn respectively. The bidders will compete on a minimum-guarantee revenue share which will be

payable three years after the award of the project. Feasibility studies are in progress at Mumbai, Pune, Hyderabad, and Coimbatore, and being initiated at Anantapur, Visakhapatnam, Jammu, Kanpur, and Bidkin/Jalna. At peak capacity, the MMLPs are estimated to handle 700 million metric tonnes (MMT) of cargo. NHLML has committed to providing a minimum four-lane paved road to the MMLP within two years from the appointed date and rail connectivity in the form of a single line rail siding within four years.

The government recently increased the concession period from 30 years to 45 years to improve project viability for potential investors. This was done after taking cognizance of interested developers'

assessment that three development phases of five years each will only allow for 15 years of full operations and limit the viability of the project. This proactive and collaborative approach of the government is an indicator of its commitment to MMLPs and the logistics and warehousing sector. The growing Indian warehousing market is bound to be a big beneficiary of this massive regulatory push which sets the stage for increased investments from warehouse developers and investors.



Mehul Shah

Chief Executive Officer,
LOGOS India

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India is one of the world's largest consumption markets which makes it an imperative to have a robust warehousing infrastructure. While pivotal regulatory measures such as the GST act removed inefficiencies on the supply side, the digital revolution has altered consumer behaviour and expectations, boosting growth in the warehousing sector. We believe this is Phase One of growth in the sector. We will see plateauing of demand 2022 and 2023 setting the industry up for Phase Two of growth. We expect next phase of growth will be led by a) manufacturing sector, b) new alignment of road infrastructure and c) deeper and wider geographical expansion into next rung of cities. The growth of existing top seven cities will be led by gentrification from old warehousing infrastructure to newly built infrastructure coupled with natural growth in per capita consumption. Greater internet penetration along with high adoption of smart phones with pre-loaded operating system and apps in local languages has bolstered the growth of digital led buying decisions amongst consumers beyond top 7 cities. Cities with high population density locations are becoming the preferred warehousing hubs and investment destinations. The demand for modern built compliant warehousing infrastructure, will see a spike soon in these markets. Same-day delivery assurances by e-commerce companies, friendly return policies, shorter lead times and the rising popularity of daily online grocery orders are some of the factors contributing to this trend.

The higher awareness and commitment toward ESG will spark a radical shift amongst occupiers demanding to move only to such parks which help them meet their own sustainability goals. We believe that almost all industries will see pressures to have high ESG standards driven from global capital allocators, occupiers and government policy mandates.

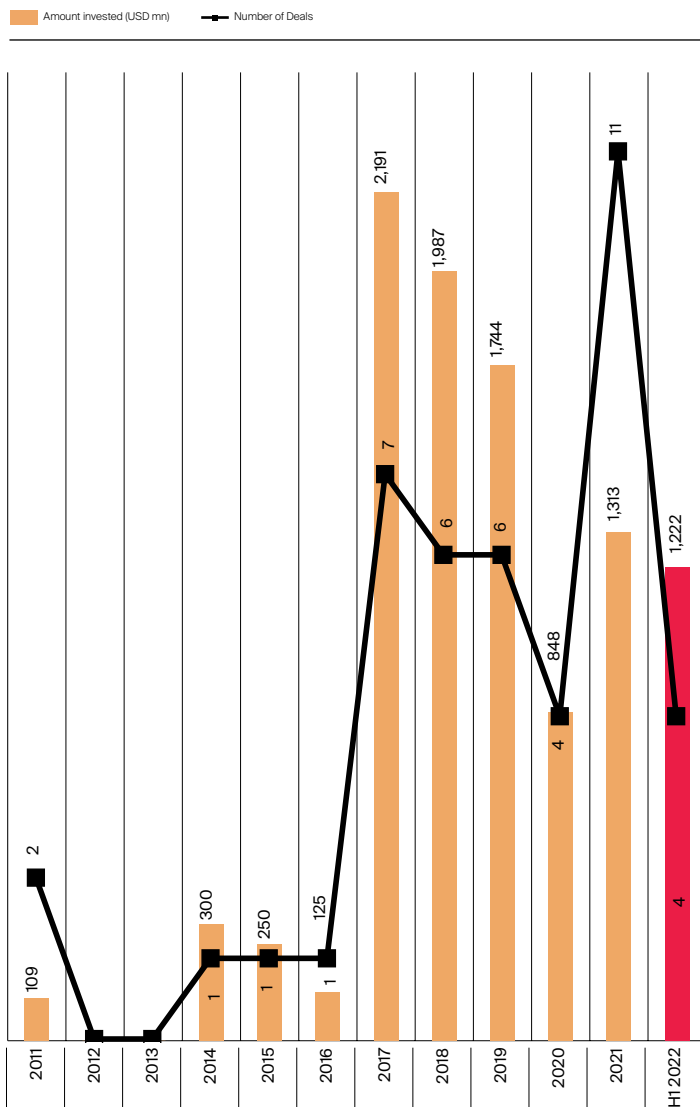
The PM GatiShakti scheme has become the overarching umbrella for all infrastructure augmentation plans for multi-modal connectivity and achieving logistics efficiency across the country. Established industrial markets like Gujarat, Chennai and Pune, have already witnessed increase in demand for industrial warehouse developments over the last two quarters. We are extremely bullish on traditional Industrial locations over the next few years.

An aerial photograph of a large industrial warehouse complex with multiple long, parallel buildings and loading docks. A large, semi-transparent teal graphic of the letter 'S' is overlaid on the image. The text 'Institutional Investment Dynamics in the' is positioned above the main title.

Institutional Investment Dynamics in the

INDIAN WAREHOUSING SECTOR

PE investments in Warehousing



Source: Knight Frank Research

Investments in logistics and industrial segments witnessed a robust growth in 2021 on the back of strong demand for this asset class supported by rise in automation, and increased demand led by third-party logistics. The annual investment volume increased by 55% YoY to USD 1.3 bn compared to USD 848 mn received in 2020.

Buoyed by the e-commerce sector and the expansion of the Indian manufacturing industry, the Indian warehousing segment emerged as one of the most attractive investment propositions for institutional investors in 2021, at a time when the Indian real estate market was facing challenges due to the persistence of the pandemic.

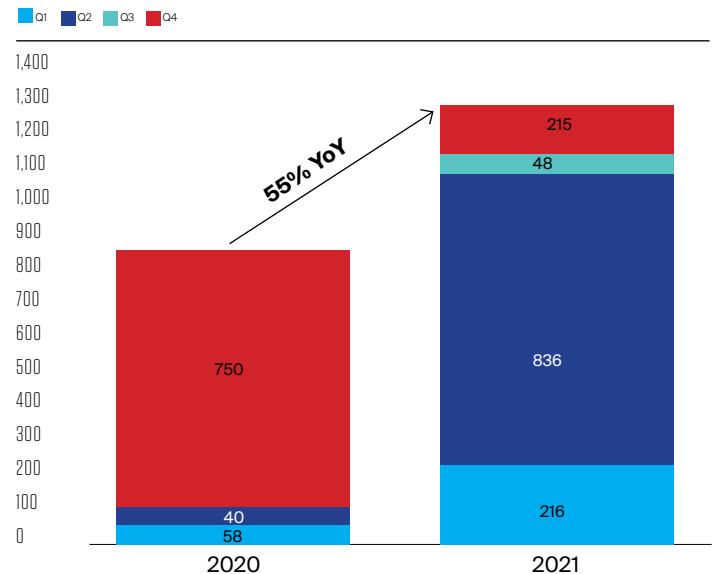
Incidentally, the Coronavirus pandemic merely served to hasten the pace of growth, investments, and technological advancement in the warehousing industry.

Covid-19 and the resultant global supply chain crisis impacted industries across the world causing a significant shift in construction costs, resulting in higher material costs and supply chain disruptions. The pandemic and the ensuing e-commerce wave made consumers move towards online shopping for discretionary and essential items, ensuring a sharp rise in its warehousing demand share.

Citing potential growth opportunities for organised segments, private equity investors (which include real estate funds, alternate investments funds (AIF), sovereign funds, pension funds, sector specific funds and traditional private equity funds) have collectively invested over USD 6.2 bn in 2021, with an average investment of USD 119 mn per deal across commercial, warehousing, residential and retail sectors.

Since FY 2017, the warehousing industry has garnered the second highest share in equity investments after office, and significantly higher than retail. In 2021, the office segment witnessed the highest equity investments of around USD 2.8 bn, followed by warehousing at USD 1.3 bn and retail at USD 817 mn. In H1 2022, investments of USD 1.2 bn have already been received in the warehousing sector, with the USD 1 bn deal between Lodha Group, CDPQ, and Bain Capital being the largest.

Robust growth in Warehousing segment



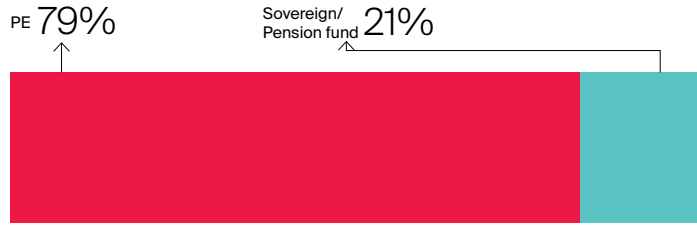
Source: Knight Frank Research, Venture Intelligence

Note: Private equity includes real estate funds, pure private equity funds, sector-focused funds, pension funds, sovereign funds, and Alternate

Compared to office and retail assets, warehousing assets require relatively less time (12 to 18 months) to construct. As India's warehousing market is largely fragmented, there aren't many sizable, organised businesses operating across the country whose acquisition costs can significantly affect the size of investor funds. Thus, investors choose to create such assets that can eventually become worthy of REITs or secondary sale. As a result, 74% of investments made in the warehousing sector since 2011 went toward greenfield/new development projects, while 17% were split between ready and new development. Only 9% of the inflows were used to purchase completed projects.

PE and long-term capital providers alike actively participate in creating new Warehousing assets

Share of investments since 2011



Source: Knight Frank Research

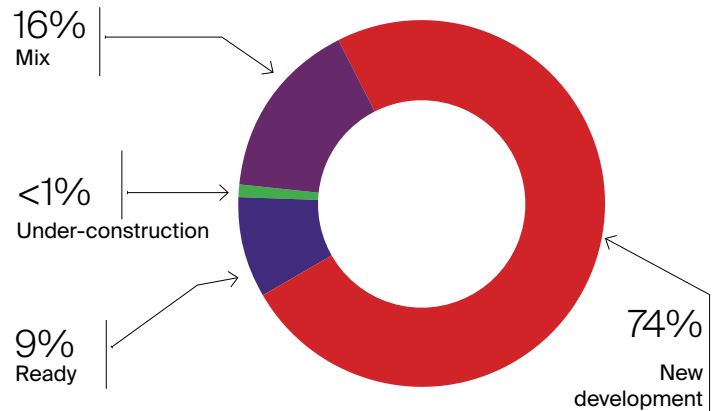
The cost of constructing a good quality Grade A warehouse park structure varies between INR 17,761-20,990 per sq m (INR 1,650-1,950 per sq ft) based on the contour of the land. The cost of land in India varies by a huge margin depending on the location and quality of infrastructure near the land parcel.

Cap rates have declined significantly in the previous decade

Year	2011	2022
Select good quality rent-yielding warehousing assets	13-15%	7%-7.5%

Compared to office and retail assets, there aren't many high-quality mature warehouse assets available in India. The high cap rates observed in the warehousing sector in 2011 were on account of low investor interest, a lack of mature high-quality assets, an unorganised industry structure, low demand for the

Lack of mature assets in India's Warehousing segment and shorter construction timelines post land acquisition make a strong case for greenfield investments



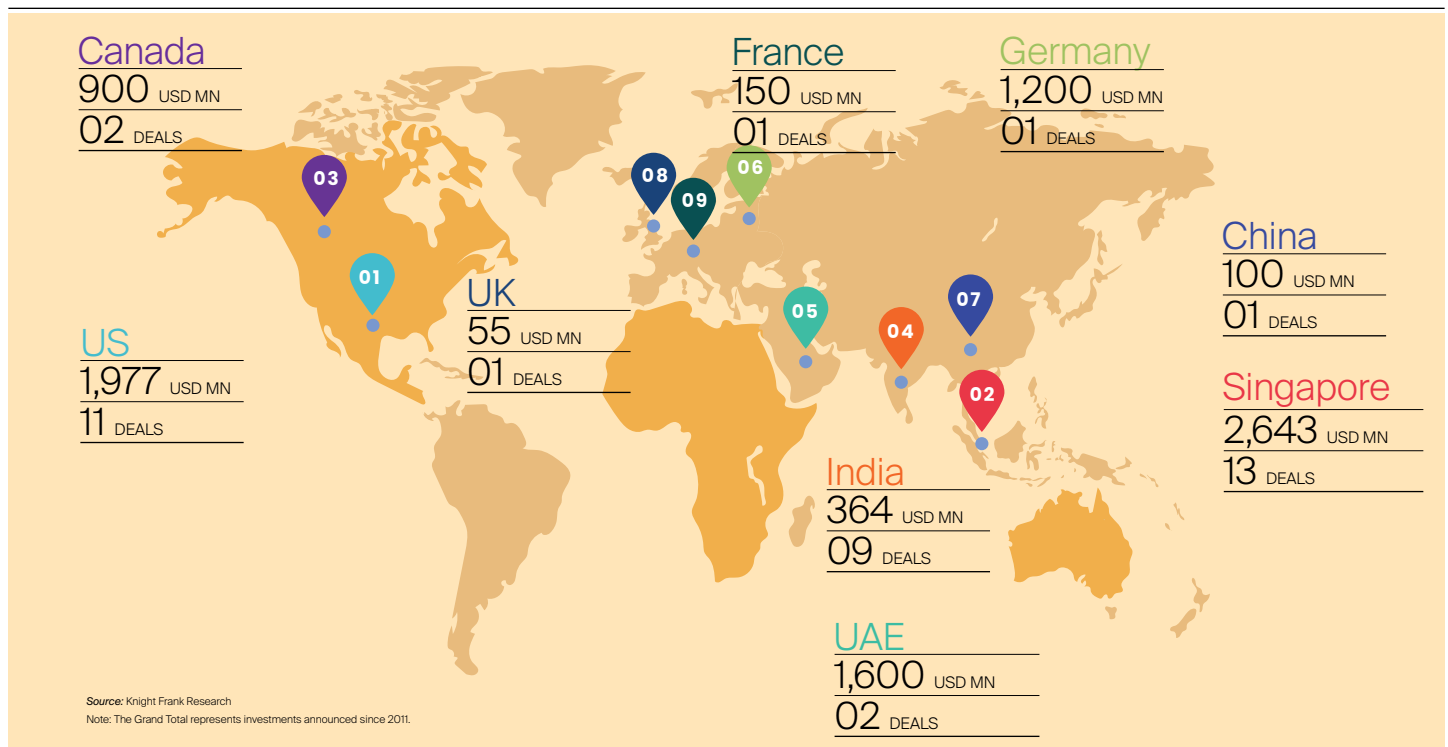
Share of investments since 2011

services provided by the organised segment, and a lack of policymakers' motivation to assist in the industry's expansion. However, over time, things began to fall in place for the warehousing industry and the cap rates decreased significantly over the last decade.

Lack of organised assets and the strong need for warehouse and logistics spaces during the pandemic resulted in several greenfield developments throughout the year. Investors invested USD 1.2 bn in H1 2022 as industry confidence remained high due to the growing need for last-mile deliveries and logistics.

Investors from Singapore and the US invested the most in Warehousing

Amount invested (USD mn)



Source: Knight Frank Research
Note: The Grand Total represents investments announced since 2011.

The warehouse sector is projected to emerge from the current crisis the quickest. Investors are likely to return to the warehousing sector with renewed vigour as the pandemic's aftermath in India begins to fade and as emergent trends begin to take shape. In the backdrop of a policy of raising repo rate, this increased investor interest is expected to keep warehousing cap rates in tight range in 2022.



Rahul Pandit

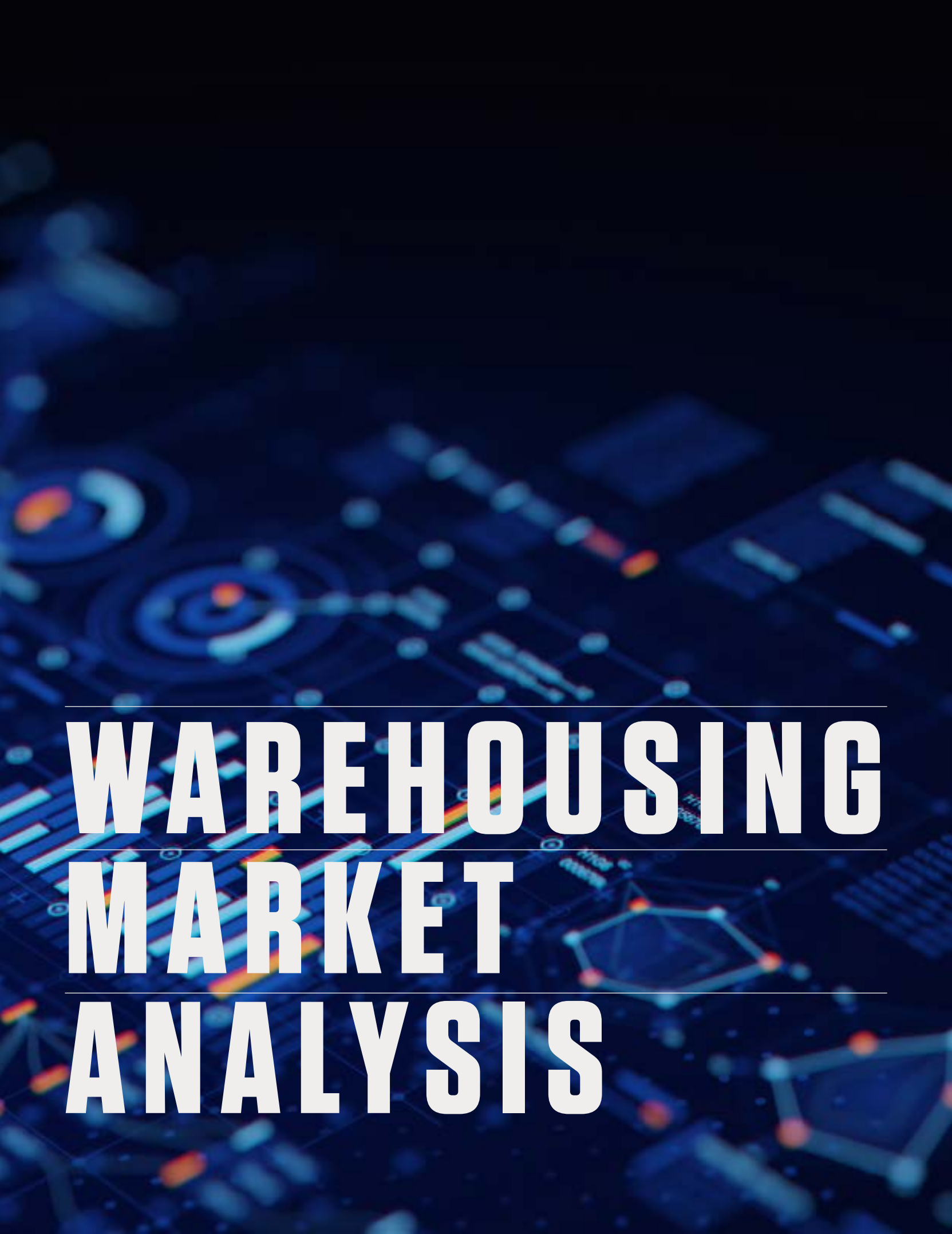
Chief Executive Officer
Horizon Industrial Parks

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India is at an inflection point. RBI's FY 2023 GDP projection of 7.2% makes India the fastest growing major economy in the world. With over two-thirds of the country younger than 35 years, this growth is bolstered by a growing middle class and a unified domestic market.

Digital connect and the acceleration of e-commerce have fueled the demand for logistics. The country's aspiration to be a regional manufacturing powerhouse, supported by the USD 1.8 trillion National Infrastructure Pipeline initiative designed to drive national economic growth provides tailwinds to the sector. The country needs rapid creation of Grade A industrial and logistics supply to fulfil the quality, compliance and safety demands of existing and emerging customer segments. We need to also work collaboratively with our partners and customers to deliver sustainable yields that surmount the headwinds of galloping commodity prices.

Horizon's eco-system capability to deliver agile, high quality, fully integrated plug and play solutions pan India, from land acquisition to development, operations and asset management, in consonance with the highest standards of ESG, promoting decarbonisation, diversity and good governance, is the differentiating edge of our business. The team's unstinted focus on superior tenant engagement provides our customers bespoke solutions that add massive value to their businesses.



WAREHOUSING MARKET ANALYSIS

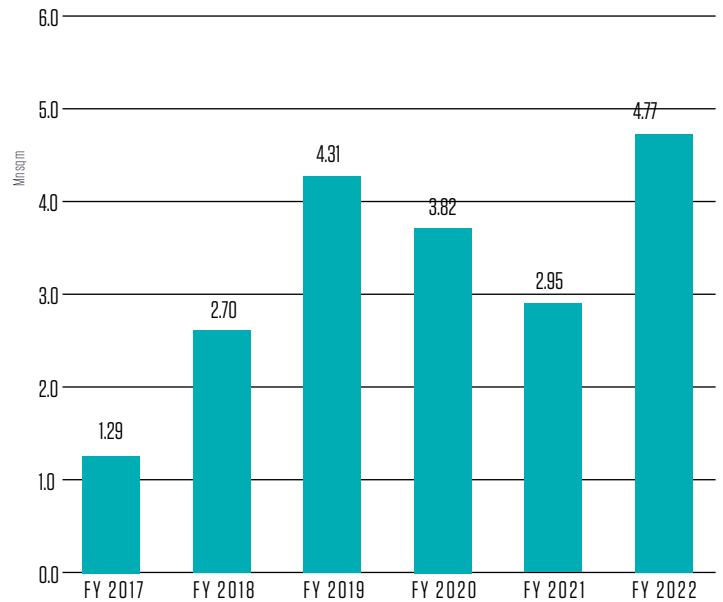
Annual demand analysis – Market and sector split

The warehousing market in India has long been considered an attractive investment opportunity, given the growing needs of a massive consumption market and the aggressive economic growth targets of the government. The focus on increasing manufacturing sector's share of GDP to 25% by 2025 and transforming India into a global design and manufacturing hub via the 'Make in India' initiative is also a major driving force behind the interest in the warehousing market. While the investment rationale holds tremendous promise, the fledgeling warehousing market has seen demand falter in recent years due to economic sluggishness since FY 2020 and the COVID-19 pandemic in FY 2021.

However, vast improvement in the vaccination rates and an increased understanding of the pandemic laid the foundation for a better-than-expected recovery in the general business environment. With people coming to terms with their fear of the pandemic in FY 2022, supply chains recovered and demand rebounded quickly leading to a lot of spill over demand coming back into the market. The substantial increase in construction costs due to inflationary forces pushing up the prices of critical inputs such as steel and cement, also did not hold back the market from bouncing back to record levels in FY 2022.

Occupier demand spiked 62% YoY to 4.8 mn sq m (51.3 mn sq ft) in FY 2022 as businesses made up for lost time, and expansion plans that were put on the backburner due to pandemic related exigencies were revitalised. This also marks a fresh high in terms of annual transaction

Warehousing market transaction volume



Source: Knight Frank Research

volumes for the Indian warehousing market underscoring the strength of the market, especially in the backdrop of a still stabilising economy. While NCR and Mumbai led the market in terms of overall transaction volumes during FY 2022, Pune and Hyderabad saw the most YoY increases in annual transacted volumes at 166% and 128% YoY respectively.

Annual warehousing transactions

■ % Change FY 2022 YoY ■ CAGR FY 2017-22

NCR

0.84 (9.1)

FY 2022 in mn sq m (mn sq ft)

32%

26%

BENGALURU

0.55 (5.9)

FY 2022 in mn sq m (mn sq ft)

38%

36%

CHENNAI

0.47 (5.1)

FY 2022 in mn sq m (mn sq ft)

44%

22%

MUMBAI

0.80 (8.6)

FY 2022 in mn sq m (mn sq ft)

48%

41%

HYDERABAD

0.50 (5.4)

FY 2022 in mn sq m (mn sq ft)

128%

35%

KOLKATA

0.40 (4.3)

FY 2022 in mn sq m (mn sq ft)

41%

26%

PUNE

0.70 (7.5)

FY 2022 in mn sq m (mn sq ft)

166%

30%

AHMEDABAD

0.50 (5.3)

FY 2022 in mn sq m (mn sq ft)

81%

25%

TOTAL

4.77 (51.3)

FY 2022 in mn sq m (mn sq ft)

62%

30%

Source: Knight Frank Research

The eight primary markets are split into 31 warehousing clusters and interestingly, over half of the area transacted in FY 2022 occurred in five of these clusters in NCR, Pune, Mumbai and Kolkata.

While occupier demand has rebounded, the fact that it has occurred in tandem with strong rent growth across markets is another reliable sign of market strength. This is also in stark contrast to the sharp fall in market rents seen in the pandemic impacted FY 2021 when almost all markets experienced YoY rent declines.

Rent growth has been the bane of the market over the past decade with developers facing stiff resistance from occupiers who were extremely reluctant to cede any ground on this aspect. Inflationary trends in steel and cement caused by a supply crunch due to the pandemic and the more recent rate hikes left little choice for developers and operators but to increase rates in FY 2022. This coincided with the spike in demand seen this year and tilted the market balance in favour of the developer, pushing up rents across the eight primary markets in the range of 3 - 9% YoY during FY 2022.

Average Rents

Market	FY 2021 INR/sq m/ month (INR/sq ft/ month)	FY 2022 INR/sq m/month (INR/ sq ft/month)	YoY Change
Mumbai	218 (20.2)	238 (22.1)	9%
Kolkata	221 (20.6)	238 (22.1)	8%
Bengaluru	202 (18.8)	215 (20)	6%
NCR	193 (17.9)	204 (18.9)	6%
Ahmedabad	167 (15.5)	174 (16.2)	5%
Pune	248 (23)	258 (24)	4%
Chennai	229 (21.3)	236 (21.9)	3%
Hyderabad	210 (19.5)	215 (20)	3%

Source: Knight Frank Research

Occupiers continued to show a marked preference for Grade A properties as they are much better geared toward tackling exigencies such as those posed by the pandemic or addressing the increased throughput requirements seen in its immediate aftermath. The inherent operational efficiencies, adherence to safety standards and better contingency planning as a result of greater expertise of personnel due to higher institutional participation are some of the factors that continue to draw occupier interest. Demand for Grade A properties remained strong during FY 2022 accounting for 64% of the transacted volume.

While it was marginally lower than the 65% market share seen in FY 2021, it was still substantially higher than the 53% seen in FY 2020.

3PL and e-commerce players have always coveted the value additions that Grade A properties bring into their supply chain operations, and their high share of total transaction volumes also have a significant role to play in the sustained take-up seen in Grade A properties. These two sectors accounted for 57% of the Grade A spaces taken up during the year.

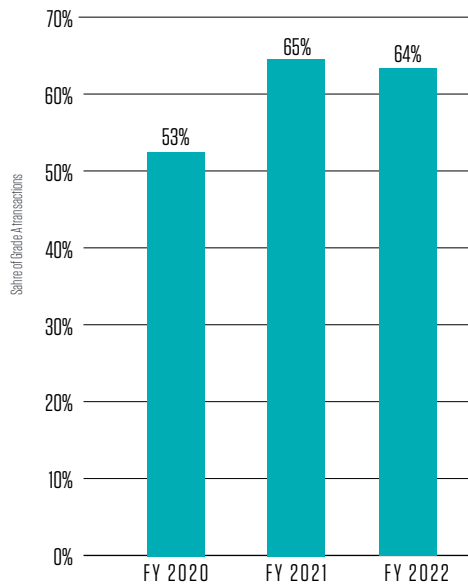
3PL players have been the most prolific occupier group fuelled by the increasing need for e-commerce logistics as well as the strengthening trend of most companies outsourcing their logistics requirements to 3PL operators. The 3PL sector accounted for the highest market share among all occupier groups at 29% in FY 2022. However, this was lower than the 31% seen in FY 2021 which can be attributed in part to the drop in share of the e-commerce sector which constitutes a significant part of a 3PL player's tenant roster. 31% of the total space taken up by the 3PL sector in FY 2022 was located in Pune.

The e-commerce sector's share fell from 31% in FY 2021 to 23% in FY 2022. E-commerce players had aggressively expanded in FY 2021 especially in the grocery and pharmaceuticals space and had carried spare capacity into FY 2022. With retail stores having opened up, and life getting back to normal, the spike in consumer demand that they experienced during the pandemic, ebbed to some extent. E-commerce players are recalibrating their operations to match contemporary consumer demand and this is reflected in their current share. However, with consumer behaviour being increasingly inclined to transacting on the internet, especially in younger generations, e-commerce activity in the warehousing market is expected to regain traction in FY 2023. The absolute volume transacted by the sector has grown 17% in YoY terms despite the drop in share of total transactions. E-commerce players have expanded the most in the NCR markets in recent years and this has reflected in the market's overall share in the e-commerce sector's transaction's pie which was the highest among the eight primary markets at 32% in FY 2022.

With mobility restored to normalcy during FY 2022 as pandemic related fears abated, consumer demand rebounded in the hard format stores and had a direct bearing on the warehousing space take-up of the retail sector. The sector's share spiked from 4% in FY 2021 to 11% in FY 2022 as retailers had to quickly add warehousing capacities to cater to the swift rise in demand.

In contrast to the 3PL and e-commerce occupier groups, manufacturing sectors such as automobile, electronics and pharmaceuticals have seen significant growth in market share of total transactions, from 23% in FY 2021 to 27% in FY 2022. India has benefited from the sustained move towards decentralisation of manufacturing capacity from China, and in conjunction with the government's focus on 'Make in India' and the Production Linked Incentive (PLI) scheme, this has boosted the prospects of these industries in the country.

Annual share of Grade A transactions



Source: Knight Frank Research

12% of the volumes transacted during FY 2022 were purely for industrial use i.e. their end-use involved some form of manufacturing activity from sectors like automobile, FMCG and FMCD. Among the top eight markets in India - Pune, Chennai and Ahmedabad are cities with a significant industrial base. The market for industrial-use properties is expected to gain traction gradually as the government's focus on increasing India's manufacturing heft starts to pay dividends.

Sector-wise share of transactions

Sector	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
3PL	35%	36%	35%	31%	29%
Other Sectors	21%	21%	23%	23%	27%
E-commerce	14%	24%	23%	31%	23%
Retail	12%	11%	8%	4%	11%
Miscellaneous	4%	1%	4%	1%	5%
FMCD	6%	3%	4%	5%	3%
FMCG	7%	4%	4%	5%	2%

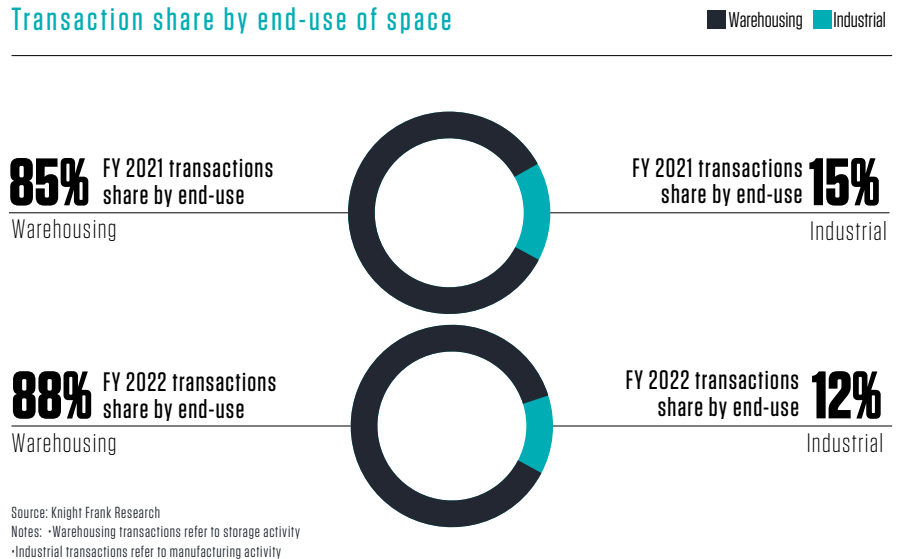
Source: Knight Frank Research

Notes: •Warehousing demand data includes light manufacturing/assembly.

•Other Sectors include all manufacturing sectors (automobile, electronics, pharmaceutical, etc.) except FMCG and FMCD

•Miscellaneous category includes services such as telecom, real estate, document management, agricultural warehousing and publishing

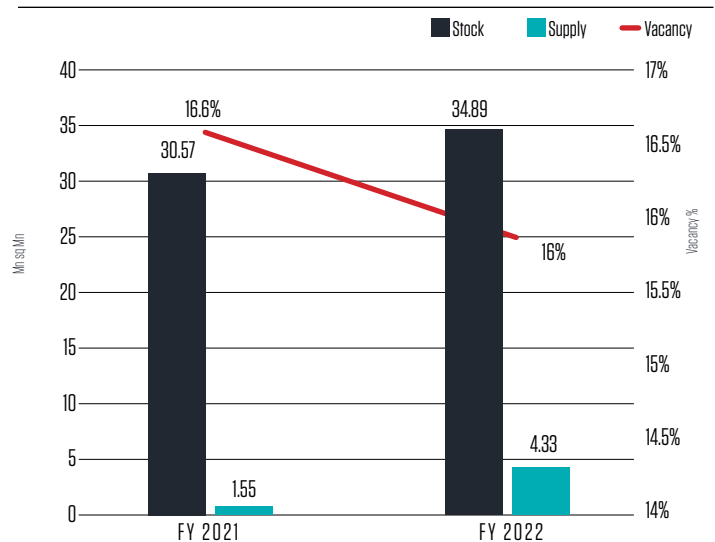
Transaction share by end-use of space



Stock and supply

Knight Frank has conducted a ground-up survey of warehousing stock in the top eight markets of India to arrive at an assessment of the supply scenario that exists in the market today. The eight primary markets of India held an estimated 35 mn sq m (376 mn sq ft) of warehousing stock at the end of FY 2022. The Mumbai market accounted for 42% of this stock and along with NCR, constituted 60% of the total stock. Strong transaction volumes have brought down the vacancy levels marginally to 16% in FY 2022. In fact, with the exception of Mumbai and Chennai, vacancy levels have reduced significantly for all other markets.

Warehousing market stock, supply and vacancy



Source: Knight Frank Research

The development of Grade A warehousing facilities has been increasing in recent years, currently constituting 37% of the total stock compared to 35% in FY 2021. The larger warehousing markets of Mumbai and NCR have a significantly lower proportion of Grade A warehouses as they are much older markets, and a bulk of their stock had been built before the demand for Grade A warehousing gathered momentum. Pune and Chennai have the highest concentration of Grade A stock due to their primary demand base of auto and auto ancillary occupiers.

The rising trend of Grade A development continued in FY 2022 with developers increasingly focusing on higher grade park development compliant to contemporary norms and the higher throughput requirements of businesses today. There is also an emerging focus on improving the aesthetics of these warehousing parks and enabling a better working environment. 52% of the supply coming online in FY 2022 across the eight primary markets was in Grade A properties. Six out of eight markets have seen the share of grade A stock increase in FY 2022 compared to the previous year.

Share of Grade A stock

Market	FY 2021	FY 2022
Chennai	71%	76%
Pune	71%	70%
Kolkata	56%	59%
Hyderabad	56%	54%
Bengaluru	42%	47%
NCR	29%	36%
Ahmedabad	30%	31%
Mumbai	18%	18%
Total	35%	37%

Vacancy in Grade A properties is significantly lesser than the total vacancy for the eight primary markets under coverage and has reduced for the eight markets in FY 2022. Conversely, Grade B properties which constitute 63% of the existing stock in these markets saw vacancy increase from 17.5% in FY 2021 to 17.8% in FY 2022. The increase of vacancy in Grade B properties compared to the decrease in Grade A properties in FY 2022 clearly depicts the shift in occupier preferences.

Approximately USD 9.3 bn have been committed by private equity players in the warehousing market since the GST reforms were applied in 2017. The relative dearth of supply of high-quality warehousing facilities that conform to contemporary compliance norms, continue to be a challenge. The availability of suitable land at reasonable prices is the biggest impediment in creating new supply as land parcels with clear

Warehousing stock and vacancy

Market	Existing Stock mn sq m (mn sq ft)	Vacancy FY 2021	Vacancy FY 2022
Mumbai	14.6 (157)	13.3%	19.0%
NCR	6.4 (68)	15.8%	13.8%
Chennai	3 (32)	13.1%	15.0%
Pune	2.5 (27)	21.8%	15.9%
Bengaluru	2.4 (26)	25.2%	12.3%
Kolkata	2.3 (25)	21.5%	10.4%
Ahmedabad	2.3 (25)	22.8%	13.9%
Hyderabad	1.4 (15)	18.9%	15.9%
Total	34.9 (376)	16.6%	16.0%

Source: Knight Frank Research

Vacancy split by grade

Grade A Vacancy			Grade B Vacancy			Total Vacancy		
Market	FY 2021	FY 2022	Market	FY 2021	FY 2022	Market	FY 2021	FY 2022
Bengaluru	9.4%	6.2%	Bengaluru	36.9%	17.8%	Bengaluru	25.2%	12.3%
Kolkata	12.7%	8.5%	Kolkata	32.6%	13.2%	Kolkata	21.5%	10.4%
Hyderabad	12.4%	9.0%	Hyderabad	27.1%	24.0%	Hyderabad	18.9%	15.9%
Pune	14.3%	10.2%	Pune	40.3%	29.5%	Pune	21.8%	15.9%
Chennai	11.2%	10.7%	Chennai	17.4%	28.7%	Chennai	13.1%	15.0%
NCR	22.5%	11.6%	NCR	13.1%	15.1%	NCR	15.8%	13.8%
Mumbai	13.3%	19.3%	Mumbai	13.3%	18.9%	Mumbai	13.3%	19.0%
Ahmedabad	32.6%	21.5%	Ahmedabad	18.6%	10.5%	Ahmedabad	22.8%	13.9%
Total	15.1%	13.0%	Total	17.5%	17.8%	Total	16.6%	16.0%

title continue to be scarce and digitisation of land records which can address this issue, is still a long way from becoming a reality. Bhiwandi and the Nashik Highway in the Mumbai market are a case in point where there is very strong occupier demand but issues with land titling curtail institutional interest.

The market has clearly emerged from the shadow of the pandemic and occupier demand has continued to strengthen, concluding the year with a healthy pipeline. While inflationary worries in the global economy are causing concerns in the economy, the aggressive rate hikes undertaken by the central bank have proved effective in controlling inflation. While the global economic environment will impact businesses in India, our relatively healthier fiscal position and gradually improving economy should support the warehousing market in FY 2023.



Anshul Singhal

M.D.

Welspun One Logistics Parks

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As India makes a big stride towards becoming a global manufacturing and industrial giant, warehousing will serve as a large contributing factor and act as an enabler, fast becoming one its biggest building blocks. The introduction of various favourable initiatives like GST, PM Gati Shakti, and the ongoing national logistics policy, have made the sector more bankable. This has further opened opportunities such as new land banks and greater supply chain efficiency that will help cater to wider customers across different pin codes, in turn creating more job opportunities. This evolving pace of the sector has made it a favourite of global investors looking to capitalize on the bullish outlook of this strong growth story.

As a key industry player, we have observed that even though India is one of the top markets, the limitation of Grade A warehousing remains a concern and thus, there is a huge opportunity to build and deliver Grade A, state-of-the-art Logistics and Industrial parks which are 100% compliant, sustainable and have stringent safety norms. While the demand for Grade A has been consistent, there has been an inroad of newer trends like In-city warehousing, build-to-suit units, and automation. We envision that, in order to ensure seamless operations and maximum output, more emphasis will now be given to evolved design functions and processes as per international standards. There is a collective need for tech upgradation and industry-wise customisation of warehouses especially when it comes to pharma, FMCG and cold storage.

Logistics and e-commerce players are scaling up to larger spaces in Tier-I and Tier-II cities. Tier 2-3 markets are the new hotspots that are catering to new consumers. The sector is being segmented based on industry type, usage pattern, infrastructure, end-user, technology-adoption and region, there has also been significant growth owing to the rising demand for perishable goods. Additionally, flexible storage spaces with highly functional logistics parks help businesses meet their needs and give them better control over their budgets providing scalability and reduction in overall operational costs. The demand for the warehousing sector is on an upward trajectory. Welspun One has recognised this opportunity and last year acquired land across key micro markets pan India, and successfully launched and closed India's first SEBI registered Category II INR 500 Cr AIF for domestic investors.”

WAREHOUSING MARKETS

● Primary Market ● Secondary Market



AHMEDABAD

WAREHOUSING MARKET

Leasing volumes in Ahmedabad market grew by 81% YoY in FY 2022

36% of transactions in FY 2022 took place in Grade A facilities.

92% of leasing in FY 2022 was towards warehousing demand.

- The Ahmedabad warehousing market witnessed leasing volumes of 0.50 mn sq m (5.3 mn sq ft) in FY 2022, recording an 81% YoY rise. The city being a manufacturing and industrial hub, manufacturing sector companies (Other Sectors) are amongst the largest demand drivers of the Ahmedabad warehousing market, accounting for 29% of the total demand of FY 2022. The 3PL and e-commerce sectors were the second and third most prolific consumers of warehousing space and constituted 19% and 16% share of the transactions' pie respectively.
- The warehousing clusters in Ahmedabad are concentrated on the western and southern part of the city, connecting the market to major cities in Gujarat such as Rajkot and Vadodara.
- There are four major warehousing clusters in Ahmedabad: Aslali-Kheda and Changodar-Bagodara, located on the southern part of Ahmedabad, are the bigger established clusters that also lie along the golden quadrilateral which is well connected to Mumbai; while Sanand-Viramgam and Chhatral-Kadi-Vithalapur-Becharaji belt located in the western part are relatively newer clusters.
- The Aslali-Kheda belt is one of the oldest warehousing clusters and lies on the Mumbai-Ahmedabad highway capturing the maximum warehousing demand of 43% of the total in FY 2022. The belt is dominated by consumer led demand followed by that from manufacturing sectors. In FY 2022, the 3PL sector took up 27% of the total volume transacted while e-commerce accounted for 8%. The manufacturing segment took up 24% of the total transactions.
- Being an older market, however, Ahmedabad has several bottlenecks ranging from insufficient infrastructure support to high land prices and a lack of modern offerings, making it unviable for new warehousing to develop in this area. Only 36% of the transactions concluded during FY 2022 took place in Grade A facilities compared to 48% in the preceding year, as most of the supply was controlled by local landowners.
- The Changodar-Bagodara belt lies along the Rajkot-Ahmedabad Highway, where the warehousing demand in FY 2022 came largely from the manufacturing segment followed by e-commerce and retail segments. This belt is supported by good infrastructure and good quality 3x3 lane roads with divider separation. Several industries and manufacturing companies have their presence here due to the well-developed and planned eco system. New logistics and warehousing parks, well equipped with modern technology have come up on this belt and have helped increase occupier activity here. 35% of the transactions during FY 2022 took place on this belt.
- The Sanand-Viramgam and the Chhatral-Kadi-Vithalapur-Becharaji belts have primary focus on the automobile sector with the presence of large automobile companies along with their ancillaries. The Chhatral-Kadi-Vithalapur-Becharaji cluster accounts for 14% of the transaction volume in FY 2022 while Sanand-Viramgam accounts for 7%.
- In FY 2022, the space take up was driven by warehousing demand which garnered 92% share of the transactions. The industrial segments which undertake various kinds of light to heavy manufacturing activities in warehousing parks had 8% share of transactions.
- The rentals for Grade A spaces in the Aslali – Kheda belt are ranging between 183-269 / sqm/ month (17-25/ sqft/month) while in the Changodar-Bagodara belt are ranging between 161-258/sqm/month (15-24/sqft/ month). The Sanand-Viramgam belt and the Vithalapur – Becharaji belt are comparatively affordable markets. The rentals for Grade A spaces in the Sanand-Viramgam belt range between 151-215/ sqm/month (14-20 /sqft/ month) in the Vithalapur – Becharaji belt range between 172-215/sqm/ month (16-20/sqft/month)

Major warehousing locations in Ahmedabad



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Aslali-Kheda Cluster	Aslali, Jetapur, Bareja, Kanera, Gobhalaj, Hariyala, Kheda
Changodar-Bagodara Cluster	Changodar, Bavla, Bhayala, Bagodara
Sanand-Viramgam Cluster	Sanand, Sachna, Viramgam
Chhatral-Kadi-Vithalapur-Becharaji Cluster	Chhatral, Kadi, Vithalapur, Becharaji

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Manufacturing Corridor
Western Dedicated Freight Corridor (DFC)	Railway
National Expressway-I	Road Infrastructure
Ahmedabad-Rajkot National Highway (NH-8A)	Road Infrastructure
Ahmedabad-Sanand-Viramgam State Highway (SH 17)	Road Infrastructure
SP Ring Road	Road Infrastructure
Mandar Becharaji Special Investment Region (SIR)	Industrial Hub
GIFT City	Mega Township
Dholera Special Investment Region (SIR)	Industrial Hub

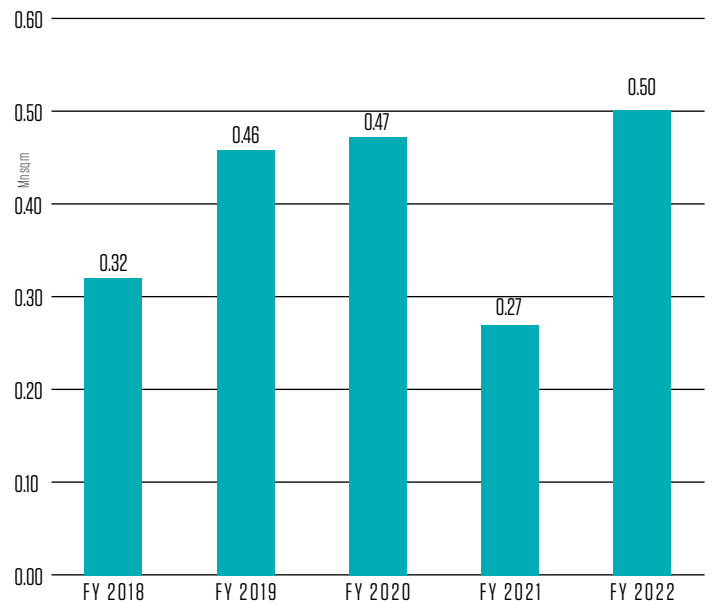
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Prime Indraprasth Industrial and Logistics Hub	Aslali-Kheda
Temenos Logistics Park	Aslali-Kheda
Palladium Logistics Park	Aslali-Kheda
Indospace	Changodar-Bagodara
Gallops Industrial Park	Changodar-Bagodara
Crystal Indus Industrial and Logistics Park	Changodar-Bagodara
ESR Jalisana Industrial and Logistics Park	Chhatral-Kadi-Vithalapur-Becharaji

Source: Knight Frank Research

Warehousing market transaction volume



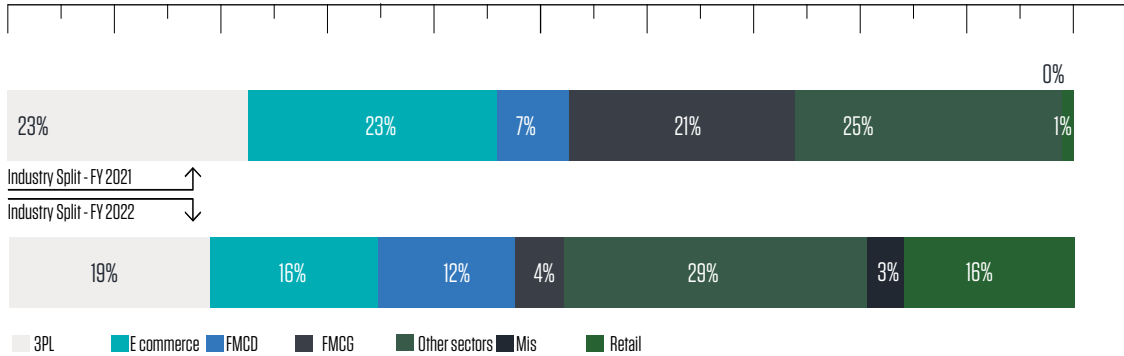
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Voltas Beko	FMCD	Sanand-Viramgam Cluster
Flipkart	E-commerce	Changodar-Bagodara
Syngenta	Manufacturing	Aslali-Kheda
Reliance Retail	Retail	Changodar-Bagodara
Delhivery	Retail	Aslali-Kheda

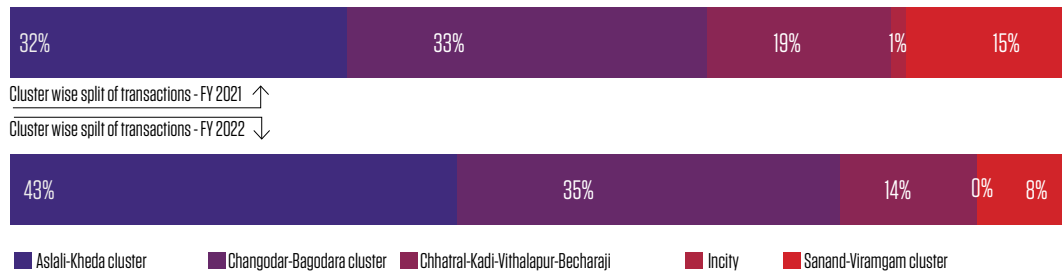
Source: Knight Frank Research

Industry-split of transaction volume



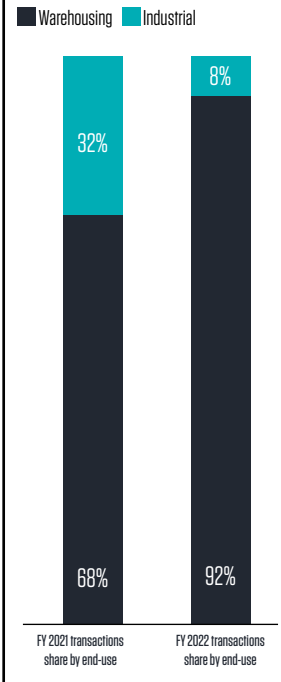
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)		Rent in INR/sq m/month (INR/sq ft/month)
Aslali-Kheda	Aslali	30-50	226-269 (21-25)		161-215 (15-20)
	Bareja	20-35	194-226 (18-21)		151-183 (14-17)
	Kanera	20-30	183-215 (17-20)		151-183 (14-17)
	Gobhlaj	20-35	183-215 (17-20)		140-172 (13-16)
	Kheda	12-20	151-194 (14-18)		118-151 (11-14)
Changodar-Bagodara	Changodar	25-40	215-258 (20-24)		151-194 (14-18)
	BavlaT	15-20	183-215 (17-20)		140-161 (13-15)
	Bhayala	13-20	172-215 (16-20)		118-161 (11-15)
	Bagodara	8-15	161-205 (15-19)		108-140 (10-13)
Sanand-Viramgam	Sanand	16-30	183-215 (17-20)		140-161 (13-15)
	Sachana	12-20	151-172 (14-16)		118-151 (11-14)
Vithalapur - Becharaji	Kadi	12-18	172-215 (16-20)		118-161 (11-15)
	Vithalapur	8-15	172-215 (16-20)		118-161 (11-15)
	Becharaji	10-15	172-215 (16-20)		118-161 (11-15)

Source: Knight Frank Research



Naresh Sharma
Managing Director
CCI Logistics & Industrial Parks

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India is among the most promising warehousing markets in the world given its compelling consumption and economic growth story. The past decade has witnessed prolific growth in this industry due to increasing participation of institutional players along with a gradually increasing requirement for higher grade warehouses compliant with contemporary standards. Increasing adoption of technological advances have enabled efficiencies and enabled heightened throughput.

The logistics industry is evolving fast to service the varied and extremely time-sensitive needs of businesses across the country and warehouses today are a critical component of this supply chain. The warehousing market is expected to continue to expand especially in the secondary cities as businesses endeavor to capture emerging markets and cater to the needs of the increasingly demanding consumer. While the escalating competition among warehousing players is good for the occupier and will only improve supply chain efficiencies, recent increases in input costs of land, steel and cement have proved to be a significant constraint on warehouse development. However, occupiers who have; traditionally resisted significant increases in warehousing rents are beginning to acknowledge the substantial value that an efficient warehousing operation brings to their supply chain. As the industry matures, there is an increasing need to establish standards that will create awareness and educate occupiers on the various grades of warehouses and their value thereof.

AMBALA-RAJPURA

WAREHOUSING MARKET

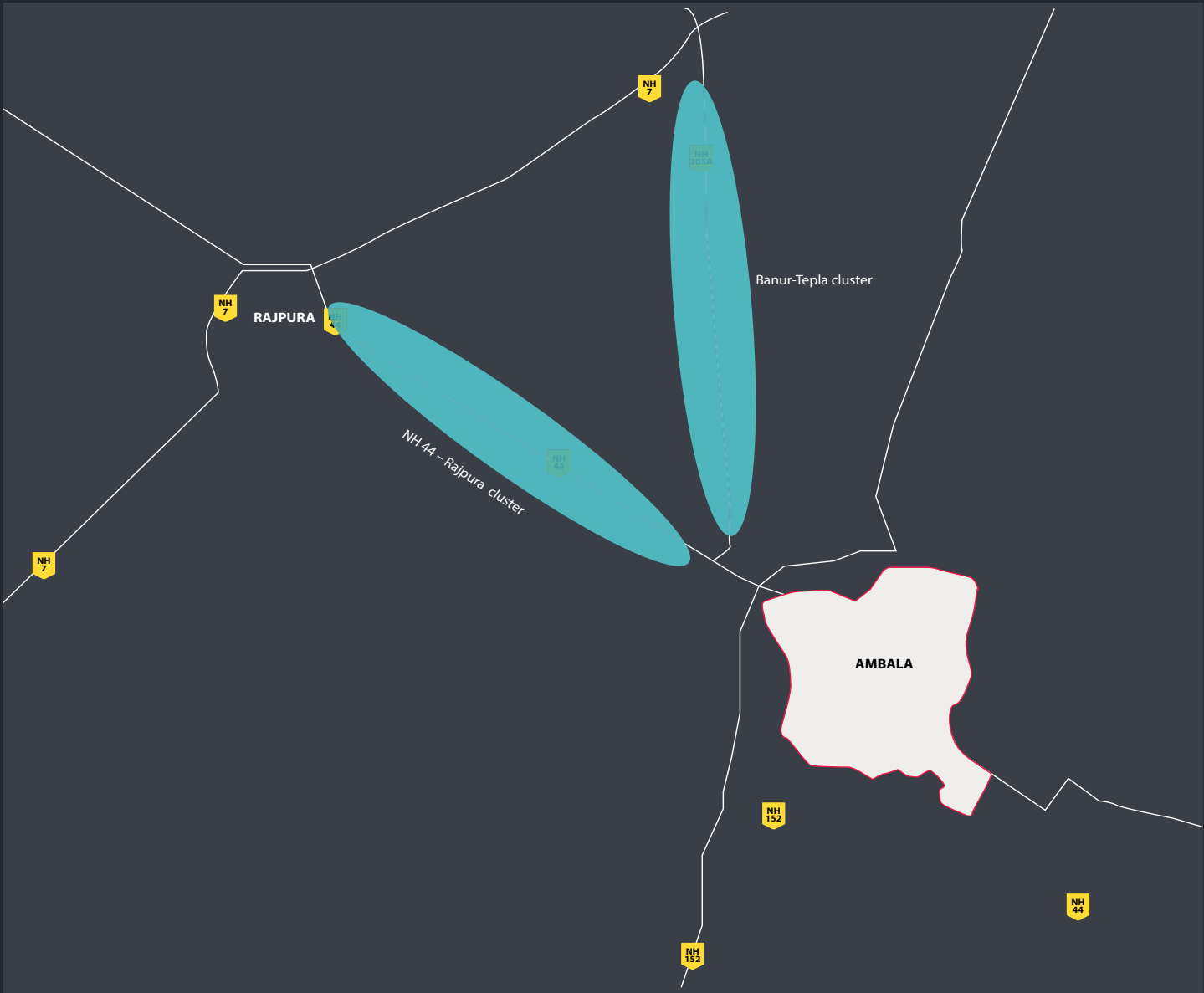
In FY 2022, the Ambala-Rajpura market accounted for 1.4 mn sq ft (0.13 mn sq m) warehousing leasing, a 19% YoY growth over FY 2021.

71% of the space leased was in the NH 44 Rajpura cluster, while 29% was in the Banur-Tepla cluster.

Of the total warehouse space leased in FY 2022, 30% was concentrated in 3PL, followed by 26% leased by e-commerce.

- The Ambala-Rajpura warehousing market is strategically located on the Punjab-Haryana border or the Shambhu barrier along the Grand Trunk Road, Banur-Tepla Road and Zirakpur. Shambhu Barrier is of historical significance in the Patiala district as it is a prime de-consolidation location for part truck load capacity in north India. The Ambala-Rajpura warehousing market is unorganized with warehousing facilities spread across several locations in Punjab and Haryana in a triangle. This warehousing market caters to many Tier II cities in northern India. A few regional players have Grade A warehousing footprint on this node as the market has huge potential to serve multiple cities in Punjab, Himachal Pradesh and Jammu & Kashmir.
- The Ambala-Rajpura warehousing market offers availability of larger land parcels compared to some of the other nearby states which has made it a much sought-after market for developers looking to take exposure in this asset class. Many national players are actively setting up warehouses in this zone due to its strategic importance and consequently, the leasing momentum for warehouses has picked up pace in the past five years. Nearly 7.5 mn sq ft (0.7 mn sq m) of warehousing facilities have been leased in the past five years in this market.
- Rajpura is referred to as the 'Gateway to Punjab', as it is situated at the junction of National Highway 44 (NH 44 or old NH 1) connecting New Delhi to Attari in Punjab, and NH 7 (Old NH 64) which runs from Chandigarh to Dabwali. Along with Ambala, Rajpura provides good road and rail connectivity to six to seven cities in north India. While Jammu & Kashmir is accessible within 6-7 hours via road, other cities such as Ludhiana, Jalandhar, Chandigarh, Shimla and Delhi are only 1-4 hours away, making Rajpura a focal point for distribution of goods and services.
- Being an industrial town, Rajpura has a concentration of small-scale industries. Due to its proximity to the tri-city (Chandigarh-Mohali-Panchkula), several logistics park developers are launching parks in this region to boost their Grade A warehousing portfolio near NH 44 and NH 7 which are well-connected to the industrial clusters of Manesar, Dharuhera and Bhiwadi. Such growth of Grade A warehousing infrastructure in this cluster will support modernization of the supply chain and attract occupiers from sectors such as e-commerce in future.
- Warehousing activity in this market is getting organized in two prominent peripheral clusters: the Banur-Tepla cluster and the NH 44 Rajpura cluster. The scope for Grade A warehousing facilities to come up is huge and crucial to attract significant leasing by occupiers.
- In FY 2022, the Ambala-Rajpura market accounted for 1.4 mn sq ft (0.13 mn sq m) warehousing leasing, a 19% YoY growth over FY 2021. 71% of the space leased was in the NH 44 Rajpura cluster, while 29% was in the Banur-Tepla cluster.
- Of the total warehouse space leased in FY 2022, 30% was concentrated in 3PL, followed by 26% leased by e-commerce. Retail accounted for 23% share, followed by FMCG at 15%. The remainder was occupied by Other Sectors. The Covid-19 led disruptions proved to be beneficial for Tier II warehousing clusters such as Ambala-Rajpura as demand for warehousing space has been increasing steadily.

Major warehousing locations in Ambala-Rajpura



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Banur-Tepla Cluster	Banur, Banur-Tepla Road, Shambhu Barrier and all locations along Ambala-Bypass Road
NH-44 Rajpura Cluster	Locations along the Grand Trunk Road (GT Road) from Mohra to Rajpura and Zirakpur

Source: Knight Frank Research

Major Infrastructure in Rajpura

Name	Type
NH 44 (Old NH 1)	Road - NH
NH 7 (Old NH 64)	Road - NH

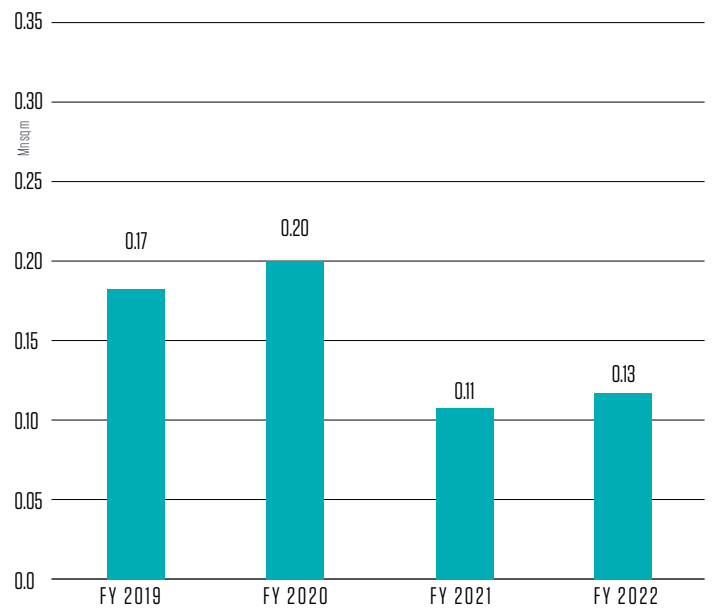
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
Indoswift	NH 44-Rajpura cluster
Contract Logistics	Banur-Tepla cluster

Source: Knight Frank Research

Warehousing market transaction volume



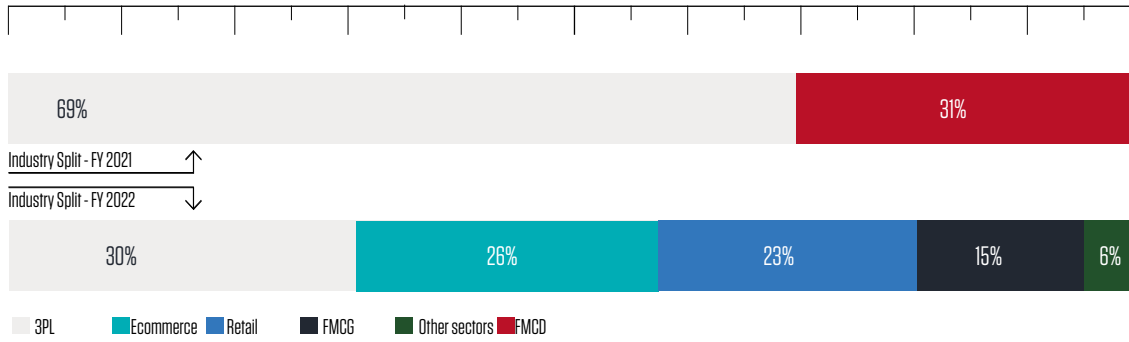
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Reliance Retail	Retail	NH 44 Rajpura Cluster
IK Kirana	E-commerce	Banur-Tepla Cluster
FirstCry	E-commerce	NH 44 Rajpura Cluster
Stellar Value Chain	3PL	NH 44 Rajpura Cluster
HUL	FMCG	NH 44 Rajpura Cluster

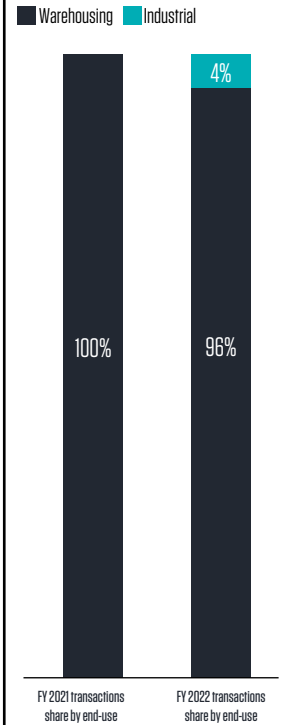
Source: Knight Frank Research

Industry-split of transaction volume



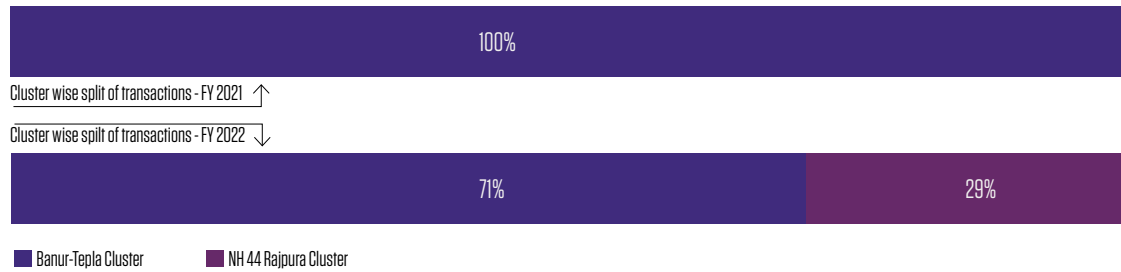
Notes: Warehousing transactions data includes light manufacturing/assembly. **Other Sectors** - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. **Miscellaneous** - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. Source: Knight Frank Research

Cluster-split of transaction volume



Land rate and rents

Cluster	Land Rate	Grade A	Grade B
	(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/ month)	Rent in INR/sq m/month (INR/sq ft/month)
Banur-Tepla Cluster	13-15	161-205 (15-19)	118-140 (11-13)
NH 44 Rajpura Cluster	15-20	161-205 (15-19)	118-140 (11-13)

Source: Knight Frank Research



Shaishav Dharia

CEO - Townships and Rental Assets
Lodha



With the focus on Make in India and China+1 strategy since the start of Covid, we have seen a significant increase in industrial demand. Equally, the warehousing sector started with a huge spike in e-commerce demand and then a strong pickup amongst logistics companies, retailers and cold chain. We believe this is still the nascent stage and we will see the India story unfold over the next decade. We started Palava Industrial & Logistics Park as we saw a need for quality, sustainable parks with clear land title. It is also strategically located in the Navi Mumbai-Taloja industrial belt and offers proximity to the JNPT port. We have seen good traction and it's grown rapidly with over 300 acres under development. Recently, Ivanhoe Cambridge and Bain Capital have partnered with us given our high quality development capability and our proven ESG strategy to strengthen green digital infrastructure segment in the country. These are exciting times for us and the rest of the industry and we plan to go pan-India with our offering.



BENGALURU

WAREHOUSING MARKET

Bengaluru's warehousing market clocks in 0.55 mn sq mt (5.9 mn sq ft) leasing in FY 2022

Nelamangala - Dabaspete cluster dominated warehousing lease volume in FY 2022

E-commerce and 3PL tenants dominated the warehouse leasing in FY 2022.

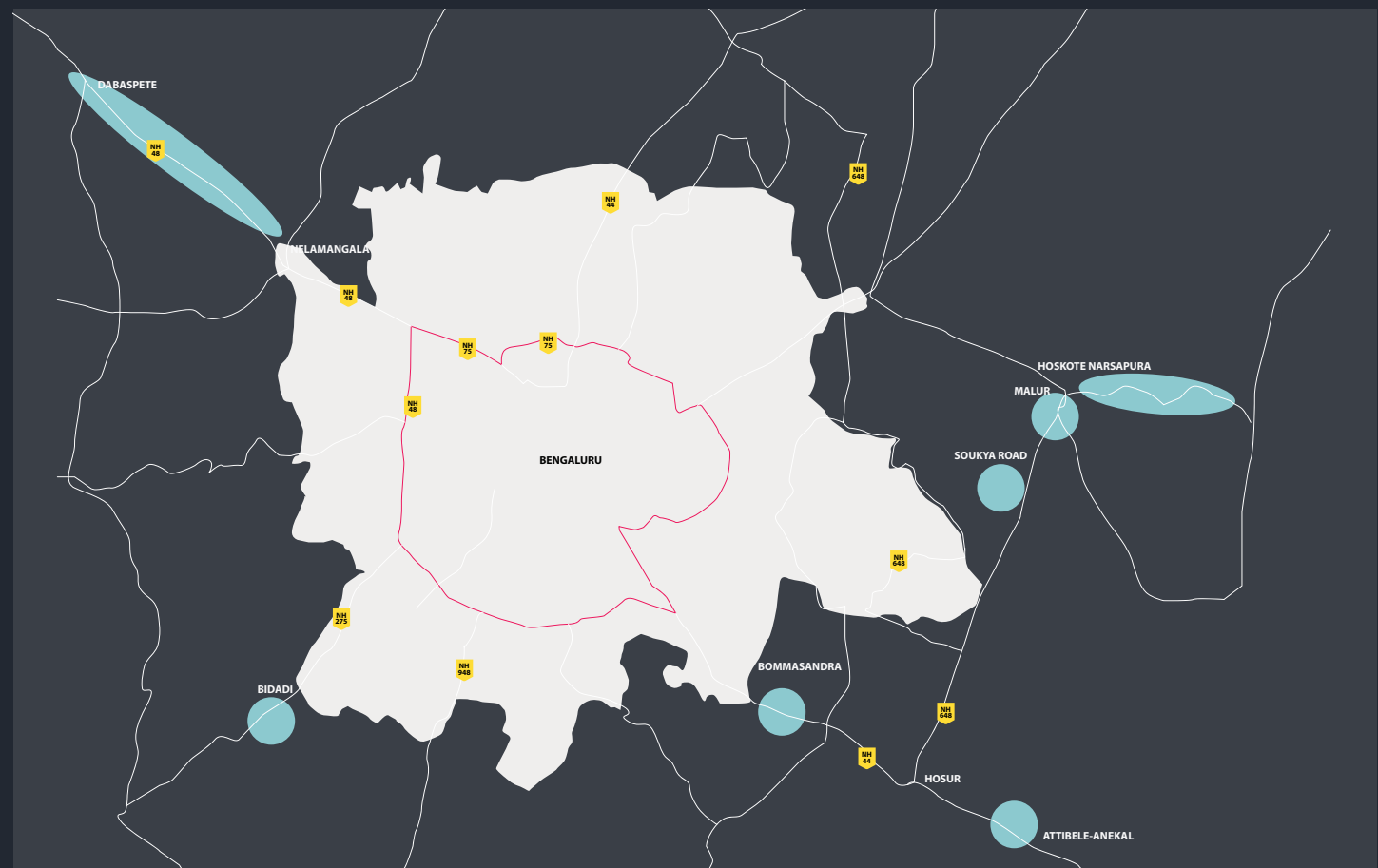
- Bengaluru's warehousing market continued to grow in FY 2022 supported by strong consumption demand driving occupier interest in the market. Bengaluru's warehousing market is divided into three key clusters, namely, Attibele-Bommasandra in the South, Hoskote-Narsapur in the East, and Nelamangala-Dabaspete in the West.
- In recent years, a strong consumer base coupled with business expansions have attracted developers to create large institutional grade warehousing facilities in Bengaluru's prominent warehousing clusters. Sustained by large scale demand for Grade A warehouses, many regional and local players have also intensified efforts to develop quality warehousing facilities in this market. Its key manufacturing hubs located in proximity of National Highway 4 (NH 4) which provides connectivity via Mumbai and Chennai, further goes to make Bengaluru a sought-after warehousing market in Southern India.
- Maintaining its robustness, the warehousing demand in the Bengaluru market has continued to remain buoyant. In FY 2022, Bengaluru registered warehousing transaction volume of 0.55 mn sq mt (5.9 mn sq ft), a 37% growth over the previous financial year, and 5% above the pre-pandemic level witnessed in FY 2019. Prominent occupiers such as Microplastics, Flipkart, Schaeffler, Reliance Industries, Autoliv, Wakefit etc. signed leasing spaces in Bengaluru market with deal sizes ranging from 0.06 mn sq m to 0.02 mn sq m (0.7 mn sq ft to 0.20 mn sq ft).
- Cluster wise, Nelamangala-Dabaspete and Hoskote-Narsapura clusters clocked in 37% and 28% of the total transactions respectively in FY 2022. Other locations such as Whitefield, Soukya

Road, Bidadi, Hosur etc. cumulatively accounted for 29% of the total transaction volume in the city. Hosur, although located in Tamil Nadu, caters to the consumption demand of Bengaluru due to its proximity to the city. Located along the industrial corridor between Bengaluru and Chennai, Hosur is a hub for industrial, manufacturing, and automobile sectors. Bengaluru being the hub for e-commerce and 3PL, inevitably supports the demand for warehousing in Hosur.

- Besides e-commerce and 3PL, Bengaluru also has market traction for various auto, auto-ancillary and manufacturing sectors. This is reflected in the total warehousing area of 49% leased by Other Sectors, of which manufacturing is the major component. 3PL and e-commerce accounted for 18% and 17% of the total transactions respectively.
- In FY 2022, apart from the traditional tenants, Bengaluru witnessed distribution center requirement for dark stores within the city. Dark stores are micro retail distribution centers that cater exclusively to online shopping. Since the Covid-19 pandemic, the spike in dependency on online shopping has necessitated the demand for dark stores, prompting the growth of urban logistics spaces. Currently, urban logistics in India is still at a nascent stage, however, it is on the cusp of going mainstream as consumers, especially in metropolitan cities such as Bengaluru, are likely to get more reliant on the convenience of online shopping.
- Post GST implementation, the demand for large, organized warehouses has risen significantly especially in strategic locations. This has boosted developer sentiment to successfully build large institutional Grade A warehousing facilities

in Bengaluru's prominent clusters. Quality warehousing structures along with built to suit facilities have deepened occupier interest in Grade A warehouses. As a result, the share of tenancy in Grade A warehouses increased from 38% in FY 2021 to 62% in FY 2022.

- In the next few years, the demand for warehousing and logistics facilities in the Bengaluru market is likely to thrive, supported by prospects of growing consumer demand. Apart from this, the State and Central Government initiatives are expected to further facilitate logistics services in the Bengaluru market. State Government initiatives such as the Karnataka Industrial Policy (2020-2025) aims to attract integrated industrial parks and private developers for the development of multi-modal logistics parks (MMLP), logistics parks, dry ports, cold storages, warehouses, and free trade warehouse zones (FTWZ) in the state. In 2021, under the Central Government's Bharatmala Pariyojana, the Karnataka Industrial Area Development Board (KIADB) has allocated a significant portion of land in Obalapura located in Nelamangala-Dabaspete cluster for the development of a Multi-Modal Logistics Park (MMLP). This logistics mode mix will further enhance warehousing and logistics operations in the Bengaluru market.



Source: Knight Frank Research

Warehousing Cluster	Major Warehousing Locations
Nelamangala–Dabaspete Cluster	Nelamangala, T Begur, Govenahalli, Dabaspete, Devenahalli, Doddaballapur
Hoskote–Narsapura Cluster	Hoskote, Nidagatta, Thavarekere, Narsapura, Malur, Sulibele
Attibele-Bommasandra Cluster	Attibele, Bommasandra, Attibele-Anekal Road
Others	Hosur, Soukya Road, Bidadi

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Peripheral Ring Road	Road
NH 48/Mumbai-Bengaluru Highway	Road - NH
NH 75/Bengaluru-Tirupati Highway	Road - NH
NH 648/Nelamangala-Hosur Road	Road - NH
NH 44/Bengaluru-Hosur Road	Road - NH
Electronic City Elevated Expressway	Tolled Expressway
Nandi Infrastructure Corridor Enterprises Road (NICE Road) or Bengaluru-Mysuru Infrastructure Corridor (BMIC)	Tolled Expressway
Chennai-Bengaluru Industrial Corridor	Industrial Corridor
Bengaluru-Mumbai Industrial Corridor	Industrial Corridor
Kochi-Bengaluru Industrial Corridor	Industrial Corridor

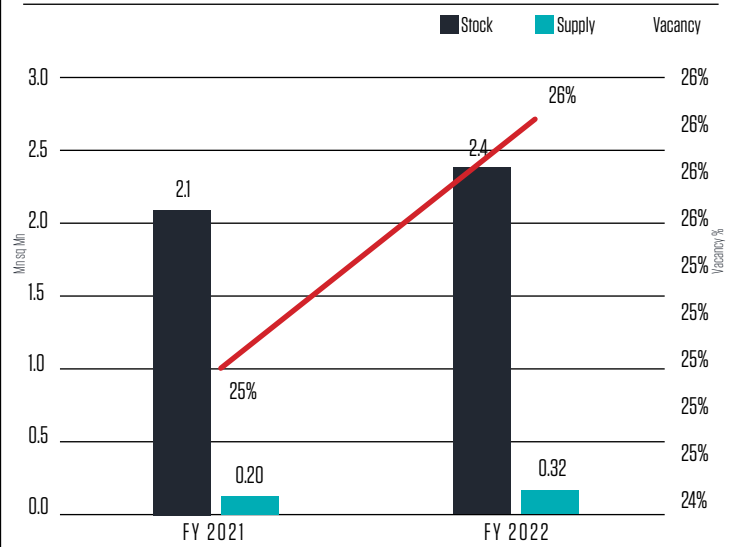
Source: Knight Frank Research

Select warehouse projects

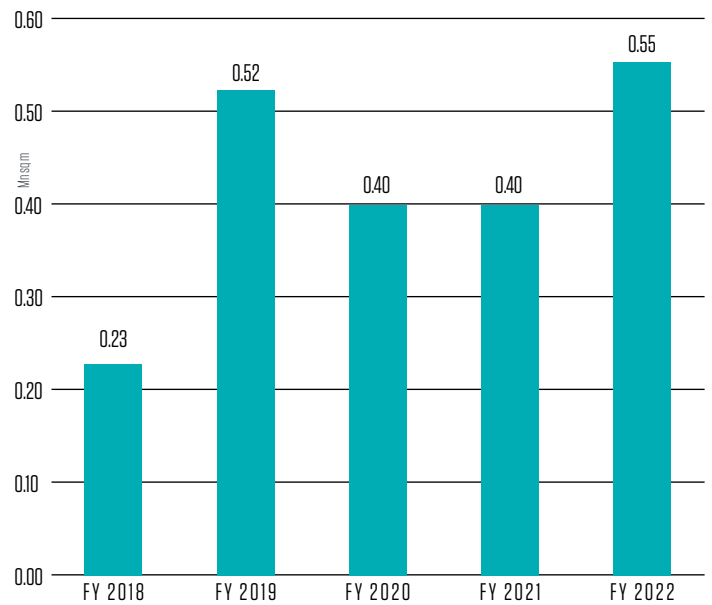
Warehouse Project	Warehouse Cluster
Allcargo	Others (Hosur)
Avigna Space	Hoskote - Narsapura
Welspun One Logistics Park	Others (Hosur)
Indospace	Attibele - Bommasandra
Embassy Industrial Park	Others (Hosur)

Source: Knight Frank Research

Warehousing market stock, supply and vacancy



Warehousing market transaction volume



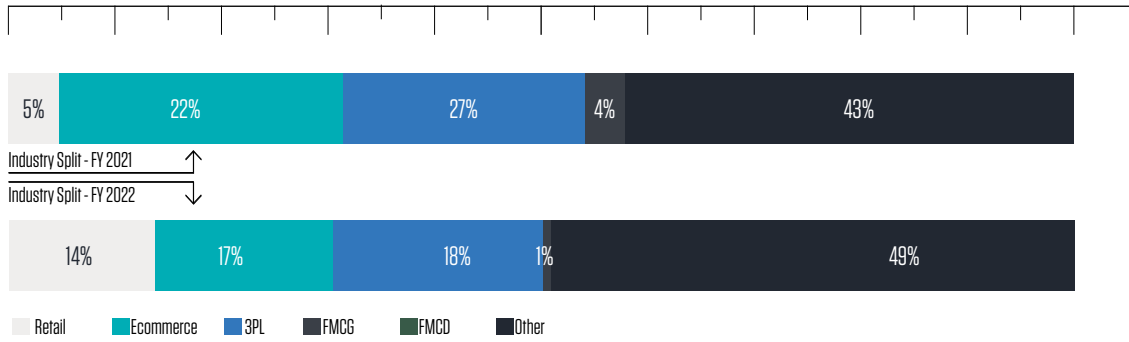
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Micro Plastics,	Manufacturing	Others (Hosur)
Flipkart	E-commerce	Hoskote-Narsapura Cluster
Schauffler	Manufacturing	Others (Hosur)
Reliance	Retail	Others (Hosur)
Van Heusen	Retail	Nelamangala-Dabaspete Cluster

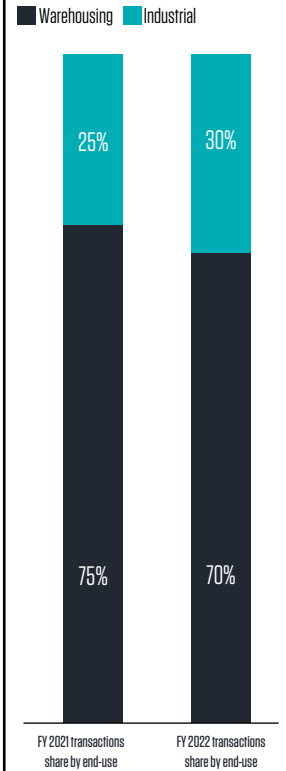
Source: Knight Frank Research

Industry-split of transaction volume



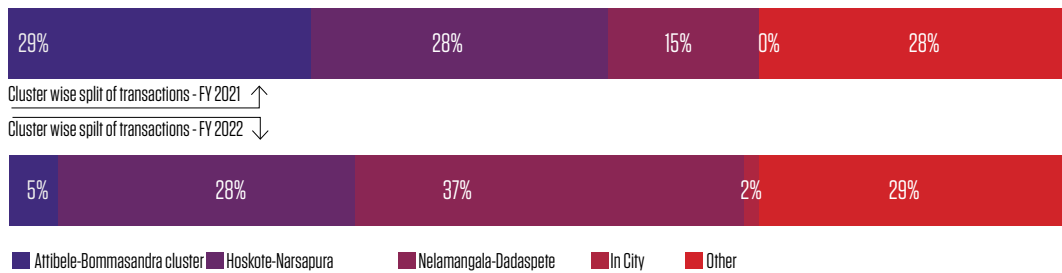
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD.
Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
Attibele-Bommasandra cluster	Bommasandra-Jigani	65-120	237-409 (22-38)	108-290 (10-27)
	Attibele-Anekal	27-65	237-301 (22-28)	161-194 (15-18)
Devanahalli-Doddaballapur	Doddaballapur	25-45	194-258 (18-24)	129-205 (12-19)
	Devanahalli	35-85	204-398 (19-37)	172-215 (16-20)
Hoskote-Narsapura	Hoskote	25-45	205-258 (19-24)	199-226 (18.5-21)
	Siddhalaghatta	18-35	205-258 (19-24)	183-226 (17-21)
Nelamangala-Dabaspete	Nelamangala	30-55	194-258 (18-24)	172-234 (16-22)
In City	Across Bengaluru	45-200	NA	NA
Other	Whitefield-Soukya Road	45-200	248-366 (23-34)	226-344 (21-32)
	Soukya Road	40-65	248-301 (23-28)	226-280 (21-26)
	Bidadi	35-65	205-280 (19-26)	194-237 (18-22)
	Hosur	16-35	167-258 (15.5-24)	172-237 (16-22)

Source: Knight Frank Research

BHUBANESWAR

WAREHOUSING MARKET

Bhubaneswar's warehousing market clocks in 0.08 mn sq m (0.8 mn sq ft) leasing in FY 2022

Pitapalli cluster dominated warehousing lease volume in FY 2022

3PL tenants occupied 71% of the total leased warehousing space in FY 2022.

- Bhubaneswar is the capital city of Odisha and a key trading and commercial hub in eastern India. Due to a large concentration of steel and aluminum plants in Odisha, several ancillary industries have come up in different parts of the state.
- Bhubaneswar is also an active Tier II warehousing market due to its access to port and links to major national highways. It is well connected to Cuttack and other nearby towns. The presence of large industrial hubs, and the cargo and container handling activities at Dhamra and Paradip ports augur well for organised warehousing in the region.
- Warehousing in Bhubaneswar is clustered around the Bhubaneswar- Cuttack Road (NH-16), Tangi, Pitapalli and Chandaka. A demand for warehousing in the city has been picking up gradually in recent years and is widely dominated by local developers. In the last few years, development of industrial and logistics parks around the city has further boosted warehousing activities in the market.
- The erstwhile industrial areas established by the Department of Industries, such as Rasulgarh, Mancheswar, Chandaka, Khordha and Bhagabanpur, continue to witness development of organised warehousing clusters in the vicinity. In FY 2022, the Pitapalli- Chandaka bypass which falls under the Pitapalli cluster and connects Bhubaneswar to Cuttack, was the most popular region amongst the warehousing occupiers. Located about 22 kms from Bhubaneswar city, Pitapalli is in proximity to NH-16 and strategically situated to support the city's long-term storage needs.
- Bhubaneswar's warehousing market is still at a nascent stage dominated by local players having Grade B spaces. Lately however, organized warehousing activity has started mushrooming which will strengthen the warehousing infrastructure in the city and attract occupiers. Warehousing space enquiries in Bhubaneswar is largely led by e-commerce, 3PL, FMCG and FMCD. In the last few years, companies such as Flipkart, Bigbasket, Delhivery, Godrej and Dabur have leased warehouse space in Bhubaneswar.
- FY 2022 displayed a significant improvement in the warehousing demand with 0.08 mn sq m (0.8 mn sq ft) of warehousing spaces being leased. Of the total leasing, about 71% of the space was leased by 3PL tenants, followed by e-commerce with its share of 24%.
- Among the clusters, Pitapalli cluster clocked in 65% of the total leasing volume, followed by Bhubaneswar- Cuttack Road cluster with its share of 22%. The transactions were well distributed between standalone warehouses and industrial and logistic parks such as Khurda Industrial Park, Chhatabar Industrial Estate, TVS Logistics Park and more.
- In the next few years, expansion of e-commerce activity and the need for last mile delivery in the Eastern and North-Eastern states of India is expected to scale up the demand for warehousing in Bhubaneswar.

Major warehousing locations in Bhubaneswar



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Bhubaneswar-Cuttack Road (NH-16 Cluster)	Rudrapur, Mancheswar, Nakhara, Pahala, Phulnakhara, Patia
Tangi	Tangi, Mongoli, Kesura
Pitapalli	Khordha, Off Khandagari
Chandaka	Kantabada, Barang area

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
NH 16/Bhubaneswar-Cuttack Highway	Road - NH
NH 316/Bhubaneswar-Puri	Road - NH

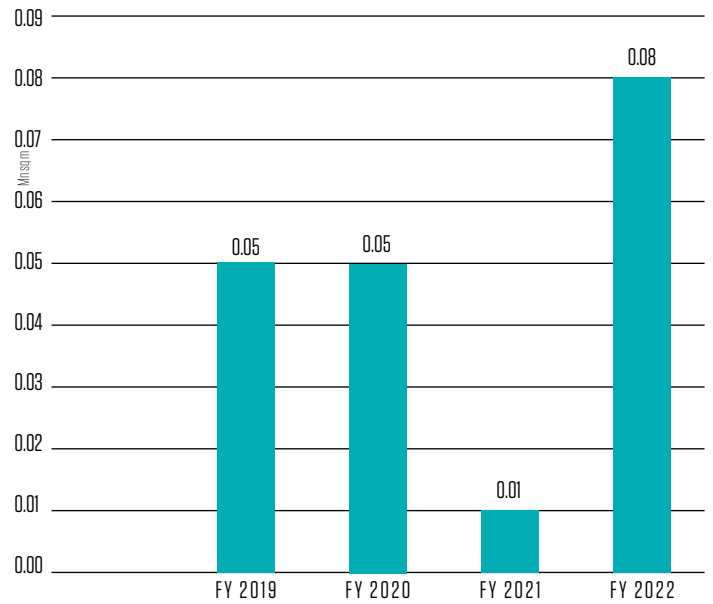
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Kingston Logistics Park	Others (Choudwar)
TVS Industrial & Logistics Park	Chandaka

Source: Knight Frank Research

Warehousing market transaction volume



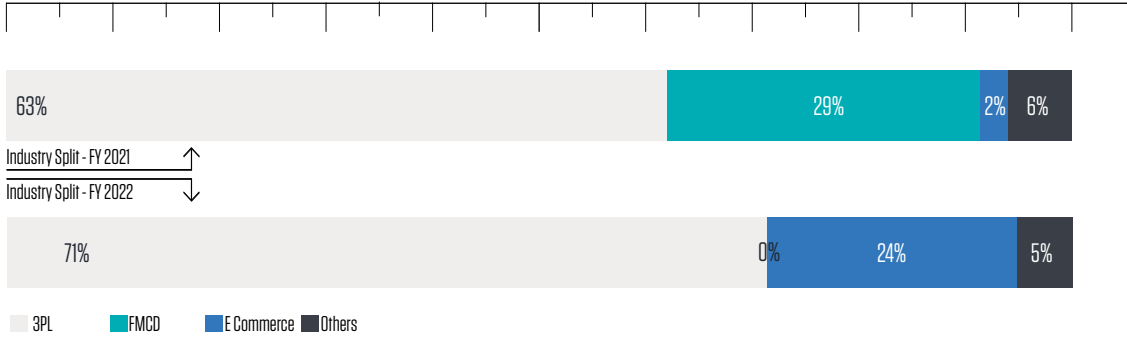
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Aswika Warehousing	3PL	Pitapalli
Flipkart	E-commerce	Pitapalli
Delhivery	3PL	Bhubaneswar-Cuttack Road (National Highway-16)
TVS Logistics	3PL	Pitapalli
Asian Paints	Manufacturing	Pitapalli

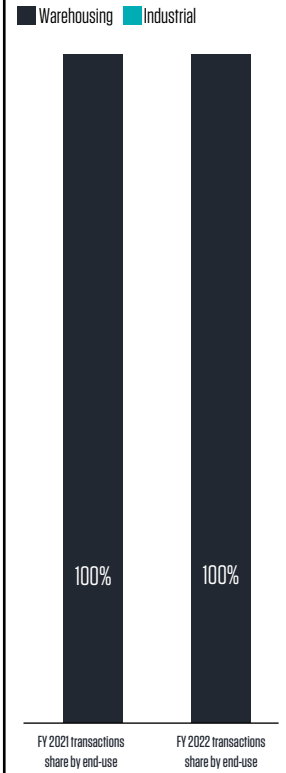
Source: Knight Frank Research

Industry-split of transaction volume



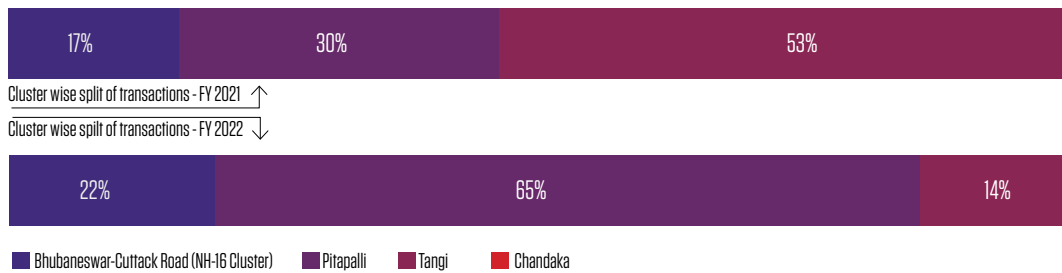
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCD and FMCD
Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)		Rent in INR/sq m/month (INR/sq ft/month)
Bhubaneswar - Cuttack Road (NH-16 Cluster)	Mancheswar	NA	280 - 323 (26 - 30)		258 - 280 (24 - 26)
	Rudrapura	60-75	280 - 312 (26 - 29)		269 - 291 (25 - 27)
	Pahala	60-80	280 - 312 (26 - 29)		269 - 291 (25 - 27)
	Patia	NA	323 - 377 (30 - 35)		NA
Tangi	Tangi	21-25	205 - 248 (19 - 23)		194 - 226 (18 - 21)
	Mongoli	21-25	205 - 248 (19 - 23)		194 - 226 (18 - 21)
Pitapalli	Khordha	25-28	226 - 269 (21 - 25)		205 - 226 (19 - 21)
	Off Khandagari	25-28	226 - 269 (21 - 25)		205 - 226 (19 - 21)
Chandaka	Kantabada	21-28	237 - 280 (22 - 26)		205 - 248 (19 - 23)
	Barang Area	22-28	237 - 280 (22 - 26)		215 - 248 (20 - 23)

Source: Knight Frank Research



Sandeep Chanda

Managing Director
Panattoni India

“

India is among the fastest growing markets for storage infrastructure. Over the past decade, the industry has evolved from a traditional warehouse model to a modern logistics and supply chain ecosystem. The country's thriving logistics industry has enabled a wide variety of warehousing needs, including temperature-controlled warehouses, high-density storage, and advanced distribution centers, among others. The industry is expected to expand further in the coming years, as logistics providers ramp up their capacity to meet the growing demand for logistics services. Additionally, the expansion of third-party logistics is also among the key drivers for demand in the warehousing sector along with the rise of e-commerce transactions and demand for storage in Tier I and Tier II cities strengthening the last-mile delivery to customers. The market growth and recovery can be attributed to government policy assistance and increased institutional investment. The government focus is to develop its own supply chain and build up the domestic manufacturing industry. It has introduced legislation to reform the warehousing industry, which will immensely contribute to the development of the sector. We believe that demand for storage and warehousing services will grow significantly in the coming years. The entire supply chain is facilitated by seamless storage and movement of goods. Variables such as technical improvements in warehousing with automation and robotic mechanization will transform the industry. In order to increase leasing, there will be a greater emphasis on upgrading and expansion in Tier I cities, as well as new market penetration in in-city warehousing and developing logistics hubs.



CHENNAI

WAREHOUSING MARKET

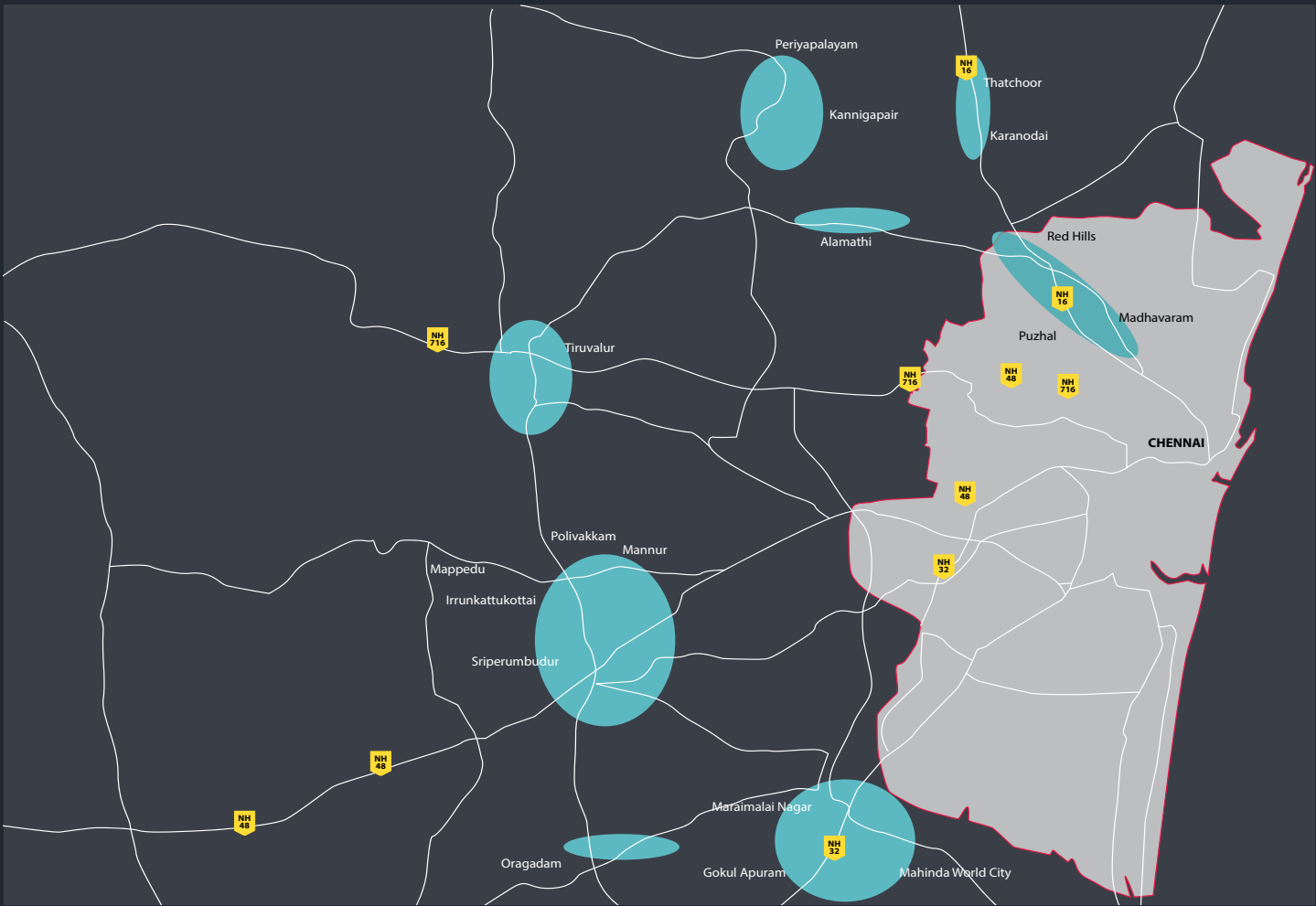
Transaction volumes grew 44% YoY to 0.47 mn sq m (5.1 mn sq ft) in the Chennai warehousing market in FY 2022

Geographically demand remained concentrated in the Sriperumbudur-Oragadam cluster, which accounted for 69% of all transactions in FY 2022.

3PL businesses were the main force behind Chennai's demand for warehouse space, accounting for 35% of all transactions

- Absorption in the Chennai warehouse market increased by a substantial 44% YoY in FY 2022 with Chennai witnessing a total of 0.47 mn sq m (5.1 mn sq ft) of warehouse leasing activity. The subsequent rise in e-commerce and manufacturing sectors, as consumers inclined towards online purchasing amid the pandemic, fueled the growth in Chennai's warehousing market.
- Chennai's development as a thriving trade center during the British era was due to its coastal position. The city is the first significant halt on India's east coast in the Bay of Bengal, and has two significant ports: the Chennai Port, India's second-largest cargo port, and the Ennore Port. Other ports, notably the Kattupalli Port, have also contributed to the growth of Chennai's trading base.
- Chennai became a preferred base for heavy industry due to its proximity to the sea. The city serves as the Indian automobile industry's home base. Other prominent trades practiced here include textile production and manufacturing for heavy industries. These three businesses have been and still are driving the industrial and warehousing markets in Chennai. E-commerce and retail players are a recent addition to this list of warehousing demand drivers in Chennai.
- Most of the warehousing activity in Chennai is focused in three areas: one covers the city's south-west and western edge, another covers its northern belt, and a third covers its southern portion. The Sriperumbudur-Oragadam cluster is made up of storage facilities located between the Grand Southern Trunk Road (GST Road/Chennai-Trichi Highway) in the south and the Poonamallee High Road (Mumbai Highway) in the west. The Mannur-Thiruvallur Belt, which comprises Mevalurkuppam, Mappedu, Mannur, Pollivakkam, and Thiruvallur, is also a part of this cluster. This cluster, well-known for manufacturing, serves as the main hub for the automotive and related industries. The NH 16/GNT Road-Periyapalayam cluster is composed of locations around the Grand Northern Trunk Road (GNT Road/Chennai-Srikakulam Highway/NH 16, previously known as NH 5 in North Chennai. Serving an industrial belt traditionally, this cluster has recently caught the attention of e-commerce businesses, FMCG companies, and significant 3PL players, particularly along the NH 16/GNT Road-Redhills Belt. The GST Road-Maraimalai Nagar cluster is made up of storage facilities in Chennai's south-east, including Chengalpattu, Sengundram Industrial Area, and Maraimalai Nagar. This cluster meets both the new industrial demand in the city, as well as the spillover demand from the Sriperumbudur-Oragadam cluster.
- In terms of the industry, 3PL businesses were the main force behind Chennai's demand for warehouse space, accounting for 35% of all transactions. With a demand share of 38%, the Other Sectors (which includes all manufacturing companies excluding FMCG and FMCD) came in second, followed by the e-commerce sector at 14% and the miscellaneous category at 7%.
- Geographically, the demand remained concentrated in the Sriperumbudur-Oragadam cluster, which accounted for 69% of all transactions in FY 2022. Along with its manufacturing base, this cluster experienced rising demand from 3PL and e-commerce companies in FY 2022. At 31%, the demand in the Periyapalayam-NH16 cluster remained steady.
- Both land rates and rentals witnessed appreciation in select pockets across the three clusters, in FY 2022. Driven by the increase in warehousing demand from e-commerce and 3PL companies, Grade A warehouse rents have appreciated marginally across most micro-markets in the NH 16/GNT Road-Periyapalayam cluster in North Chennai. Steady manufacturing activity contributed to a marginal increase in warehouse rents in both Sriperumbudur-Oragadam and GST Road-Maraimalai Nagar clusters. Increased warehousing traction also attributed to an increase in land rates in Sriperumbudur, Irungattukottai, Red Hills and Karanodai belts.

Major warehousing locations in Chennai



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Sriperumbudur-Oragadam Cluster	Irrungattukottai, Sriperumbudur, Oragadam and other locations on the in-roads branching from Sriperumbudur Mannur-Thiruvallur Belt: Includes Mevalurkuppam, Mappedu, Mannur, Pollivakkam and Thiruvallur
NH 16/GNT Road-Periyapalayam Cluster (North Chennai)	Periyapalayam Road, Thatchoor, Gumudipoondi. NH 16/GNT Road-Redhills Belt: Includes Madhavaram, Manali, Red Hills, Puzhal, Karandai, Alamathi and Poochettipadu
GST Road-Maraimalai Nagar Cluster	Maraimalai Nagar, in and around Mahindra World City, Sengundram Industrial area, Chengalpattu

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Chennai Port	Port
Ennore Port	Port
NH 16/Grand Northern Trunk Road	Road-NH
NH 32/East Coast Road	Road-NH
NH 45/Grand Southern Trunk Road	Road-NH
NH 48/Poonamallee High Road	Road-NH
NH 716/Chennai-Thiruvallur High Road	Road-NH
Chennai-Bengaluru Industrial Corridor	Industrial Corridor
Visakhapatnam Chennai Industrial Corridor	Industrial Corridor
Tamil Nadu Defence Industrial Corridor	Industrial Corridor
Chennai MMLP	MMLP
Chennai International Airport	Airport

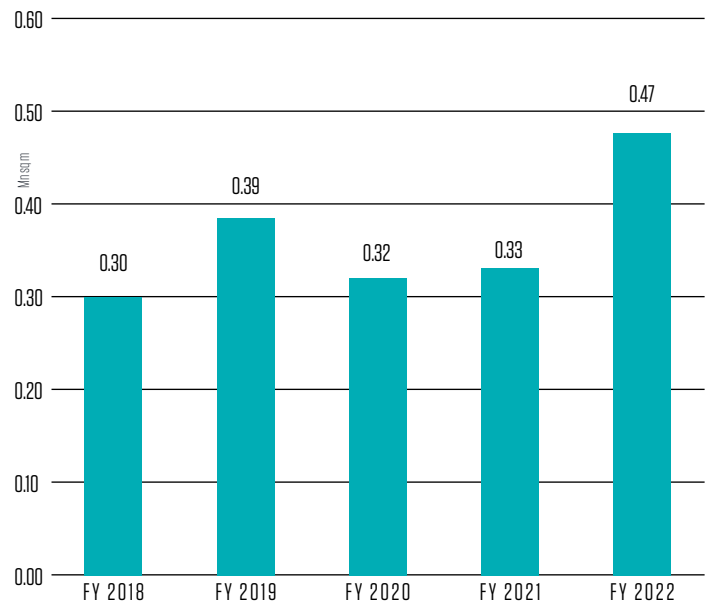
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
Ascendas-Firstspace	NH 16-Periyapalayam Sriperumbudur-Oragadam
ESR	Sriperumbudur-Oragadam
NDR Logistics	NH 16-Periyapalayam: NH 16/GNT Road-Redhills Belt Sriperumbudur-Oragadam
NDR Logistics (Irrungattukottai)	Sriperumbudur-Oragadam: Mannur-Thiruvallur Belt
Logos Park	Sriperumbudur-Oragadam cluster

Source: Knight Frank Research

Warehousing market transaction volume



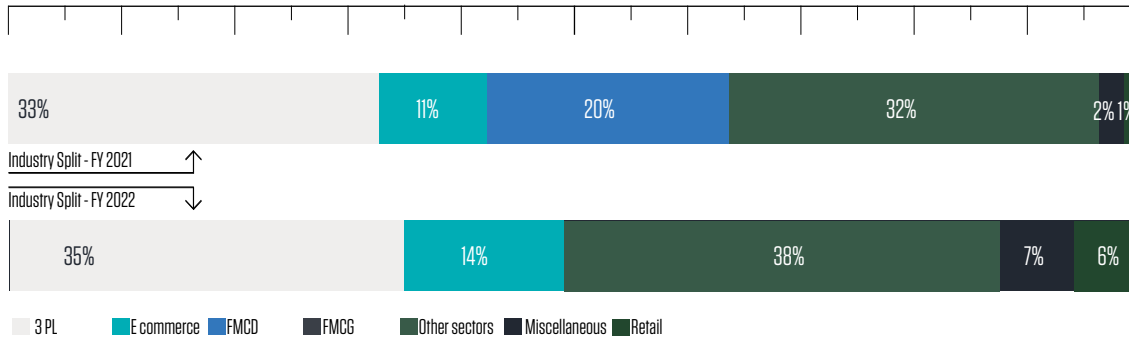
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
DHL	3PL	Sriperumbudur-Oragadam
Eichhoff Wind Asia Pvt Ltd	Manufacturing	Sriperumbudur-Oragadam
Skaps	Manufacturing	Sriperumbudur-Oragadam
Flipkart	E-commerce	NH 16-Periyapalayam
Gurit	Manufacturing	Sriperumbudur-Oragadam

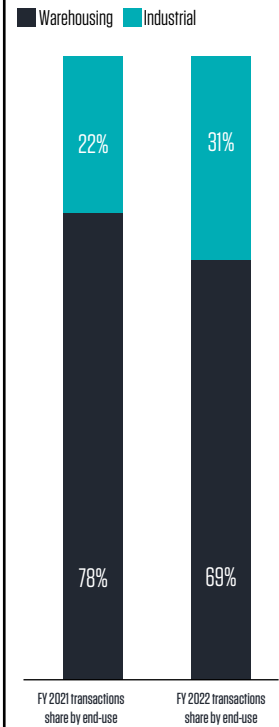
Source: Knight Frank Research

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors – These include all manufacturing sectors (automobile, electronics, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous – These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. | Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
Sriperumbudur-Oragadam Cluster	Sriperumbudur	20 – 25	237 - 269 (22 - 25)	226 - 258 (21 - 24)
	Oragadam	20 – 30	248 - 280 (23 - 26)	226 - 258 (21 - 24)
	Mappedu	10 – 15	172 - 205 (16 - 19)	161 - 183 (15 - 17)
	Mannur	17 – 23	205 - 237 (19 - 22)	183 - 205 (17 - 19)
	Irungattukottai	40 – 45	237 - 269 (22 - 25)	215 - 248 (20 - 23)
	Pollivakkam	15 – 18	205 - 226 (19 - 21)	194 - 226 (18 - 21)
NH 16/GNT Road-Periyapalayam Cluster (North Chennai)	Cholavaram	13 – 16	194 - 237 (18 - 22)	172 - 215 (16 - 20)
	Red Hills	15 – 17	215 - 248 (20 - 23)	194 - 237 (18 - 22)
	Karanodai	17 – 22	215 - 248 (20 - 23)	194 - 237 (18 - 22)
	Madhavaram	80-100	226 - 258 (21 - 24)	205 - 237 (19 - 22)
	Puzhal	60-80	215 - 258 (20 - 24)	205 - 237 (19 - 22)
	Periyapalayam	13 – 16	172 - 194 (16 - 18)	172 - 194 (16 - 18)
GST Road-Maraimalai Nagar Cluster	In and around Mahindra World City	25 – 27	248 - 280 (23 - 26)	248 - 280 (23 - 26)
	Maraimalai Nagar	40 – 45	237 - 280 (22 - 26)	237 - 258 (22 - 24)

Source: Knight Frank Research

COIMBATORE

WAREHOUSING MARKET

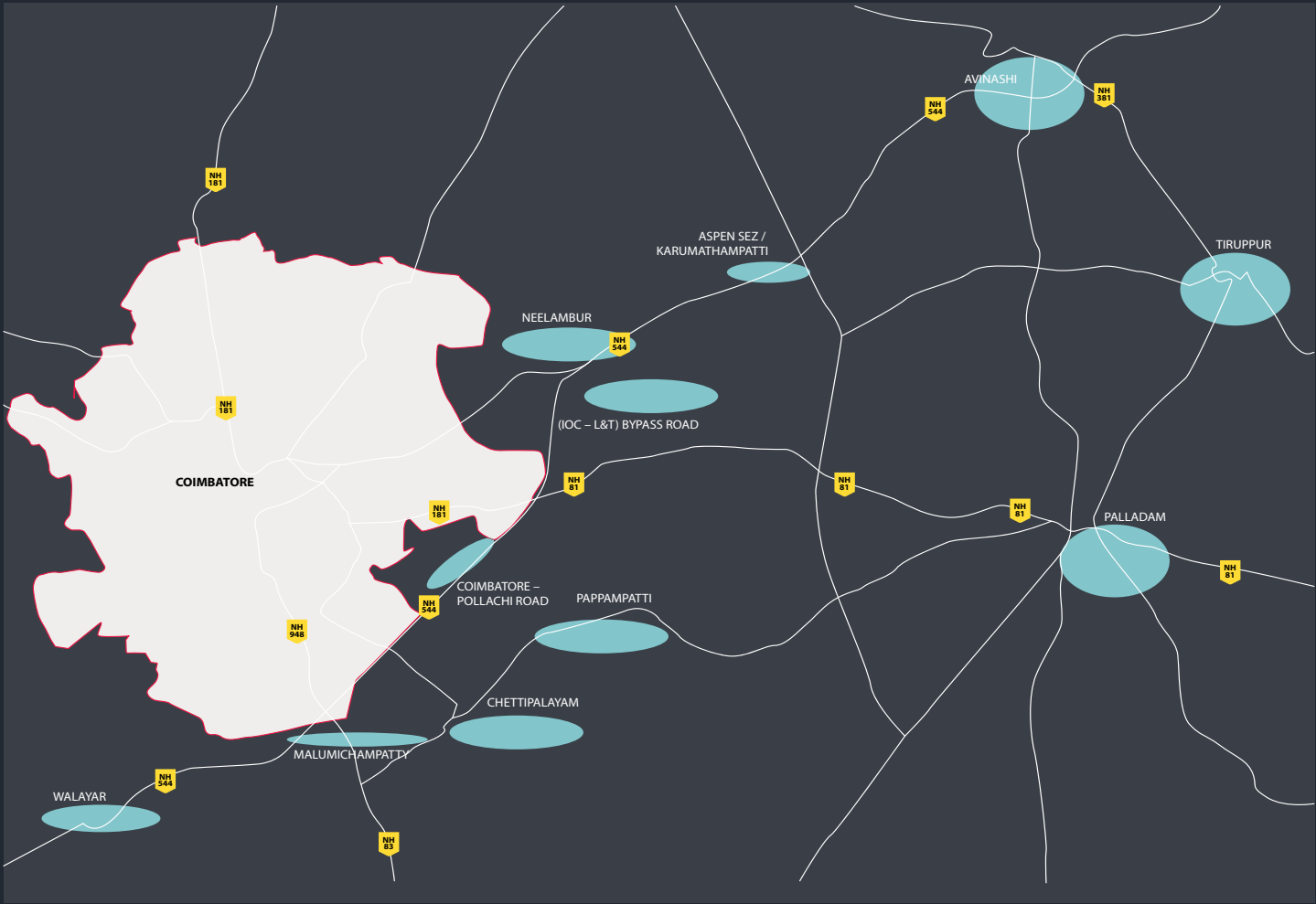
In FY 2022, 0.1 mn sq m (1.3 mn sq ft) of new warehousing space was transacted

The Pollachi + Palladam-Cochin Frontier Road warehousing cluster is seeing the most traction as 3PLs, e-commerce players and FMCG companies can access Coimbatore as well as Kochi consumption markets from here

The 3PL sector accounted for 35% of all transaction activity in terms of industrial orientation for the FY 2022 warehousing demand, while the demand for e-commerce was at 16%

- The Coimbatore industrial and warehousing market recorded 0.1 mn sq m (1.3 mn sq ft) of space absorption in FY 2022, a 7% YoY growth.
- Coimbatore, which is in the middle of the Southern Peninsula, offers easy access to Bengaluru, north Kerala, south Karnataka, and west and south Tamil Nadu. Because of this, numerous 3PL businesses and e-commerce players have established warehouses in Coimbatore to serve a wider range of customers from a single location.
- The increase in demand for last-mile delivery caused by the expansion of e-commerce was a major factor in the growth of the 3PL industry as a major driver of warehousing demand. The other driver for warehousing demand in Coimbatore includes the traditional heavy pump manufacturing industries, textile factories and metal casting industries that manufacture spare parts and components.
- The Avinashi Road cluster and the Pollachi + Palladam-Cochin Frontier Road cluster are the two primary concentrations of warehousing activity in Coimbatore. The Neelambur, IOC-L&T Bypass Road, and Avinashi areas in the east have been combined into a single homogenous cluster known as the Avinashi Road cluster, which largely serves industrial purposes. The Pollachi + Palladam-Cochin Frontier Road storage cluster, which includes southern locales such as Pollachi, Chettipalayam, Malumichampatty, Palladam, and Walayar, meets the warehousing needs of 3PLs, e-commerce businesses, and FMCG/FMCD companies. From the neighbouring state of Kerala, this cluster provides easy access to the consumption markets of Coimbatore city as well as Kochi.
- Majority of transaction activity in the Coimbatore warehousing market in FY 2022 was centered in the Pollachi + Palladam-Cochin Frontier Road cluster led by the increase in 3PL sector activity. This cluster contributed 96% of all transaction activity in FY 2022.
- The 3PL sector accounted for 35% of all transaction activity in terms of industrial orientation for the FY 2022 warehousing demand, while the demand for e-commerce was at 16%. Together, these two industries made for more than half of the overall pie.
- Driven by the increased warehousing traction, land rates as well as rentals appreciated in select pockets in FY 2022. In the Pollachi + Palladam-Cochin Frontier Road cluster, land rates appreciated across most micro-markets including Coimbatore-Pollachi Road, Malumichampatty, Palladam and Walayar belts. Warehouse rents grew for Grade B warehouses in Neelambur, IOC-L&T Bypass, Avinashi and Coimbatore-Pollachi Road belts, whereas Grade A warehouse rentals appreciated mainly in the Coimbatore-Pollachi Road belt.

Major warehousing locations in Coimbatore



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Avinashi Road Cluster	Neelambur, Aspen SEZ/Karumathampatti, Avinashi, Tiruppur, other locations on Coimbatore-Avinashi Road (NH 544), and Indian Oil Corporation-Larsen & Toubro (IOC-L&T) Bypass Road
Pollachi + Palladam-Cochin Frontier Road Cluster	Coimbatore-Pollachi Road, Malumichampatty, Chettipalayam, Pappampatti, Palladam, Walayar

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
NH 544/Salem-Kochi Highway/Avinashi Road	Road – NH
NH 948/Bengaluru Road	Road – NH
NH 181/Mettupalayam Road	Road – NH
NH 81/Trichy Road	Road – NH
NH 83/Pollachi Road	Road – NH
Tamil Nadu Defence Industrial Corridor	Industrial Corridor
Coimbatore MMLP	MMLP

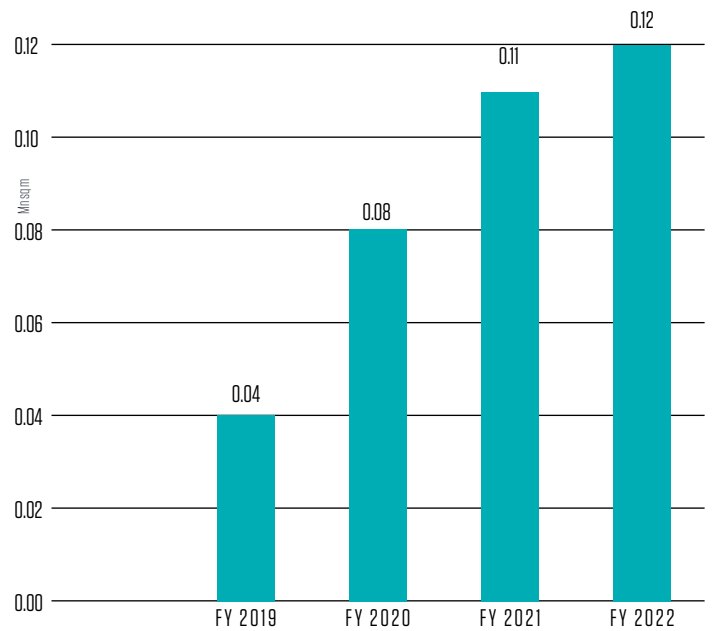
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
TVS Industrial Park-Appanaickenpatti	Pollachi + Palladam-Cochin Frontier Road Cluster
NDR Warehousing-Chettipalayam	Pollachi + Palladam-Cochin Frontier Road Cluster
Indospace	Pollachi + Palladam-Cochin Frontier Road Cluster
NDR Warehousing-Othakalmandapam	Pollachi + Palladam-Cochin Frontier Road Cluster
NDR Warehousing-Ettimadai	Pollachi + Palladam-Cochin Frontier Road Cluster

Source: Knight Frank Research

Warehousing market transaction volume



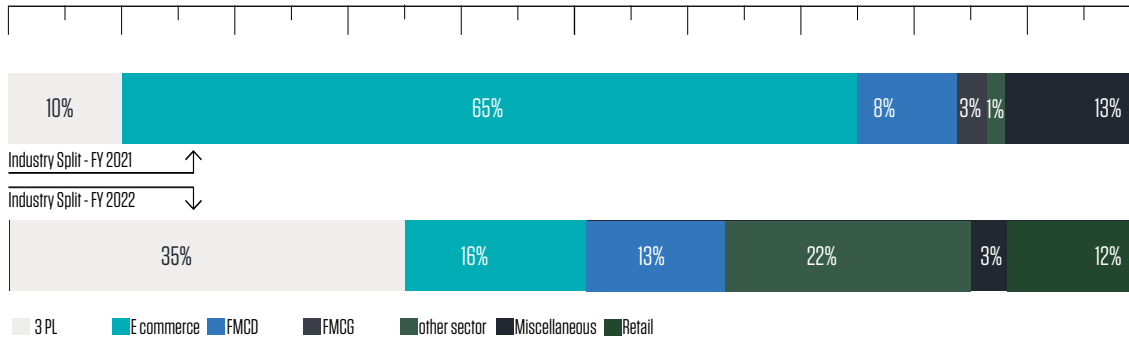
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
HUL	FMCG	Pollachi + Palladam-Cochin Frontier Road Cluster
Yusen Logistics	3PL	Pollachi + Palladam-Cochin Frontier Road Cluster
Flipkart	E-commerce	Pollachi + Palladam-Cochin Frontier Road Cluster
Ecom Express	3PL	Pollachi + Palladam-Cochin Frontier Road Cluster
Reliance	Retail	Pollachi + Palladam-Cochin Frontier Road Cluster

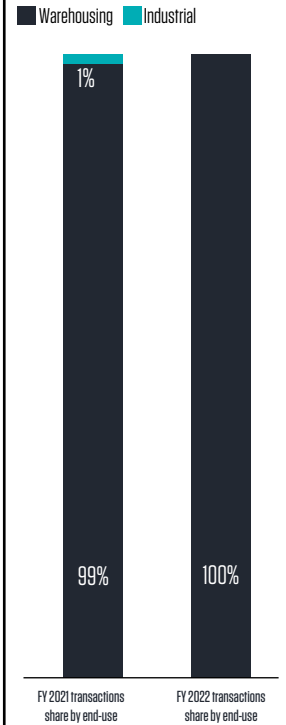
Source: Knight Frank Research

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
Avinashi Road Cluster	Neelambur	No development of new warehouses	No Grade A	161 – 215 (15 – 20)
	IOC-L&T Bypass	No development of new warehouses	No Grade A	161 – 194 (15 – 18)
	Aspen SEZ/Karumathampatti	No development of new warehouses	No Grade A	161 – 194 (15 – 18)
	Avinashi	No development of new warehouses	No Grade A	140 – 172 (13 – 16)
	Tiruppur	No development of new warehouses	No Grade A	151 – 172 (14 – 16)
Pollachi + Palladam-Cochin Frontier Road Cluster	Coimbatore-Pollachi Road	12.5 – 15	194 – 237 (18 – 22)	161 – 194 (15 – 18)
	Malumichampatty	12.5 – 15	194 – 237 (18 – 22)	170 – 194 (16 – 18)
	Palladam	10 – 12.5	194 – 237 (18 – 22)	140 – 172 (13 – 16)
	Walayar	10 – 12.5	194 – 237 (18 – 22)	140 – 151 (13 – 14)

Source: Knight Frank Research

GUWAHATI

WAREHOUSING MARKET

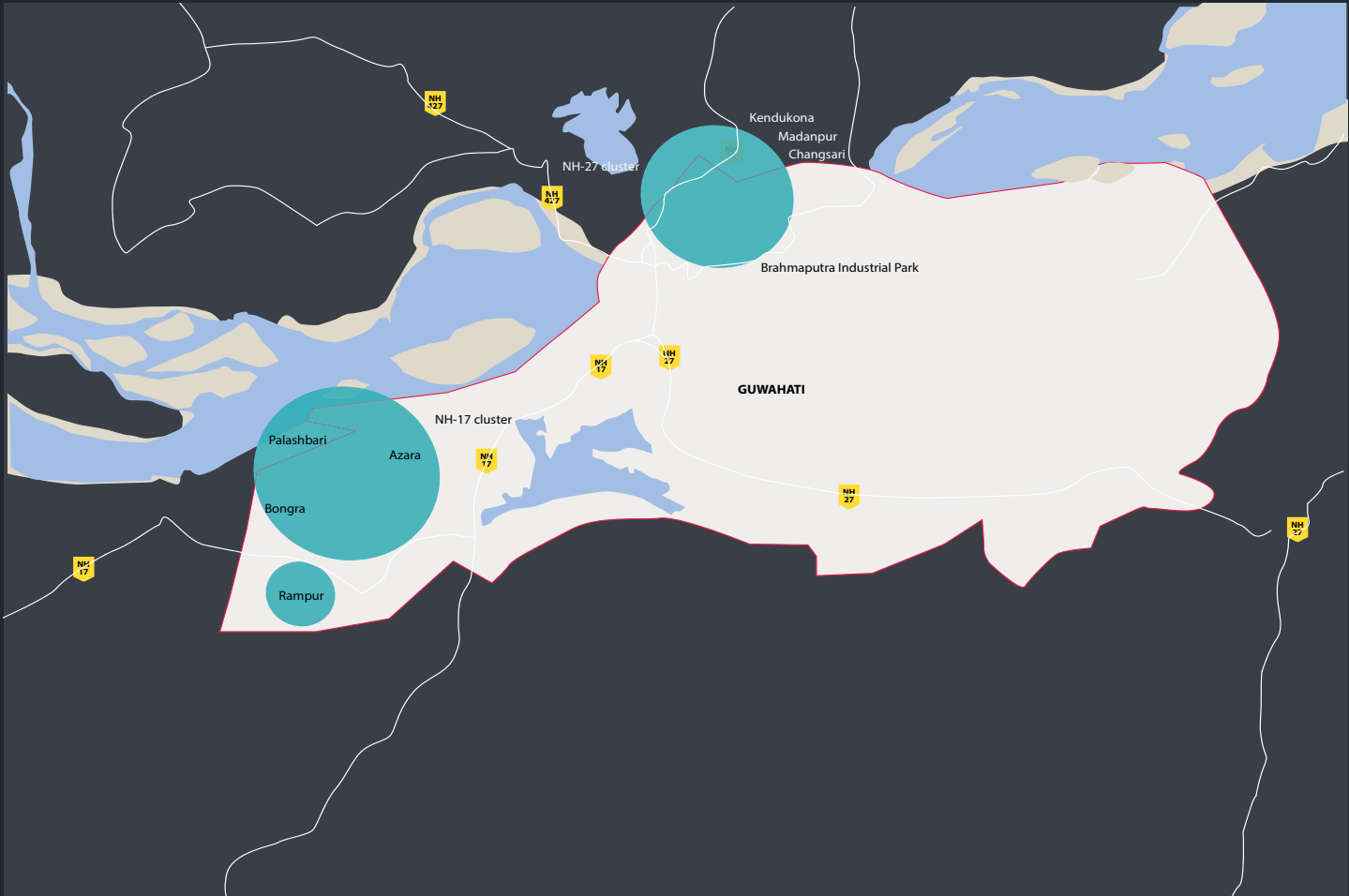
In FY 2022, nearly 1.6 mn sq ft (0.14 mn sq m) of warehousing space was transacted in Guwahati, representing a hefty 84% YoY growth over FY 2021.

NH 27 emerged as a key warehousing destination in FY 2022 garnering a share of 58% in the leasing total.

In the past four financial years, including FY 2022, 3.7 mn sq ft (0.34 mn sq m) warehousing space has been leased in Guwahati.

- Guwahati is a crucial warehousing market in north-east India. As Assam's largest city, it is an important consumption market with excellent connectivity to its neighboring states. Guwahati's road infrastructure serves all the eight north-eastern states, as well as cities like Kolkata, Jalpaiguri, Shillong, Dibrugarh, Imphal and Aizawl.
- Guwahati is one of India's fastest growing cities with the manufacturing sector contributing a substantial share to the local economy. Apart from petroleum manufacturing, the old industrial estates in locations such as Bamunimaidam and Kalaphar have small and medium scale enterprises engaged in offset printing, carbon products, furniture, steel fabrication, FMCG and plastics production.
- The small industrial estates of the past are paving the way for organised warehousing as occupiers from diverse sectors take notice of the city's potential to serve the neighboring Tier II and Tier III consumption markets. In the past four financial years, including FY 2022, 3.7 mn sq ft (0.34 mn sq m) warehousing space has been leased in Guwahati.
- With organized warehousing gaining traction, Guwahati's prime warehousing clusters have emerged in the northern city limits, also known as 'North Guwahati'. Locations along the National Highway 27 (NH 27) such as Changsari and Chowki Gate have slowly become occupiers' favorites. Beyond the Saraighat Bridge, many locations are suitable for warehousing activities. Land availability for self-use by industrial developers or Build-to-Suit (BTS) construction is being pursued in these pockets. Occupiers from sectors such as pharmaceutical, FMCG, FMCD and e-commerce have leased warehouses on this stretch.
- The second prominent warehousing cluster in Guwahati is the National Highway 17 (NH 17). Palashbari and Azara are two key locations on this stretch. Proximity to the airport has been a major driver for attracting pharmaceutical companies in this belt. Many pharmaceutical occupiers such as the Sun-Pharma Brahmaputra Group and Natco Pharma, have established manufacturing facilities here.
- Rampur too, is an emerging warehousing cluster in Kamrup rural district where the fast-track development of industries by the Assam Government and its declaration as an industrial zone, is also contributing to warehousing space demand pick up.
- In FY 2022, nearly 1.6 mn sq ft (0.14 mn sq m) of warehousing space was transacted in Guwahati, representing a hefty 84% YoY growth over FY 2021. NH 27 emerged as a key warehousing destination in FY 2022 garnering a share of 58% in the leasing total. In this cluster, locations such as Amingaon, Boragaon, Abhaypur and Madanpur witnessed leasing of big boxes by many occupiers. This was followed by NH 17 with 31% share. Rampur accounted for 11% share in this period as limited leasing was witnessed in Pamohi and Lokhra in this micro-market.
- In terms of industry split, 3PL sector occupiers dominated the new warehouse leasing in FY 2022 with 29% share followed by FMCD at 22%. E-commerce accounted for 17% share, while retail accounted for 14%. Unlike FY 2021, warehousing requirements from many new sectors have come up in Guwahati in FY 2022. Many companies are expanding operations here to enable better inventory management and facilitate last mile delivery.

Major warehousing locations in Guwahati



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
NH 27 Cluster	Brahmaputra Industrial Park, Changsari, Madanpur, Kendukona
NH 17 Cluster	Bongra-Airport, Palashbari, Azara
Rampur	Dakshin Rampur, Uttar Rampur, Dakshin Sarubongsor

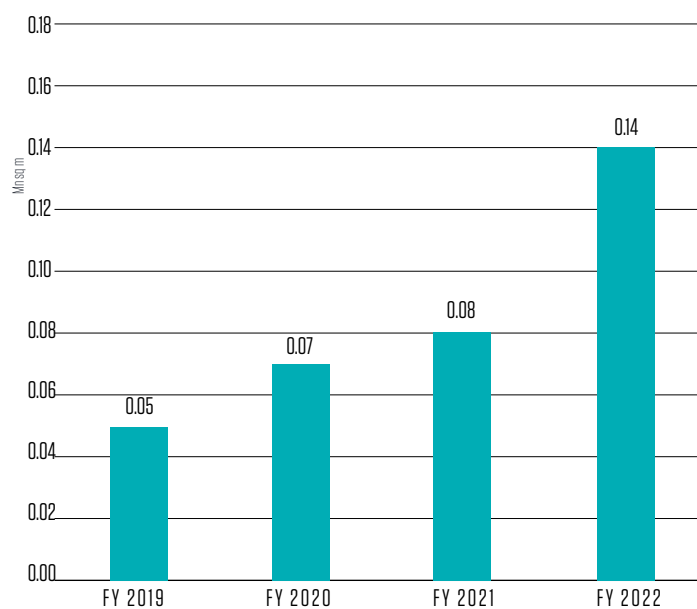
Source: Knight Frank Research

Major Infrastructure in Guwahati

Name	Type
NH 27 Guwahati stretch	Road – NH
NH 17/Guwahati stretch	Road – NH
Lokpriya Gopinath Bordoloi International Airport	Airport
East West Corridor	Road

Source: Knight Frank Research
Note: NH stands for National Highway

Warehousing market transaction volume



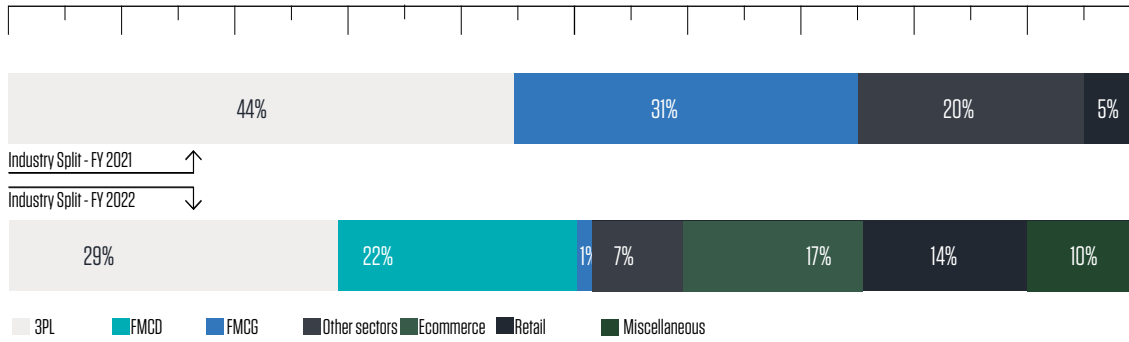
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Godrej	FMCD	NH-27 Cluster
Flipkart	E-commerce	NH-27 Cluster
Whirlpool	FMCD	NH-27 Cluster
Udaan	3PL	Rampur Cluster

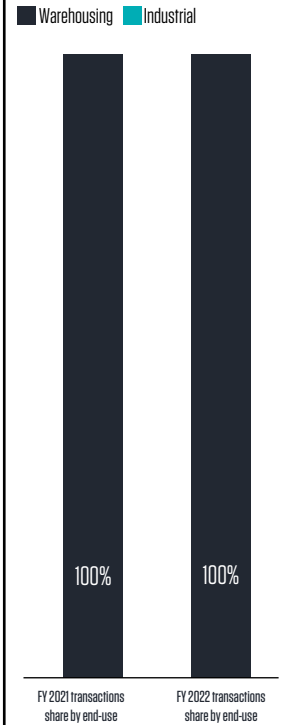
Source: Knight Frank Research

Industry-split of transaction volume



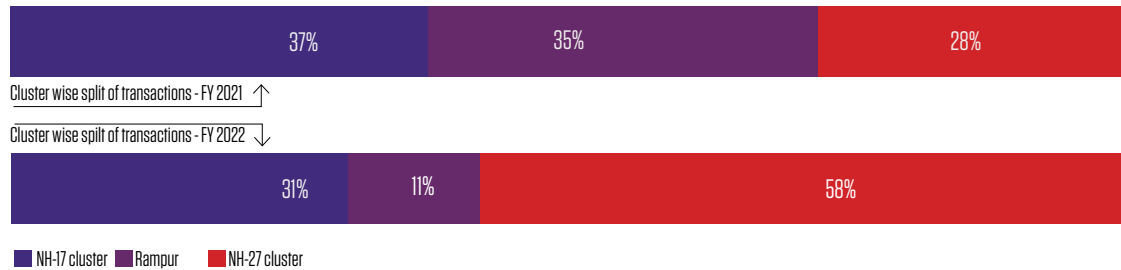
Notes: Warehousing transactions data includes light manufacturing/assembly. **Other Sectors** – Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. **Miscellaneous** – These include services such as telecom, real estate, document management, agricultural warehousing, and publishing.
Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity.
Industrial transactions: These refer to manufacturing activity.
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
NH 27 Cluster	Brahmaputra Industrial Park	25-35	No Grade A	172-194 (16-18)
	Changsari	18-24	194-215 (18-20)	172-194 (16-18)
	Madanpur	18-24	194-237 (18-22)	172-194 (16-18)
	Kendukona	16-24	183-205 (17-19)	161-183 (15-17)
NH 17 Cluster	Bongra-Airport	25-30	194-215 (18-20)	172-194 (16-18)
	Palashbari	22-30	194-237 (18-22)	172-194 (16-18)
	Azara	22-30	194-237 (18-22)	172-194 (16-18)
Rampur	Dakshin Rampur	18-24	194-226 (18-21)	161-183 (15-17)
	Uttar Rampur	18-24	194-215 (18-20)	161-183 (15-17)
	Dakshin Sarubongsor	17-20	194-215 (18-20)	161-183 (15-17)

Source: Knight Frank Research

HYDERABAD

WAREHOUSING MARKET

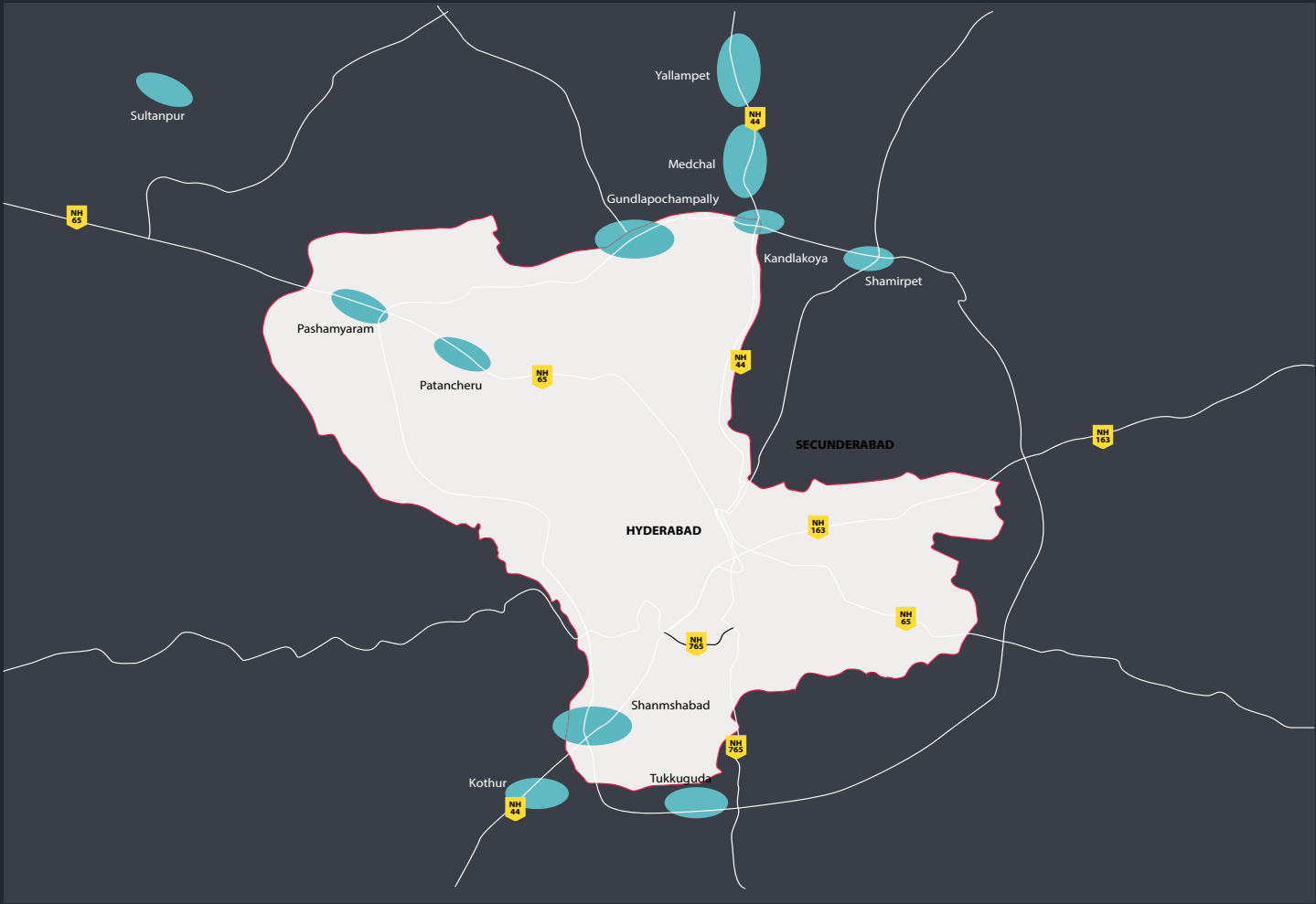
Transaction activity in the Hyderabad warehousing market surged by 128% YoY to 0.50 mn sq m (5.4 mn sq ft) in FY 2022

The Shamshabad cluster remained one of the major cluster, largely driven by its proximity to the airport and good connectivity due to Bangalore-Hyderabad highway

Most of the real estate development (read warehousing development) near the airport is taking place towards the southern side of the airport towards Kothur, Shadnagar, Tukkuguda and Maheshwaram Mandal

- The transaction activity in the Hyderabad industrial and warehousing market, surged by 128% YoY, from 0.22 mn sq m (2.4 mn sq ft) in FY 2021 to 0.50 mn sq m (5.4 mn sq ft) in FY 2022. The growth was majorly driven by increased growth in 3PL space. With most retail and e-commerce companies preferring to outsource their logistics and warehousing operations to 3PL players in recent years, warehousing demand by 3PL occupiers has grown in Hyderabad. The demand for 3PL services increased from 24% in FY 2021 to 31% in FY 2022.
- The retail sector experienced the highest growth in share in FY 2022, going from 0% in FY 2021 to 17%. The share percentage of Other Sectors, which comprises all manufacturing companies excluding FMCG and FMCD, also saw a rise from 2% in FY 2021 to 18% in FY 2022 on the back of a few sizable transactions from the paints and pharmaceutical industries.
- While the share of e-commerce reduced to 26% in FY 2022 from 54% in FY 2021, the segment observed a 12% YoY growth in absolute volumes to 0.13 mn sq m (1.4 mn sq ft). The need for storage increased in FY 2022 due to the e-commerce growth brought on by the increase in online shopping after the onset of Covid. E-commerce businesses were well supported by the expansion of quick e-commerce service providers as several online retailers built an omni-channel presence to improve market share in the city.
- The major drivers of the warehousing sector in Hyderabad are end-user consumption-based categories as industrial presence in the city is limited. Warehousing demand is therefore dominated by e-commerce, retail and the FMCG / FMCD industries.
- Warehousing activity in Hyderabad is largely concentrated in three major clusters. These are the Medchal cluster in the north located along the Hyderabad – Nagpur highway, the Patancheru cluster in the west on the Mumbai – Hyderabad highway, and the Shamshabad cluster in the south located along the Bengaluru – Hyderabad highway.
- The demand for warehousing in FY 2022 was accounted for in part by the Medchal cluster, whose share has increased from 48% in FY 2021 to 60% in FY 2022.
- The Shamshabad cluster observed a decline in activity from its 51% share the previous year to a 30 % share in the overall transaction pie in FY 2022. The skew brought on by a select number of large transactions seen in the Patancheru cluster is what led to the decline. The share of Patancheru cluster increased from 2% in FY 2021 to 10% in FY 2022.
- During FY 2022, land rates grew marginally in the Patancheru and Medchal clusters, while rentals remained largely steady across locations in the three warehousing clusters.

Major warehousing locations in Hyderabad



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Medchal Cluster	Medchal, Devaryamjal-Gundlapochampally, Kandlakoya, Yellampet, Shamirpet, Outer Ring Road onwards, Ravakol, Bandmailaram, Pudur, Toopran, Manoharabad
Patancheru Cluster	Patancheru Industrial Area, Rudraram, Edulanagulapally, Pashamylaram, Sulthanpur
Shamshabad Cluster	Shamshabad, Aerotropolis, Srisaillam Highway, Bongloor, Kothur, Shadnagar

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Outer Ring Road	Road
Inner Ring Road	Road
Bengaluru-Hyderabad Highway / NH 44	Road
Mumbai-Hyderabad Highway / NH 65	Road
Nagpur-Hyderabad Expressway	Road
Rajiv Gandhi International Airport	Airport

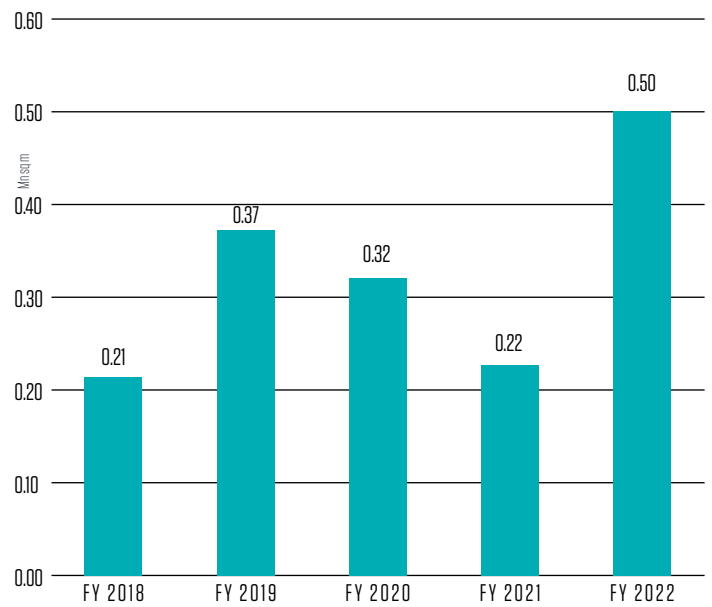
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
ESR GMR Industrial & Logistics Park	Shamshabad
Zero Mile Warehousing	Medchal
Allcargo Logistics & Industrial Parks	Patancheru
K Raheja Corp – Industrial Park	Shamshabad
Musaddilal Projects	Medchal

Source: Knight Frank Research

Warehousing market transaction volume



Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Flipkart	E-commerce	Jeedimetla-Medchal-Kompally
Reliance Retail	Retail	Shamshabad
E Com Express	3PL	Jeedimetla-Medchal-Kompally
DMart	Retail	Medchal
SVS Pharma	Manufacturing	Patancheru cluster

Source: Knight Frank Research

Industry-split of transaction volume



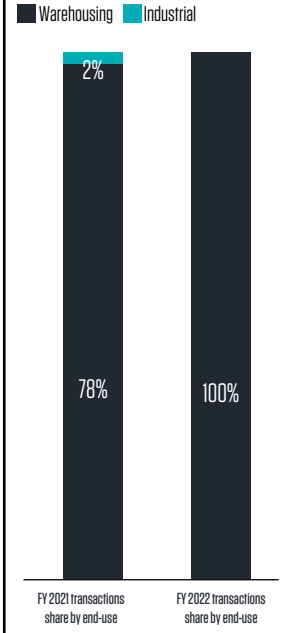
Industry Split - FY 2021 ↑

Industry Split - FY 2022 ↓

3PL E-commerce FMCG FMCG other sector Miscellaneous Retail

Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Cluster wise split of transactions - FY 2021 ↑

Cluster wise split of transactions - FY 2022 ↓



Medchal Patancheru Shamshabad

Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B	
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)		Rent in INR/sq m/month (INR/sq ft/month)	
Medchal Cluster	Medchal	15 - 35	183 - 225 (17 - 21)		172 - 204 (16 - 19)	
	Devaryamjal - Gundlapochampally	15 - 28	183 - 225 (17 - 21)		172 - 204 (16 - 19)	
	Kandlakoya	15 - 28	183 - 225 (17 - 21)		172 - 204 (16 - 19)	
	Yellampet	15 - 28	183 - 225 (17 - 21)		172 - 204 (16 - 19)	
	Shamirpet	15 - 28	183 - 225 (17 - 21)		172 - 204 (16 - 19)	
Patancheru Cluster	Patancheru Industrial Area	16 - 45	183 - 215 (17 - 20)		162 - 194 (15 - 18)	
	Rudraram	16 - 45	183 - 215 (17 - 20)		162 - 194 (15 - 18)	
	Pashamylaram	16 - 45	183 - 215 (17 - 20)		162 - 194 (15 - 18)	
	Edulaganulapally	14 - 45	183 - 204 (17 - 19)		150 - 172 (14 - 16)	
	Sulthanpur	14 - 45	183 - 204 (17 - 19)		150 - 172 (14 - 16)	
Shamshabad Cluster	Aerotropolis	15 - 25	194 - 215 (18 - 20)		161 - 183 (15 - 17)	
	Srisailem Highway	15 - 25	194 - 215 (18 - 20)		161 - 183 (15 - 17)	
	Bongloor	15 - 25	194 - 215 (18 - 20)		161 - 183 (15 - 17)	
	Kothur	15 - 25	194 - 215 (18 - 20)		161 - 183 (15 - 17)	
	Shadnagar	15 - 25	194 - 215 (18 - 20)		161 - 183 (15 - 17)	

INDORE

WAREHOUSING MARKET

Indore warehousing market clocked 0.07 mn sq m (0.8 mn sqft) leasing in FY 2022

E-commerce and 3PL sectors that account to 59% of leasing demand in FY 2022

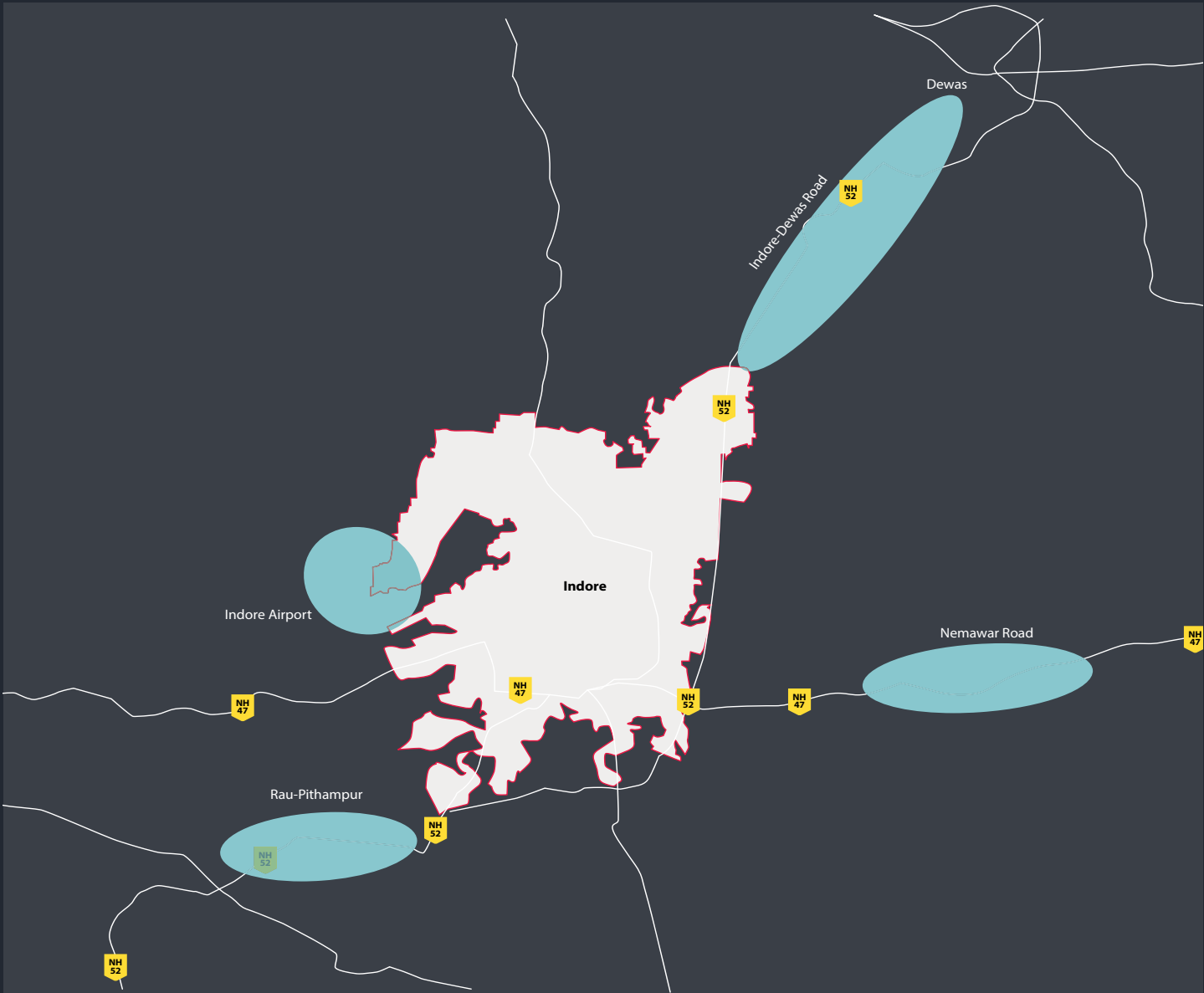
92% of the leasing demand in FY 2022 is for warehousing activities while 8% is for industrial use.

- Indore is the largest city and the commercial capital of Madhya Pradesh making it a hub for all major business activities in the western part of the state. Indore, along with its satellite towns Pithampur and Dewas, is one of the fast-growing economic regions of India. The city is located along NH 47 Mumbai-Agra Highway. With the emerging IT sector in Indore, it is poised to become a software hub.
- The warehousing demand in Indore is primarily driven by the e-commerce and 3PL sectors that accounted for a cumulative 59% of demand in FY 2022. This was followed by demand from other manufacturing sectors commanding 21% share. Through its infrastructure support, Indore has created a conducive environment for industries to thrive. The new international air cargo facility is expected to attract occupiers with a global footprint.
- The warehousing transaction volume in FY 2022 stands at 0.07 mn sq m (0.8 mn sq ft), down by 37% from the previous year. While this may seem like a significant drop in demand, it can be attributed largely to a big-ticket lease that was inked by the manufacturing sector which had caused the total transaction volumes to rise in FY 2021. FY 2022 transaction volumes comfortably exceed annual volumes recorded in previous years.
- The warehousing clusters of Indore have evolved primarily around the NH 47 Mumbai-Agra Road. The Rau-Pithampur belt located on the southern end, connects Indore with Nasik and Mumbai, and the Indore-Dewas Road belt on the northern end connects it with Bhopal.
- Pithampur is a manufacturing cluster having the presence of automobile, pharmaceutical and textile sectors. The primary warehousing demand of Pithampur is catered to by the captive facilities of these companies. There are also a few standalone warehousing properties, but their demand base is majorly industries within Pithampur and their ancillaries/vendors. The Pithampur cluster has been identified by the Central Government for implementation of the Industrial Infrastructure Up-gradation Scheme (IIUS)*. The scheme aims at improving the competitiveness of functional clusters across the country. The cluster falls under the Delhi Mumbai Industrial Corridor (DMIC) influence region and has India's first Greenfield operational SEZ**.
- Dewas is an important industrial township located approximately 30 km from Indore. The warehousing demand in FY 2022 is concentrated along the Indore-Dewas Road belt which accounted for 90% of the demand. The belt also benefits from its proximity to Bhopal. The warehousing cluster fulfils the consumption demand of the city and is located approximately 20 km from the city centre. The cluster has good infrastructure support with 3x3 lane roads. Dewas Naka was the first warehousing cluster of the city. The land parcels in this region are expensive due to the expansion of city limits.
- Another warehousing cluster, the Nemaswar Road cluster located along the Indore-Nagpur Highway, is majorly capturing agriculture related demands. A small amount of warehousing supply is also available near the Indore airport which caters to air cargo as well as in-city distribution networks.
- 92% of the leasing annual demand in FY 2022 was for warehousing storage activities and 8% was for industrial end-use.
- Most of the warehousing supply has been developed by native developers with very low presence of large national players. As the market is in its nascent stages of development, there are limited Grade A spaces available, and only 17% of the volume transacted in FY 2022 were Grade A properties. Market demand has been growing well over the years as occupiers gravitate towards consumption hubs that Indore provides access to, and the high quality of infrastructure that the city affords.

** Source- Government of Madhya Pradesh, Industrial Land Bank, 2019

* Source- IBEF, Madhya Pradesh, April 2010

Major warehousing locations in Indore



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Indore-Dewas Road	Indore-Dewas Road, Bypass Road
Rau-Pithampur	Rau, Pithampur
Others	Near Indore Airport, Nemawar Road

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Industrial Corridor
Indore-Dewas-Ujjain Railway Line	Railway
Mumbai Agra National Highway	Highway
International Air Cargo Service	Airport

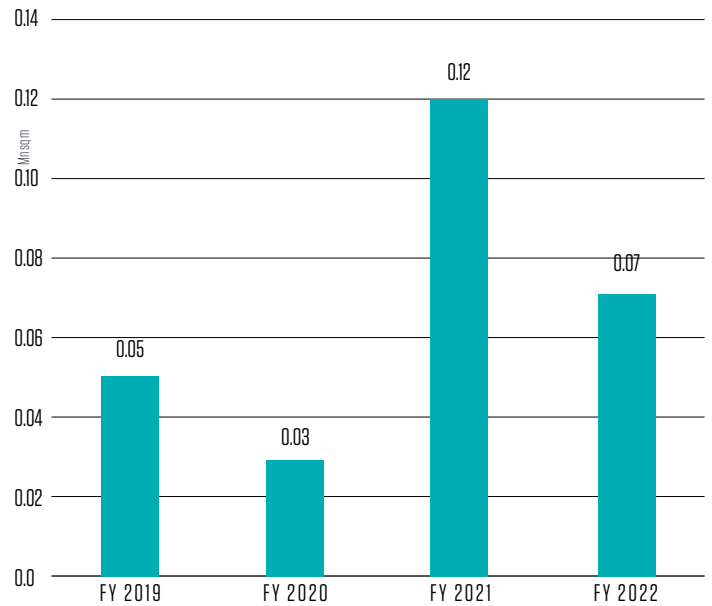
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
Empire LogiPark	Indore-Dewas Road
JRG Logistics Park	Indore-Dewas Road
LifeCare Logistics Park	Indore-Dewas Road
Adani Logistics Park	Rau-Pithampur
Lunawat Group Campus	Indore Airport

Source: Knight Frank Research

Warehousing market transaction volume



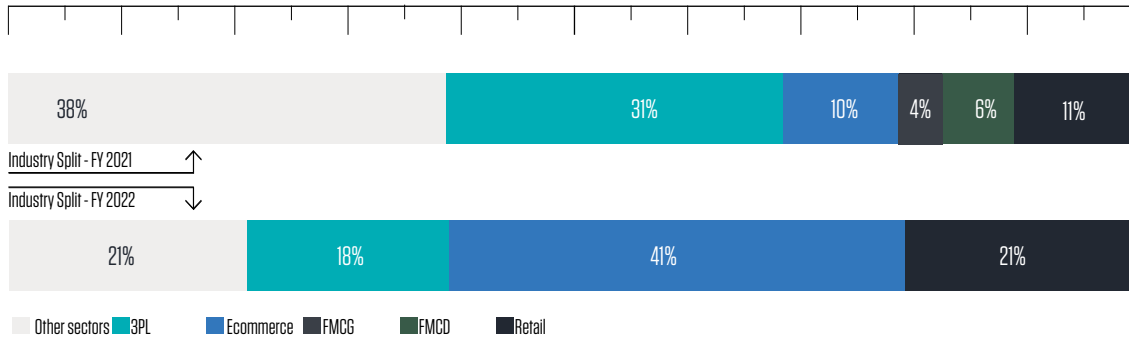
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Flipkart	E-commerce	Indore-Dewas Road
Dealshare	E-commerce	Indore-Dewas Road
Ashok Leyland	Manufacturing	Indore-Dewas Road
Reliance Retail	Retail	Indore-Dewas Road
Carryfast Group	3PL	Indore-Dewas Road

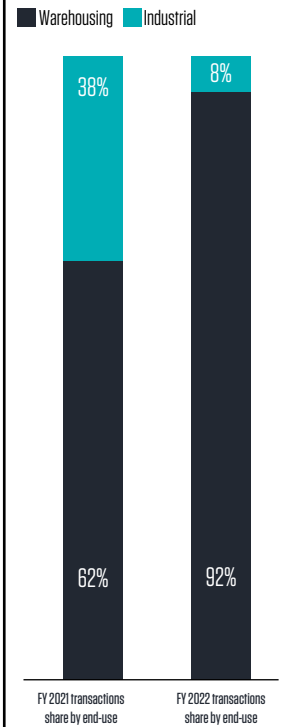
Source: Knight Frank Research

Industry-split of transaction volume



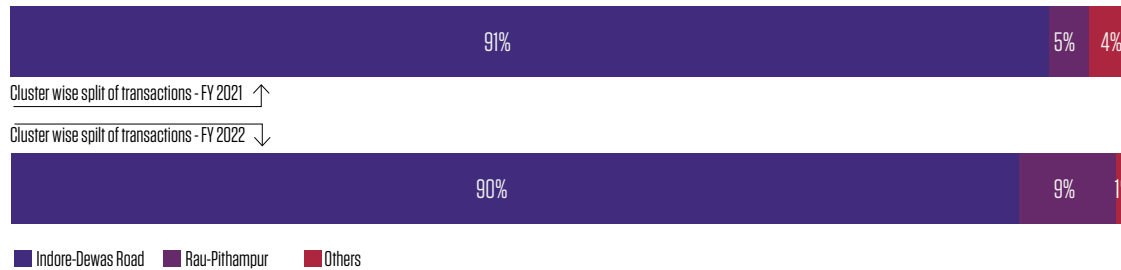
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing | Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/ month)	Rent in INR/sq m/month (INR/sq ft/month)
Indore-Dewas Road	Indore-Dewas Road	25-50	183-237(17-22)	129-172(12-16)
	Bypass Road	45-100	215-269(20-25)	161-194(15-18)
Rau-Pithampur	Rau	30-70	215-269(20-25)	129-172(12-16)
	Pithampur	15-35	183-226(17-21)	140-183(13-17)
Others	Near Indore Airport	45-100	215-269(20-25)	161-183(15-17)
	Nemawar Road	25-50	183-226(17-21)	129-172(12-16)

Source: Knight Frank Research

JAIPUR

WAREHOUSING MARKET

Growing by 37% YoY, the Jaipur warehousing market saw 0.13 mn sq m (1.4 mn sq ft) of warehousing transactions in FY 2022

E-commerce and 3PL sectors together accounted for 62% of the volume transacted

Share of 3PL occupiers has grown substantially from 15% in FY 2021 to 36% in FY 2022

- Jaipur is Rajasthan's largest city and is situated within 300 kms from the national capital Delhi with excellent road connectivity through National Highway (NH) 48. This highway also connects Jaipur, Ahmedabad, Ajmer, Kishangarh and Jodhpur among others. Jaipur-Kishangarh Expressway on this highway was the first Indian road built under the public-private partnership model and provides seamless connectivity till Kishangarh which is approximately 30 km from Ajmer. Jaipur is also well-connected to Kota, Agra and Bikaner through other national highways such as NH 52 and NH 21 passing through the city.
- The presence of this robust road network that connects Jaipur to northern, north-western and western cities has aided the city's warehousing market. Being a major tourism destination, a lot of godown requirement in the erstwhile years was from the textile manufacturers and FMCG companies, apart from other industries. Several factories and industrial establishments are concentrated across Vishwakarma Industrial Area (VKI), Sitapura, Bais Godam, Sudarshanpura, Mansarovar, Jaitpura and Bagru. Organized warehousing development with Grade A structures and build-to-suit (BTS) facilities have also started coming up across the city, especially along the alignment of the Ajmer Road (NH 48) till Kishangarh.
- In FY 2022, a total of 0.13 mn sq m (1.4 mn sq ft) of warehousing space was leased in Jaipur, representing a growth of 37% YoY. Of the total space leased, a considerable 90% was transacted on the NH 48 corridor in locations such as NH-48(Ajmer Road), Bagru, Mahindra World City.
- The e-commerce and 3PL sectors took up bulk of the demand during FY 2022, together accounting for 62% of the volume transacted during the period. The share of 3PL occupiers has grown substantially from 15% in FY 2021 to 36% in FY 2022, showcasing the logistical importance of the Jaipur market in Rajasthan. And, while the share of the e-commerce sector has reduced to 26% in FY 2022 from 32% previously, e-commerce companies constitute a significant chunk of the 3PL occupier's client roster and continue to drive market volumes by proxy. The residual volume transacted during FY 2022 was well distributed between the other manufacturing, FMCG and miscellaneous sectors.
- The deal pipeline remained strong toward the end of the year with a healthy number of enquiries continuing to float in the market. E-commerce and 3PL occupiers are likely to sustain demand based on the increasing number of inquiries from the sector at the close of the year. With delivery timelines getting constricted as customer expectations build up, the need for smaller warehousing spaces closer to consumption centers is increasing. This also enables more distributed stocking so that deliveries are not hampered in the event of major disruptions such as those caused by the pandemic over the past two years. The increasing development of Grade A warehousing facilities in areas such as Sikar Road will further enhance Jaipur's standing as an emerging warehousing market.
- Average rentals have grown significantly by approximately 12% YoY in FY 2022 on the back of a sustained increase in demand as well as the substantial increase in input costs that has caused property owners and developers to increase rates. The incidence of concessions such as higher rent-free periods and shorter-term contracts have also reduced significantly as we move further away from the pandemic. Rents are expected to stay buoyant, buffered by the strong demand pipeline of e-commerce and 3PL occupiers, and the increasing development of higher-spec warehousing facilities.

Major warehousing locations in Jaipur



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
NH-48 corridor	Mahindra World City, Bagru, Ajmer road
NH-52 corridor	Vishwakarma industrial area, Jhotwara, Sikar road

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Jaipur Ring Road (Phase I)	Ring road
Delhi - Mumbai Highway (NH-48)	Road - NH
Sangrur-Ankola Highway (Sikar Road) (NH-52)	Road - NH
Jaipur - Agra Highway (NH-21)	Road - NH

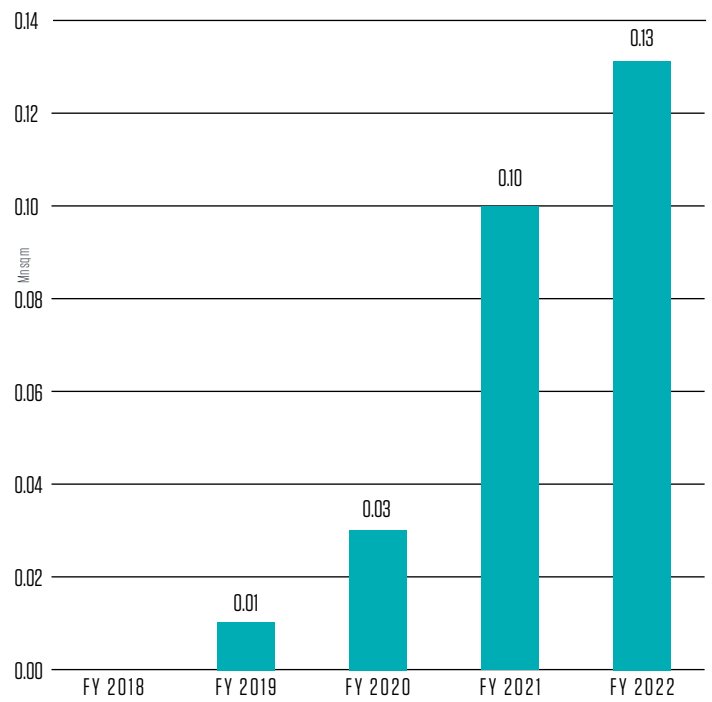
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Jaipur Leasing Company	NH-52 Corridor (Sikar Road)
Jaipur Leasing Company	NH-48 Corridor (Bagru)
Zapp India	NH-52 Corridor (Sikar Road)
Mahima Group	NH-48 Corridor (Ajmer Road)
TVS Industrial & Logistics Park	NH-48 Corridor (Daulatpura)

Source: Knight Frank Research

Warehousing market transaction volume



Source: Knight Frank Research

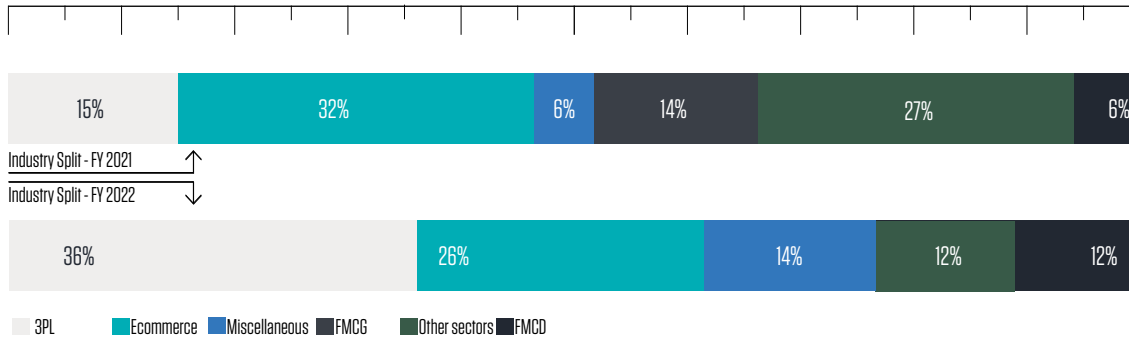
Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Asian Paints	Other Sectors	NH 52 Corridor
Ecom Express	E-commerce	NH 48 Corridor
Hindustan Unilever	FMCG	NH 48 Corridor
XpressBees	3PL	NH 48 Corridor
Udaan Logistics	3PL	NH 48 Corridor

Source: Knight Frank Research

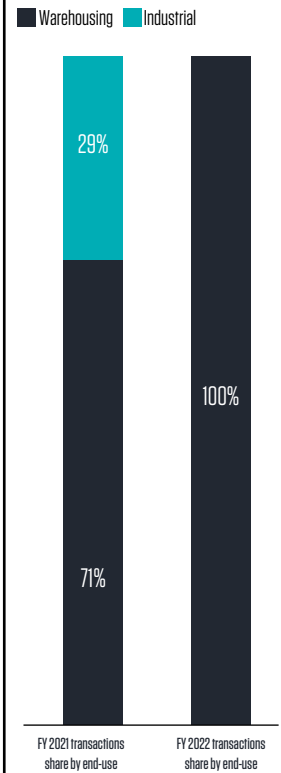
• Other Sectors include all manufacturing sectors (automobile, electronics, pharmaceutical, etc.) except FMCG and FMCD

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing and publishing | Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B	
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)		Rent in INR/sq m/month (INR/sq ft/month)	
NH-48 Corridor	Mahindra World City	35-40	236-270 (22-25)		236-270(22-25)	
	Bagru	20-30	215-236 (20-22)		215-236(20-22)	
	Dudu	13-16	193-215 (18-20)		193-215(18-20)	
NH-52 Corridor	Vishwakarma Industrial Area	150 - 200	270-322 (25-30)		270-322(25-30)	
	Jhotwara	120-150	270-322 (25-30)		270-322(25-30)	
	Sikar Road	20-30	236-270 (22-25)		236-270 (22-25)	

Source: Knight Frank Research

KOLKATA

WAREHOUSING MARKET

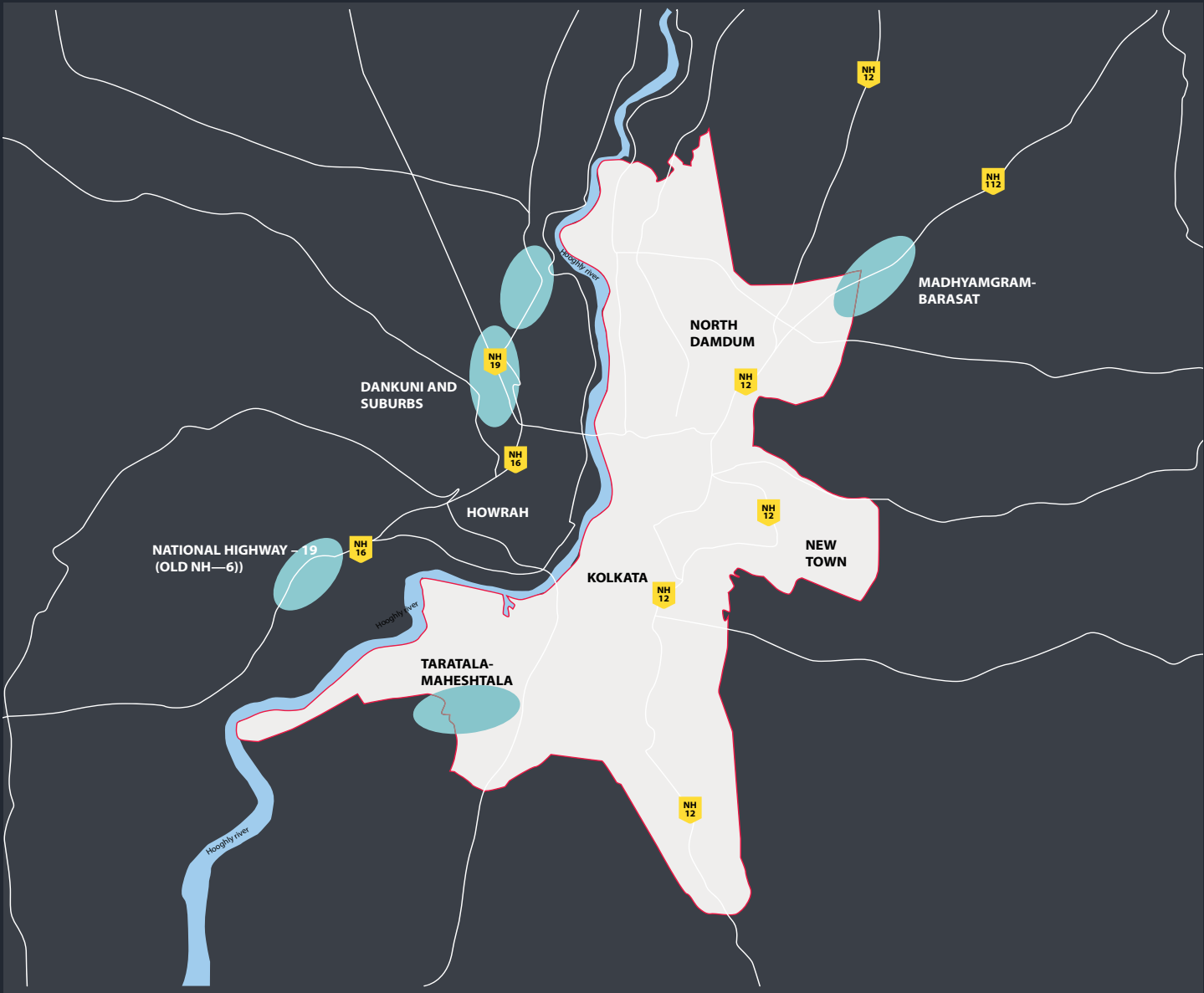
In FY 2022, 4.3 mn sq ft (0.40 mn sq m) warehousing space was transacted in Kolkata, registering a substantial 41% year-on-year (YoY) growth over FY 2021.

Of the total warehouse space leased in FY 2022, National Highway 16 (Old NH 6) accounted for the lion's share with 59%.

E-commerce emerged as the top sector with 26% share in the overall warehousing space leased in FY 2022.

- As the gateway to the East, Kolkata is India's pivotal warehousing and logistics frontier serving the primary consumption requirements of all eastern and north-eastern states. Kolkata's transport network along with established peripherals, enable it to serve the needs of all catchment areas near West Bengal and other states. The evolution of industrial corridors on the national highways near Kolkata and the rollout of the Goods and Services Tax (GST) have not only enabled but sustained warehousing space demand in its well-developed warehousing clusters.
- Kolkata has two major warehousing clusters: Dankuni and its suburbs, and the National Highway 16 (Old NH 6); both are well-connected to the city which is only 25-30 kms away. Investors and developers are constantly scouting for warehousing development opportunities in these clusters, as they provide easy access to the nearby districts of Howrah and Hooghly.
- National Highway 16 (Old NH 6) is a six-lane wide highway with presence of numerous industries. This is a much sought-after warehousing cluster populated with high specification Grade A warehousing facilities. Considerable consolidation of small warehouse facilities into bigger boxes has taken place in this belt in the past two years. Many private players have expanded here as it provides excellent connectivity to Bagan, Jangalpur, Alampur, Kharagpur, and ultimately to Mumbai. Sankrail on this node is an established warehousing hub for consumer goods and is located just outside the city limits with transit hubs in the nearby Bardhaman-Durgapur belt. However, availability of contiguous land for new facilities is a challenge that has led to an upward revision of land prices here. Connectivity to the Haldia Port has also made it a much sought-after location for 3PL players, as many huge vessels carrying freight from other countries dock at the Haldia Dock Complex.
- Dankuni and its suburbs is another prime warehousing cluster in Kolkata comprising key locations of Durgapur Expressway and the Old Delhi Road (NH 19 [Old NH 2]). This region has many old industrial units across different industries such as steel, coal and cement, and is slowly transforming itself with modern warehousing facilities. Ease of access to labour and raw materials, and seamless access through both national highways has made it a popular location for transportation and logistics. Many e-commerce players have an established presence in this warehousing belt to create supply chain efficiencies for catering to the consumption demand in north-east India. The currently under construction Eastern Dedicated Freight Corridor (EDFC) is a freight exclusive project for rail transport between Ludhiana and Dankuni which has created a strong enabling environment for intermodal logistics and warehousing.
- In FY 2022, 4.3 mn sq ft (0.40 mn sq m) warehousing space was transacted in Kolkata, registering a substantial 41% year-on-year (YoY) growth over FY 2021. In the past five years, Kolkata has emerged as a top performing warehousing market in India with organized warehousing facilities continually coming up on the scene as developers concentrate efforts on land bank acquisition and monetizing existing land parcels to take exposure in this asset class. Due to the pandemic's second wave and short-term delay in decision making, a lot of pent-up demand has converted into deals as large sized facilities remain in demand from occupiers. The lack of Grade A warehousing supply in locations of occupier interest created a challenge for some players to lease spaces, barring which, higher transaction volumes could have been achieved in FY 2022.
- Of the total warehouse space leased in FY 2022, National Highway 16 (Old NH 6) accounted for the lion's share with 59%, while Dankuni and its suburbs accounted for 36% share. The remaining 4% was leased in the Madhyamgram-Barasat belt. The dominance of National Highway 16 (Old NH 6) in Kolkata is increasing as availability of Grade A spaces has been a big catalyst for demand conversion in this zone.
- Unlike past trends, e-commerce emerged as the top sector with 26% share in the overall warehousing space leased in FY 2022, trumping 3PL, which now accounted for a 21% share. Apart from these two sectors, retail at 14% and FMCG at 10% were the other two prominent sectors garnering a high percentage share in warehousing transaction volume.

Major warehousing locations in Kolkata



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Dankuni and Suburbs	Durgapur Expressway and Old Delhi Road (NH 19 [Old NH 2])
National Highway 16 (Old NH 6)	Chamrail, Dhulagarh, Sankrail, Uluberia
Taratala-Maheshtala	Hide Road, Taratala Road, Garden Reach Road
Madhyamgram-Barasat	Madhyamgram, Barasat, Agarpara, Ganganagar

Source: Knight Frank Research

Major Infrastructure in Kolkata

Name	Type
Haldia Port*	Port
Kolkata Port	Port
Kulpi Port Project**	Port
Tajpur Port Project**	Port
Eastern Dedicated Freight Corridor	Freight Corridor
Amritsar-Delhi-Kolkata Industrial Corridor	Industrial Corridor
NH 19	Road - NH
NH 16	Road - NH

Source: Knight Frank Research

Note: NH stands for National Highway

*Haldia Port is not in Kolkata but is a major dock complex that attracts a large volume of cargo movement from Kolkata due to its throughput handling capacity and infrastructure to accommodate large vessels

** Upcoming ports in the pipeline which will impact cargo movement from Kolkata

Source: Knight Frank Research

Select warehouse projects

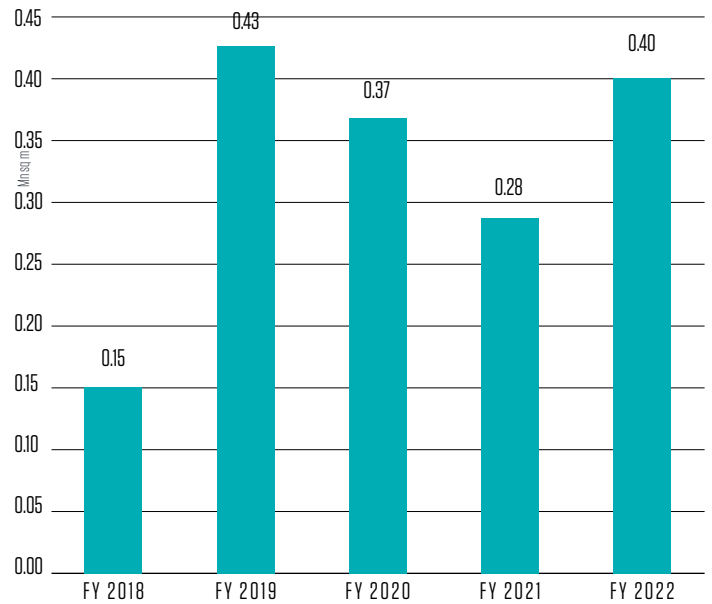
Warehouse Project	Warehouse Cluster
Arrjav Industrial and Logistics Park	Dankuni and suburbs
Srijan Industrial Logistics Park	National Highway 16 (Old NH 6)
ESR Uluberia Industrial and Logistics Park	National Highway 16 (Old NH 6)
Diamond Industrial Park	Dankuni and suburbs
Sankrail Industrial Park	National Highway 16 (Old NH 6)

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Amazon	E-commerce	National Highway 16 (Old NH 6)
Reliance	Retail	National Highway- 6 (Old NH 6)
DHL	3PL	Dankuni and suburbs
Flipkart	E-commerce	National Highway 16 (Old NH 6)
Mahindra Logistics	3PL	National Highway 16 (Old NH 6)

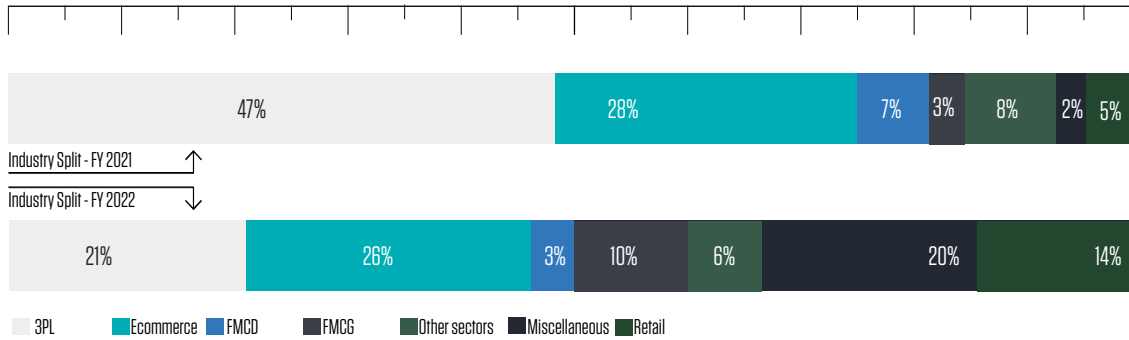
Source: Knight Frank Research

Warehousing market transaction volume



Source: Knight Frank Research

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. **Other Sectors** – Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. **Miscellaneous** – These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/ month)	Rent in INR/sq m/month (INR/sq ft/month)
Dankuni and suburbs	Dankuni – before toll	20-25	237-269 (22-25)	205-226 (19-21)
	Dankuni – after toll	14-18	205-248 (19-23)	172-205 (16-19)
	Old Delhi Road – before proposed toll	20-25	205-248 (19-23)	194-215 (18-20)
	Old Delhi Road – after proposed toll	14-18	194-215 (18-20)	172-194 (16-18)
National Highway 16 (Old NH 6)	Jangalpur	25-36	226-269 (21-25)	194-215 (18-20)
	Sankrail	48-60	237-258 (22-24)	194-215 (18-20)
	Uluberia	15-18	194-226 (18-21)	172-194 (16-18)
	Bagnan	13-17	183-194 (17-18)	161-183 (15-17)
	Amta-Ranihati Road	18-24	183-205 (17-19)	172-194 (16-18)
Taratala-Maheshtala	Hide Road	No large land parcels available	No Grade A	215-258 (20-24)
	Budge Budge Trunk Road	No large land parcels available	No Grade A	204-247 (19-23)
Madhyamgram–Barasat	Badu Road	No large land parcels available	215-237 (20-22)	183-205 (17-19)
	Airport Area	No large land parcels available	237-258 (22-24)	194-226 (18-21)
	Kalyani Express	14-18	215-269 (20-25)	172-205 (16-19)

Source: Knight Frank Research

LUCKNOW

WAREHOUSING MARKET

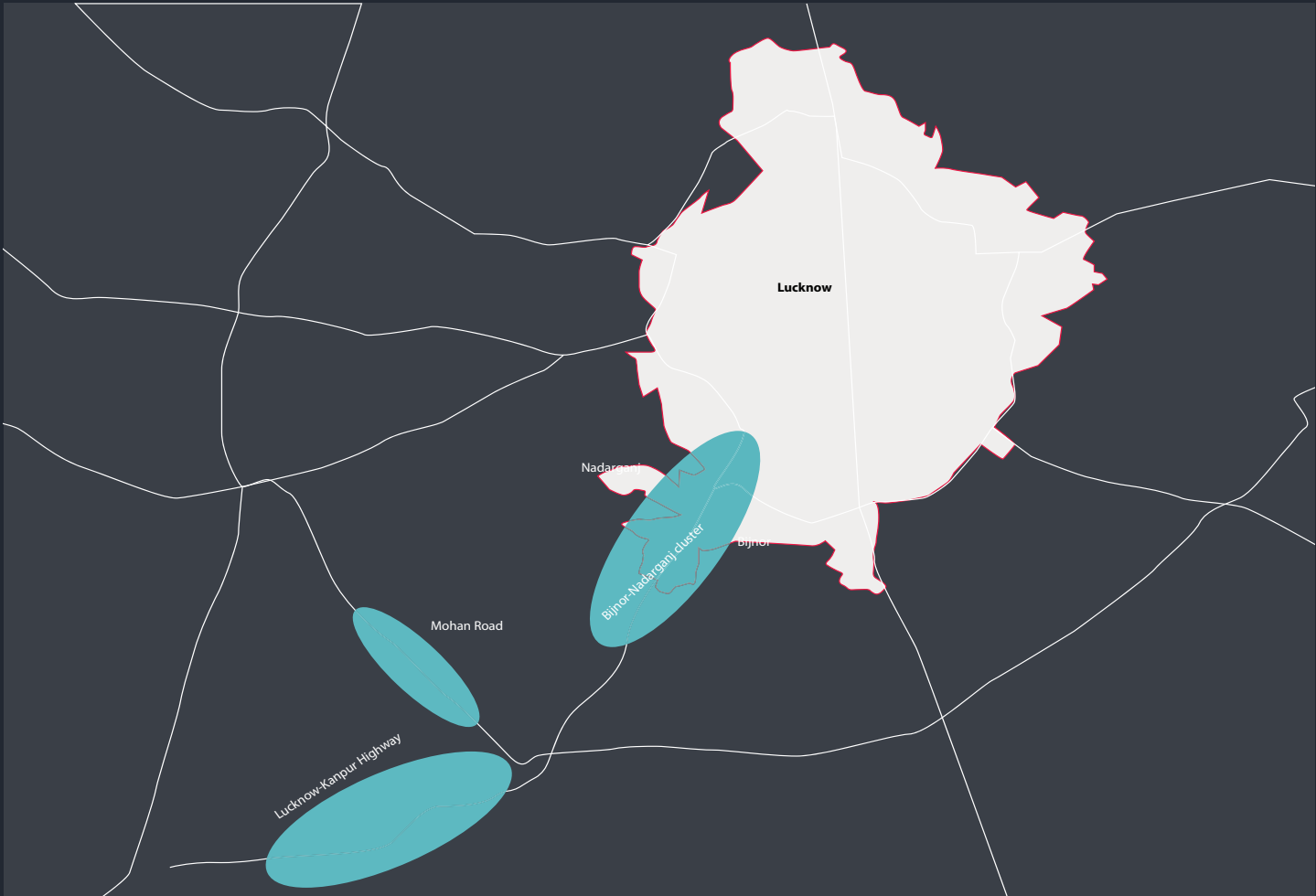
0.11 mn sq m (1.2 mn sq ft) was transacted during FY 2022, a healthy 13% increase YoY

E-commerce transactions accounted for 76% of the total area transacted during the period

The Lucknow market has an estimated development pipeline of 0.1 mn sq m (1 mn sq ft) of Grade A built-to-suit space

-
- Uttar Pradesh (UP) is the most populous state in India and is one of the most promising consumer markets in the country. This has triggered the development of private warehouses in Uttar Pradesh which mainly cater to this demand. Lucknow is strategically located at the center of the state and is also one of the most important consumption markets in UP. By virtue of being the state capital, it has become an ideal location for development of warehouses with warehousing stock getting concentrated along the southern periphery of the city. The bulk of development has taken place along the Lucknow-Kanpur Road till Unnao, since large land parcels are still available for greenfield development. Besides its resident population, the Lucknow warehousing market primarily serves the cities of Kanpur, Agra, Jhansi, Rae Bareilly, Varanasi, Faisabad and Prayagraj.
 - Lucknow is a largely unorganized warehousing market with quality facilities coming into operation only in the last decade. The bulk of warehousing facilities in this market can be broadly characterized as Grade B structures. Most of the warehousing facilities are either positioned close to the airport or are on the Lucknow-Kanpur national highway. The growing demand for warehousing facilities has kept rental levels buoyant in and around Lucknow over the past two years. For instance, while rents for Grade B quality warehouses in locations of Transport Nagar, Bijnor and Nadarganj industrial area are in the range of INR 194-215/sq m/month (INR 18-20/sq ft/month), rents for Grade A type warehouses in the newer locations of the Lucknow-Kanpur national highway near Nawabganj, such as Asha-Kheda, Kusheri and Sohramao, range between INR 226-258/sq m/month (INR 21-24/sq ft/month), and for Grade B type warehouse facilities between INR 194-226/sq m/month (INR 18-21/sq ft/month).
 - As large corporates in the 3PL, e-commerce and pharmaceutical industries increase their footprint in the market, the need for development of more productive Grade A warehouses compliant with contemporary regulatory requirements is also increasing. The pharmaceutical industry has a significant presence in Lucknow with over 450 companies operating in the south of the city, and this is a significant driver of the city's warehousing market. Largely concentrated in locations just east of the Lucknow-Kanpur Road, their demand for Grade A warehouses has been growing. Their need to adhere to strict compliance requirements is also shared by the 3PL and e-commerce companies, whose presence has increased dramatically in recent years.
 - Even as transaction volumes have grown in YoY terms, an increasing number of enquiries have been observed in the market which bode well for warehousing demand, going forward. Currently, a few developers such as Welspun, Adani, Nanak Logistics and Reciprocal constitute the Grade A warehousing landscape in the Lucknow warehousing market.
 - Close to 0.11 mn sq m (1.2 mn sq ft) was transacted during FY 2022, a healthy 13% increase YoY that can be attributed to the large share of the e-commerce sector in the total volume transacted during the year. E-commerce transactions accounted for 76% of the total transactions during the period compared to 75% in the preceding period. Amazon and Flipkart alone took up 0.08 mn sq m (0.9 mn sq ft) during the year. The increasing supply of better quality warehouses and the need for increasing market penetration has kept e-commerce players active in the Lucknow warehousing market. The remainder of the volume was taken up by the Telecom companies such as Airtel and retail players such as Croma.
 - The Lucknow-Kanpur highway cluster continues to attract most of the development and occupier interest in the market and its standing is expected to sustain. Most locations in this warehousing cluster such as Kushehri, Sohramao and Mahnora are within 50 km from the city center. Factors such as the availability of reasonably priced, large land parcels, good road connectivity and the benefits of the industrial land use classification under Lucknow Industrial Development Authority (LIDA) will continue to support market traction in this cluster.
 - The Lucknow market has an estimated development pipeline of approximately 0.1 mn sq m (1 mn sq ft) of Grade A built-to-suit space, primarily on the Lucknow-Kanpur highway cluster, which is scheduled for completion in the next 12 months. While construction activity has picked up significantly over the past two years, the availability of viable land at the right cost continues to be a challenge.

Major warehousing locations in Lucknow



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Bijnor-Nadarganj cluster	Bijnor, Transport Nagar, Nadarganj, Mohanlalganj Road, Memauroa
Lucknow-Kanpur Highway cluster	Asha-Kheda, Kuseri, Sohramao, Mahnora, Mohan Road

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Outer Ring Road (Phase I)	Road
Lucknow-Kanpur Highway (NH-27)	Road-NH
Lucknow-Delhi Highway (NH-24)	Road-NH
Lucknow-Prayagraj Highway (NH-30)	Road-NH

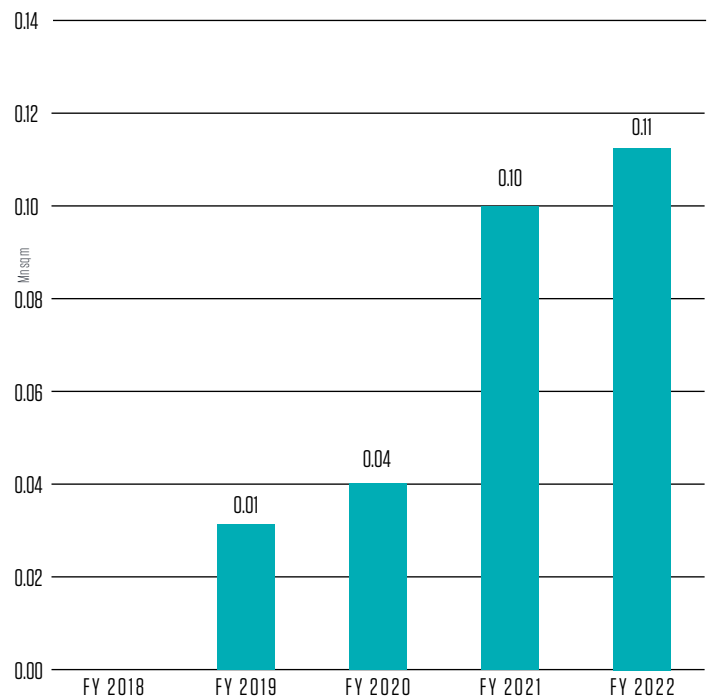
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Escape Logistics	Lucknow-Kanpur Highway
Plus Nine One Logistics	Lucknow-Kanpur Highway
Bhandari Warehousing	Bijnor-Nadarganj cluster

Source: Knight Frank Research

Warehousing market transaction volume



Source: Knight Frank Research

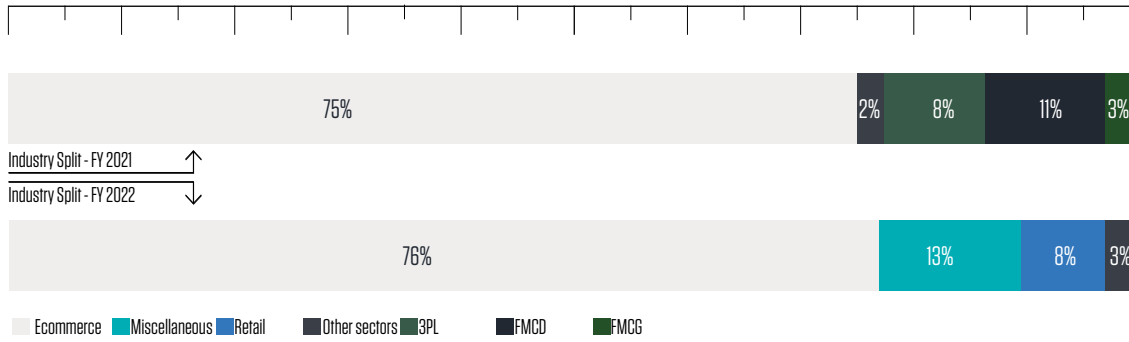
Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Flipkart	E-commerce	Lucknow-Kanpur Highway
Amazon	E-commerce	Lucknow-Kanpur Highway
Airtel	Miscellaneous	Lucknow-Kanpur Highway
Croma	Retail	Lucknow-Kanpur Highway

Source: Knight Frank Research

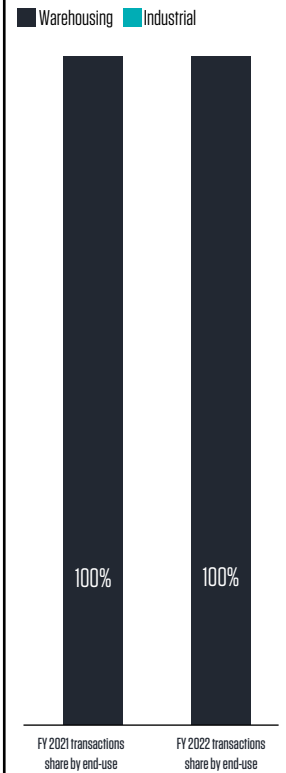
Notes: Miscellaneous category includes services such as telecom, real estate, document management, agricultural warehousing and publishing

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing and publishing | Source: Knight Frank Research

Transaction share by end-use of space



Notes:
 Warehousing transactions: These refer to storage activity
 Industrial transactions: These refer to manufacturing activity
 Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)		Rent in INR/sq m/month (INR/sq ft/month)
Bijnor- Nadarganj cluster	Bijnor	25-35	Not available		194-215 (18-20)
	Nadarganj	30-50	Not available		194-258 (18-24)
	Mohanlalganj Road	15-22	Not available		194-215 (18-20)
	Transport Nagar	30-35	Not available		194-215 (18-20)
Lucknow-Kanpur Highway	Asha-Kheda	13-16	226-258 (21-24)		194-226 (18-21)
	Kusheri	13-16	226-258 (21-24)		194-226 (18-21)
	Sohramao	13-16	226-258 (21-24)		194-226 (18-21)
	Mahnora	13-16	226-258 (21-24)		194-226 (18-21)
	Mohan Road	14-18	226-258 (21-24)		194-226 (18-21)

Source: Knight Frank Research

LUDHIANA

WAREHOUSING MARKET

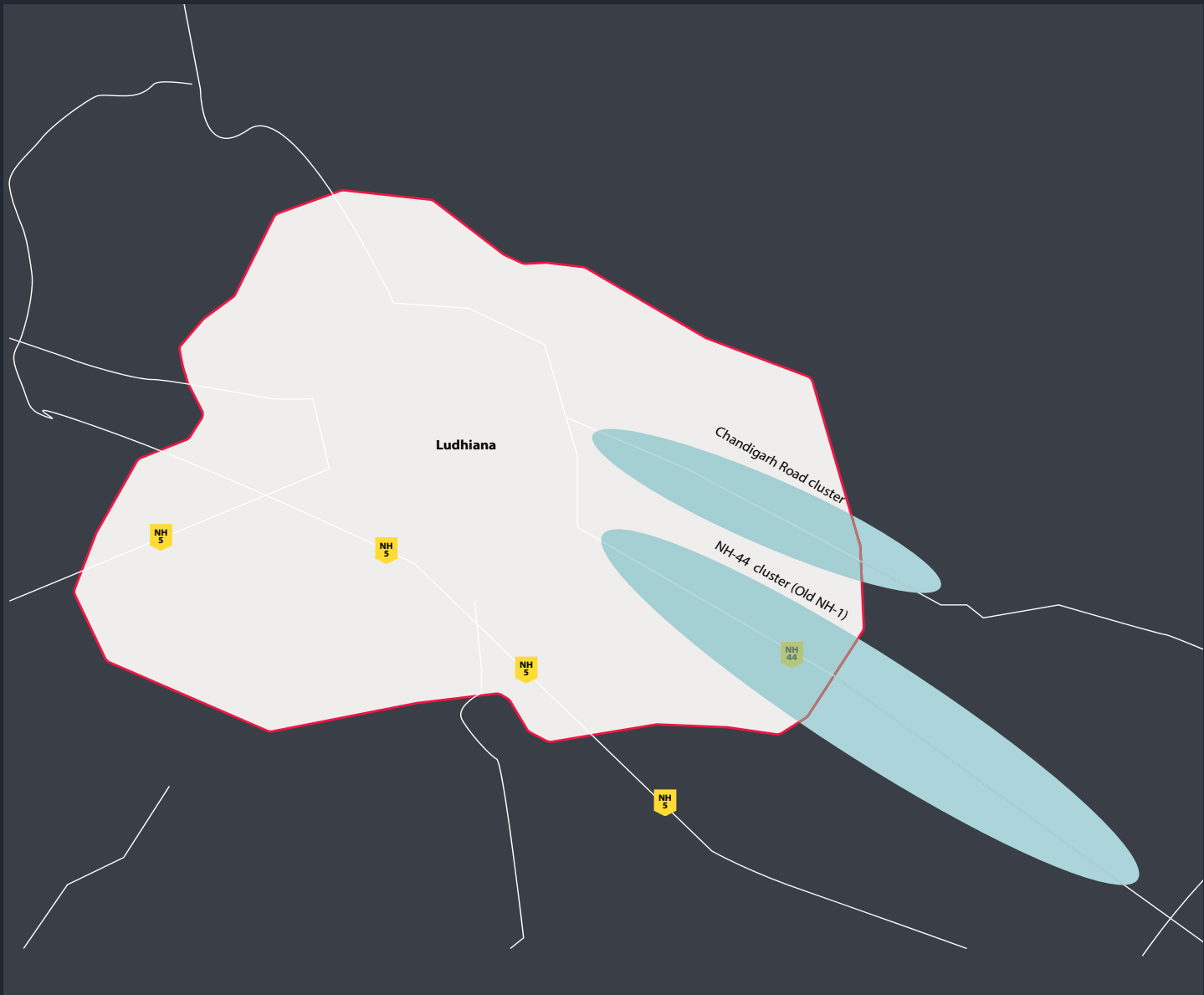
In FY 2022, 0.6 mn sq ft (0.06 mn sq m) of warehousing space was leased, representing a 36% YoY growth, up from 31% YoY reported in FY 2021.

In line with FY 2021, e-commerce accounted for the lion's share with 73% share in FY 2022.

Of the total leasing transaction volume, 83% was concentrated in the NH 44 cluster, while 17% was in the Chandigarh Road cluster.

-
- Ludhiana is north India's prime industrial hub and a major consumption market in Punjab. Located in Ludhiana district, it was selected to be developed into a Smart City. This prime industrial center is strategically situated on the Dedicated Freight Corridor (DFC). Once completed, The DFC, a key infrastructure project, will act as a catalyst for the development of organized industrial corridors and logistics parks along its alignment. This corridor is expected to have an upgraded transportation technology which will reduce unit transportation cost for occupiers across sectors. The 447 km freight corridor will pass through the key districts of Sahnewal, Doraha, Ludhiana, Sirhind, Rajpura, Ambala, Yamunanagar, Saharanpur, Muzaffarnagar, Meerut and Hapur amongst others, all of which will reap the benefits of this alignment.
 - Ludhiana is a small-scale industrial goods hub and remains largely unorganized. Production of auto components, household appliances, hosiery, bicycle, hand tools and industrial equipment has made the city a key sourcing partner for companies in the FMCD, auto and manufacturing sectors. The city's prime warehousing clusters are concentrated on two peripheral stretches in the city's southeast. The Chandigarh Road cluster has locations along the Ludhiana-Chandigarh State Highway (or parts of National Highway 5) and Focal Point all the way up to Kohara. The second cluster is the NH 44 cluster which includes erstwhile industrial clusters in Jalandhar Bypass, Transport Nagar Industrial Area, Sahnewal and Doraha.
 - In recent years, connectivity to other cities in Punjab as well as neighbouring states via the National Highway NH 5, NH 44 and State Highway 11 (SH 11) has made Ludhiana a key Tier II city for investors and developers for organised warehousing. The upcoming Ludhiana-Chandigarh National Highway project is a planned 76 km highway which will improve connectivity between these cities and ease access to Mohali and Fatehgarh Sahib.
 - In the past three years, warehouse transactions recorded in Ludhiana have been on a continually upward trajectory. In FY 2022, 0.6 mn sq ft (0.06 mn sq m) of warehousing space was leased, representing a 36% YoY growth, up from 31% YoY reported in FY 2021. This is largely attributed to infrastructure upgrades and ease of connectivity to and from the city. Currently, warehousing operations are undergoing a seismic transformation as customer expectations in Tier II cities in terms of fast delivery and availability have changed post the pandemic outbreak. Occupiers are capitalizing on the potential of the key consumption market of Ludhiana where they foresee future growth.
 - Of the total leasing transaction volume, 83% was concentrated in the NH 44 cluster, while 17% was in the Chandigarh Road cluster. This is primarily due to big box requirements in the former cluster while smaller space requirements were more prevalent in the latter.
 - In line with FY 2021, e-commerce accounted for the lion's share with 73% share in FY 2022. This was followed by the FMCG sector with 17% share, 3PL with 8% and Other Sectors with 5% share. Increasing consumption demand bodes well for organised warehousing in Tier II cities such as Ludhiana.
 - Despite healthy warehousing demand, rents have remained at par with the previous year. This is largely due to landlords' willingness to offer better rental terms to attract tenants as large occupiers and marquee deals remain few and far between, and mostly small size box requirements have been prevalent so far.
 - Three mega logistics parks are expected to come up in Ludhiana with participation from both private and state warehousing corporations. These parks will be located in the Kila Raipur village district and will cater to the logistics requirement of the entire industrial belt of Ludhiana and its nearby regions in Punjab such as Amritsar, Bhatinda, Jalandhar, Patiala and Hoshiarpur. These logistics parks will also provide a boost to modern warehousing in this region.

Major warehousing locations in Ludhiana



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Chandigarh Road Cluster	Locations along Ludhiana-Chandigarh State Highway (or parts of National Highway 5), Focal Point, Kohara
NH 44 Cluster (Old NH 1)	Jalandhar Bypass, Transport Nagar Industrial Area, Sahnewal, Doraha, Grand Trunk Road

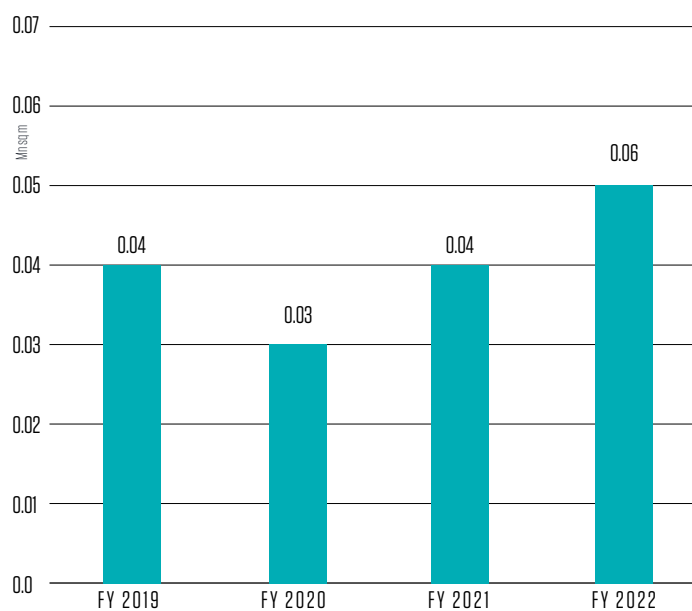
Source: Knight Frank Research

Major Infrastructure in Ludhiana

Name	Type
NH 44 Ludhiana Stretch	Road - NH
NH 5/Ludhiana Stretch	Road - NH
SH 11	Road - SH
Sahnewal Airport	Airport

Source: Knight Frank Research
Note: NH stands for National Highway

Warehousing market transaction volume



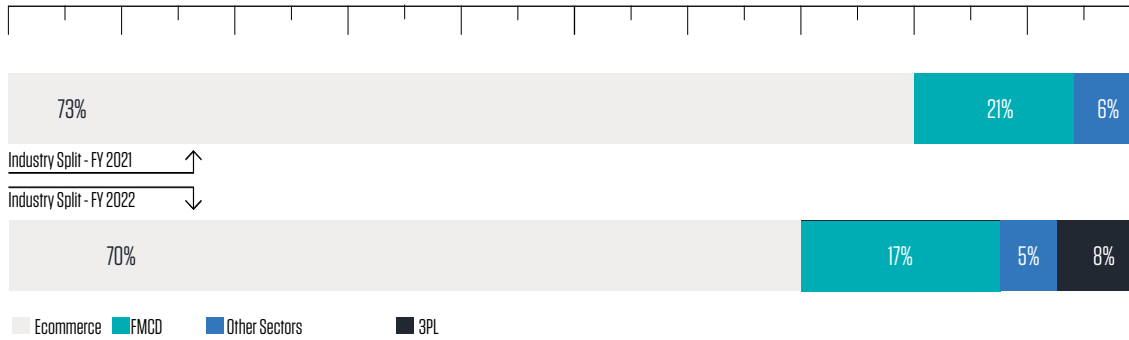
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Flipkart	E-commerce	NH 44 cluster (Old NH 1)
Pepsi Co	FMCG	NH 44 cluster (Old NH 1)

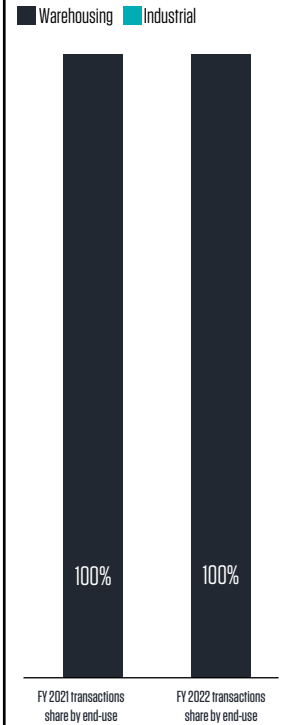
Source: Knight Frank Research

Industry-split of transaction volume



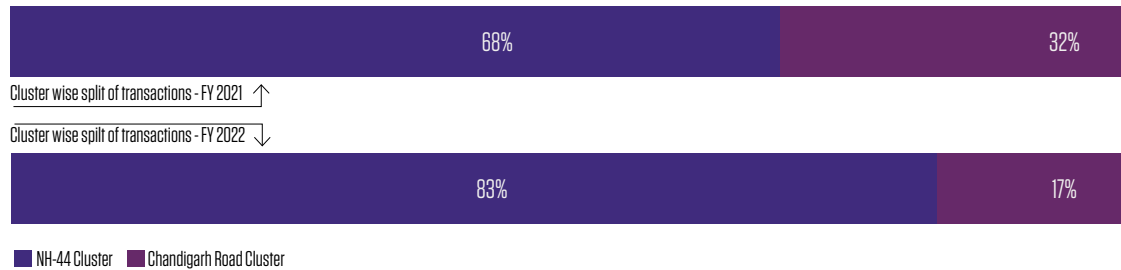
Notes: Warehousing transactions data includes light manufacturing/assembly. **Other Sectors** - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCD and FMCD. **Miscellaneous** - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
 Source: Knight Frank Research

Cluster-split of transaction volume



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate (INR mn/acre)	Grade A Rent in INR/sq m/month (INR/sq ft/ month)	Grade B Rent in INR/sq m/month (INR/sq ft/month)
Chandigarh Road Cluster	Chandigarh Road Cluster	13-15	161-194 (15-18)	118-140 (11-13)
NH 44 Cluster	NH 44 Cluster	15-20	161-194 (15-18)	118-140 (11-13)

Source: Knight Frank Research

MUMBAI

WAREHOUSING MARKET

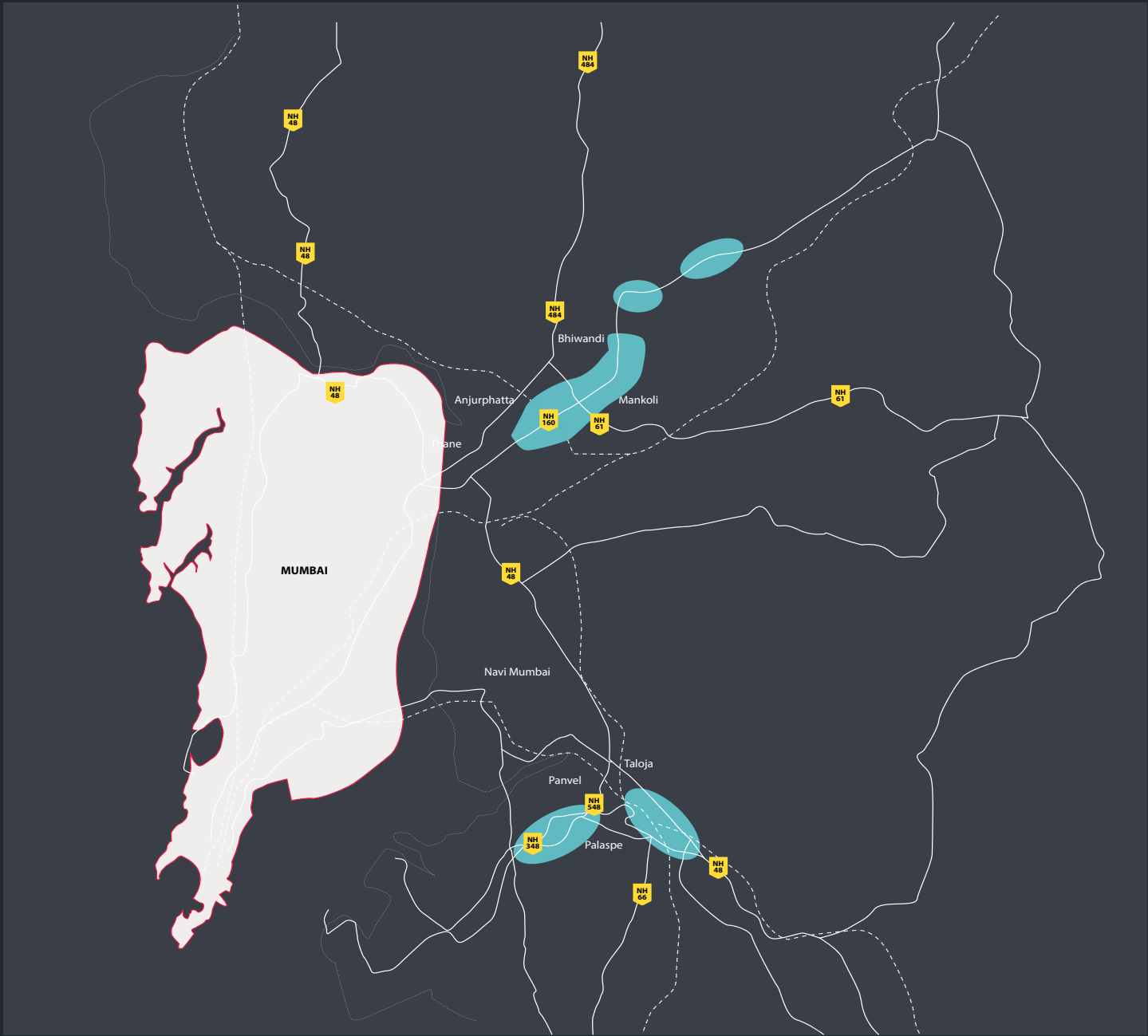
Mumbai witness a leasing volume of 0.80 mn sq m (8.6 mn sq ft), highest in the last 6 years in FY 2022

The leasing demand is driven by 3PL and e-commerce segment accounting to 80% in FY 2022

Leasing volumes recorded a 48% YoY rise in FY 2022

- In FY 2022, the Mumbai warehousing market witnessed a leasing volume of 0.80 mn sq m (8.6 mn sq ft), highest in the last 6 years, a 48% YoY rise over 0.54 mn sq m (5.8 mn sq ft) in FY 2021. This rise can be attributed to a large extent to spillover demand from a comparatively slow FY 2021 where deals were stalled due to the economic impact of the pandemic. Companies had postponed expansion plans due to the low demand and rising uncertainties; however, with the business environment normalising in FY 2022 and demand reviving, occupier activity has improved significantly during the year.
- The warehousing demand in Mumbai is primarily consumption led with 3PL and e-commerce segments accounting for 80% of the demand in FY 2022. The share of demand from the manufacturing sector has continued to tumble over the years, although it recorded a recovery in FY 2022. This sudden increase was primarily driven by a single deal inked with the global footwear and apparel brand Skechers, taking up 1.1 mn sq ft of warehousing space in the Panvel warehousing cluster.
- The warehousing clusters are strategically located in the peripheral regions of Mumbai in the northwest and southwest corridors, with ease of connectivity to Nasik, Pune, Ahmedabad and other major consumption centers via NH 48, NH 3 Mumbai Nasik Highway and the Mumbai Pune Highway.
- The Bhiwandi warehouse cluster is located in the northern corridor, and is well connected to Mumbai, Thane and Navi Mumbai markets, fuelled by its consumer led demand. Being an older warehousing cluster, however, Bhiwandi has limited Grade A warehousing stock. Incidentally, even in FY 2022, just 19% of the new stock additions were Grade A spaces and 42% of total transactions during this period occurred in this category. Narrow roads with insufficient infrastructure support causes regular traffic congestion in this cluster. Non availability of viable land of adequate size and requisite title clearances has also been a significant issue and continues to persist in the Bhiwandi cluster, and is further expected to affect the growth of its warehousing market.
- With the city continuously expanding its geographical limits and the government working to improve commuter connectivity via projects such as the metro, Bhiwandi is also evolving into a significant affordable housing market. Being a far more lucrative opportunity for land owners and developers in this location, residential development is posing significant challenges to the growth of warehousing in Bhiwandi.
- Upcoming warehousing in this micro market is primarily located in the NH3 Mumbai Nasik Highway, in the peripheral regions of Bhiwandi with good infrastructure support. Good quality warehousing due to the presence of organised developers, will encourage growth in this micro market.
- The Panvel warehousing cluster lies on the southern corridor in close proximity to both the JNPT port, the largest port in India, and to the upcoming Panvel airport. This cluster primarily caters to EXIM demand. The Panvel warehousing cluster has the presence of organised developers like Lodha providing Grade A warehousing and capturing the largest market share, with 94% of the transactions in FY 2022 being inked by the Lodha Group. The cluster also has a presence of individual players capturing the manufacturing and 3PL demand.
- With comparatively superior infrastructure quality, clear land titles and the presence of large land parcels, the Panvel cluster is slowly gaining occupier share. The e-commerce giant Amazon inked a 0.11 sq m (1.2 mn sq ft) lease in this cluster, which was the largest deal of FY 2022. The Panvel cluster is still evolving and is expected to grow as more organised players enter the market.
- Escalation in land value is recorded in select micro markets across Mumbai with Lonad, Bhoirgaon and Dhohare from the Bhiwandi cluster and JNPT, Taloja and Patalganga from the Panvel cluster recording appreciation in land value. Land value in the Bhiwandi cluster varies from INR 15-28 mn/acre, while land value in the Panvel cluster with good infrastructure support ranges from INR 18-40 mn/acre.
- Rentals for Grade A spaces in the Bhiwandi warehouse cluster ranges from INR 172-269/sq m/month (16-25/sq ft/month), while rentals for Grade A spaces in the Panvel cluster ranges from INR 248-323/sq m/month (23-30/sq ft/month).
- Despite several bottlenecks, Bhiwandi remains the preferred warehousing cluster for occupiers. However, with technological advancement and good quality Grade A spaces coupled with infrastructure support offered by the Panvel cluster, it is expected to fuel demand in this region.

Major warehousing locations in Mumbai



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Bhiwandi	Mankoli, Kalher, Kashele, Dapode, Padgha, Vashere, Vadpe, Sape, Lonad, Bhavale, Sawad Naka, Dohole, Sonale, Anjurphatta
Panvel	Palaspe, Uran Road, Taloja, Patalganga

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Industrial Corridor
Navi Mumbai Airport Influence Area (NAINA)	Airport and allied activities
Mumbai Trans Harbour Link	Sea Link
Virar-Alibaug Multi-modal Corridor	Multi-modal Transport
Delhi-Mumbai Expressway	Express Highway
Mumbai-Nagpur Expressway	Express Highway

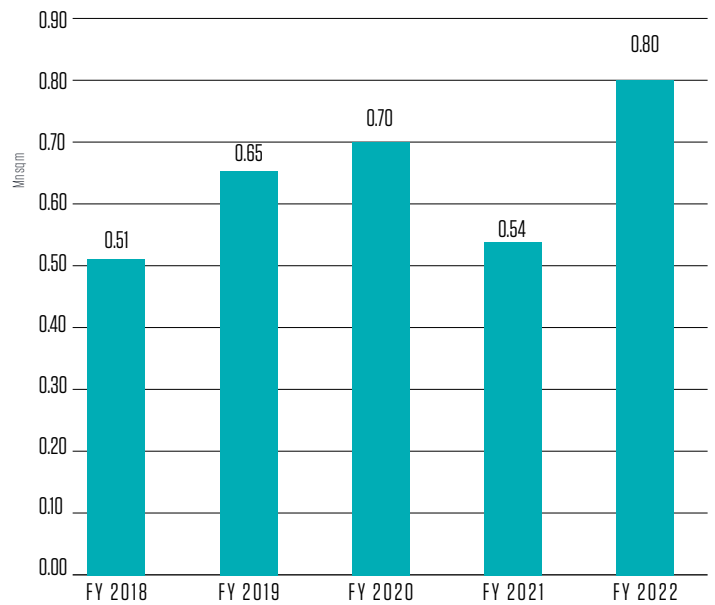
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
ESR Bhiwandi 2	Bhiwandi Warehousing Cluster
Renaissance Industrial Park, Vashere	Bhiwandi Warehousing Cluster
Global Industrial Park	Bhiwandi Warehousing Cluster
Antrisk Logistic Park	Bhiwandi Warehousing Cluster
K Square, Kurund	Bhiwandi Warehousing Cluster
CCI Logistics Park, Panvel	Panvel Warehousing Cluster
ESR, Palava	Panvel Warehousing Cluster
Lodha, Palava	Panvel Warehousing Cluster

Source: Knight Frank Research

Warehousing market transaction volume



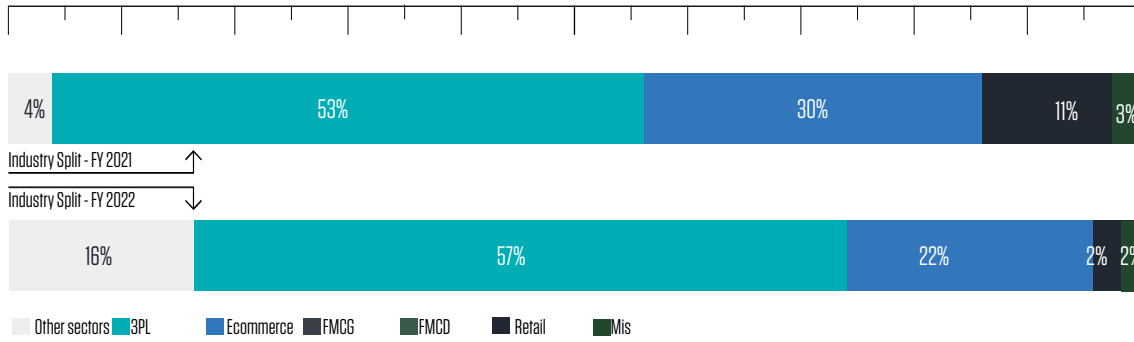
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Amazon	E-commerce	Panvel Warehousing Cluster
Skechers	Misc.	Panvel Warehousing Cluster
FM Logistics	3PL	Bhiwandi Warehousing Cluster
Delhivery	3PL	Bhiwandi Warehousing Cluster
Amazon FC	E-commerce	Bhiwandi Warehousing Cluster

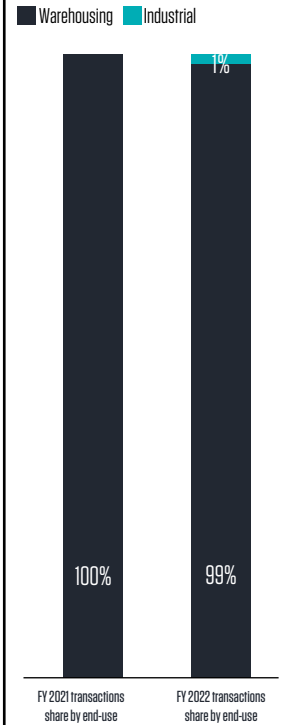
Source: Knight Frank Research

Industry-split of transaction volume



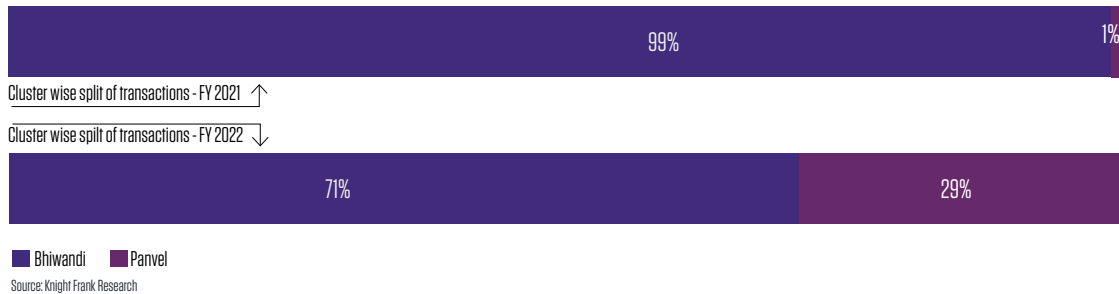
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors – Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous – These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. | Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/ month)		Rent in INR/sq m/month (INR/sq ft/month)
Bhiwandi Warehousing Belt	Mankoli	Large land parcels not available	226-258 (21-24)		172-194 (16-18)
	Vadpe	23-28	236-269 (21-24)		194-215 (18-20)
	Padgha	18-25	226-269 (21-24)		183-194 (17-18)
	Vashare/Sape	20-25	205-248 (19-23)		172-194 (16-18)
	Lonad	22-25	226-269 (21-24)		183-205 (17-19)
	Sonale	25-30	248-269 (23-25)		No Grade B supply
	Yewai	25-30	237-258(22-24)		No Grade B supply
	Bhoirgaon	25-30	226-258 (21-24)		172-194 (16-18)
	Dhohare	15-19	172-205 (16-19)		151-172 (14-16)
	Koshimbi	15-18	172-205 (16-19)		151-172 (14-16)
Panvel Warehousing Belt	Palaspe-Goa Road	25-30	269-323 (25-30)		194-215 (18-20)
	JNPT	23-40	248-291(23-27)		215-248 (20-23)
	Taloja	25-40	248-280 (23-26)		215-248 (20-23)
	Patalganga	18-23	No grade A supply		151-194 (14-18)

Source: Knight Frank Research

NAGPUR

WAREHOUSING MARKET

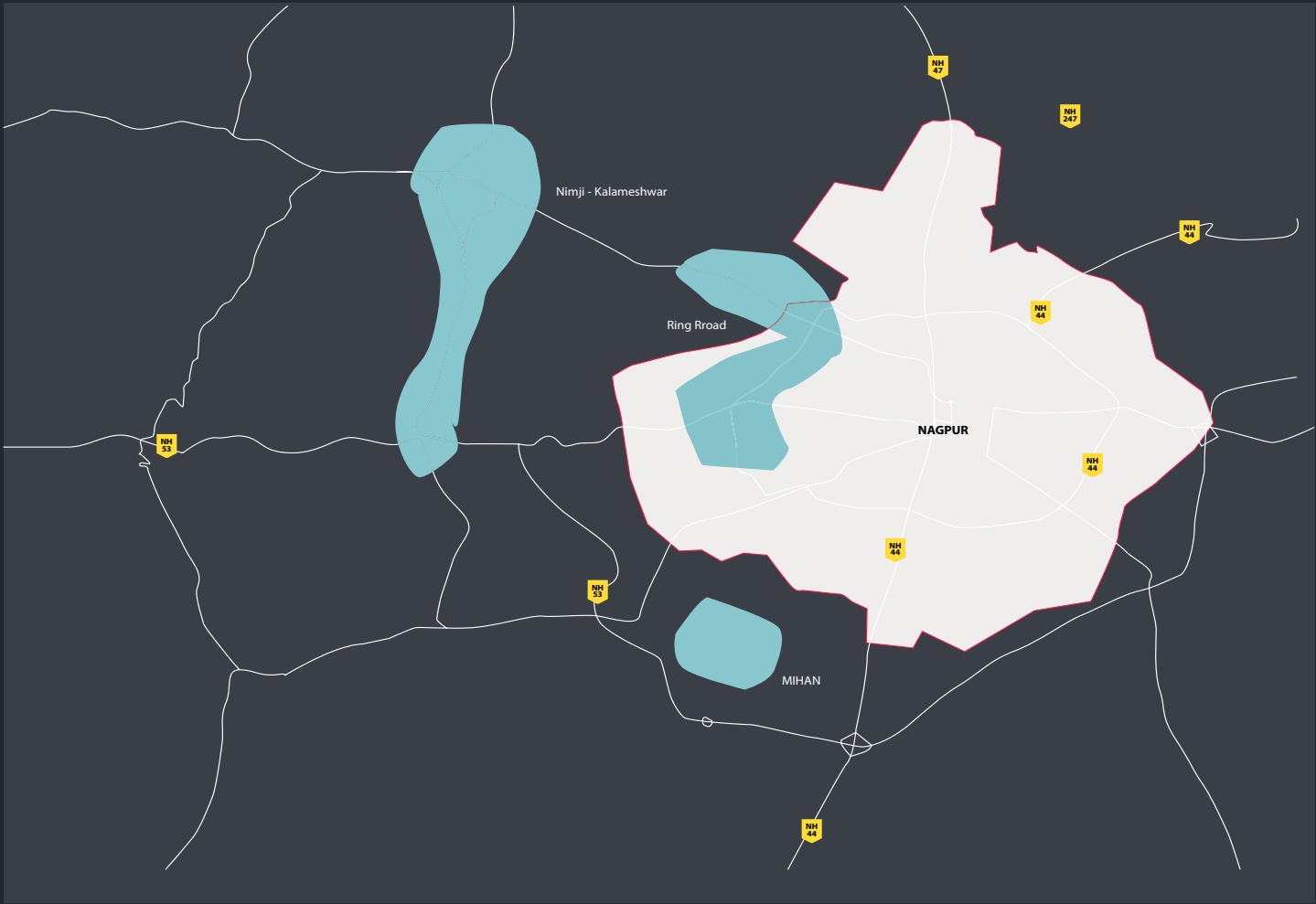
In FY 2022 0.05 mn sq m (0.5 mn sq ft) new warehousing space were transacted

3PL player occupiers recorded largest space take up in FY 2022

Despite the higher rentals, Mihan MIDC attracted maximum demand in FY 2022, with Grade A space rentals ranging from INR 194-237/sq m/month (18-22/sq ft/month)

- Nagpur is known as India's Zero Mile city due to its strategic geographic location of being the centre point of India. It is almost equidistant from major consumption markets such as Mumbai, Delhi, Chennai and Kolkata. Nagpur has developed as an industrial and agro commodity producing city.
- Well-connected with sufficient infrastructure support, major highways such as NH 7 (connecting Varanasi to Kanyakumari) and NH 6 (connecting Mumbai - Sambalpur - Calcutta) pass through the city. Nagpur has witnessed an economic boom over the years, and the 'Multi-Modal International Cargo Hub' and an Airport at MIHAN is being developed. Mihan is expected to handle heavy cargo coming from South-East Asia and the Middle East in the near future.
- The city will soon be connected to Mumbai via the Mumbai-Nagpur Expressway also known as the Samruddhi Highway connecting other prime locations. The expressway is expected to cut down travel time between Mumbai and Nagpur to 8 hrs from 15 previously.
- The warehousing market of Nagpur city is largely fragmented. Nagpur has three major warehousing clusters in the city: the Nimji Kalmeshwar cluster, located in the north-western region along the Kalmeshwar Gondkhairi Road; the Ring Road cluster extending along Katol Bypass Road covering areas like Fetri, Lava and Hingna, also located in the north western part of the city; and the MIHAN. MIHAN is the most recent and organised cluster located in the southern region of Nagpur, in close proximity to the airport and along the metro route.
- The Nagpur market is primarily driven by warehousing demand with Grade A space requirements. There are a few large Grade A warehousing parks in Nagpur which are owned by local developers, though some national players also have a presence here.
- The Nimji Kalmeshwar cluster is one of the mature markets that has enjoyed large warehousing demand in the past. In FY 2022, this demand was primarily concentrated in the Mihan warehousing cluster. The Multimodal International Cargo Hub and Airport at Nagpur (MIHAN) project is expected to attract large investments. The SEZ area in MIHAN will be one of its kind with the largest multi-product SEZ in India spread across 1472 hectares. However, it will still take a few years for MIHAN to develop as envisaged.
- The annual leasing volumes in FY 2022 has recorded a drop of 7% YoY to 0.05 (0.5 mn sq ft). 3PL player occupiers recorded largest space take up in FY 2022
- Being an organised market, the MIHAN demands a higher land rate ranging from 18-24 mn/acre, whereas the Nimji Kalmeshwar belt land rate ranges from 12-20 mn/acre, and the Ring Road belt land rate ranges from 10-14 mn/acre.
- Despite the higher rentals, MIHAN attracted maximum demand in FY 2022, with Grade A space rentals ranging from INR 194-237/sq m/month (18-22/sq ft/month), while Grade A space rentals in the Nimji- Kalmeshwar belt ranged from INR 172-215 /sq m/month (16-20/sq ft/month), and Grade A space rentals in the Ring Road belt ranged from INR 129-183/sq m/month (12-17/sq ft/month).
- Fuelled by infrastructure support like the Samruddhi Highway enhancing connectivity to key markets like Mumbai, Nagpur is expected to record an increase in transaction volumes.

Major warehousing locations in Nagpur



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Nimji- Kalmeshwar	Nimji, Kalmeshwar, Chinchbhuwan
Ring Road Cluster	Fetri Road, Lava, Hingna MIDC, Khadgon Road
MIHAN	MIHAN

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Samruddhi Highway	Highway
Nagpur Broad Gauge Metro	Metro

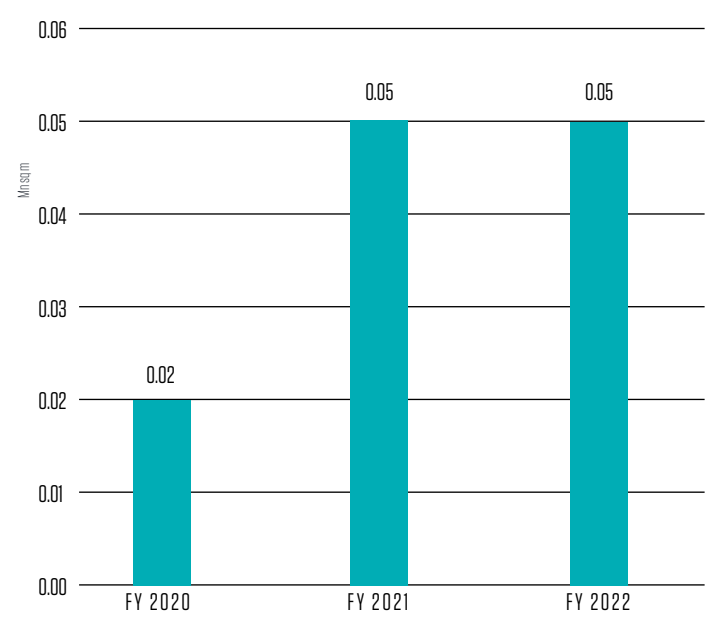
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
Xiso Logistics Park	MIHAN
Orange Logistics Park	MIHAN
Adani Logistics Park	Borkhedi Cluster
Inderson Logistics Park	Nimji Kalmeshwar
RK Warehousing	Ring road Cluster

Source: Knight Frank Research

Warehousing market transaction volume



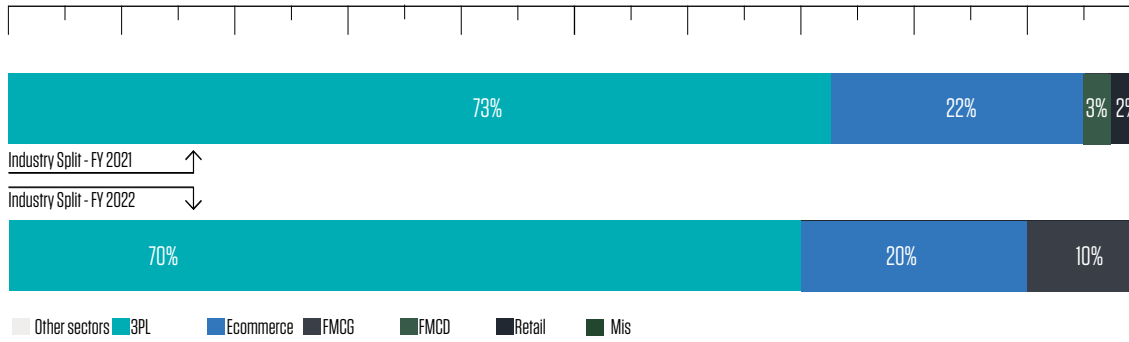
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
FSC	3PL	MIHAN
E - com	3PL	MIHAN
Flipkart	FMCD	MIHAN
Blinket	FMCG	MIHAN

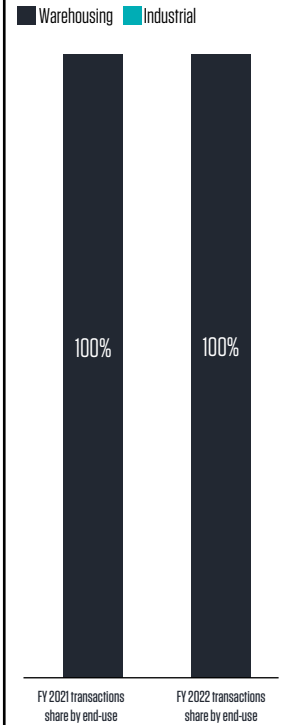
Source: Knight Frank Research

Industry-split of transaction volume



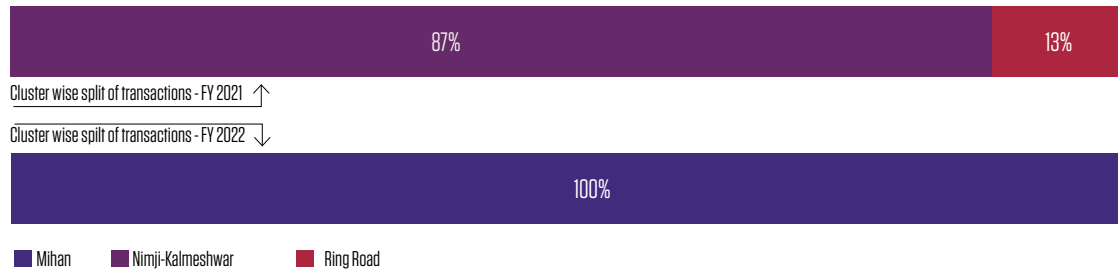
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehouseing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. | Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
Mihan	MIHAN	18-24	194-237 (18-22)	172-194 (16-18)
	Amravati Kalmeshwar Road	15-20	194-215 (18-20)	172-194 (16-18)
	Syngenta	15-20	172-194 (16-18)	151-172 (14-16)
Nimji-Kalmeshwar	Nagpur Toll Plaza	15-20	172-194 (16-18)	129-151 (12-14)
	Nimji	15-20	172-194 (16-18)	129-151 (12-14)
	Chinchbhuwan	12-14	172-194 (16-18)	151-172 (14-16)
Ring Road	Fetri Road	12-14	129-151 (12-14)	108-129 (10-12)
	Lava	12-14	129-161 (12-15)	86-108 (8-10)
	Hingna MIDC	10-14	161-183 (15-17)	129-140 (12-13)
	Khadgon Road	10-14	151-161 (14-15)	118-140 (11-13)

Source: Knight Frank Research

NCR

WAREHOUSING MARKET

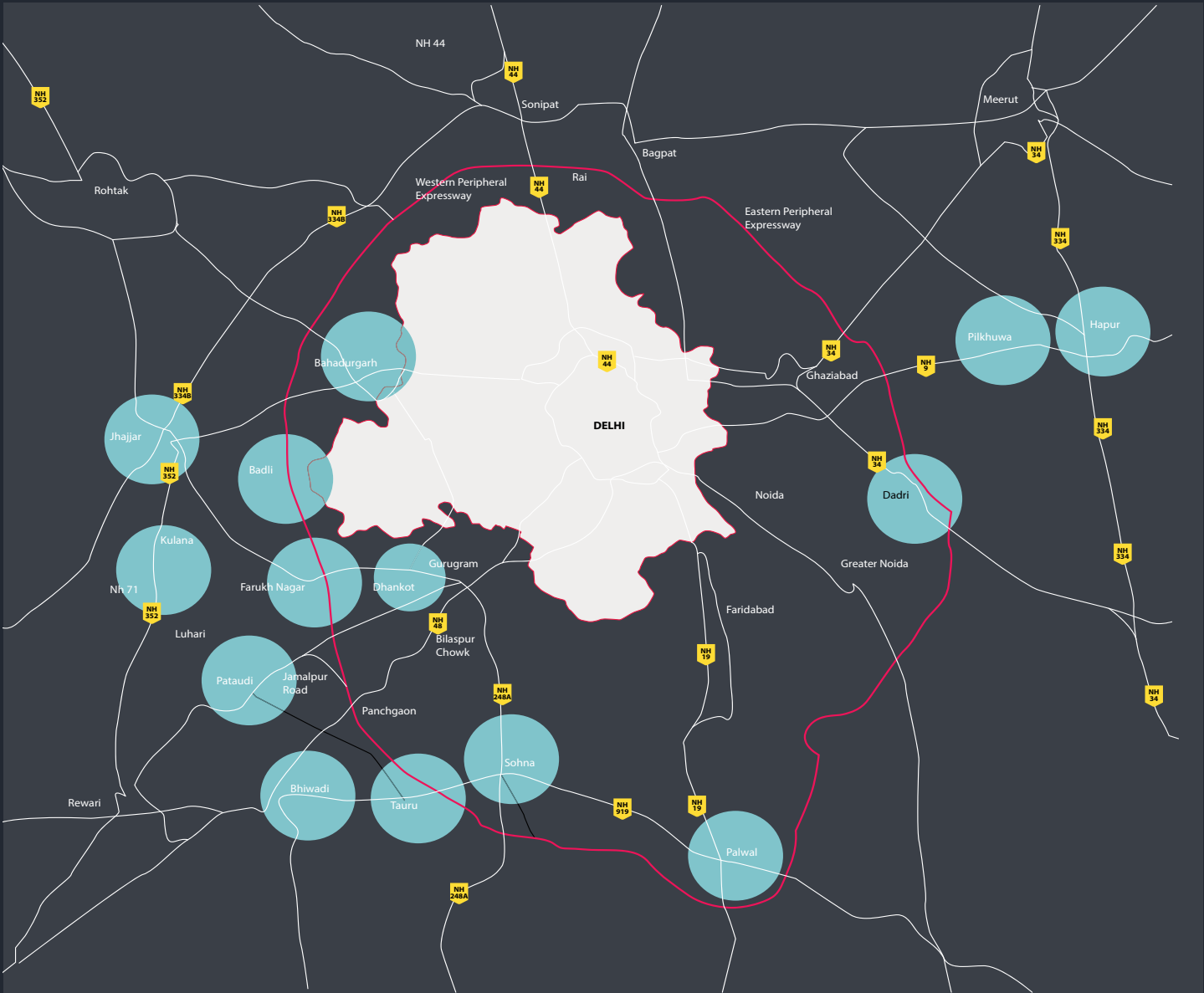
In FY 2022, NCR's overall warehousing transaction volume surged by 32% over FY 2021 to 9.1 mn sq ft (0.84 mn sq m).

E-commerce continued to remain the biggest demand driver with 41% share in warehousing transaction volume, followed by 3PL at 29%.

The NH 48/Kundli Manesar Palwal Expressway (KMP) dominated the cluster-split pie of warehousing transactions with a 80% share of the total.

- The National Capital Region (NCR) is a huge megapolis and consumption center in India. Bordering Haryana and Uttar Pradesh, the national capital of Delhi is accessible from five national highways. A huge arterial road network passes through Delhi and its peripheral areas where warehousing clusters have emerged along major industrial hubs. These warehousing clusters provide easy access to multiple consumption centers in Punjab, Haryana, Uttar Pradesh and Rajasthan. A road and rail network well-connected to different states, large-scale manufacturing units and industrialization have facilitated NCR to emerge as one of the most preferred warehousing destinations in India having enormous potential for incremental warehousing stock to be added by institutional and local developers.
- The organic consolidation in warehousing sector that started with GST implementation has paved the way for many organised players such as IndoSpace and Embassy Industrial Parks to set up large industrial and warehousing parks in NCR's industrial hotbeds. Many organized players that had existing warehousing footprint are expanding in this region through new facilities, or merger and acquisition with other players. A robust road network caters well for the transportation of goods, creating supply chain efficiencies for e-commerce, manufacturing, auto and auto ancillary, food processing and heavy engineering and retail sector occupiers. The increased consumer demand due to online commerce has not only sustained but enhanced the demand for warehouses by e-commerce companies for the entire NH 48 belt, to cater to Delhi, Gurgaon, Noida, Greater Noida, Faridabad, Ghaziabad and other Tier II and Tier III consumption centers.
- In FY 2022, NCR's overall warehousing transaction volume surged by 32% over FY 2021 to 9.1 mn sq ft (0.84 mn sq m). This is largely due to an escalation in demand for warehouses post the second wave of Covid 19, which had brought decision making to a standstill. Such pent-up demand conversion by some occupiers led to a healthy increase in warehousing leasing in FY 2022 as market fundamentals and intent to expand footprint in the NCR region remained strong.
- Owing to a healthy jump in transaction volume, the warehousing vacancy reduced from 15.8% to 11.4% in FY 2022 despite new supply of 9 mn sq ft (0.8 mn sq m).
- E-commerce continued to remain the biggest demand driver with 41% share in warehousing transaction volume, followed by 3PL at 29%. Though it remains the sector garnering the higher percentage share, in FY 2021, leasing by e-commerce players was recorded at 61%. The retail sector share, which accounted for only 1% in FY 2021, increased to 18% in FY 2022.
- The NH 48/Kundli Manesar Palwal Expressway (KMP) has been dominating the cluster-split pie of warehousing transactions for the past three years. A similar trend continues in FY 2022, with this belt accounting for 80% of the total warehousing transaction volume. New locations on this 135 km stretch, also known as Western Peripheral Expressway have caught the eye of occupiers and developers both, who are grabbing land and warehousing facilities in this strategically important transport artery while rents still remain low. With a dedicated corridor for movement of heavy vehicles around Delhi, this expressway goes round half its periphery and provides accessibility to big and small consumption markets in NCR. Along the KMP, several urban centres and industrial townships are planned as part of NCR's rapid industrialization, making it an investment hotspot for participation by institutional players.
- In FY 2022, the majority of warehousing requirements came for Pataudi Road, Bilaspur, Manesar and Bawal, whereas industrial requirements largely came from automotive equipment manufacturers. Barring NH 48/Kundli Manesar Palwal Expressway (KMP), 19% transactions were spread across the other warehousing clusters in NCR. A majority of transactions in Delhi were concluded in Okhla (Phase I & II), Mohan Cooperative area and Bamnoli.
- Due to the presence of most big players on the KMP, and accessible locations from NH 48 such as Farrukhnagar and Pataudi-Luhari Road, new greenfield development opportunities are shifting to locations such as the Sohna-Tauru belt, Pataudi-Tauru-Bilaspur belt, Luhari-Kulana and Kulana-Jhajjar belt. As vacant Grade A warehousing stock remains limited near the NH 48, new warehousing developments are now coming along these locations. A leading retail conglomerate recently announced a joint venture (JV) with a warehouse developer for 56 acres of warehousing development in this cluster.
- Ghaziabad cluster's share in the total warehousing spaces leased remained limited to 1% as most of the demand for warehouses shifted to NH 48/KMP Expressway due to the availability of better warehousing facilities.
- With large scale infrastructure projects under construction, such as the Delhi-Mumbai Industrial Corridor (DMIC) connecting Sohna Road, Dedicated Freight Corridor (DFC) connecting Bawal and Haryana to Dadri, and increased land requirements from 3PL, e-commerce and retail players, it is only a matter of time before we see a northward shift in rents which have largely remained stable in FY 2022, as the market adjusts to the new realities post the pandemic.

Major warehousing locations in NCR



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
NH-48/Kundli Manesar Palwal Expressway (KMP)	Dharuhera, Pataudi-Luhari Road, Jamalpur-Panchgaon Road, Bilaspur-Tauru-Sohna Road, NH-71-Kulana, Badli, Farrukhnagar and other such areas accessible from NH-48 and Kundli Manesar Palwal Expressway.
Ghaziabad cluster	NH-91 (Dadri), NH 24 (Hapur), Dasna, Pilakhuwa and Meerut and other areas accessible from NH-24 and NH-34
Others	Palwal, Sohna, Faridabad, Noida-Greater Noida, Alipur, Kundli, Sonapat, Murthal, Barota and Mundka

Source: Knight Frank Research

Major Infrastructure in NCR

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Industrial Corridor
Eastern Peripheral Expressway or Kundli- Ghaziabad-Palwal (KGP) Expressway or National Expressway II	Road-NHc
Western Peripheral Expressway or Kundli-Manesar-Palwal (KMP) Expressway	Road-NH
Dedicated Freight Corridors (DFC)	Rail

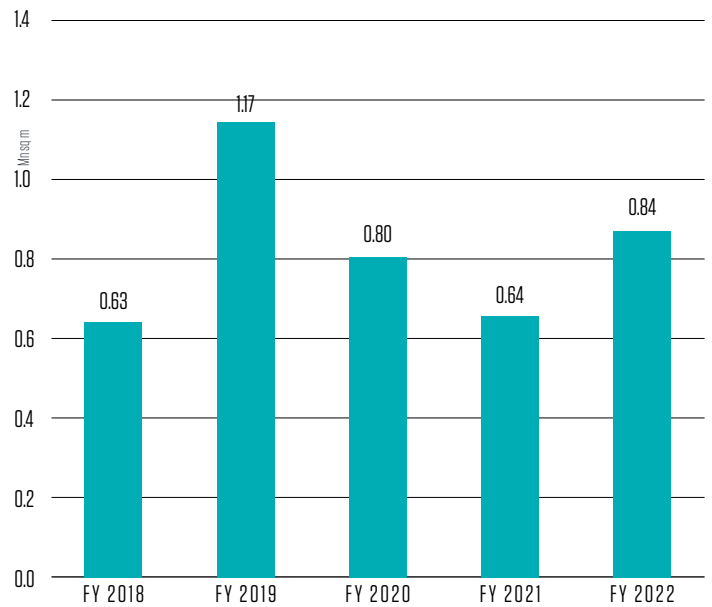
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
IndoSpace	NH-48/KMP (Luhari & Badli)
Horizon Industrial Park	NH-48/KMP
CCI Logistics/JKF Infra	NH-48/KMP

Source: Knight Frank Research

Warehousing market transaction volume



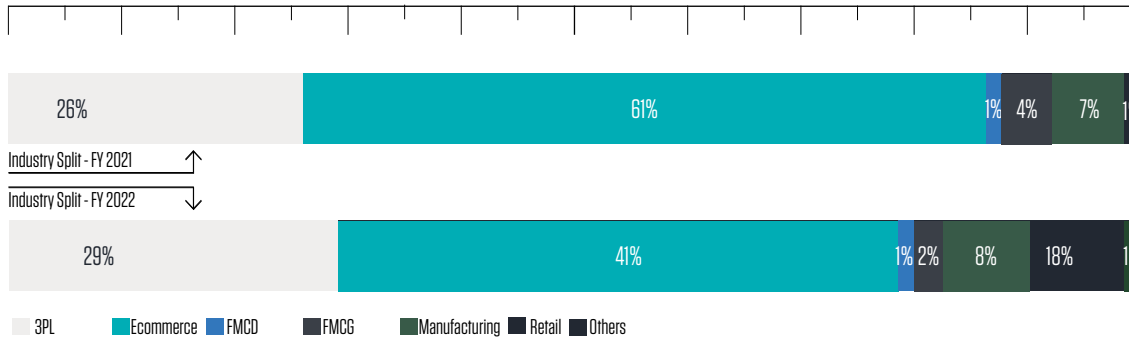
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Reliance Retail	Retail	NH-48/Kundali Manesar Palwal Expressway (KMP)
Amazon	E-commerce	Others
Vishal Megamart	E-commerce	NH-48/Kundali Manesar Palwal Expressway (KMP)
Mahindra Logistics	Logistics	NH-48/Kundali Manesar Palwal Expressway (KMP)
LF Logistics	Logistics	NH-48/Kundali Manesar Palwal Expressway (KMP)

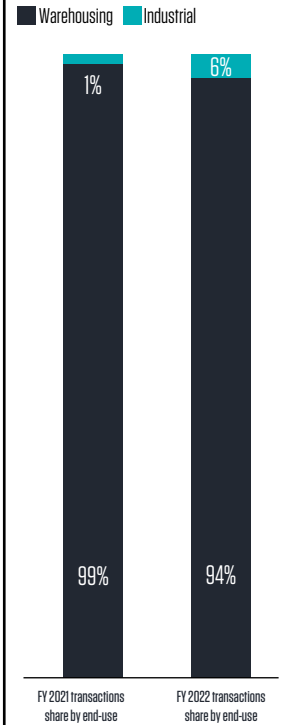
Source: Knight Frank Research

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors – Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous – These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. | Source: Knight Frank Research

Cluster-split of transaction volume



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/ month)	Rent in INR/sq m/month (INR/sq ft/month)
NH-48 Cluster/ KMP Cluster	NH-48 (Gurugram-Binola)	20-30	237-269 (22-25)	194-215 (18-20)
	Pataudi Road/Luhari	17-25	226-248 (21-23)	194-215 (18-20)
	Jamalpur-Panchgaon Road	20-30	226-248 (21-23)	194-215 (18-20)
	Bilaspur-Tauru-Sohna Road	20-30	226-248 (21-23)	194-215 (18-20)
	Dharuhera	15-25	215-237 (20-22)	183-205 (17-19)
	NH 71-Kulana	15-20	172-237 (20-22)	183-205 (17-19)
	Badli	15-20	226-248 (21-23)	194-215 (18-20)
	Farrukhnagar	20-25	226-258 (21-24)	194-215 (18-20)
Ghaziabad Cluster	NH-91 (Dadri) & NH-24 (Hapur) (Dasna-Pilikhua, Meerut)	30-40	237-258 (22-24)	172-226 (19-21)
	Greater Noida	40-50	323-377 (30-35)	269-312 (25-29)
Others	Faridabad	No large land parcels available	215-258 (20-24)	194-205 (18-19)
	Mundka	No large land parcels available	204-237 (19-22)	172-194 (16-18)
	Sonipat	30-40	226-248 (21-23)	194-215 (18-20)

Source: Knight Frank Research

PUNE

WAREHOUSING MARKET

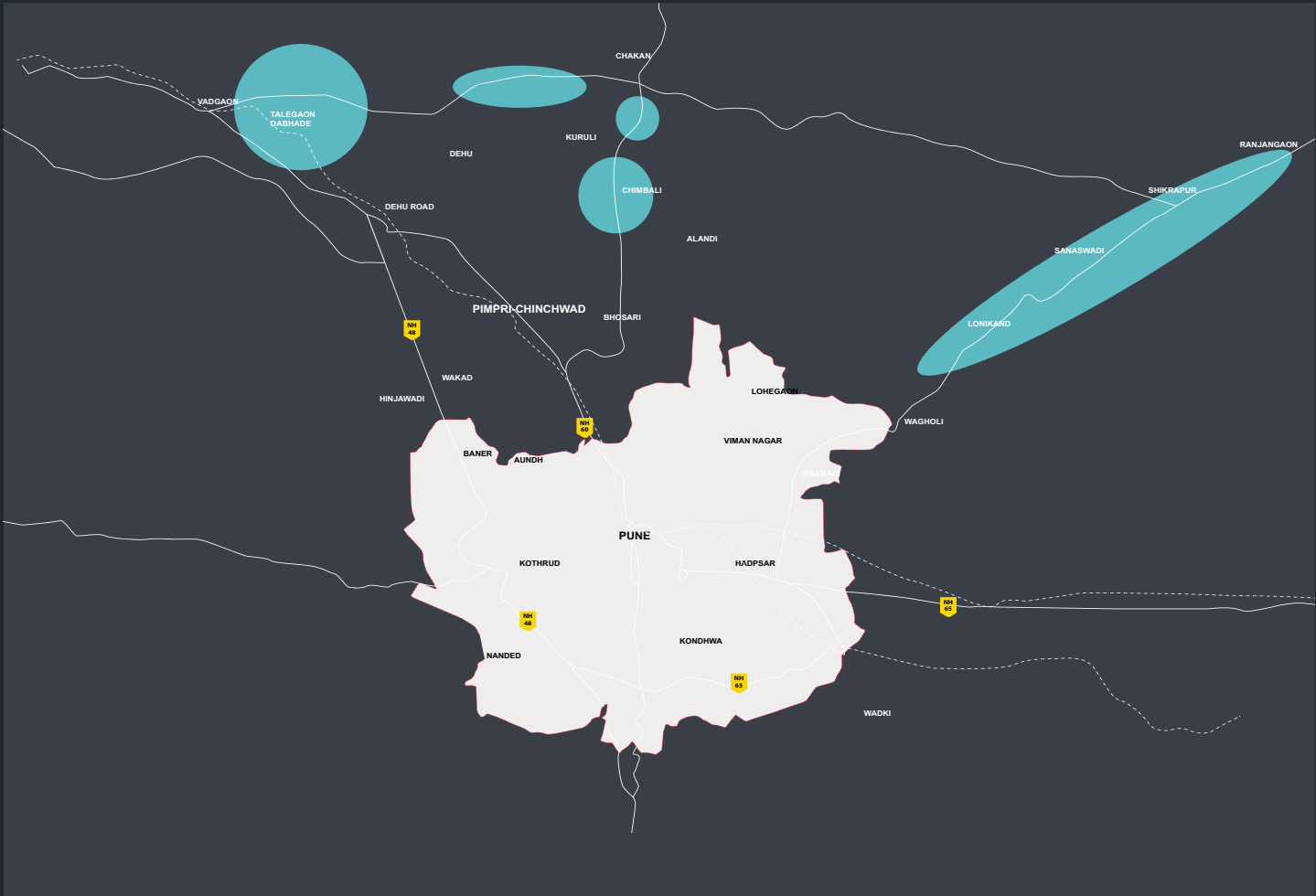
In FY 2022, the Pune warehousing market recorded leasing volumes of 0.70 mn sq m (7.5 mn sq ft), up 166% from 0.26 mn sq m (2.8 mn sq ft) recorded during FY 2021

Manufacturing sector records 58% of space takeup in FY 2022

FY 2022 recorded 86% of transactions in the Chakan - Talegaon belt

- Pune has developed as a manufacturing hub primarily focused on the automobile industry and its ancillaries. The warehousing demand in Pune is predominantly driven by industrial and manufacturing segments (Other Sectors) followed by consumption led demand.
- In FY 2022, the Pune warehousing market recorded leasing volumes of 0.70 mn sq m (7.5 mn sq ft), up 166% from 0.26 mn sq m (2.8 mn sq ft) recorded during FY 2021. This spike is on account of the significant spill-over demand from FY 2021 as occupiers resumed expansion activity with the business environment improving during FY 2022.
- There are two primary warehousing belts in Pune: the Chakan-Talegaon belt and the Wagholi-Ranjangaon belt. Both are present in the northern zone of Pune comprising 3 major manufacturing clusters of Chakan, Talegaon and Ranjangaon developed by the Maharashtra Industrial Development Corporation (MIDC).
- The Chakan-Talegaon belt has good connectivity to Mumbai and Nasik. The Chakan MIDC has developed into a mature manufacturing and industrial hub due to the presence of its major industry, the automobile industry. It is known as the 'Auto hub' in Maharashtra. Chakan has provided a conducive market for the manufacturing industry to grow by developing support for ancillary markets to thrive alongside. Newer entrants are keen to move into this cluster despite the high rentals. The warehousing space currently available in Chakan predominantly caters to the in-house, captive demand of manufacturers from the Chakan MIDC.
- Talegaon emerged as the preferred market after Chakan, due to Chakan's high land prices. Talegaon is an attractive location due to its connectivity to Mumbai and Pune city via NH 48. It has quickly developed into a mature manufacturing cluster and is at par with Chakan. Several major occupiers have taken up space in this micro market. Due to the rise in demand for Talegaon, this cluster is now being expanded with a new manufacturing cluster planned at MIDC Ambi.
- E-commerce and 3PL occupiers have recorded space take-up in FY 2022 in the Chakan-Talegaon belt despite their high rentals, as it offers good quality Grade A space within a mature cluster with the requisite ancillary services.
- The Wagholi-Ranjangaon belt lies in the north eastern region of Pune. Ranjangaon MIDC has the presence of several large manufacturing companies. Of the three clusters, this belt has the best infrastructure with roads having 3x3 lanes with dividers, and internal roads having 2x2 or 1x1 lanes with dividers. There is provision for widening of the roads in future without any need for land acquisition, although these issues are getting resolved slowly. However, Ranjangaon captured relatively less warehousing demand in FY 2022. A few more large-scale manufacturers could help expedite its development to bring it at par with Chakan. The land prices and rentals here are lower than Chakan and Talegaon, and the cluster caters predominantly to industrial and manufacturing demand. Due to the longer travel time to the city, the share of consumption demand for warehousing space in this cluster is low. The Pune market has recorded rent escalation of 4.35% YoY with average rent of INR 258/sq m/month (24/sq ft/month) in FY 2022. While Talegaon and Ranjangaon recorded upward rent movement in Grade A spaces, Chakan recorded rent escalations in both Grade A & B spaces owing to the high demand.
- Grade A rentals in the Chakan-Talegaon belt range from INR 215-334/sq m/month (20-31/sq ft/month), while rents in the Wagholi-Ranjangaon belt range from INR 172-269/sq m/month (16-25/sq ft/month).
- The strong leasing momentum is expected to continue in the Pune market going forward, with the manufacturing sector driving the demand. However, the overall demand for warehousing spaces has increased in FY 2022 with 3PL and e-commerce players gradually increasing their market footprint in Pune.

Major warehousing locations in Pune



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Chakan-Talegaon Belt	Chakan, Talegaon, Kuruli, Chimbali, Bhambholi
Wagholi-Ranjangaon Belt	Wagholi, Lonikand, Chakan-Shikrapur Road, Sanaswadi, Ranjangaon
Others	Hinjewadi, Nagar Road, Pimpri-Chinchwad

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Ring Road	Road Infrastructure
MIDC Chakan - upcoming phases	Industrial Zones

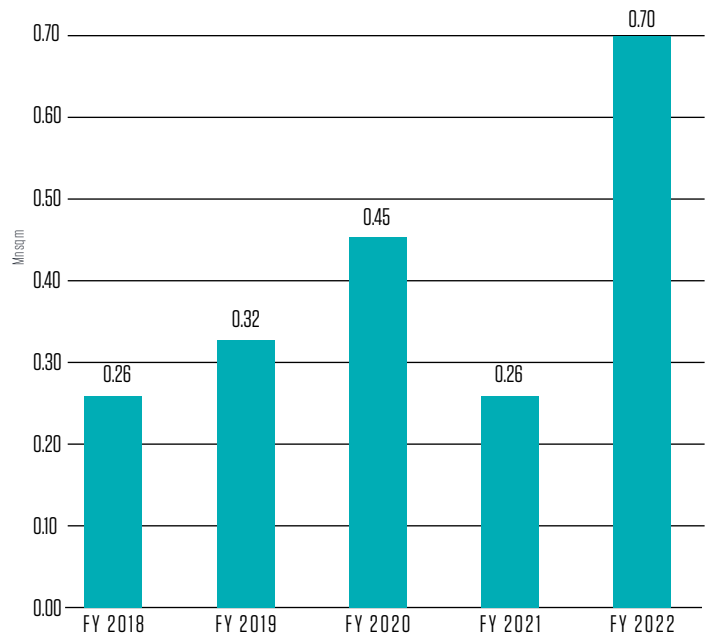
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Greenbase Industrial Park	Chakan-Talegaon Belt
ESR Industrial Park	Chakan-Talegaon Belt
KSH	Chakan-Talegaon Belt
Indospace Industrial Park	Wagholi-Ranjangaon Belt
Chordia Food Park	Other

Source: Knight Frank Research

Warehousing market transaction volume



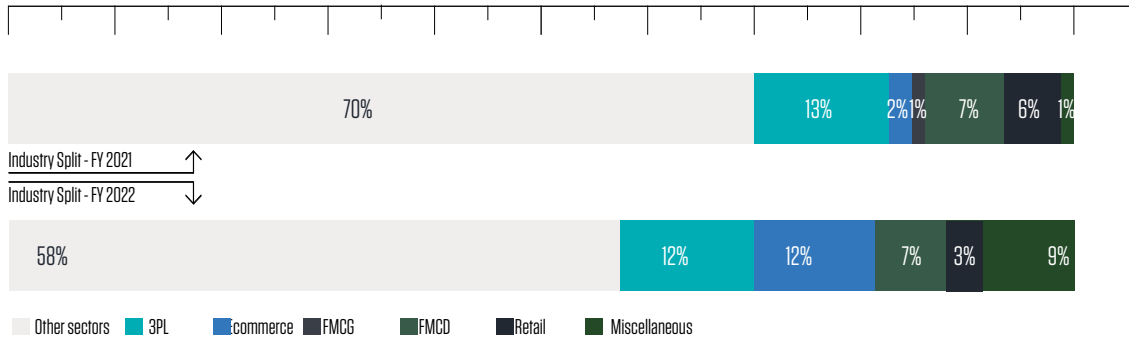
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Atomberg Technologies	FMCD	Chakan-Talegaon belt
Tata Gotion	Manufacturing	Chakan-Talegaon belt
TVS Supply Chain	3PL	Chakan-Talegaon belt
Flipkart	E-commerce	Chakan-Talegaon belt
TVS	Manufacturing	Chakan-Talegaon belt

Source: Knight Frank Research

Industry-split of transaction volume



Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD
Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate (INR mn/acre)	Grade A Rent in INR/sq m/month (INR/sq ft/month)	Grade B Rent in INR/sq m/month (INR/sq ft/month)
Chakan-Talegaon Belt	Chakan	18-23	301-334 (28-31)	226-269 (21-25)
	Talegaon	18-24	215-258 (20-24)	172-194 (16-18)
	Kuruli	Large land parcels not available	No Grade A supply	151-172 (14-16)
	Chimbali	Large land parcels not available	No Grade A supply	151-172 (14-16)
Wagholi-Ranjangaon Belt	Wagholi	Large land parcels not available	215-269 (20-25)	161-183 (15-17)
	Lonikand	15-20	172-183 (16-17)	140-61 (13-15)
	Chakan-Shikrapur Road	12-16	194-215 (18-20)	151-172 (14-16)
	Sanaswadi	12-15	No Grade A supply	140-161 (13-15)
	Ranjangaon MIDC	18-20	194-237 (18-22)	151-183 (14-17)
Other	Shirwal	10-14	172-194 (16-18)	151-161 (14-15)

Source: Knight Frank Research

SURAT

WAREHOUSING MARKET

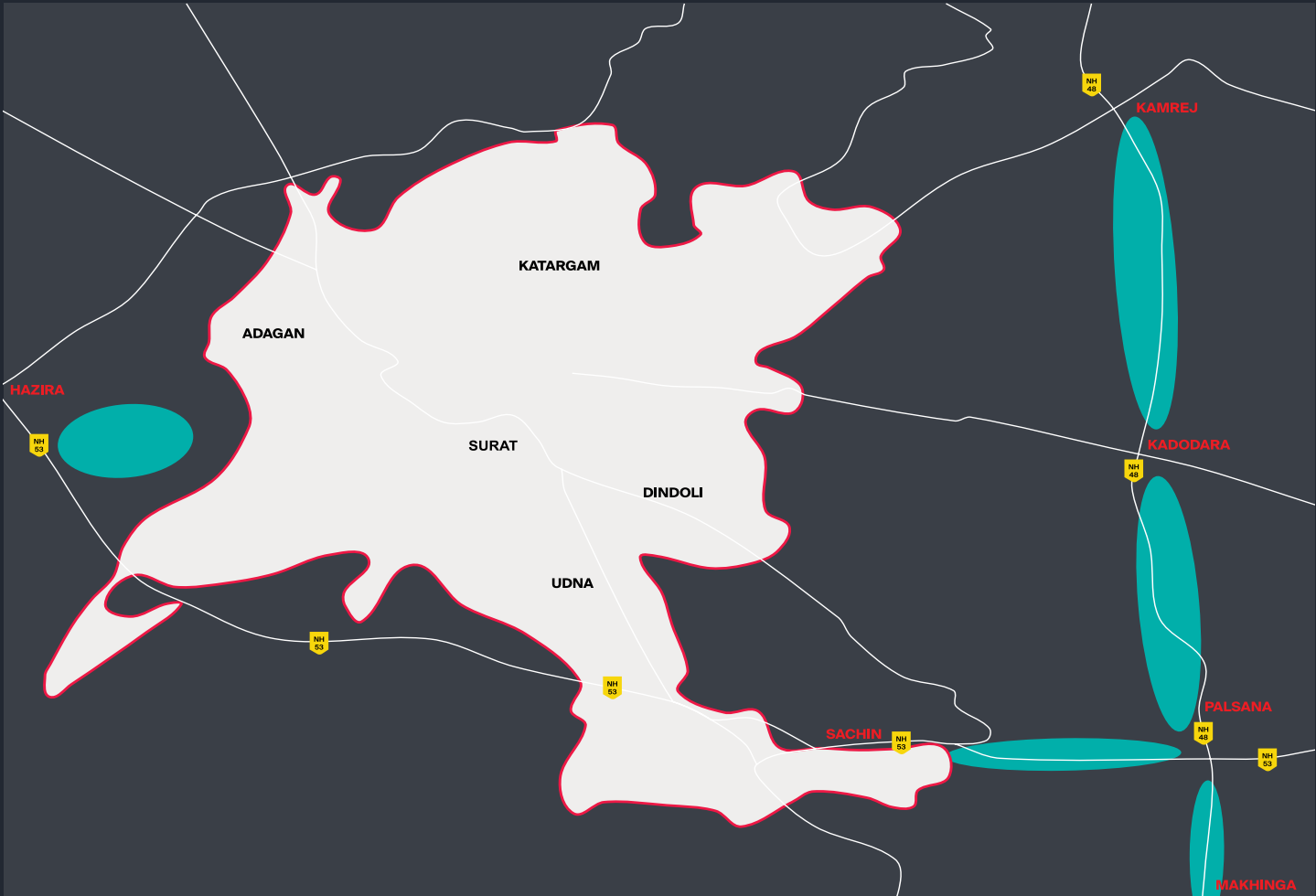
The warehousing transaction volume in Surat has expanded 3.9 times from 0.02 mn sq m (0.2 mn sq ft) in FY 2019 to 0.08 mn sq m (0.9 mn sq ft) in FY 2022.

Demand in FY 2022 is driven by the retail sector which accounted for 46%

Land parcels in Surat have recorded price appreciation in FY 2022 in select locations like Kadodara, Vesma and Icchapore.

- Surat is the ninth largest urban agglomeration and 8th largest city by population in India. The city has developed on the back of large diamond and textile industries. It has the presence of large industrial companies like AM/NS, Shell, L&T, NTPC, ONGC, GAIL, GSEG Power Plant, Gujarat State Petroleum Corporation, UltraTech Cement, and Hazira Manufacturing Division (HMD) of Reliance Industries in the Hazira Belt.
- Surat's economy is primarily driven by the diamond market with 80% of the world's diamonds cut and polished in Surat, making it a crucial location for diamond trade. The upcoming Surat Diamond Bourse would be India's second diamond trading hub.
- Surat is amongst the more prominent secondary warehousing markets that have been attracting the attention of occupiers over the past few years. The warehousing transaction volume in Surat has expanded 3.9 times from 0.02 mn sq m (0.2 mn sq ft) in FY 2019 to 0.08 mn sq m (0.9 mn sq ft) in FY 2022.
- In annual terms, volumes have grown by a healthy 5% YoY in FY 2022, driven primarily by the retail sector which accounted for 46% of the total transacted volume during the year. The 3PL and e-commerce sectors took up 28% and 23% of the annual volume respectively.
- The warehousing clusters are primarily located in the eastern zone of Surat along the NH 8, which is part of the golden quadrilateral facilitating easy access to Vadodara and Ahmedabad. There are 3 major warehousing clusters: the Surat-Kosamba-Palsana belt, the Palsana-Sachin belt and the Icchapore-Hazira belt. The Surat-Kosamba-Palsana belt and the Palsana-Sachin belt lie in the east zone, while the Icchapore-Hazira belt is located in the western zone of Surat.
- The Kosamba-Palsana belt, located along the Mumbai-Ahmedabad National Highway NH 48, has a huge advantage in intercity connectivity and is the oldest warehousing location in the city. However, with the continuous growth of Surat city, the Surat Urban Development Authority's (SUDA) town planning notification reserves the land between Kamrej and Kadodara corridor, and the area falling within 1 km from the periphery of the existing NH 48 on both sides is designated for residential use, prohibiting any kind of new industrial development. Developers with approval taken prior to the notification can still construct warehouses, but no new warehousing project is permitted. Hence supply in the belt is feasible beyond Palsana, towards Vesma. In FY 2022, most of the demand was concentrated in this belt due to the locational advantage it holds.
- The warehousing demand in the Palsana-Sachin belt also records substantial share take-up of 24% in FY 2022. Due to good connectivity, modern warehousing facilities are coming up in this belt, leading to comparatively higher rentals for Grade A spaces. Further, due to its close proximity to Surat city, this belt is preferred by 3PL players.
- The Icchapore-Hazira belt in the west zone is predominantly an industrial location and has one of the major ports of India. Warehousing supply in this belt caters to the industrial demand. However, FY 2022 recorded no major transactions in this belt.
- With warehousing demand growing, the land parcels in Surat have recorded price appreciation in FY 2022 in select locations like Kadodara, Vesma and Icchapore. Rentals for Grade A and Grade B spaces have seen an uptick across all micro markets. Grade A spaces in the Kosamba to Palsana belt record a rent range of INR 183-269/sq m/month (17-25/sq ft/month). While rentals for Grade A spaces in the Palsana-Sachin belt ranged between INR 205-301/sq m/month (19-28/sq ft/month), rentals for Grade A spaces in the Icchapore-Hazira belt ranged between INR 226-291/sq m/month (21-27/sq ft/month).
- Warehousing demand is expected to grow steadily in the Kosamba-Palsana and Palsana-Sachin belts which benefit the most from their comparatively lower rentals, good infrastructure support and locational advantages.

Major warehousing locations in Surat



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Kosamba-Palsana Belt	Kosamba, Kamrej, Vav, Kadodara, Vareli, Palsana, Makhinga
Palsana-Sachin Belt	Palsana, Lingad, Sachin, Sachin GIDC, Unn
Ichhapore-Hazira Belt	Ichhapore, Hazira

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Industrial Corridor
Delhi-Mumbai Expressway	Express Highway
Hazira Port	Port

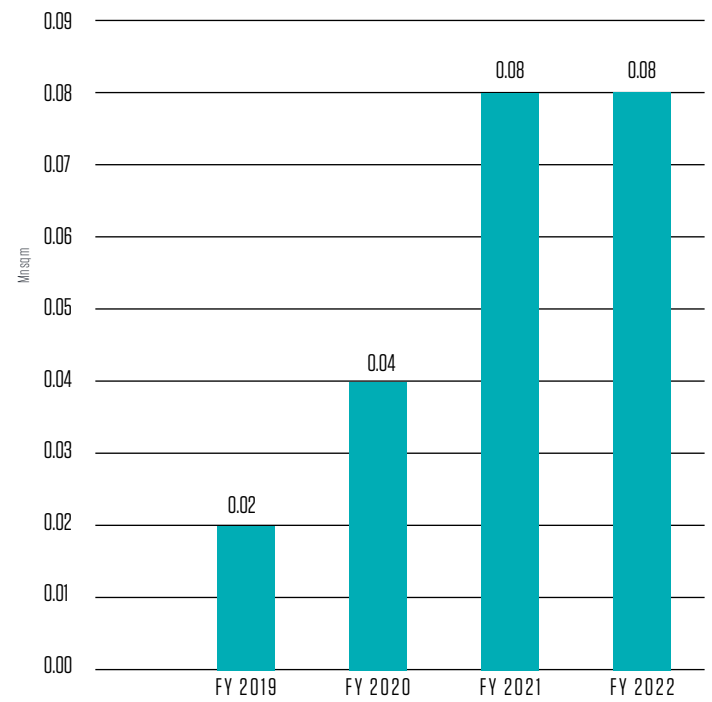
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Footprint Warehousing	Kosamba-Kadodara-Palsana
Mascot Industrial Park	Kosamba-Kadodara-Palsana
Ashwika Warehousing	Kosamba-Kadodara-Palsana
Bhagyashree Logistics	Palsana-Sachin
Homeland Warehousing	Palsana-Sachin

Source: Knight Frank Research

Warehousing market transaction volume



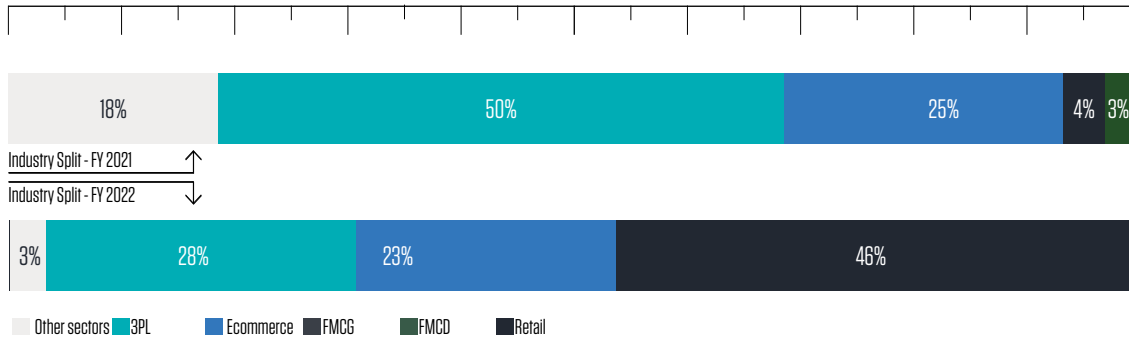
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Xpressbees	3PL	Palsana-Sachin Belt
Reliance Retail	Retail	Kosamba-Palsana Belt
Amazon	E-commerce	Kosamba-Palsana Belt
Flipkart	E-commerce	Kosamba-Palsana Belt
Delhivery	Retail	Palsana-Sachin Belt

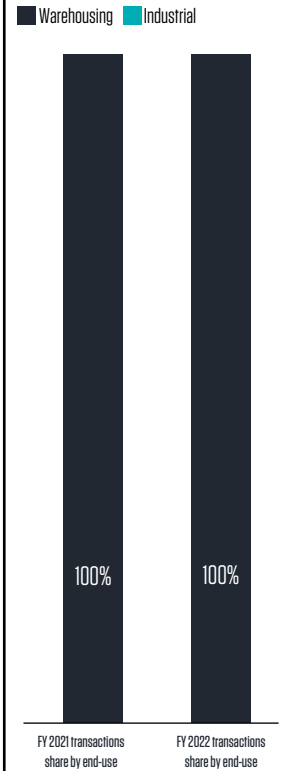
Source: Knight Frank Research

Industry-split of transaction volume



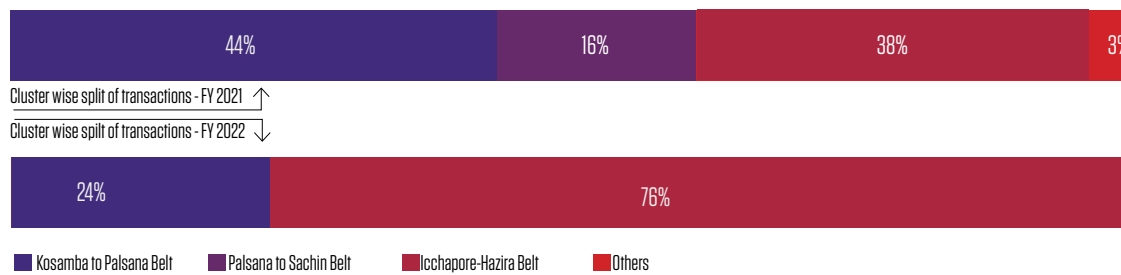
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Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A		Grade B	
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)		Rent in INR/sq m/month (INR/sq ft/month)	
Kosamba to Palsana Belt	Kosamba	10-20	183-237 (17-22)		140-172 (13-16)	
	Kadodara	30-50	226-269 (21-25)		172-215 (16-20)	
	Palsana	22-40	215-258 (20-24)		172-194 (16-18)	
	Vesma	16-30	194-237 (18-22)		161-183 (15-17)	
Palsana to Sachin Belt	Palsana	25-40	205-237 (19-22)		161-194 (15-18)	
	Sachin	30-60	237-301 (22-28)		183-215 (17-20)	
Icchapore-Hazira Belt	Hazira	25-50	226-269 (21-25)		183-215 (17-20)	
	Icchapore	30-60	237-291 (22-27)		183-215 (17-20)	

Source: Knight Frank Research

VADODARA

WAREHOUSING MARKET

FY 2022 recorded warehousing transaction of 0.05 mn sq m (0.5 mn sq ft)

warehousing demand in FY 2022 is primarily driven by the manufacturing and 3PL sectors

51% of the leased demand in FY 2022 was from warehousing activities while 49% was from industrial segments

- Vadodara is the third largest city of Gujarat after Ahmedabad and Surat. It is called the Gateway to the Golden Corridor as it connects key industrial centres like Delhi, Mumbai and Ahmedabad. The city also falls under the influence of the Delhi Mumbai Industrial Corridor (DMIC).
- The transactions in FY 2022 are primarily driven by consumer led demand, recording warehousing transactions of 0.05 mn sq m (0.5 mn sq ft) which is 17% above the FY 2021 transaction volumes.
- The Vadodara market is a prominent industrial center in western India with focus on sectors such as pharmaceutical, electrical, heavy engineering and biotechnology. Many automobile companies have their manufacturing facilities in Vadodara.
- Vadodara has 3 major warehousing clusters: The Padamala-Ranoli belt in the north along the golden quadrilateral connecting to Ahmedabad, the Savli-Jarod-Halal belt on the east, and the Makarpura-Por belt in the south connecting to Surat and Mumbai.
- Warehousing spaces in Vadodara are primarily available in the built-to-suit model with very limited ready inventory. This limited inventory also renders warehousing rents in the Vadodara market higher than primary markets like Ahmedabad.
- The industrial demand in this region is captured by the Savli belt in the east and the Makarpura-Por belt in the south. Both clusters have been provided with good infrastructure support including good quality 3x3 roads with dividers. The industrial demand in this region is from the pharmaceutical, electrical and heavy engineering sectors. The demand for the automobile sector in Vadodara is captured by the Savli-Holol belt. It has emerged as the automotive hub and was declared as a Special Investment Region, under the Special Investment Region Act, Government of Gujarat.
- The Padamala-Ranoli cluster is one of the oldest clusters lying in close proximity to the Ahmedabad Vadodara Expressway, but the warehouses here lack modern infrastructure support. The cluster, however, has benefits due to its locational advantage and caters to the consumer led demand as it is closer to the intersection of the national highway and Ring Road.
- The warehousing demand in FY 2022 is primarily driven by the manufacturing and 3PL sectors having a share contribution of 59% and 41% respectively. 51% of the leased demand was from storage related warehousing activities and 49% was from industrial segments which involves various types of light or heavy manufacturing related activity.
- The land rates in Vadodara mostly range between INR 17-45 mn/acre except for locations like Makarpura and Chhani where the land rates range between INR 60-150 mn/acre. The Savli-Jarod-Halal micro market has emerged as an affordable market with land rates ranging between INR 17-30 mn/acre. Land rates in the Padamala-Ranoli belt are comparatively higher ranging between INR 22-45 mn/acre.
- The rental value of Grade A spaces in the Savli-Jarod-Halal micro market falls between INR 194-237/sq m/ month (18-22/sq ft/month). Similar rental value is seen in the Padamala-Ranoli micro market. The rentals for Grade A spaces in the Makarpura-Por micro market are slightly higher, ranging between INR 194-291/sq m/month (18-27/sq ft/month).
- The Delhi Mumbai Industrial Corridor (DMIC) passing through the city endows it with a substantial locational advantage and is expected to boost occupier demand going forward.

Major warehousing locations in Vadodara



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Savli-Jarod-Halol	Savli-Halol Road, Vadodara-Halol Road, Manjusar
Makarpura-Por-Karjan	Makarpura, Por, Karjan
Padamala-Ranoli	Padamala, Ranoli
Others	Chhani, Waghodia

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Industrial Corridor

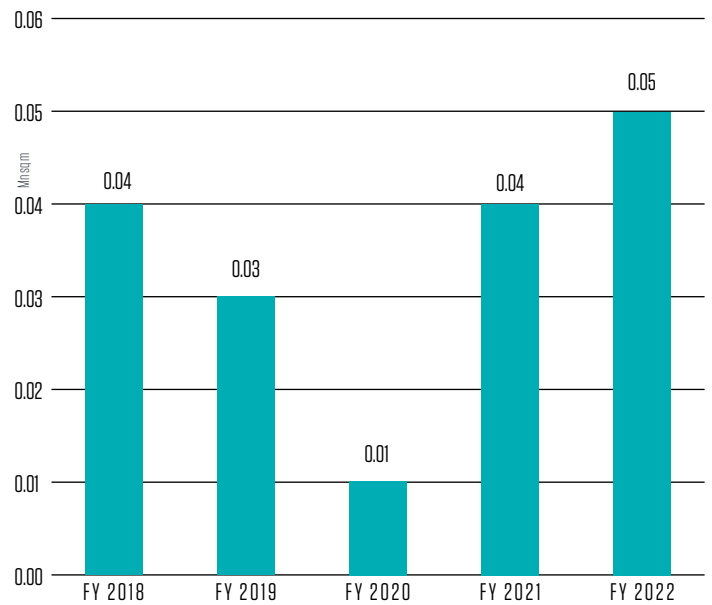
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
Nexus Industrial Park	Savli-Jarod-Halol
Adani Logistics Park	Padamala-Ranoli
Shakti Logistics	Makarpura-Por-Karjan
Navkar Industrial Park	Savli-Jarod-Halol
Contrans Industrial Park	Makarpura-Por-Karjan

Source: Knight Frank Research

Warehousing market transaction volume



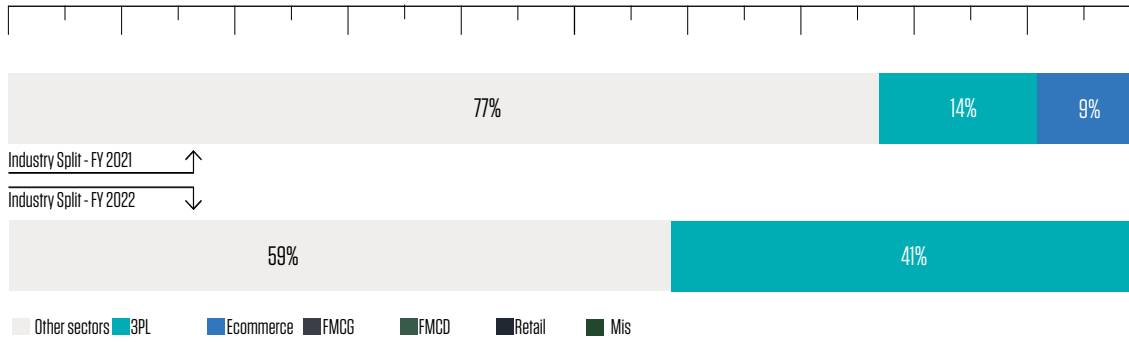
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Sitics Logistics	3PL	Savli-Halol
Plasser India	Manufacturing	Others
ABB	Manufacturing	Makarpura-Por
Berger Paints	Manufacturing	Padamala-Ranoli
V Care	Manufacturing	Makarpura-Por

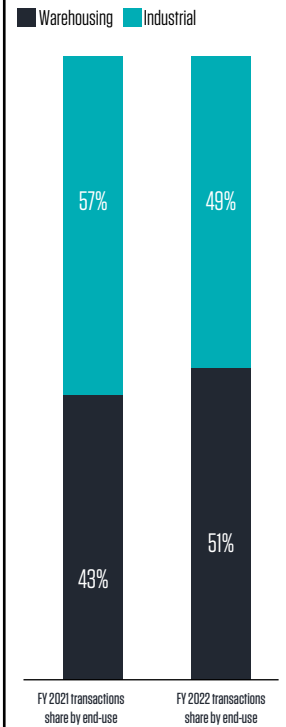
Source: Knight Frank Research

Industry-split of transaction volume



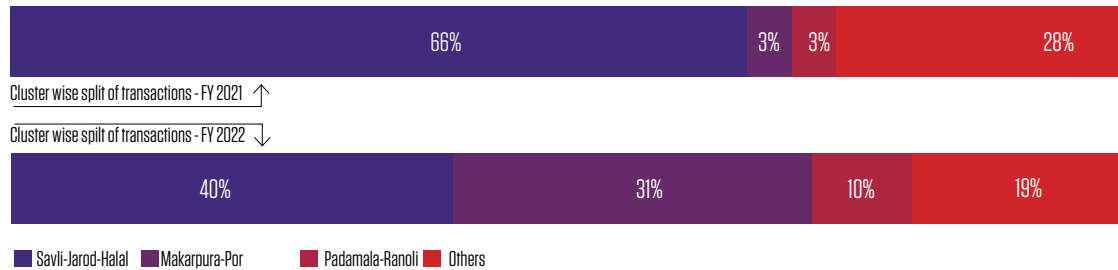
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD. Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing | Source: Knight Frank Research

Transaction share by end-use of space



Notes: Warehousing transactions: These refer to storage activity. Industrial transactions: These refer to manufacturing activity. Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate (INR mn/acre)	Grade A Rent in INR/sq m/month (INR/sq ft/month)	Grade B Rent in INR/sq m/month (INR/sq ft/month)
Savli-Jarod-Halal	Vadodara-Halol Road	17-26	194-237 (18-22)	161-194 (15-18)
	Savli-Manjusar	20-30	194-237 (18-22)	161-194 (15-18)
Makarpura-Por	Makarpura	60-150	237-291 (22-27)	194-215 (18-20)
	Por	20-30	194-237 (18-22)	172-194 (16-18)
	Karjan	15-20	194-215 (18-20)	161-194 (15-18)
Others	Chhani	60-150	237-291 (22-27)	194-215 (18-20)
	Waghodia	17-27	194-237 (18-22)	161-194 (15-18)
Padamala-Ranoli	Padamala	22-45	194-237 (18-22)	129-183 (12-17)
	Ranoli	22-45	194-237 (18-22)	129-183 (12-17)

Source: Knight Frank Research

VAPI

WAREHOUSING MARKET

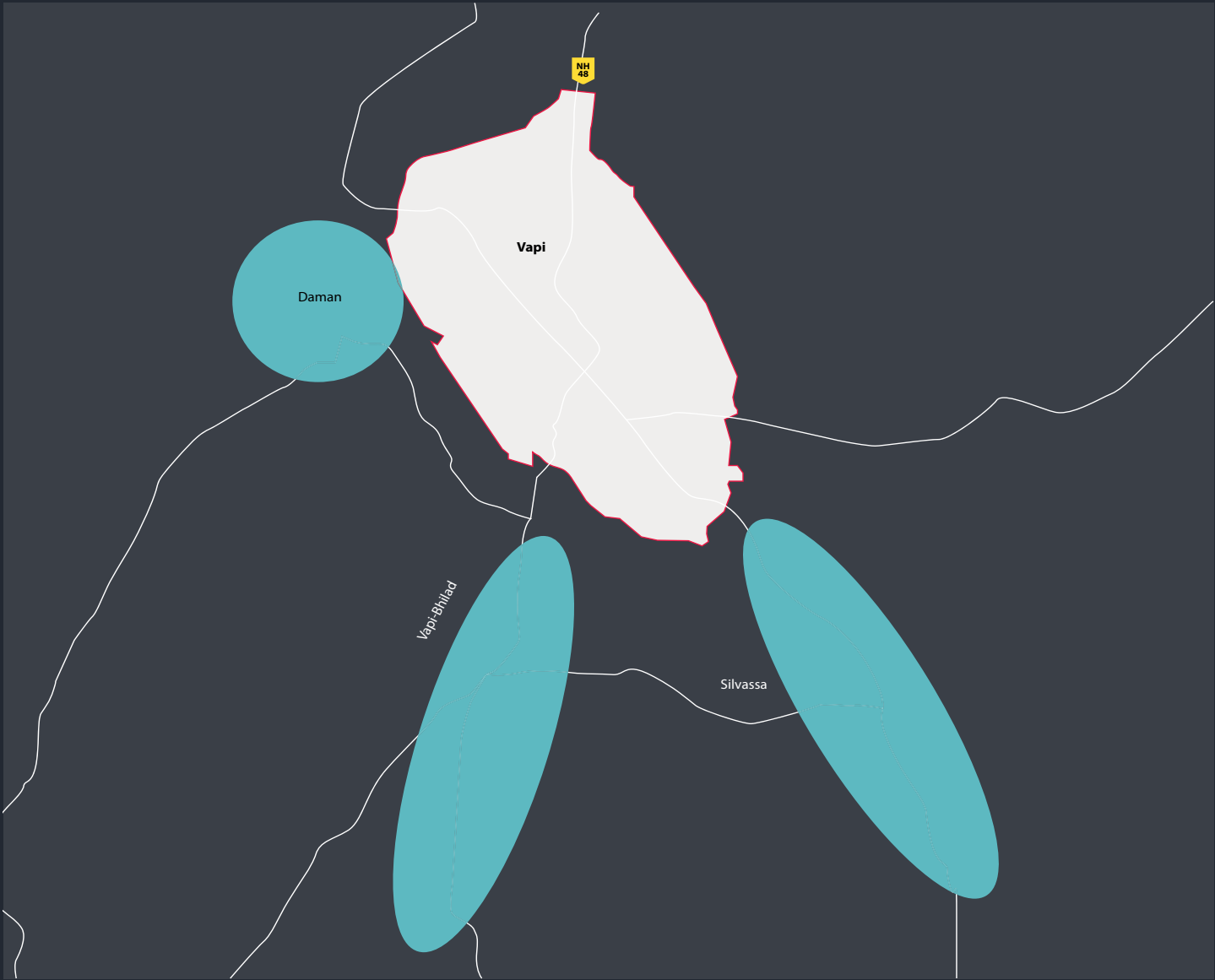
The demand in FY 2022 is driven primarily by the manufacturing sector followed by consumer led demand

Grade A warehousing space rentals in the city range from INR 183- 248/sq m/ month (17-23/sq ft/month),

Vapi's warehousing market clocks in 0.03 mn sq m (0.3 mn sq ft) leasing in FY 2022

- Vapi City is an industrial town located near the banks of the Daman Ganga River surrounded by the Union Territories of Daman and Diu, and Dadra Nagar Haveli. It is a part of the industrial belt known as the Golden Corridor starting from Ahmedabad extending till Vapi. The corridor is known for its immense development of manufacturing facilities. Vapi majorly evolved as a chemical and chemical products manufacturing hub.
- Vapi has a geographical advantage in terms of connectivity as NH 48 and Silvassa Road are two major roadways cutting through the city. NH 48 is a part of the golden quadrilateral and passes through Vapi city, connecting it to the key metro cities of Mumbai and Ahmedabad.
- Vapi is dotted with numerous small-scale chemical industries. Warehousing in Vapi is largely fragmented. Small clusters are located in and around the city and the supply is shared between Vapi, Daman and Silvassa.
- Warehousing in Vapi is concentrated in 3 major locations namely, the Vapi-Bhilad belt, Daman and Silvassa. Warehousing demand in FY 2022 is concentrated in the Vapi-Bhilad belt. Rent for Grade A spaces in this belt ranges from INR 183-269/sq m/month (17-23/ sq ft/month), with Bhilad being the more affordable market. The important warehousing locations around Vapi are Bhilad, Tumb, Naroli and Masat. There is very little speculative stock in Vapi and most of the warehousing is built-to-suit.
- The demand in FY 2022 is driven primarily by the manufacturing sector followed by consumer led demand. Vapi is benefiting from occupiers penetrating in tier 2 cities, 89% of the demand in FY 2022 is from the manufacturing sector, while 11% is from 3PL players.
- The city leasing volumes fell by 52% YoY from 0.06 mn sq m (0.6 mn sq ft) in FY 2021 to 0.03 mn sq m (0.3 mn sq ft) in FY 2022. The leasing demand in FY 2022 was majorly for warehousing requirements and no space take up was seen for industrial use, whereas in FY 2021, 38% of the lease demand was from the industrial segment.
- E-commerce companies have not taken up space here but serve this region through their 3PL partners.
- Land rates in Vapi for warehousing development vary from INR 10-50 mn/acre, with Sarigan and Vapi emerging as the high land value markets.
- Grade A warehousing space rentals in the city range from INR 183-248/ sqm/ month (17-23/sqft/month), with Umargaon having relatively lower rentals while Vapi and Sarigam demand higher rentals.

Major warehousing locations in Vapi



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Vapi-Bhilad	Vapi, Valvada, Mohanfatak, Bhilad, Nandigram, Daheli, Bhathi Karambeli,
Daman	Morai, Jamburi, Bhimpore
Silvassa	Silvassa
Others	Tumb, Vankas

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Delhi-Mumbai Industrial Corridor (DMIC)	Industrial Corridor
Delhi-Mumbai Expressway	Express Highway

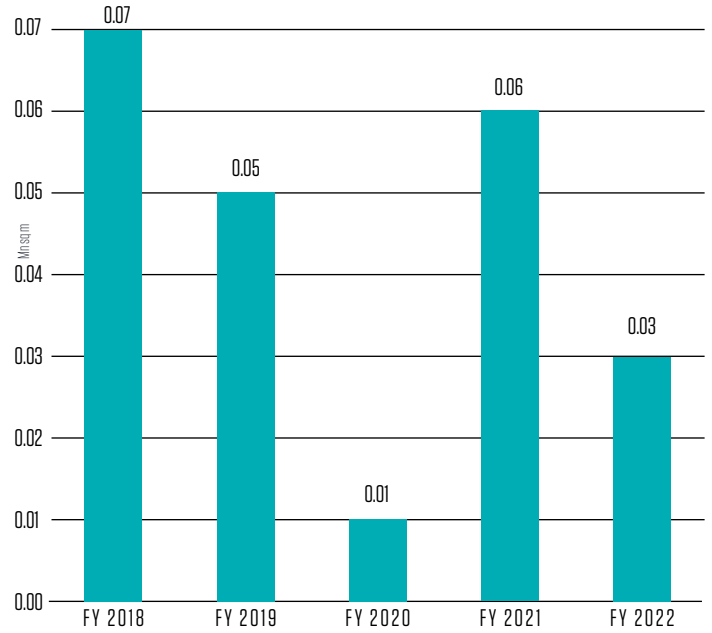
Source: Knight Frank Research

Select warehouse projects

Warehouse Project	Warehouse Cluster
Aveny Logistics & Warehousing	Vapi- Bhilad
Galaxy Hubco	Vapi- Bhilad
Scalar Group	Vapi-Silvassa-Daman

Source: Knight Frank Research

Warehousing market transaction volume



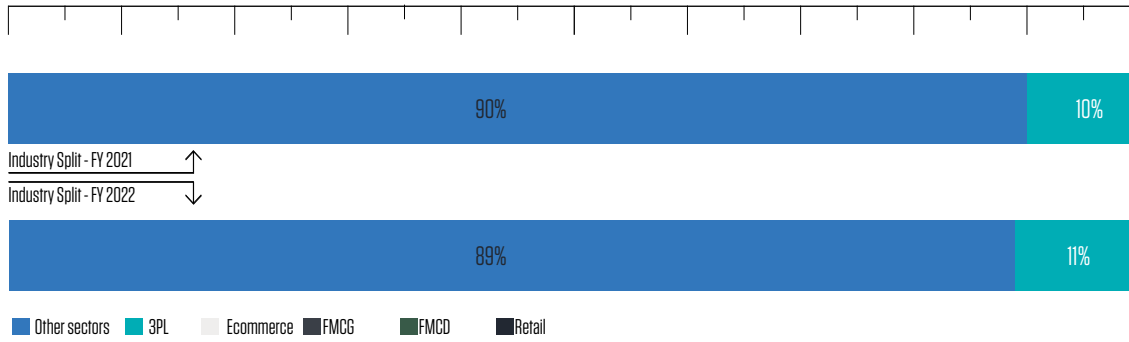
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Western Refrigerators	Manufacturing	Vapi- Bhilad
International Comfort Technology Private Limited	Manufacturing	Vapi- Bhilad
Radhika Opto Electronics Pvt. Ltd.	Manufacturing	Vapi- Bhilad
Pidilite	Manufacturing	Vapi- Bhilad
Spoton Logistics	3PL	Vapi- Bhilad

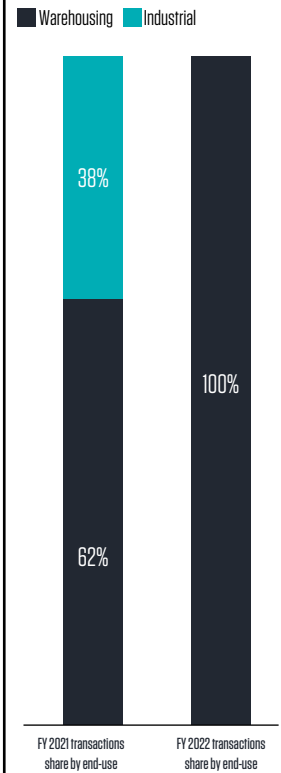
Source: Knight Frank Research

Industry-split of transaction volume



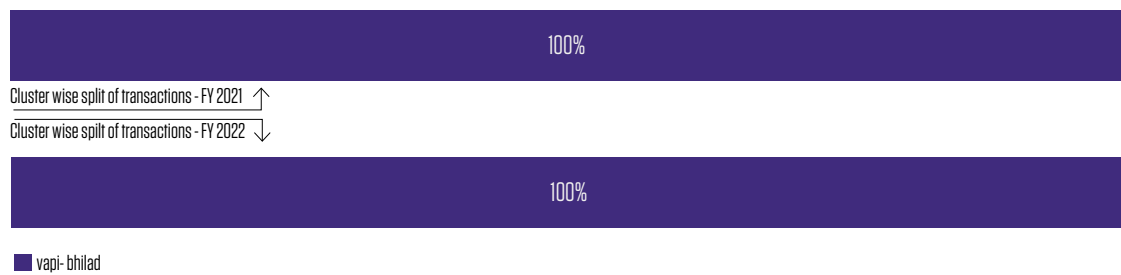
Notes: Warehousing transactions data includes light manufacturing/assembly. Other Sectors - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD.
Source: Knight Frank Research

Transaction share by end-use of space



Notes:
Warehousing transactions: These refer to storage activity
Industrial transactions: These refer to manufacturing activity
Source: Knight Frank Research

Cluster-split of transaction



Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
Vapi-Bhilad cluster	Vapi	20-40	205-248 (19-23)	161-205 (15-19)
	Bhilad	18-30	183-215 (17-20)	151-183 (14-17)
Daman cluster	Daman	15-30	194-226 (18-21)	151-183 (14-17)
Silvassa cluster	Silvassa	15-30	194-226 (18-21)	151-172 (14-16)
Silvassa cluster	Umargaon	10-25	183-205 (17-19)	140-172 (13-16)
	Sarigam	20-50	205-248 (19-23)	161-205 (15-19)

Source: Knight Frank Research

VISAKHAPATNAM

WAREHOUSING MARKET

Visakhapatnam's city port is one of the nation's top 13 ports and overall, the fifth busiest cargo port

Transactions for the Visakhapatnam warehousing market stood at 0.03 mn sq m (0.3 mn sq ft), a 228% YoY rise in FY 2022

The Gajuwaka-Auto Nagar cluster accounted for 87% of Vishakhapatnam's FY 2022 warehousing transactions

-
- Visakhapatnam is a port city on the east coast of India. The city port is one of the nation's top 13 ports and overall, the fifth busiest cargo port. Moreover, it is the only natural port along India's eastern coast.
 - Owing to its strategic geography, Visakhapatnam has been functioning as a trade centre since colonial times. Modern infrastructure has helped harness the city's trade potential even further. It is slated to be developed as a Smart City under the first phase of the Smart Cities Mission.
 - The Visakhapatnam Chennai Industrial Corridor component of the city, a key node on the East Coast Economic Corridor, is already under development. A network of arterial highways, including the Beach Road, Daba Gardens Road, Waltair Main Road, and Dwaraka Nagar Road, facilitate intra-city connection. The National Highway 16 (NH-16), often known as the Chennai-Kolkata Highway, goes through the city.
 - There is a significant presence of heavy industries like dredging, shipbuilding, thermal energy, oil & petroleum, and steel fabrication in Visakhapatnam. Fishing is a significant industry in the city and accounts for most of its exports. Historically, the demand for warehousing in Visakhapatnam has been driven by several sectors of the economy.
 - The demand for warehousing and logistics in the city has recently increased due to the e-commerce industry and 3PL providers that serve manufacturing and retail firms.
 - The Gajuwaka-Auto Nagar and Madhurwada clusters, which encompass the northern and port-adjacent portions of the city respectively, are the two most important warehousing clusters in Visakhapatnam. In addition, there are tiny pockets of warehousing in the Atchutapuram Special Economic Zone, Parawada, and Vuda Colony-Mindi industrial regions (SEZ).
 - In FY 2022, transactions for the Visakhapatnam warehousing market stood at 0.03 mn sq m (0.3 mn sq ft), a 228% YoY rise. 3PL players were the major drivers of this warehousing demand with a share of 69%.
 - E-commerce accounted for 15% share of the total demand pie. The manufacturing and retail sectors, accounting for 10% and 6% respectively, each received one deal, which skewed the proportion of e-commerce.
 - The Gajuwaka-Auto Nagar cluster accounted for 87% of the FY 2022 warehousing absorption whereas the remaining 13% was concentrated in the Madhurwada cluster.
 - The city is dominated by standalone warehouses, primarily of the Grade B category. Rentals for Grade A warehouses range between INR 22-27 sq ft/month, and for Grade B warehouses between INR 17-24 sq ft/month having seen marginal appreciation since FY 2021.

Major warehousing locations in Visakhapatnam



Source: Knight Frank Research

Classification of warehousing locations into major clusters

Warehousing Cluster	Major Warehousing Locations
Gajuwaka-Auto Nagar Cluster	Auto Nagar and surrounding areas, Gajuwaka
Madhurwada Cluster	Madhurwada

Source: Knight Frank Research

Classification of warehousing locations into major clusters

Name	Type
Beach Road	Road
Waltair Main Road	Road
Dwaraka Nagar Road	Road
Chennai Kolkata Highway/NH 16	Road
Visakhapatnam Chennai Industrial Corridor	Road
Visakhapatnam Port	Port
Visakhapatnam Airport	Airport

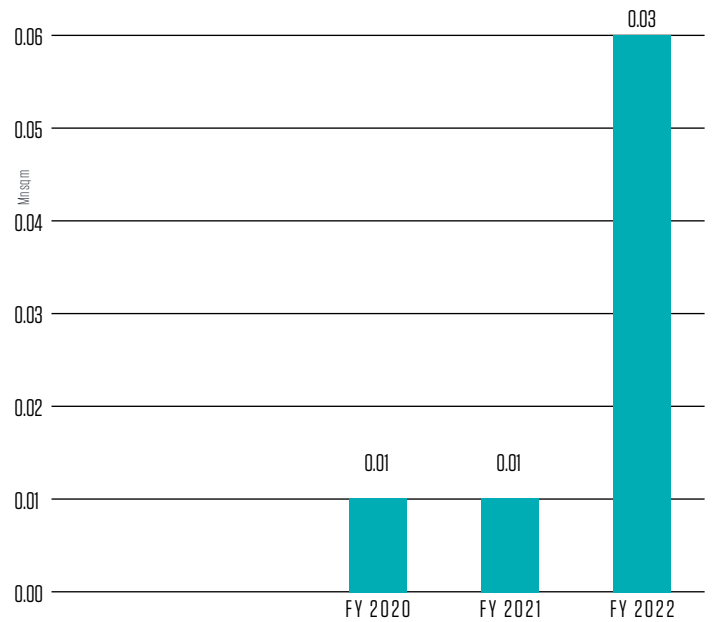
Source: Knight Frank Research
Note: NH stands for National Highway

Select warehouse projects

Warehouse Project	Warehouse Cluster
A-STAR Logistics	Gajuwaka-Auto Nagar Cluster
UTPL Logistics	Gajuwaka-Auto Nagar Cluster

Source: Knight Frank Research

Warehousing market transaction volume



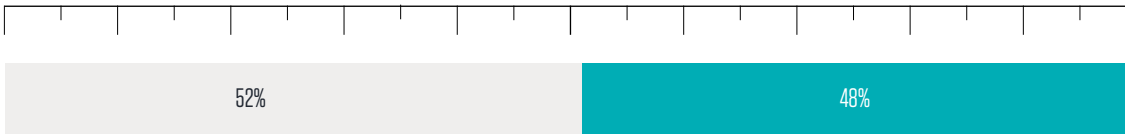
Source: Knight Frank Research

Top transactions during FY 2022

Occupier	Occupier Industry	Warehouse Cluster
Coldman Logistics	3PL	Gajuwaka-Auto Nagar Cluster
Xpressbees	3PL	Gajuwaka-Auto Nagar Cluster
Amazon	E-commerce	Gajuwaka-Auto Nagar Cluster
Blinkit	3PL	Gajuwaka-Auto Nagar Cluster
Mahindra Logistics	3PL	Gajuwaka-Auto Nagar Cluster

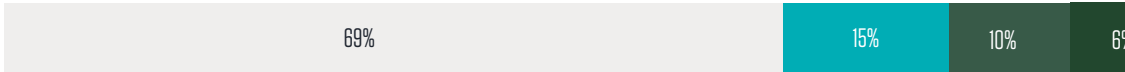
Source: Knight Frank Research

Industry-split of transaction volume



Industry Split - FY 2021 ↑

Industry Split - FY 2022 ↓

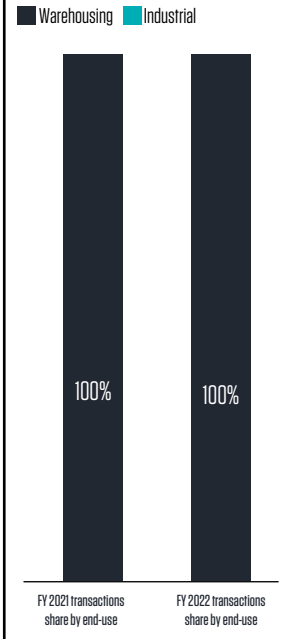


■ 3PL
 ■ E-commerce
 ■ FMCD
 ■ FMCG
 ■ other sector
 ■ Miscellaneous
 ■ Retail

Notes: Warehousing transactions data includes light manufacturing/assembly. **Other Sectors** - Other Sectors include all manufacturing sectors (automobile, pharmaceutical, etc.) except FMCG and FMCD.

Miscellaneous - These include services such as telecom, real estate, document management, agricultural warehousing, and publishing. | Source: Knight Frank Research

Transaction share by end-use of space



Notes:
 Warehousing transactions: These refer to storage activity
 Industrial transactions: These refer to manufacturing activity
 Source: Knight Frank Research

Cluster-split of transaction



Cluster wise split of transactions - FY 2021 ↑

Cluster wise split of transactions - FY 2022 ↓



■ Gajuwaka Cluster
 ■ Madhurwada Cluster

Source: Knight Frank Research

Land rate and rents

Cluster	Location	Land Rate	Grade A	Grade B
		(INR mn/acre)	Rent in INR/sq m/month (INR/sq ft/month)	Rent in INR/sq m/month (INR/sq ft/month)
Gajuwaka – Auto Nagar Cluster	Auto Nagar and surroundings	30 - 45	235 - 290 (22 - 27)	180 - 245 (17 - 23)
Madhurwada Cluster	Madhurwada	45 - 60	245 - 290 (23 - 27)	180 - 260 (17 - 24)

Source: Knight Frank Research

AGRA

WAREHOUSING MARKET

- Agra is the fourth most populous city in Uttar Pradesh and is located about 220 kms away from India's national capital, New Delhi. Tourism, handicraft, agriculture, and manufacturing are the backbone of its local economy.
- Ranked 4th amongst 100 smart cities in India by the Ministry of Housing and Urban Affairs, Agra's business profile continues to expand beyond being a cultural and tourism hub.
- Warehousing activities are yet to take off in an organized manner and the market is currently at the cusp of an evolution. Due to small industrial presence compared to other cities in Uttar Pradesh as well as other parts of North India, only a very small transaction volume is recorded in warehouse leasing annually. In FY 2022, the city clocked in 0.02 mn sq m (0.2 mn sq ft) of warehouse spaces leased, which is relatively low when compared to other Tier II markets such as Lucknow or Ludhiana.
- A few locations such as the Agra-Kolkata belt of National Highway 19 (NH 19) and the Delhi-Agra route of NH 44 have a concentration of small and mid-sized Grade B warehousing facilities, but that too in a fragmented manner. Artoni located around the NH 19 corridor is a developing warehousing location in Agra, besides a few old industrial estates in Sikandra and Khandhari that have Grade B warehousing stock. In FY 2022, major retail and manufacturing tenants leased warehousing space in the NH 19 belt.

KOCHI

WAREHOUSING MARKET

- Kochi, the financial and economic capital of Kerala, has benefited from its proximity to global shipping hubs, excellent connectivity, the presence of a port and interconnected rivers, and an everlasting demand for city supplies. One of the largest in India, Kochi is a significant port on the Indian Ocean, Arabian Marine, and Laccadive Sea route. Additionally, Kochi is India's first transshipment facility. The port is located on Willingdon Island and Vallarpadam in the Lake of Kochi. The International Container Transshipment Terminal, the largest container transshipment facility in India is also part of the Kochi Port.
- The two main concentrations of warehousing activity in Kochi are the Kalamassery-Edayar cluster and the NH-85 cluster. Numerous 3PL and manufacturing companies have constructed warehouses in Kochi to serve a broader range of customers from a single location. The entry of e-commerce giants such as Flipkart and Spinny in recent years has accelerated the development of high-quality pre-engineered warehousing facilities in Kochi.
- The total transaction volume in the Kochi warehousing market stood at 0.02 mn sq mt (0.3 mn sq ft) in FY 2022. With a 32% share from transactions by Flipkart and Spinny, the e-commerce segment made up most of the transactions pie. The manufacturing sector accounted for 28% of the total volume of transactions through the year, making it the second-most active in the market.
- The rental rates for Kochi warehousing facilities range between INR 172-226/sq m/month (INR 16-21/sq ft/month) in prominent warehousing locations like North Paravur, Ernakulam, Kalamassery, Varapuzha, Koonammave, Eloor, Vytilla, Edapally, and Perumbavoor. The rent for Grade A warehousing facilities such as those taken up by Flipkart, GSK and Pepsi remained in the range of INR 205-226/sq m/month (INR 19-21/sq ft/month), while the rent for Grade B warehouses stood in the range of INR 172-194/sq m/month (INR 16-18/sq ft/month).
- The rebound in transaction volumes observed during FY 2022 highlights Kochi's potential as an expanding warehousing market. The e-commerce sector has been concentrating on bolstering its supply chains throughout the underserved regions of the nation and are expected to continue driving volumes in the future.
- While market vacancy has significantly reduced by the surge in transaction volumes, inquiries for built-to-suit facilities have increased. Along with the substantial reduction of incentives like rent-free periods over the past year, rental levels have also become more stable. As Kochi's vital significance in the supply chain continues to increase, the market has made a strong recovery over the past year and is expected to maintain momentum.

SILIGURI

WAREHOUSING MARKET

- Siliguri is West Bengal's third largest urban agglomeration after Kolkata and Asansol. Over the years, it has developed into a trading and transport hub. Its strategic location connects it with four international borders – China, Nepal, Bhutan and Bangladesh. It also connects the north-eastern region with the Indian mainland and other districts of West Bengal.
- Siliguri has good connectivity via multiple national highways to the neighbouring cities which makes distribution and transportation of goods easier. The National Highway 27 (NH-27), an east-west national highway, passes through the heart of the city. NH-110, a 76-km highway links it to Darjeeling, while NH-10 provides direct connectivity to Gangtok – both of which are major consumption markets in the north-eastern region.
- The Logistics Park Development and Promotion Policy of West Bengal, 2018 identifies Siliguri as one of the state's five locations for development of logistics park infrastructure. Due to good connectivity, easy access to industrial belts, and land availability, Siliguri has emerged as a key Tier II city and elicited the interest of 3PL, e-commerce and FMCG companies.
- Along with its twin city Jalpaiguri, which is 35 kms away, Siliguri forms the largest metropolis in the North Bengal region. Ghora More, a tri-junction near New Jalpaiguri and a prime warehousing cluster in Siliguri is where most of the warehouse stock is concentrated and this is largely fragmented and unorganized. There are several godown type structures which dominate the market, and there is huge potential for organized warehousing.
- Ghora More is connected directly to the II km Eastern Bypass Road which circles Siliguri and provides further access to towns like Kalimpong and Darjeeling. Modern warehouse supply has started coming up and developers have started focusing on modern amenities to attract MNC clients. The new supply is not in the form of large organized industrial park developments, but fragmented and stand-alone structures. In FY 2022, 82% of the warehouses were leased in this cluster. Other locations such as Fulbari and Eastern Bypass are also generating interest in occupiers.
- In addition to being a major consumption market, Siliguri is also a key region for development of end-to-end logistics parks with multimodal capabilities in the northern part of West Bengal. In FY 2022, 0.05 mn sq m (0.5 mn sq ft) of new warehouse space was leased in Siliguri, registering a 25% annual growth. In FY 2022, retail accounted for 85% of the total leasing for warehouses in the market. The prospects of increase in consumption demand in north-eastern states would further boost the demand for warehousing facilities especially by retail, e-commerce and 3PL players in the Siliguri market.

VIJAYAWADA

WAREHOUSING MARKET

- Situated on the east coast of South India, Vijayawada is the second largest city in the Indian state of Andhra Pradesh and a part of the state's capital Amaravati.
- Being a major and busy junction on the Kolkata-Chennai railway line, this city has emerged as an important industrial center. Located on the Golden Quadrilateral, Vijayawada is one of the busiest routes on the East Coast as it remains a key transit point between north and south.
- Termed as the business capital, Vijayawada's profile has expanded beyond being a cultural city. In FY 2022, the city observed traction from large e-commerce players like Amazon, Flipkart and prominent 3PL players like Delhivery.
- Warehousing activities in FY 2022 was strong, supported by a few large deals by the e-commerce and FMCD sectors. In FY 2022, transactions for the Vijayawada warehousing market stood at 0.07 mn sq m (0.8 mn sq ft), relatively higher when compared to some of the other secondary market cities.
- E-commerce and FMCD jointly drove the need for warehousing in FY 2022, each contributing 37% and 38% of the demand share respectively. The share of the 3PL sector was 21% of the entire market, while that of retail was 4%.
- Going ahead, the likelihood of rising consumer demand in south-eastern states will give rise to a need for warehousing facilities, particularly for retailers, online merchants, and third-party logistics (3PL) providers in the Vijayawada market.

PATNA

WAREHOUSING MARKET

- The north-eastern consumer markets of India are amongst the most underserved in the country and Patna forms an important link in the region's supply chain. Patna, along with warehousing hubs such as Lucknow, Ranchi and Guwahati together constitute the backbone of the supply chain in this region. It is also the capital and the largest city in the state of Bihar. Situated in the third most populous state in India, Patna also caters to the consumption base in Bihar's other cities such as Darbhanga, Muzaffarpur, Gaya and Bihar Sharif.
- Patna is a largely unorganized market with the bulk of warehousing development taking place on the Patna-Gaya road to the south, NH-922 to the west and the NH-31 to the east. However, the entry of e-commerce players such as Amazon and Flipkart, besides global multinationals such as Coca Cola, Pepsi and Samsung over the last few years has spurred the development of high-quality pre-engineered warehousing facilities.
- The Patna warehousing market witnessed prolific growth in FY 2022 with transaction volumes spiking 309% YoY to 0.08 mn sq m (0.9 mn sq ft). 3PL such as TVS Logistics, Safexpress and Ecom Express accounted for 60% of the space transacted during the year. The e-commerce sector was the second most active in the market and took up 21% of the transacted space during the year. It must be noted that while the demand growth seems impressive due to the base year (FY 2021) being severely impacted by the pandemic, FY 2022 transaction volumes also exceed the pre-pandemic high seen in FY 2019.
- Warehousing facilities have come up in and around Patna in an approximate radius of 35 km toward the east, west and south of the city. Rental rates for warehousing facilities range between INR 161-248/sq m/month (INR 15-23/sq ft/month) in prominent warehousing locations like Bihta, Gaurichak, Fatuha, Zero Mile, Deedarganj and Khagaul. Higher grade warehousing facilities such as those taken up by Coca Cola, Flipkart, GSK and Pepsi trade at the higher end of the range, while the converse is true for Grade B warehouses.
- Apart from the existing warehousing clusters, Hajipur which is approximately 20km north of Patna is attracting interest from logistics and warehousing players and has picked up momentum just after expansion of Gandhi Setu. This location houses prominent occupiers like Britannia Industries, Hindustan Unilever, Pepsico, Tata Consumer among others. E-commerce giant Flipkart took up close to 0.2 mn sq ft of warehousing space in Hajipur during FY 2022. Hajipur is well placed to grow as a warehousing location within Patna given the growing occupier interest here and its immediate vicinity.
- The impressive recovery in transaction volumes seen during FY 2022 underscores the potential of Patna as a growing warehousing market. The 3PL and e-commerce sectors have been focusing on strengthening their supply chain across the underserved north-east region in the country and are expected to drive volumes going forward as well.
- While the spike in transaction volumes has substantially reduced market vacancy, enquiries for built-to-suit facilities have continued to increase. Rental levels have also firmed up considerably over the past year in tandem with the considerable reduction of incentives such as rent-free periods. The market has recovered well over the year and is expected to sustain momentum as Patna's strategic importance in North-East India's supply chain continues to grow.

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