

INDIA

WAREHOUSING

MARKET REPORT 2019



Contents

(04)

Introduction

(10)

Logistics and
Warehousing
Policy Infrastructure
in India

(22)

Institutional Investment
dynamics
in the Indian
warehousing sector

(26)

Warehousing
markets

Ahmedabad

Bengaluru

Chennai

Coimbatore

Guwahati

Hyderabad

Kolkata

Mumbai

NCR

Pune

Rajpura

(72)

Other
warehousing
markets

Lucknow

Ludhiana

Bhubaneswar

Nagpur

Siliguri

Visakhapatnam





Introduction

Warehousing constitutes only 15–35% of the total logistics costs but its importance is significant with respect to the role it plays in the smooth functioning of supply chain networks. With this thought process, we had initiated research into the uncharted warehouse sector research in India in 2014. Our first report in the series—India Logistics & Warehousing Report 2014—was a detailed handbook introducing warehousing sector dynamics, such as demand drivers, policies and regulations, business models, and enabling infrastructure and emerging trends, among others. It set the ball rolling with regards to the exploration of the Indian warehousing market through a research report on the key warehousing markets of Mumbai and Pune.

The subsequent two editions have detailed the dynamics of the top eight warehousing markets in India and opined on the potential returns that warehousing investments can garner in these markets. They have also delved into emerging warehousing trends and the evolving logistics and warehousing needs of various sectors in the GST regime. In this latest edition, we expand market coverage to give the reader a better perspective on the scale and growth of the warehousing market in India.

Evolving role of warehouses

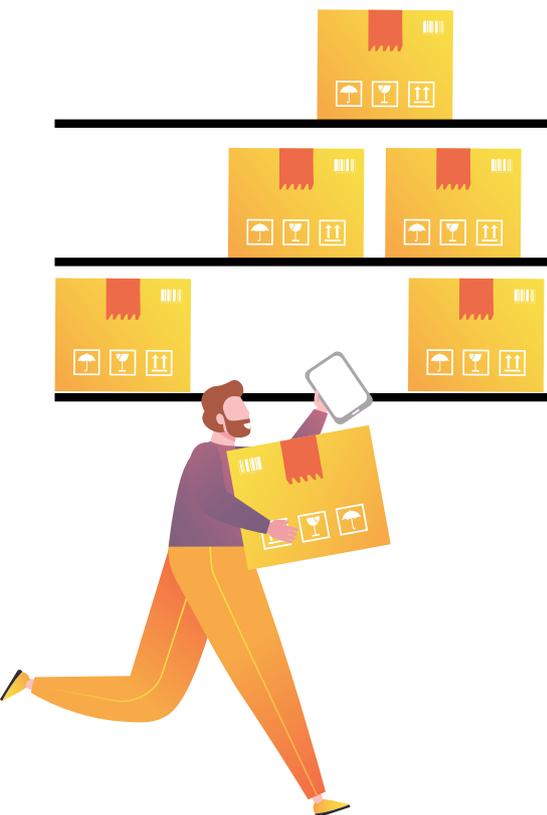
Logistics and warehousing constitute a critical link in the chain that connects the manufacturer to the eventual consumer. It is the efficiency of a business' logistics and distribution machinery that dictates their reach, time to market and cost efficiencies which prove to be a big factor enabling businesses to stay relevant in today's ultra-competitive environment. This is especially true in the internet age where businesses are forced to constantly cut costs to acquire or retain consumers.

Managing cash flows is the biggest challenge businesses face while 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 spikes 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 savings that can be achieved. This need to constantly reduce the inventory cycle is revolutionising the role of the warehouse from a plain 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 13-14% of the Gross Domestic Product (GDP) which is substantially greater than the logistics cost to GDP ratio (8-10%) in developed countries. Much of the higher cost could be attributed to the absence of efficient intermodal and multimodal transport systems. Earlier, the incentives to enter India's warehousing sector was minimal

for organised players as the occupiers themselves were content to engage with fringe partners offering low cost options with a network of small storage facilities near consumption centres. Multiple state and central level taxes made it sensible for companies to maintain smaller warehouses in each state. Further, this limited the focus on automation and higher throughput.

Services offered by the organised logistics and warehousing providers are steadily seeing more demand from occupier groups. A multitude of factors are driving this wave of change, such as: requirement from compliance regulators (in case of the pharma industry), quality consistency assurance from clients/regulators, statutory penalties on non-complaint warehousing facilities, economies of scale being achieved through larger warehouses, safety and security of goods, efficiency in operations, quicker turnarounds, need for efficient warehousing designs and the advent of e-commerce and other multinational businesses that prefer to occupy only complaint 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 such as giving infrastructure status to the logistics sector, the 'Make in India' programme, development of multimodal transport networks and initiatives to set up industrial corridors like Delhi Mumbai Industrial Corridor (DMIC), Delhi-Kolkata Industrial Corridor and logistics parks have furthered fuelled demand.



Warehousing dynamics of India's manufacturing sector

The need to quantify the size of the Indian warehousing opportunity has led us to estimate the total requirement of storage space in the Indian manufacturing sector that accounts for 80% of the warehousing market today. To this end, we have conducted an in-depth study of the accounts of listed and unlisted entities in the automobile, auto ancillary, cement, chemicals, pharmaceutical, textile, fertilizer & agrochemical, Fast Moving Consumer Goods (FMCG), Fast Moving Consumer Durables (FMCD), engineering and metals industries and delved into their logistics cost components. This information along with our interactions with industry leaders has helped refine our estimations of value committed toward their warehousing needs.

SECTOR-WISE ALLOCATION OF WAREHOUSING COSTS IN PROPORTION TO NET SALES

Source: Knight Frank Research





Based on these specific industry allocations, we have estimated a total warehousing space requirement of 68 mn sq m (739 mn sq ft) for 2019 that we project will grow at a compounded annual growth rate (CAGR) of 5% in the next five years to 86 mn sq m (922 mn sq ft) in 2024. Hence, over the next five-year period, an incremental 17 mn sq m (183 mn sq ft) of space will be required by the Indian manufacturing sector.

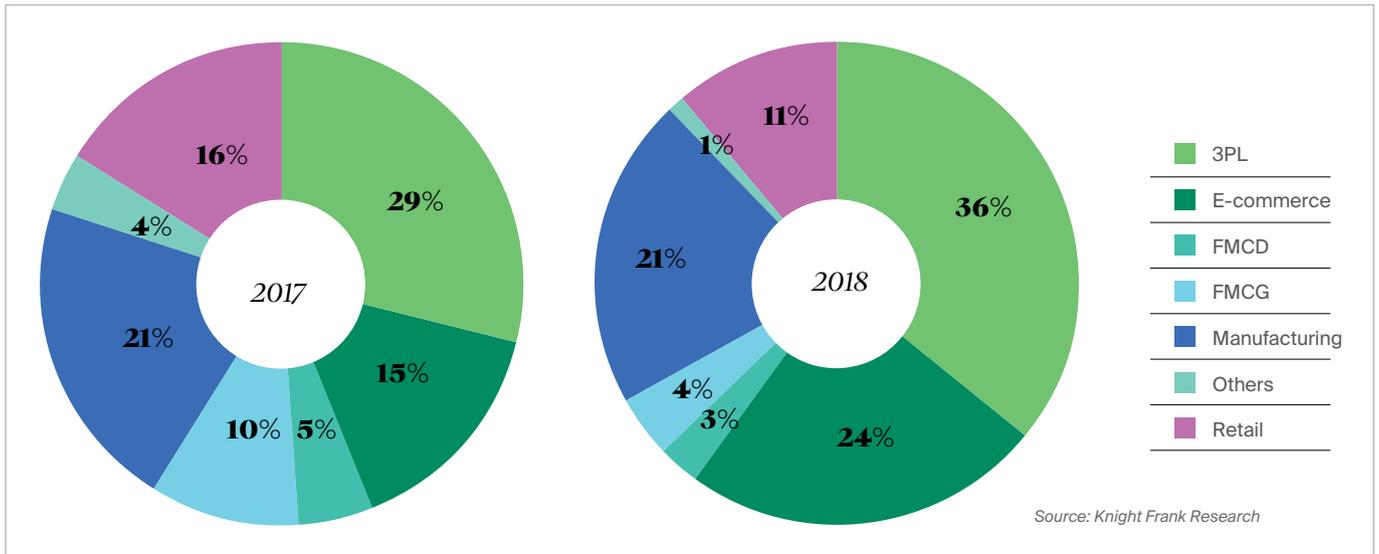
Annual lease transactions in warehousing in India

While the total storage requirement for the manufacturing sector is a massive number which is largely addressed by the unorganised segment and captive spaces, it is the leased warehousing space market of all sectors, including manufacturing, that is of interest to developers, occupiers and institutions.

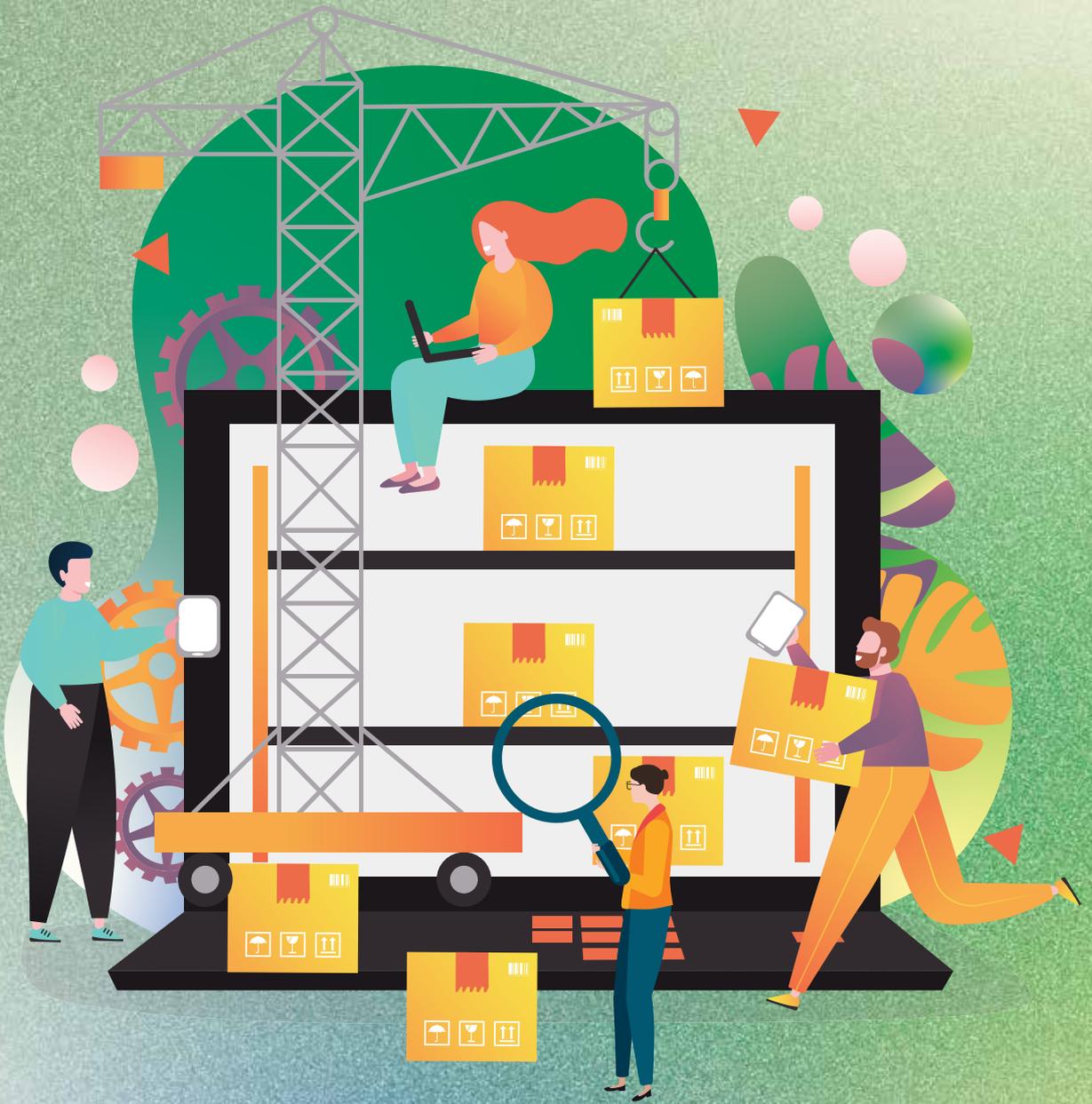
City	2017	2018	Growth
	in mn sq m (sq ft)	in mn sq m (sq ft)	(YoY)
Ahmedabad	0.3 (3.3)	0.5 (4.9)	51%
Kolkata	0.1 (1.6)	0.4 (4.7)	191%
Pune	0.2 (2.5)	0.3 (3.5)	41%
NCR	0.6 (6.5)	1.1 (12.6)	94%
Chennai	0.2 (2.4)	0.3 (4.2)	79%
Hyderabad	0.2 (2)	0.4 (4)	96%
Mumbai	0.4 (5.2)	0.6 (7)	34%
Bengaluru	0.2 (2.5)	0.6 (6)	147%
Total	2.4 (26.1)	4.2 (46.2)	77%

Source: Knight Frank Research

2018 saw a substantial 77% growth to 4.3 mn sq m (46.2 mn sq ft) in the total area transacted in the top eight warehousing markets in the country. This follows an even more significant 87% year-on-year (YoY) growth seen during the previous period and depicts a strong growth trend.

ALL INDIA INDUSTRY WISE SHARE OF TRANSACTIONS IN 2017 & 2018


Organised warehousing is gaining traction in the Indian market as regulatory compliance requirements and economic efficiencies demanded by contemporary businesses can only be met by this segment. The 3PL and e-commerce players are the biggest adopters of organised warehousing and as in the preceding year, they continue to dominate the space taken up during 2018. That the share of the FMCG, FMCD and retail sectors has reduced year on year is not as much a symptom of a slowdown in demand from these sectors but rather an explanation for the increase in the share of the 3PL segment. These sectors have been increasingly outsourcing their warehousing requirements to 3PL players due to the efficiencies brought in by these warehousing experts.



Logistics and Warehousing Policy Infrastructure in India

The Government of India recently released the draft framework of its first ever logistics policy. The primary aim of this policy is to enable integrated development of the logistics sector in India. Despite being a key economic driver, the industry suffers from inefficiencies and wastages leading to high costs. Logistics cost in India, as a percentage of GDP, is as high as 13%-14% while its global counterparts stand at 8%-10% of GDP. The primary reason for such high costs is the highly unorganised nature of this industry and the highly skewed multi-modal mix. Approximately, 60% of freight movement in India happens via road which is significantly higher than most developed economies. Globally, the share of rail cargo in the multi-modal mix is higher. Further, different parts of the logistics value chain are currently being managed by numerous departments and ministries. The result of these multiple hurdles is increased inefficiencies in the logistics industry.

The Centre has begun to address this issue; first, it granted infrastructure status to the logistics and warehousing industry in 2017, and second, it has advocated an independent policy framework for this sector. The final policy is expected to be notified soon and the national act will serve as a guideline in terms of laying down a common national outlook for states to draft their respective policies. Following are the key takeaways from the national document:



Policy

As mentioned earlier, each state is to have its own logistics policy and some states have already initiated steps in that direction. We have done a brief comparative analysis of the state logistics policies on three primary parameters – policy, benefits and infrastructure.

State	Policy document	Draft stage	Included under state industrial policy
Andhra Pradesh		√#	
Arunachal Pradesh			-
Assam			-
Bihar			√
Chhattisgarh	√		
Goa			-
Gujarat	√*		
Haryana	√		
Himachal Pradesh			-
Jammu & Kashmir			-
Jharkhand			-
Karnataka		√#	
Kerala			√
Madhya Pradesh	√**		
Maharashtra	√***		
Manipur			-
Meghalaya			-
Mizoram			-
Nagaland			√
Odisha			-
Punjab			√
Rajasthan			-
Sikkim			-
Tamil Nadu			√
Telangana		√#	
Tripura			-
Uttar Pradesh	√		
Uttarakhand			-
West Bengal	√		

Seven of the **29** states have a valid policy framework in place, **three** of them are working on it and the remaining states have either a mention in their respective state industrial policies or do not have any policy provision for this sector at all.

Source: Policy document, Knight Frank Research

*Gujarat has notified a Scheme for Financial Assistance to Logistics Park in 2018, under Gujarat Industrial Policy 2015

**Madhya Pradesh includes 2012 Warehousing Policy and the Logistics and Warehousing Order 2018

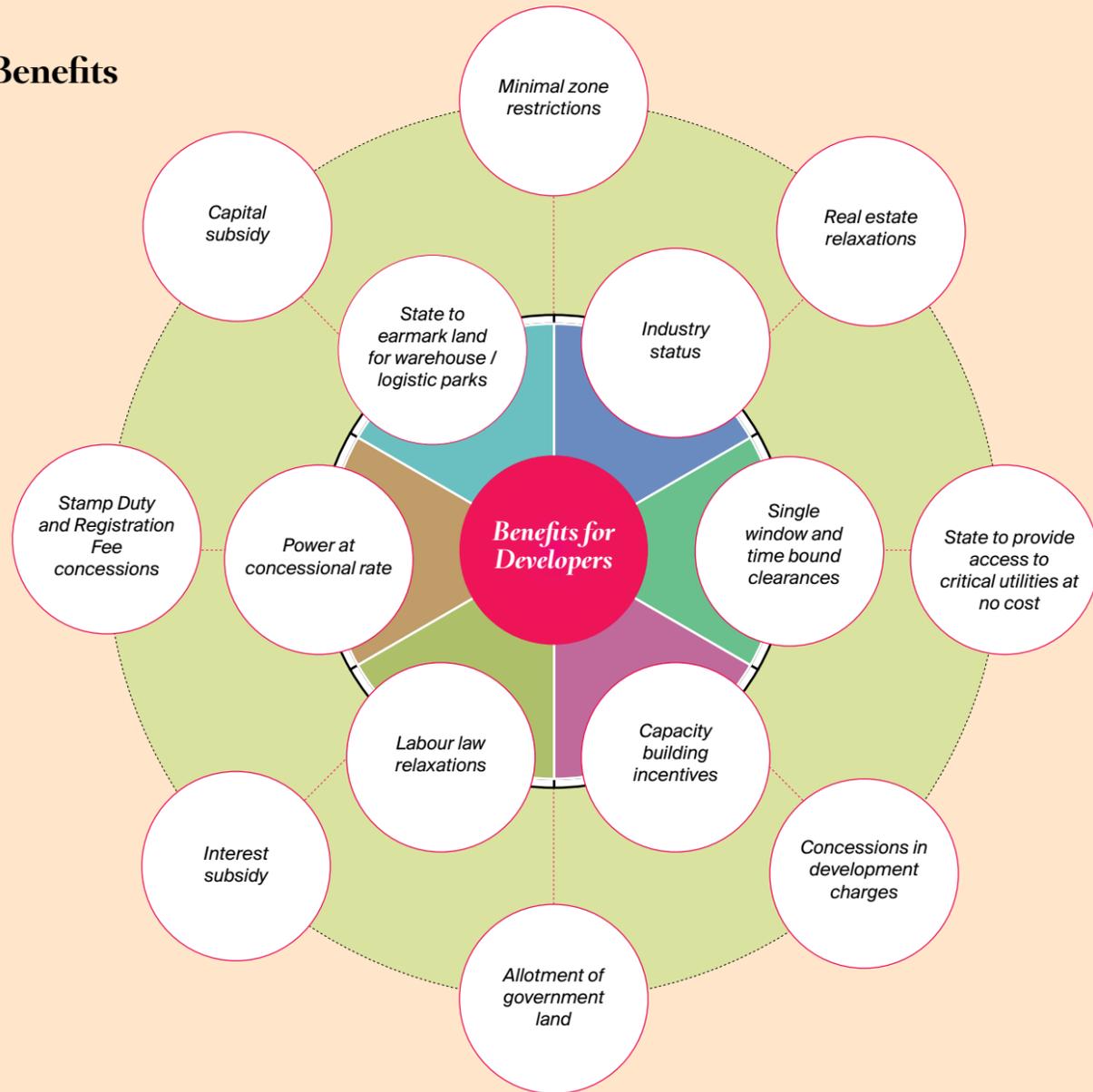
***Maharashtra includes Integrated Logistics Parks Policy and Integrated Industrial Areas Policy

According to media reports, Andhra Pradesh, Karnataka and Telangana logistics policies are at the draft stage

“-” Indicates no policy

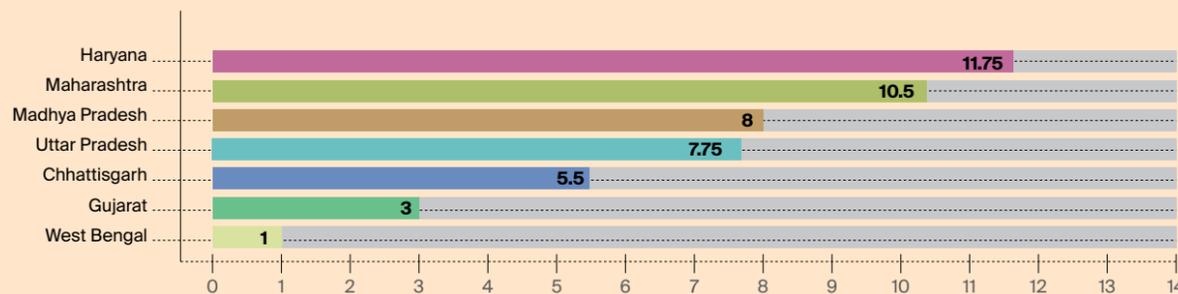
Note: Information as on 31st May 2019 | Source: Knight Frank Research

Benefits

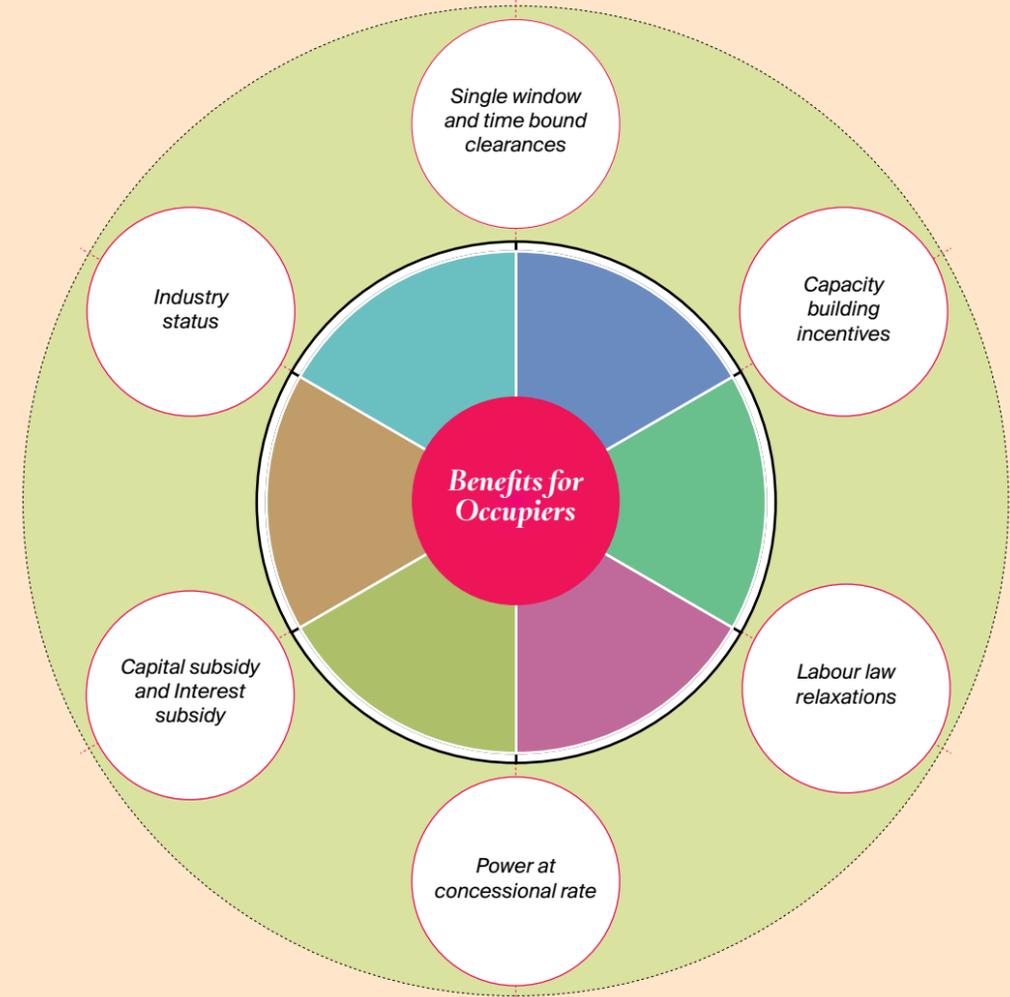


Source: Knight Frank Research
 Note: Benefits enlisted above are indicative and not exhaustive. For detailed policy benefits, refer to Annexure 2

BASED ON THE ABOVE SET OF BENEFITS FOR DEVELOPERS, WE RANK THE SEVEN STATE LOGISTICS POLICIES AS FOLLOWS:

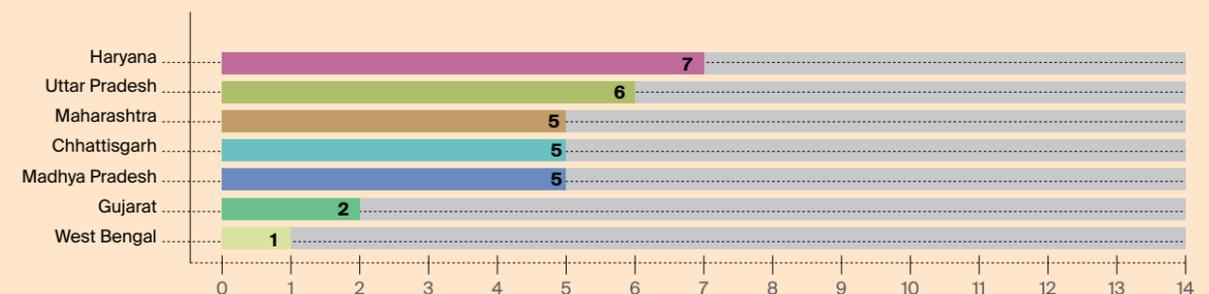


Source: Policy Documents, Knight Frank Research. For detailed analysis, refer to Annexure 1



Source: Knight Frank Research
 Note: Benefits enlisted above are indicative and not exhaustive. For detailed policy benefits, refer to Annexure 2

BASED ON THE ABOVE SET OF BENEFITS FOR OCCUPIERS, WE RANK THE SEVEN STATE LOGISTICS POLICIES AS FOLLOWS:



Source: Policy Documents, Knight Frank Research. For detailed analysis, refer to Annexure 1

RESEARCH

Fiscal incentives and regulatory benefits have historically been the biggest attraction point for government policies on large-scale developments. The Special Economic Zones (SEZ) Policy, 2005 is one such example. A statutory backing to benefits such as tax holidays, concessions in power and other resources, investments incentives, etc. creates confidence in private players to enter the zone without the fear of policy bottlenecks and multiple-party dealings. Since, the government is aiming to give a major boost to the logistics industry in the country; it will have to seek support from market players. And in this light, the state logistics policies need to lay special emphasis on including such and more financial incentives to be able to engage interested parties.

Further, additional specifics such as sunset clause (that specifies the period after which the law will cease to be valid unless otherwise specified) should also be detailed in the policy document itself and a clear time-bound procedural framework to avail this benefit should be laid down for the benefit of stakeholders. This kind of detailing will help bring clarity and transparency. At present, seven states have worked on this area of policy and the range in clarity of information as well as nature of offerings is enormous. Accordingly, steps need to be taken to set standard guidelines on what financial incentives and benefits can be offered. This universalisation will help investors, private players and market operators make unbiased decisions while making a choice of the projects / markets they want to enter in and on the whole, will lead to uniform development across states.

Infrastructure

Logistics and infrastructure go hand-in-hand. Transportation of cargo from the manufacturing plant to the warehouse, and further to the retailer or end consumer is a crucial activity under logistics; and infrastructure (road, rail, air or waterways) makes it possible. As noted earlier, logistics cost in India as a percentage of GDP is as high as 13% and the primary reason for this is the skewed multi-modal mix. 60% of freight movement in India happens via road which is significantly higher than most developed economies. Globally, the share of rail cargo in the multi-modal mix is higher. India lacks sufficient infrastructure to enable smooth transition and inter-connectivity between the different modes of transport and therefore a higher burden falls on the roads. To address this issue, Centre has initiated an array of infrastructure projects including industrial corridors, dedicated rail freight corridors, and multi-modal logistic parks (MMLP). The following map plots key national infrastructure projects to help get an integrated view:



- Industrial Corridors
- Influence area of Industrial Corridors
- Dedicated Rail Freight Corridors
- Golden Quadrilateral
- North-South Corridor
- East-West Corridor
-  Major Ports

All maps are for representational purpose and are not to scale

RESEARCH

It can be inferred from the above that Centre's efforts to boost logistics will definitely bear fruit with such infrastructure support. However, a hard fact that cannot be ignored is the pace of execution of these projects. Some initiatives have still not begun while some others are facing hurdles in execution. To understand the gravity of this issue, we did a quick status check of Centre's two key initiatives at state level geography – the industrial corridors and the MMLP. Following are our findings:

State	Industrial Corridor	Remark	MMLP	Remark
Andhra Pradesh	East Coast Economic Corridor	Ongoing	Proposed	-
Assam	-	-	Proposed at Jogighopa (Guwahati)	Detailed Project Report work ongoing
Bihar	Amritsar – Delhi –Kolkata Industrial Corridor	Proposed	Proposed	-
Chhattisgarh	-	-	Proposed	-
Delhi*	Delhi – Mumbai Industrial Corridor	Ongoing	-	-
Goa	-	-	Proposed	-
Gujarat	Delhi – Mumbai Industrial Corridor	Ongoing	Proposed at Surat	Detailed Project Report work ongoing
Haryana	Amritsar – Delhi –Kolkata Industrial Corridor, Delhi – Mumbai Industrial Corridor	Proposed, Ongoing	Proposed	-
Himachal Pradesh	-	-	Proposed	-
Jammu & Kashmir	-	-	Proposed	-
Jharkhand	Amritsar – Delhi –Kolkata Industrial Corridor	Proposed	-	-
Karnataka	Chennai – Bengaluru Industrial Corridor, Mumbai – Bengaluru Economic Corridor	Ongoing, Proposed	Proposed at Bengaluru	Detailed Project Report work ongoing
Kerala	-	-	Proposed	-
Madhya Pradesh	Delhi – Mumbai Industrial Corridor	Ongoing	Proposed	-
Maharashtra	Mumbai – Bengaluru Economic Corridor, Delhi – Mumbai Industrial Corridor	Ongoing, Proposed	Proposed at Mumbai and Nagpur	Detailed Project Report work ongoing

Odisha	East Coast Economic Corridor	Ongoing	Proposed	-
Punjab	Amritsar – Delhi –Kolkata Industrial Corridor	Proposed	Proposed at Sangrur	Detailed Project Report work ongoing
Rajasthan	Delhi – Mumbai Industrial Corridor	Ongoing	Proposed	-
Tamil Nadu	East Coast Economic Corridor, Chennai – Bengaluru Industrial Corridor	Ongoing, Ongoing,	Proposed at Chennai	Detailed Project Report work ongoing
Telangana	East Coast Economic Corridor	Ongoing	Proposed	-
Uttar Pradesh	Amritsar – Delhi –Kolkata Industrial Corridor, Delhi – Mumbai Industrial Corridor	Proposed, Ongoing	Proposed	
Uttarakhand	Amritsar – Delhi –Kolkata Industrial Corridor	Proposed	-	-
West Bengal	Amritsar – Delhi –Kolkata Industrial Corridor, East Coast Economic Corridor	Proposed, Ongoing	Proposed	

**Delhi refers to Union Territory of Delhi | Source: Knight Frank Research*

As is visible, the Central government needs to do a lot more than just announce to make these projects a reality. It needs to set strict timelines for different phases and monitor progress regularly to ensure that deadlines are adhered to. Since execution of these projects is highly dependent on states, the Centre needs to formulate a set of standard guidelines for the procedure to be followed to address state level issues like land acquisition. This kind of procedural clarity will ensure minimal hurdles and delays in the execution phase.

Knight Frank Learnings

Having the first ever national logistics policy in place, albeit at a draft stage, and states taking steps to form their own policies, are definitely significant positives for the logistics and warehousing industry in India. Nevertheless, enough and more needs to be done, and soon. Following are a few takeaways from our comparative policy analysis and these can be considered as recommendations for further policy formulation by both, the Centre and states:

- 1** To be able to promote warehousing, each state needs to have a separate logistics policy in place. The greater the scale of warehousing operations in a state, the higher will be its GST collections and thus, states will profit from supporting growth of logistics.

- 2** A fully-operational statutory framework is a must have to achieve any success at policy level. Therefore, emphasis needs to be laid on getting state policy frameworks up and running at the earliest; the national policy can lay down strict timelines and a monitoring mechanism for the same. Further, the Logistics Division at the Centre can provide regular updates on the status of state policies on its digital platform making authentic information easily available to all consumers.

- 3** The Centre may enlist an indicative set of policy components or parameters to guide states on policy inclusions. This will not only help universalise the contents of different state policies, it will also help expedite the process of formulation. Similarly, a common digital logistics platform created by employing a common vendor by the Centre will ensure smooth technological adoption across states and make standardised information available to consumers at the click of a button.

- 4** While single window clearance is the way forward, just a mention in the policy is not enough. To ensure ease of doing business, states need to lay down the details of this single interface to bring in more clarity. Governments can go one step further and provide for timebound clearances, thus creating a hassle-free environment for statutory approvals.

- 5** Notwithstanding that logistics is an inter-state activity and development goals are national, states have to remember that they are in competition with each other in fetching private investments. Attractive fiscal incentives and a friendly regulatory environment is the only way to stay in the race. It is also important to enumerate all the benefits clearly with conditions, if any, to avoid ambiguity. The logistics policies of Maharashtra and Haryana are good examples of such state-extended benefits.

- 6** A slew of infrastructure projects such as the industrial corridors, freight corridors, MMLPs, etc. have been announced by the Centre; all of them will supplement and complement the growth of logistics in the country. However, to make the most of these initiatives it is important that the concerned government agencies make all associated information available from time to time; including a regular update on the present status of the project. This information can help all stakeholders make informed decisions. Accordingly, a provision for mandating such information-sharing should be made in all policies.

- 7** And last but the most important, granting industry status to the logistics and warehousing industry across states should be mandated under the national framework. This will be in line with the infrastructure status accorded to the industry at the Centre and it will ensure much better access and availability of credit to the sector at the state level.



Institutional Investment dynamics in the Indian warehousing sector

At a time when the Indian real estate industry has been facing headwinds on account of a difficult residential market, the warehousing property segment has emerged as a promising investment opportunity for institutional investors. Since 2014, the sector has propelled into a different trajectory. The implementation of GST, the continued government focus on building industrial corridors, the 'Make in India' thrust on manufacturing and the promise of the Indian consumption market has whipped up the investment prospects of the country's warehouse property sector.

Investors had started taking cognizance of the opportunities in the warehousing sector much before the government began to implement the reforms, such as GST, and granting infrastructure status to the logistics industry, including warehousing.

The sector has witnessed massive participation from institutional investors, as well as developers, who have collectively invested over USD 6.8 billion since 2014, with an average investment per deal of USD 282 million.

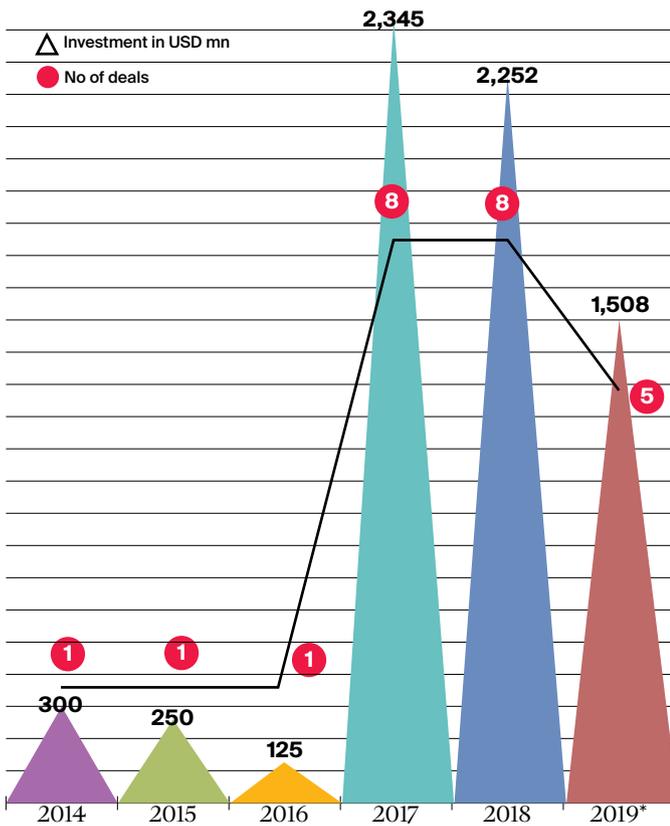
USD
6.8 billion

Institutional investment
in Indian warehouse
property since 2014

USD
282 million

Average investment deal
in Indian warehouse
property

INSTITUTIONAL INVESTMENTS IN INDIAN WAREHOUSING



Source: Knight Frank Research
 Note- * - till May 31, 2019

Some of the major institutional players

- Canada Pension Plan Investment Board (CPPIB)
- Warburg Pincus
- Morgan Stanley
- Brookfield
- Abu Dhabi Investment Authority (ADIA)

Some of the major Indian real estate developers

- Embassy Group
- Hiranandani Group
- Puravankara Limited
- KSH Group
- Casagrand Builders

Some of the globally renowned warehouse developers

- ESR
- Indospace (GLP)
- Ascendas
- LOGOS

Large chunk of the USD 6.8 bn investment has come over the last three years. Some of the renowned and largest global pension funds, sovereign funds and private equity funds are investing actively into this space. Many Indian developers, who were earlier focused on residential, office, or retail developments, now realise the potential of the sector to provide additional stream of annuity revenues, and they have announced plans to venture into the warehousing asset class.

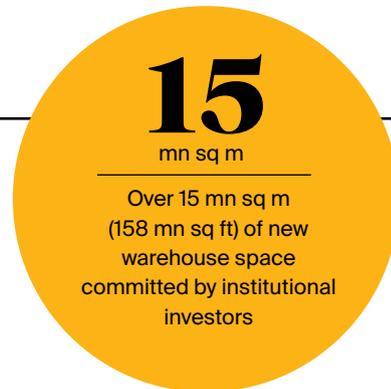
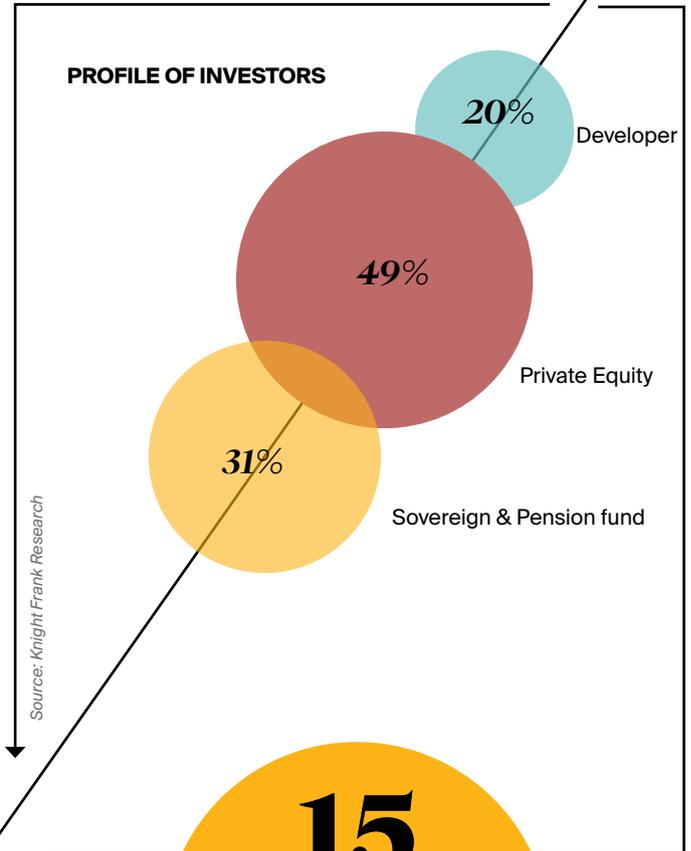
Post land acquisition, warehousing assets have a relatively shorter construction timeline (around 12-18 months) compared to residential, office and retail assets. Hence, private equity (PE) funds, which have a pre-determined fund life cycle (generally 8-10 years),

are most active in this space. PE funds had a 49% share of the total investments into the warehousing industry.

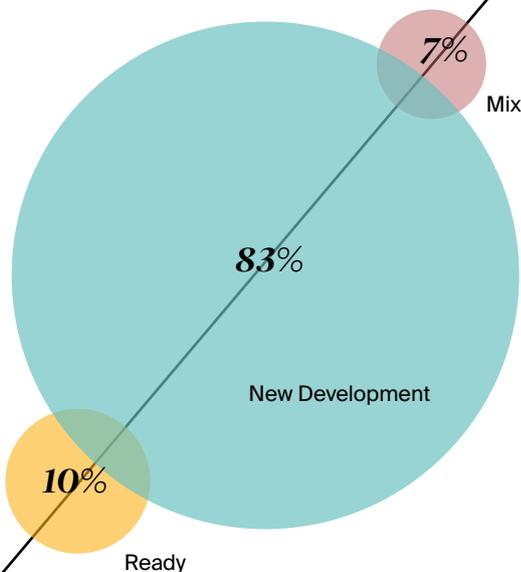
For typical warehousing storage activities, the lease tenures are shorter, generally less than 3-5 years. However, as the warehousing industry in India is evolving and occupiers are consolidating their activities in larger warehouses, a huge amount of capital is being invested by occupiers within the warehouse facility for – automation, design, robotics, modern technology, inventory management tools, light manufacturing, etc. As occupiers would prefer to amortise the high capital-intensive investments, they are signing long-term leases, which generally extend to nine years and higher in many cases. This ensures stability of annuity incomes for

the investors looking to build a 'REIT-able' portfolio. Besides, only long-term investors, like Sovereign and Pension funds, prefer such assets which ensure long-term annuity income. This is reflected in the share of Sovereign and Pension funds, which as a segment of investors had 31% or the second largest share of investments into warehousing. Real estate and warehouse developers invested the remaining 20%.

The warehousing industry in India has largely been fragmented within the unorganised domain and there were not many large Pan-India organised players whose development scale could have a meaningful impact on the institutional investors' funding scale. Additionally, the investment grade properties have been extremely limited to facilitate large investment in ready assets. Consequently, the largest share (83%) of the USD 6.8 bn investment into the warehousing segment went into new development. 10% went into acquiring ready assets and the remaining 7% into a mix of ready and under-construction assets.



TYPE OF ASSETS IN WHICH INVESTMENTS HAVE BEEN MADE



Source: Knight Frank Research

The cost of constructing a good quality Grade A warehouse structure varies between INR 12,917–INR 19,375 per sq m (INR 1,200–1,800 per sq ft) depending on the contour of land. The cost of land in India varies by a huge margin depending on the location and quality of infrastructure near the land parcel. If we consider the cost of construction (including the cost of land) for a warehouse in India, it will be unlikely to exceed INR 26,910 per sq m (INR 2,500 per sq ft). We have considered the higher range of the cost of construction, INR 26,910 per sq m (INR 2,500 per sq ft), for calculating the scale of new warehouse supply. As mentioned earlier, 83% of the USD 6.8 bn invested into warehousing is committed for new development. Thus, the investments committed by the institutional investors, alone, is estimated to create over 15 mn sq m or 158 mn sq ft of new warehousing space.

Warehousing markets



All maps are for representational purpose and are not to scale

Ahmedabad

WAREHOUSING MARKET

The primary reason for the boom of the warehousing sector in the Vithalapur–Becharaji cluster is the entry of automobile giants in the Mandal Becharaji Special Investment Region (SIR).

The boom in the warehousing sector, in the Vithalapur–Becharaji cluster means that competition among players will ensure much better facilities and services being provided.

Unlike other urban centres, the e-commerce sector is not as big a driver for the warehousing sector in the city. Of the total transacted space, in the city, in 2018, the e-commerce sector accounted for only 12%.

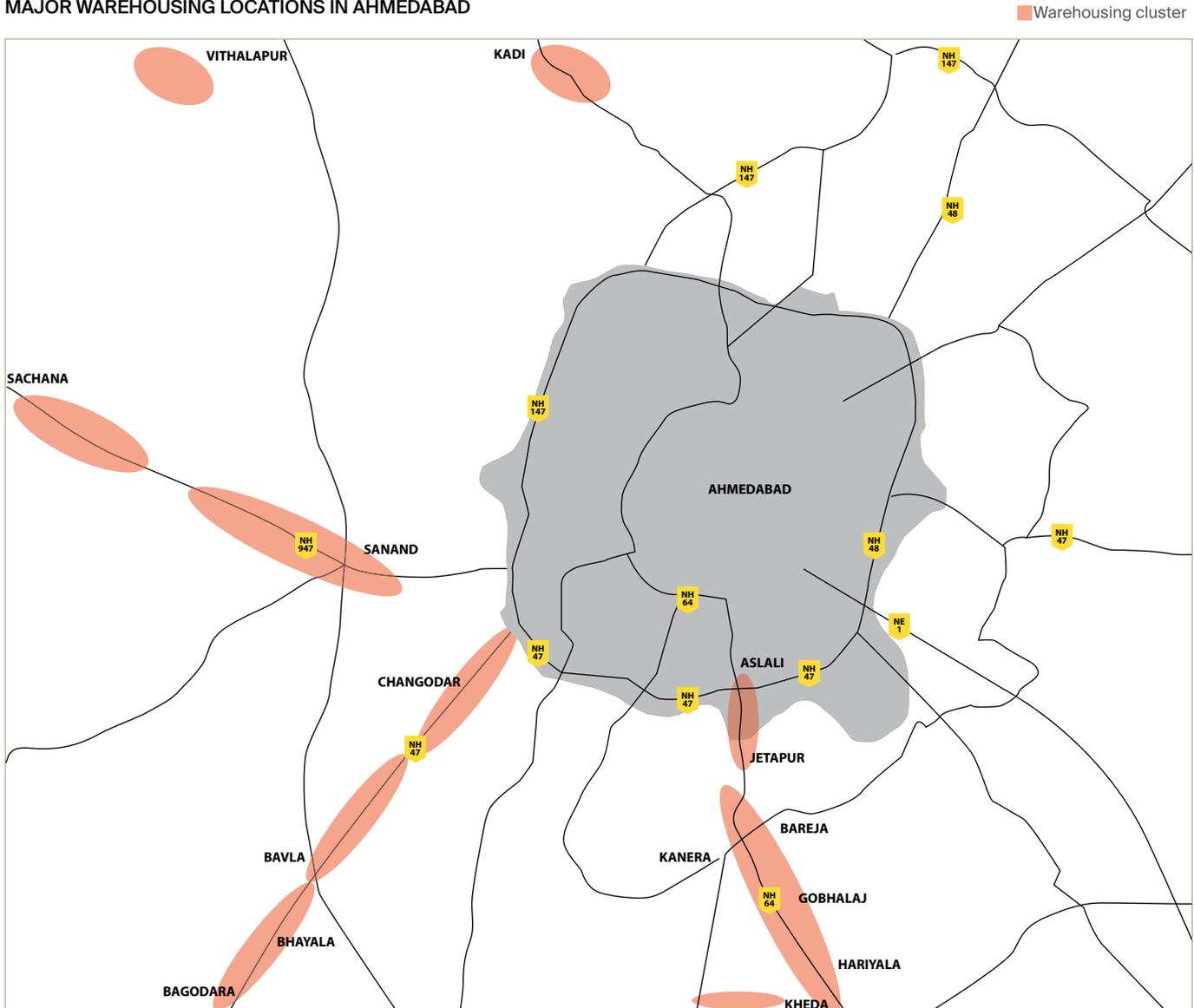
- Warehousing activity in the city is largely concentrated in Four major clusters—Aslali–Kheda, Changodar–Bagodara, Sanand–Viramgam and Vithalapur–Becharaji belt. Among the four clusters, the Aslali–Kheda cluster, located along the Ahmedabad–Vadodara highway, is the oldest. However, with increasing land prices in the area, warehouses have started to move towards Jetalpur and Bareja.
- The Vithalapur–Becharaji cluster has been the latest entrant in the warehousing market in the city. The primary reason for the boom of the warehousing sector in this area is the entry of automobile giants in the Mandal Becharaji Special Investment Region (SIR). It is generally believed that the Mandal Becharaji SIR will become the largest automobile hub, in the country, going forward, which will further boost demand for warehouses in the area. The growing importance of this belt can be gauged from the fact that even though it has been a late entrant, of the total transacted space in 2018, this area accounted for one-third of the space.
- During the field surveys of the area, it was observed that new warehouses are being constructed and the ones that were completed were ready to be leased. There were also multiple indications to suggest that many more warehouse developments were in the pipeline in the near future. In places where the warehouses were ready to be leased, the personnel posted at the facility were more than willing to show us around. The boom in the warehousing sector, in this area, also means that competition among players will ensure much better facilities and services being provided.
- The Changodar–Bagodara cluster lies on the south-west corner of the city. Demand for warehouses, in this cluster, is largely driven by the pharma and the e-commerce sectors. Further, demand for warehouses in this cluster has led to warehouse development moving towards Bhayala and Bagodara. This cluster is on the way to Dholera SIR, with work on the Dholera SIR in full swing, demand for warehouses in this belt is expected to gain further strength.
- The demand for warehouses, in the city, is largely driven by the industrial sector. With the Mandal Becharaji SIR expected to become an automobile hub, in the years to come, demand for warehouses by the automobile sector is expected to move up further. In fact, if one looks at the demand for warehouses across the city, one can see three different drivers for warehouses, in each of these clusters. For example, in the Aslali–Kheda cluster, the demand for warehouses is driven by the Fast Moving Consumer Goods (FMCG) and retail sectors. In the Changodar–Bagodara belt, it is the pharma and e-commerce sectors. As mentioned earlier, the automobile sector is the major driver in the Sanand–Viramgam and Vithalapur–Becharaji clusters. Unlike other urban centres, the e-commerce sector is not as big a driver for the warehousing sector in the city. Of the total transacted space, in the city, in 2018, the e-commerce sector accounted for only 12%.

CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Aslali-Kheda cluster	Aslali, Jetalpur, Bareja, Kanera, Gobhalaj, Hariyala, Kheda
Changodar-Bagodara cluster	Changodar, Bavla, Bhayala, Bagodara
Sanand-Viramgam cluster	Sanand, Sachna, Viramgam
Vithalpur-Becharaji cluster	Kadi, Vithalpur, Becharaji

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN AHMEDABAD



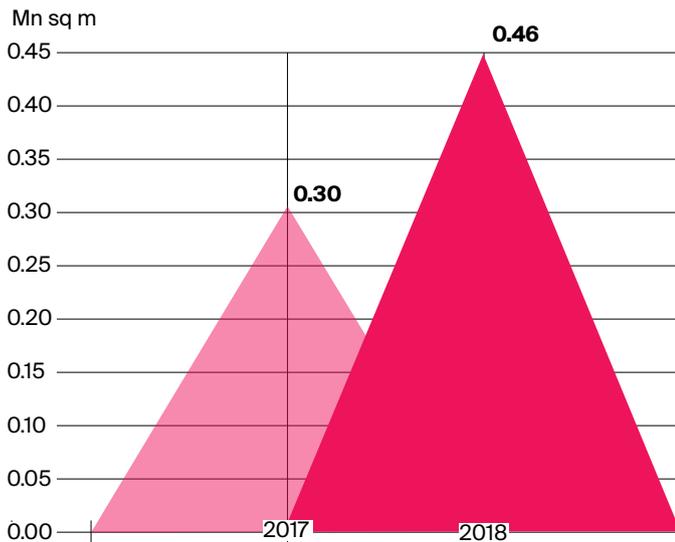
Source: Knight Frank Research All maps are for representational purpose and are not to scale

MAJOR INFRASTRUCTURE IN AHMEDABAD

Name	Type
National Expressway-1	Road infrastructure
Falls in the influence zone of the Delhi Mumbai Industrial Corridor. Ahmedabad Dholera SIR and Mandal Becharaji SIR, in close proximity	Industrial Infrastructure
Ahmedabad-Rajkot National Highway (NH-8A)	Road Infrastructure
Ahmedabad-Sanand-Viramgam State Highway (SH 17)	Road Infrastructure
SP Ring Road	Road Infrastructure
SG Highway	Road Infrastructure
Kochi-Bengaluru Industrial Corridor	Industrial Corridor

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

WAREHOUSING MARKET TRANSACTION VOLUME:



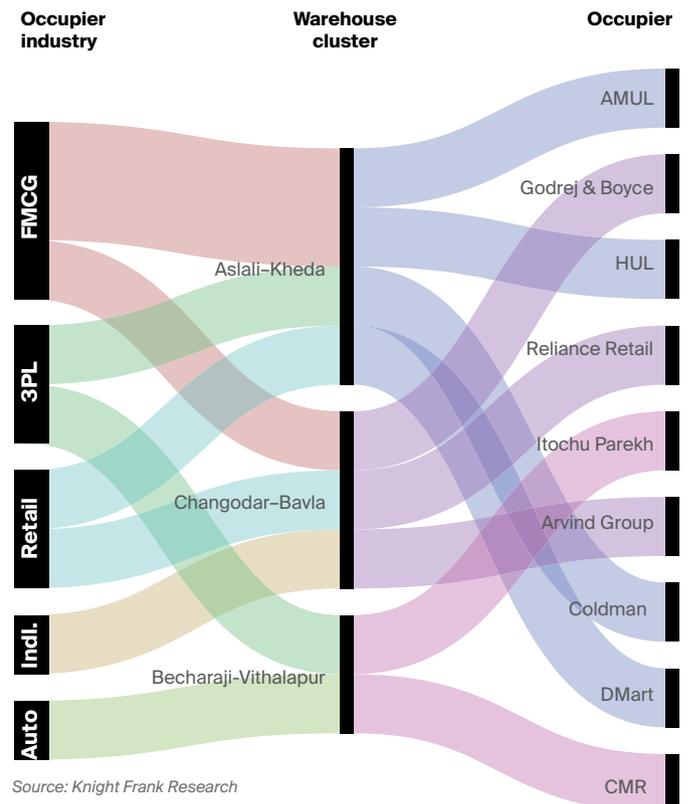
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
Sumar Logistics & Industrial Park	Aslali-Kheda
Prime Warehouse	Aslali-Kheda
Cadila Estate	Aslali-Kheda
Gallops Industrial Park	Changodar-Bagodara
Crystal Indus & Logistics Park	Changodar-Bagodara
Indus Industrial Park	Changodar-Bagodara
Titanium Logistic Park	Changodar-Bagodara
Romanovia Industrial Park Pvt Ltd	Vithalapur-Becharaji
Soko Industrial Park	Vithalapur-Becharaji
Mascot Industrial Park	Vithalapur-Becharaji (Kadi)
Pinnacle Logistic Park	Sanand-Viramgam

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Aslali-Kheda	Aslali	18-32	194-258 (18-24)	172-215 (16-20)
	Bareja	11-14	172-237 (16-22)	129-161 (12-15)
	Kanera	9-12	161-237 (15-22)	129-151 (12-14)
	Gobhlaj	8-12	161-194 (15-18)	118-151 (11-14)
	Kheda	6-11	151-183 (14-17)	108-140 (10-13)
Changodar-Bagodara	Changodar	25-35	194-237 (18-22)	161-194 (15-18)
	Bavla	15-22	194-215 (18-20)	140-183 (13-17)
	Bhayala	7-12	172-215 (16-20)	129-172 (12-16)
	Bagodara	4-7	140-172 (13-16)	108-140 (10-13)
Sanand-Viramgam	Sanand	15-30	194-237 (18-22)	172-194 (16-18)
	Sachana	8-12	161-194 (15-18)	140-172 (13-16)
Vithalapur - Becharaji	Kadi	8-11	151-194 (14-18)	118-151 (11-14)
	Vithalapur	08-11	172-215 (16-20)	140-172 (13-16)
	Becharaji	10-15	172-215 (16-20)	140-172 (13-16)

Bengaluru

WAREHOUSING MARKET

Bengaluru's warehousing market clocks in 0.6 mn sq m (6.06 mn sq ft) leasing in 2018

147% year-on-year (YoY) surge in warehousing leasing volume over 2017

Many new developers venturing into warehousing segment in prominent clusters

- The Goods and Services Tax (GST) rollout has cleared the decks for the gradual transformation of the warehousing market in Bengaluru Metropolitan Region's (BMR) peripherals. Key manufacturing hubs located next to the National Highway (NH)-48, which provides port connectivity via Mumbai and Chennai, are witnessing a large amount of leasing activity by both new and existing players. Both, the Nelamangala-Dabaspete cluster in the city's north-west and the Hoskote-Narsapura cluster in the east, are witnessing a lot of demand growth and supply side augmentation primarily led by the expansion activities of e-commerce players and logistics companies.
- Bengaluru's warehousing market clocked in 0.6 mn sq m (6.06 mn sq ft) absorption in 2018, a mammoth 147% year-on-year (y-o-y) surge over the previously recorded transactions in 2017. With the warehousing market getting consolidated at large, developers who had previously shied away from the warehousing segment are now venturing into Bengaluru's prominent clusters with land acquisitions to build warehousing facilities. Many regional developers, with the support of investors, are now actively scouting for land parcels for greenfield developments. Logistics companies, which hold land parcels in these clusters, are either constructing warehousing infrastructure for own use or leasing, or evaluating opportunities to monetise dormant land banks.
- In 2018, E-commerce and third party logistics providers (3PL) accounted for 35% and 25% share of the overall warehousing space leased across sectors.
- An opportune environment facilitated by GST implementation, fast growth in the e-commerce sector and a buoyant consumption story have put the spotlight on bigger and efficient warehouses closer to the city. The demand for Grade A warehouses has been steadily rising with efficiencies in the distribution channel being prioritised and creation of warehousing infrastructure as part of the facility gaining prominence. As a result, land prices in some of the established warehousing clusters such as Nelamangala-Dabaspete and the Hoskote-Narsapura cluster have increased substantially in the past one year.
- The Nelamangala-Dabaspete warehousing cluster, a 30-km belt on Tumkur Road that connects to Mumbai via NH-48 is an excellent 3x3-lane road with its service lanes dotted with manufacturing units from automobile, pharmaceutical and food and beverage sector occupiers.
- The Hoskote-Narsapura cluster is an established industrial hub connected to Sriperumbudur in Chennai via Old Madras Road on NH-48. Easy access to this automobile hub has led many auto and auto ancillary occupiers to establish their footprint here. Hoskote-Narsapura is also emerging as a warehousing hub due to ease of delivery to the eastern and south-eastern consumption centres of Whitefield, Outer Ring Road and Sarjapur Road, which are within an hour's drive away.
- Other warehouse clusters that are gaining traction are Whitefield-Malur Road and Soukya Road in the east, Bidadi on Mysore Road and Bommasandra and Attibele-Anekal on Hosur Road.

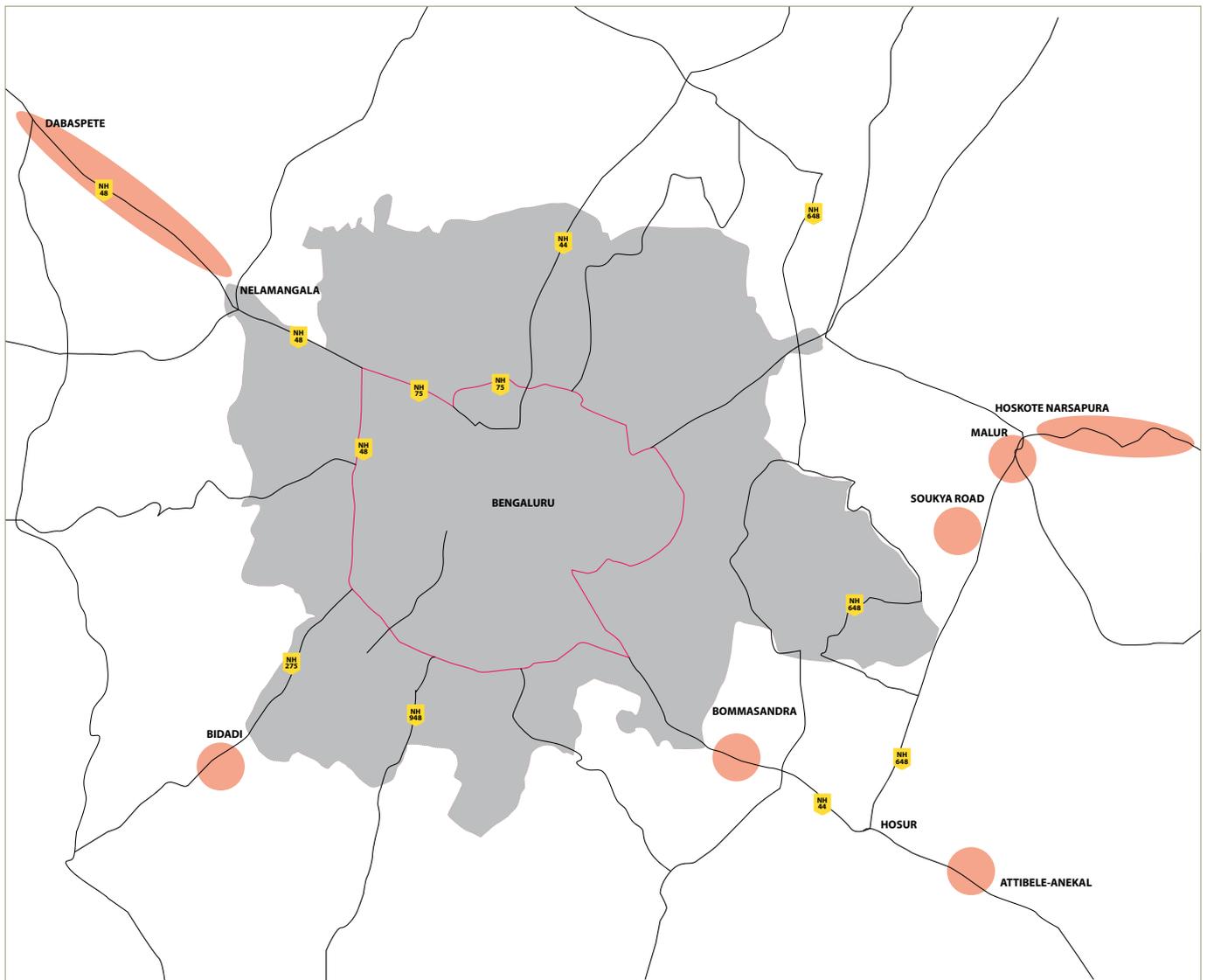
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Nelamangala-Dabaspete cluster	Nelamangala, T Begur, Govenahalli, Dabaspete
Hoskote-Narsapura cluster	Hoskote, Nidagatta, Thavarekere, Narsapura
Others	Soukya Road, Bidadi, Bommasandra, Attibele-Anekal Road, Malur

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN BENGALURU

 Warehousing cluster



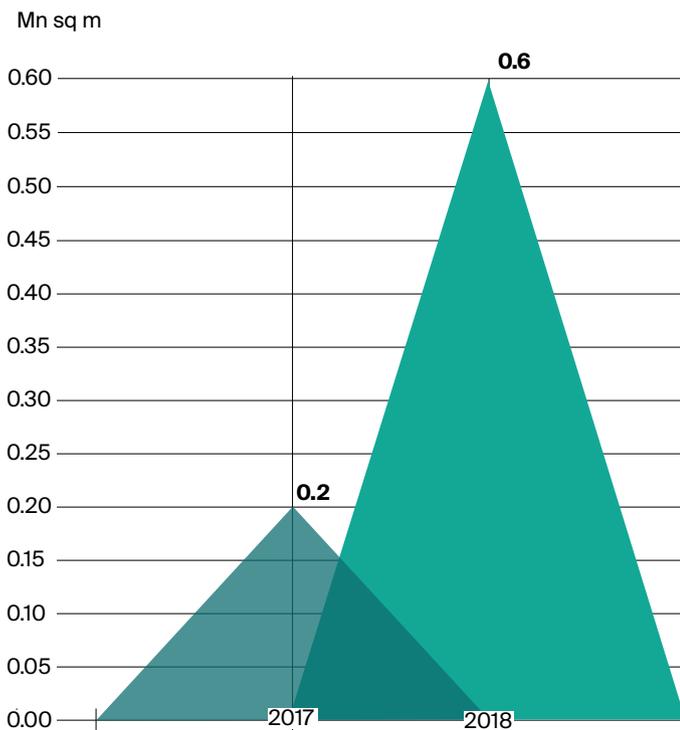
Source: Knight Frank Research All maps are for representational purpose and are not to scale

MAJOR INFRASTRUCTURE IN BENGALURU

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

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

WAREHOUSING MARKET TRANSACTION VOLUME



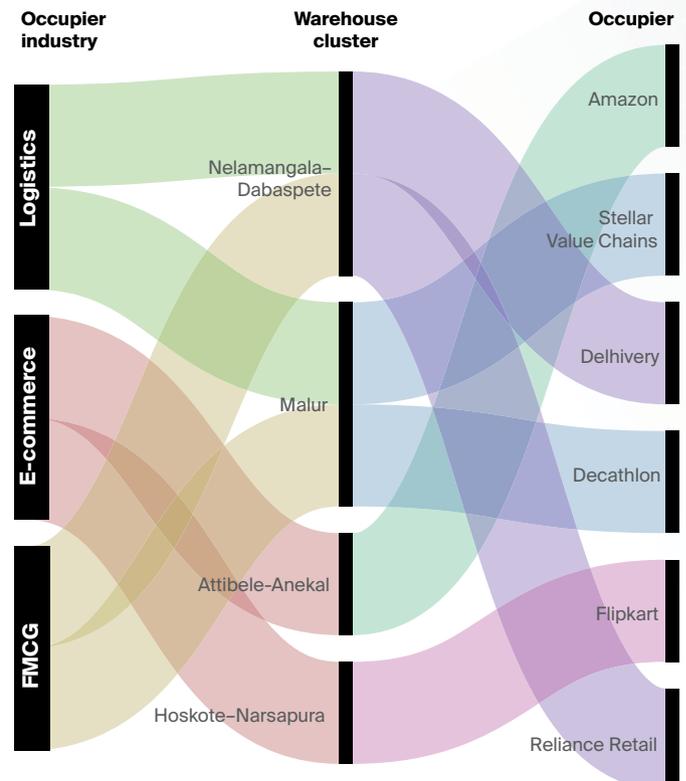
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
	Nelamangala-Dabaspete
IndoSpace	Bommasandra Hoskote-Narsapura
Embassy Industrial Parks	Shoolagiri-Hosur Road
Individual landlords	Nelamangala-Dabaspete Hoskote-Narsapura
Individual landlords	Soukya Road

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Nelamangala-Dabaspete cluster	Nelamangala	35-65	183-237 (17-22)	140-172 (13-16)
	Dabaspete	20-30	151-183 (14-17)	129-151 (12-14)
Hoskote-Narsapura cluster	Hoskote	15-25	183-226 (17-21)	151-194 (14-18)
	Narsapura	7-15	183-205 (17-19)	151-161 (14-15)
	Malur	14-18	183-226 (17-21)	151-183 (14-17)
Others	Soukya Road	45-65	183-248 (17-23)	151-194 (14-18)
	Bidadi	25-30	183-194 (17-18)	140-172 (13-16)
	Bommasandra	18-35	194-237 (18-22)	151-194 (14-18)
	Attibele-Anekal Road	18-35	194-237 (18-22)	151-194 (14-18)

Source: Knight Frank Research

Coimbatore

WAREHOUSING MARKET

In 2018, 0.04 mn sq m (0.4 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

Tamil Nadu Defence Industrial Corridor is the major infrastructure project planned here

- Coimbatore, known as the “Manchester of South India”, has been serving as a prominent trade centre since the British era. Textile mills, foundries and flour mills flourished here in colonial times.
- Its strategic location in the centre of the Southern Peninsula was and is the reason for its rise as a commercial centre.
- At present, Coimbatore is a part of the state of Tamil Nadu and lies in proximity of the state borders of Kerala as well as Karnataka. Owing to this geographical advantage, the city has been a preferred logistics hub for servicing the south of Tamil Nadu and the north of Kerala.
- At the same time, its hinterland location has hindered the growth of heavy manufacturing and automobile industries in Coimbatore, the mainstay of South India. These industries prefer a port location, as that reduces the transportation costs and makes it logistically viable. Accordingly, Original Equipment Manufacturers (OEMs) based in Chennai that undertake production on a mass scale for exports, source a significant portion of their spare part and component manufacturing from the metal casting and heavy pump manufacturing industries in Coimbatore.
- Warehousing activity in Coimbatore is mostly concentrated between 40 – 60 km from the city centre in locations such as Neelambur, IOC – L&T Bypass Road and Avinashi in the east; and Pollachi, Malumichampatty and Palladam in the south.
- The eastern locations that have been clubbed into one homogeneous cluster, called the Avinashi Road cluster, primarily cater to the warehousing requirements of the dominant auto and auto ancillary industry and thus constitute the leading warehousing market of the city.
- Southern locations such as Pollachi, Malumichampatty, Palladam and Walayar constitute the Pollachi + Palladam–Cochin Frontier Road warehousing cluster and they service the warehousing requirement of Third Party Logistics companies (3PLs), e-commerce players and Fast Moving Consumer Goods (FMCG) companies. This cluster gives smooth access to the consumption market within Coimbatore city as well as in Kochi, Kerala.
- Under the Logistics Efficiency Enhancement Program (LEEP), Multi - Modal Logistics Parks (MMLP) are being planned across the country and one of them is expected to be in Coimbatore. This will definitely further the growth of warehousing and industrial sectors alike.
- The Coimbatore warehousing market is seeing large scale consolidation and massive upgradation in the quality of its warehouses.

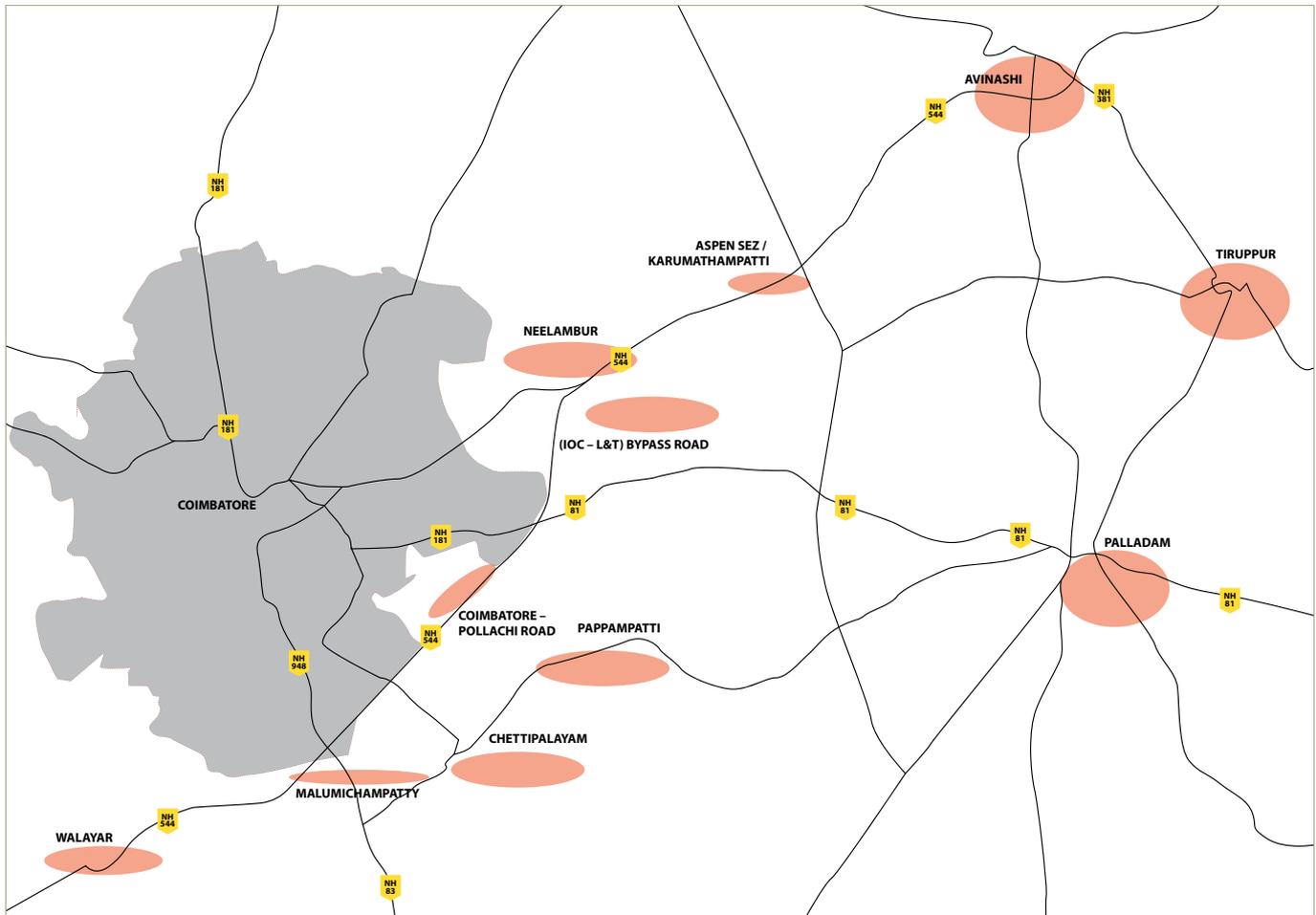
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

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

 Warehousing cluster

MAJOR WAREHOUSING LOCATIONS IN COIMBATORE



Source: Knight Frank Research All maps are for representational purpose and are not to scale

MAJOR INFRASTRUCTURE IN COIMBATORE

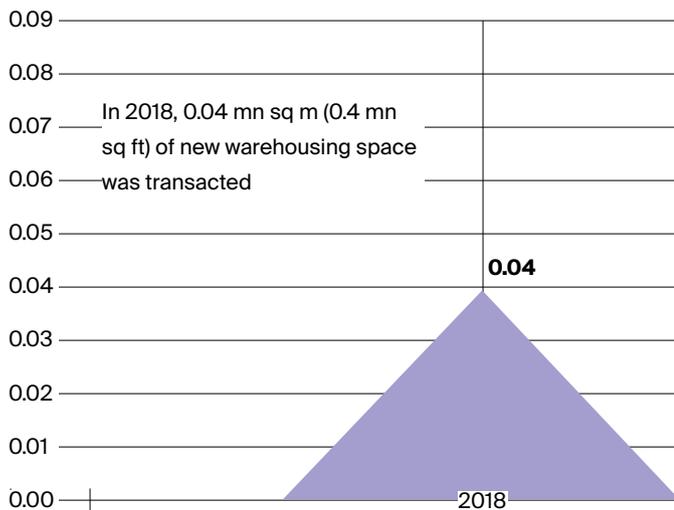
Name	Type
NH 544 / Salem – Kochi Highway / Avinashi Road	Road – NH
NH 948 / Bengaluru Road	Road – NH
NH 181 / Mettupalayam Road	Road – NH
NH 81 / Trichy Road	Road – NH
NH 83 / Pollachi Road	Road – NH
Tamil Nadu Defence Industrial Corridor	Industrial Corridor
Coimbatore MMLP	MMLP

Source: Knight Frank Research

Note: NH stands for National Highway, MMLP stands for Multi – Modal Logistics Park

WAREHOUSING MARKET TRANSACTION VOLUME

Mn sq m



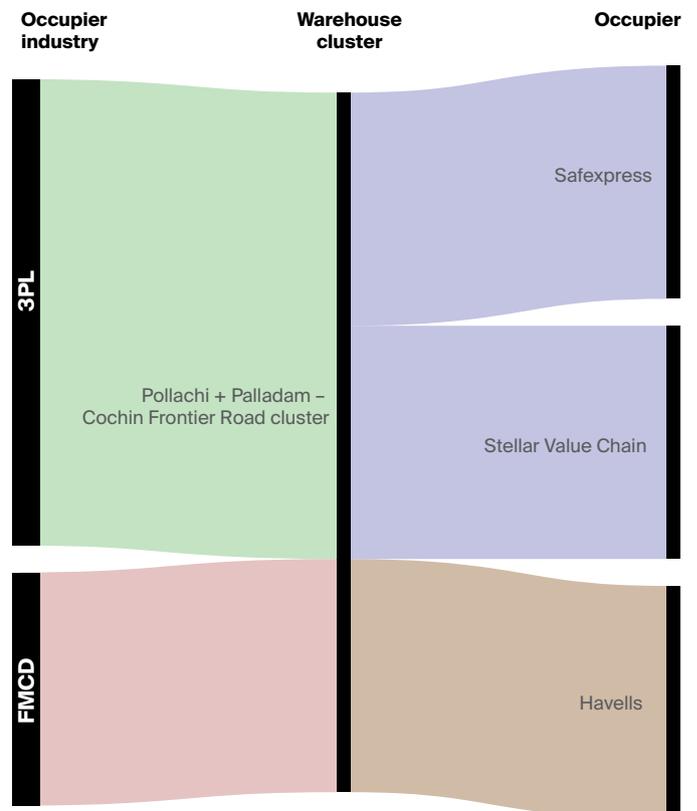
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse 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

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Avinashi Road cluster	Neelambur	15-20	151-172 (14-16)	108-118 (10-11)
	IOC - L&T Bypass	15-20	151-172 (14-16)	108-118 (10-11)
	Aspen SEZ / Karumathampatti	10-15	140-161 (13-15)	108-118 (10-11)
	Avinashi	10	140-161 (13-15)	108-118 (10-11)
	Tiruppur	10	140-161 (13-15)	108-118 (10-11)
Pollachi + Palladam - Cochin Frontier Road cluster	Coimbatore-Pollachi Road	15-20	151-172 (14-16)	108-118 (10-11)
	Malumichampatty	15-20	151-172 (14-16)	108-118 (10-11)
	Palladam	8-10	140-161 (13-15)	108-118 (10-11)
	Walayar	10-15	129-151 (12-14)	97-108 (9-10)

Source: Knight Frank Research

*Rentals for Built - to - Suit (BTS) facilities and Cold Storage facilities range from INR 183 - 194/sq m/month (INR 17 - 18/sq ft/month) and INR 194 - 215/sq m/month (INR 18 - 20/sq ft/month) respectively.

Chennai

WAREHOUSING MARKET

During 2018, transaction volumes grew 79% year-on-year (YoY) to 0.4 mn sq m (4.2 mn sq ft) in the Chennai warehousing market

The Madhavaram – Red Hills belt in the NH 16 – Periyapalayam cluster has seen increased traction last year owing to increased activity in the e-commerce segment

Visakhapatnam Chennai Industrial Corridor, Chennai - Bengaluru Industrial Corridor and Tamil Nadu Defence Industrial Corridor are major infrastructure projects planned here

- Chennai is one of the oldest commercial centres in India that came into prominence as a textile hub and has evolved into a manufacturing centre for heavy industries owing to its proximity to the sea.
- Over the years, the automobile industry has established its roots here and has been growing in a big way. At present, Hyundai Motors is the largest volume churning at the Chennai Port, whereas Renault-Nissan's massive export-oriented production is a major driver of the Sriperumbudur cluster.
- Chennai has, in its vicinity, two major ports – Chennai Port (second largest container port of India) and Ennore Port, along with other upcoming ports like the Kattupalli Port. Availability of increased port infrastructure is resulting in increased non-automotive industrial activity in the region; for instance – renewable energy industry (TPI that manufactures blades of wind mills has set up base in Chennai in 2019).
- Increased industrial activity has in turn spurred the development of warehousing facilities in and around the major arterial highways that branch out from the centre of Chennai, connecting the ports to the warehousing clusters – towards the west are the Grand Southern Trunk Road (GST Road / Chennai – Trichi Highway / NH 45), Poonamallee High Road (Mumbai Highway / NH 48) and Chennai – Thiruvallur High Road (CTH Road / formerly Madras – Thiruvallur High Road i.e. MTH Road / NH 716); towards the north are Grand Northern Trunk Road (GNT Road / Chennai – Srikakulam Highway / NH 16) and Ennore High Road (SH 114); towards the south are Poonamallee High Road (Mumbai Highway / NH 48) and East Coast Road (NH 32).
- Warehousing activity in Chennai has been concentrated in the radius of 40–60 km from the city centre going north, west and south. The western and southern locations that have been clubbed into one homogeneous cluster called the Sriperumbudur – Oragadam cluster and it primarily caters to the warehousing requirements of the dominant auto and auto ancillary industry and thus, constitute the leading warehousing market of the city. Northern locations such as Puzhal, Cholavaram, Karanodai and Periyapalayam constitute the NH 16 – Periyapalayam warehousing cluster that caters largely to the Fast Moving Consumer Goods (FMCG) sector companies such as Hindustan Unilever Limited and Procter & Gamble.
- Over the last year, with the increased activity in the e-commerce segment, the Madhavaram – Red Hills belt in the NH 16 – Periyapalayam cluster has seen massive absorption.
- Under the Logistics Efficiency Enhancement Program (LEEP), Multi-Modal Logistics Parks (MMLP) are being planned across the country and one of them is expected to be in Chennai. Also, the upcoming Chennai – Bengaluru Industrial Corridor will facilitate further integration of transportation in Chennai. Such government initiatives and policies will definitely further the growth of warehousing and industrial sectors alike.
- During 2018, transaction volumes grew 79% year-on-year (YoY) to 0.4 mn sq m (4.2 mn sq ft) in the Chennai warehousing market

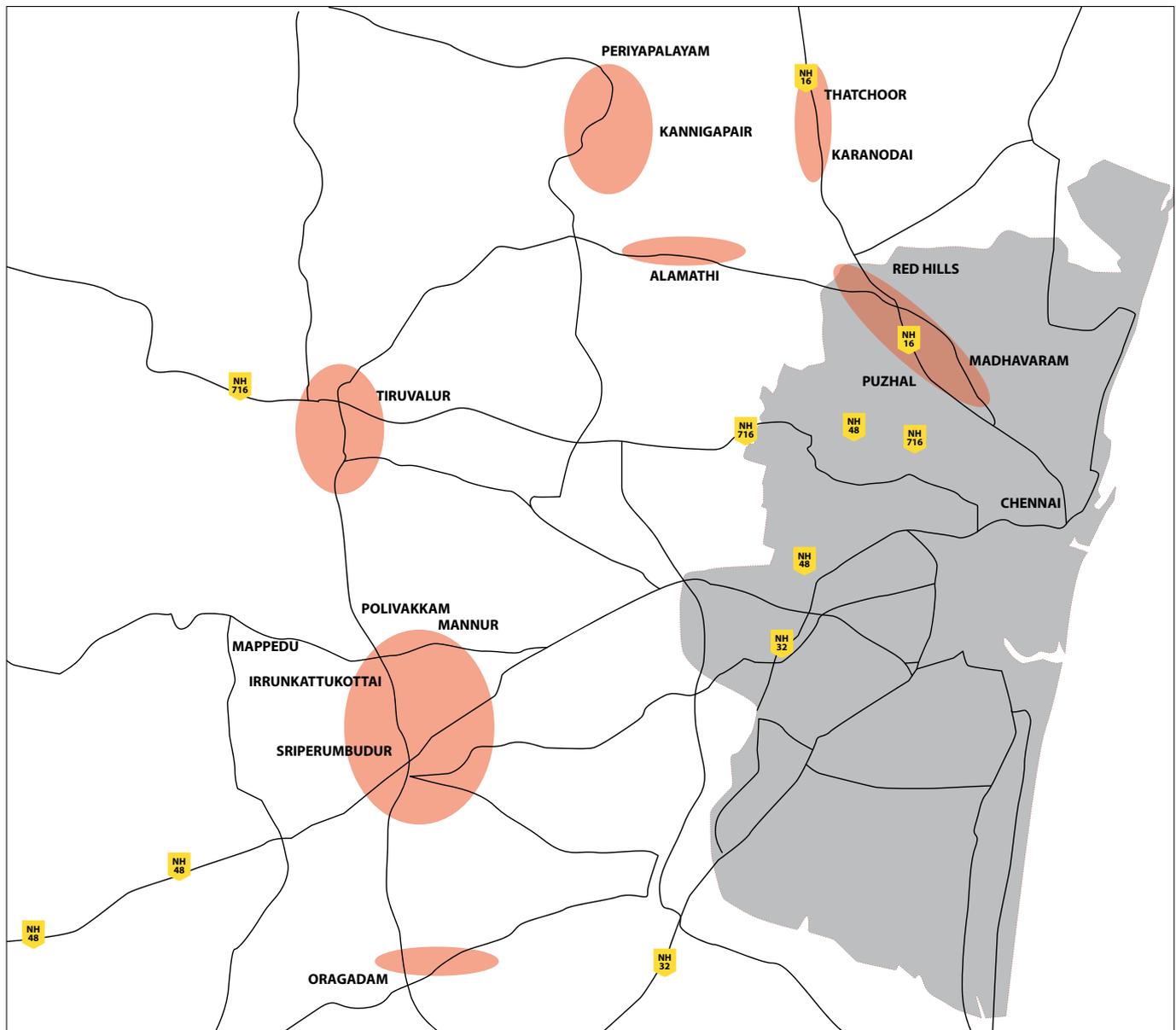
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Sriperumbudur – Oragadam cluster	Oragadam, Sriperumbudur, Irrunkattukottai, Mappedu, Mannur, Polivakkam, Tiruvalur and other locations on the in-roads branching from Sriperumbudur
NH 16 – Periyapalayam cluster	Red Hills, Puzhal, Madhavaram, Karanodai, Alamathi, Pochettipedu Thatchoor, Periyapalayam, Kannigaipair

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN CHENNAI

 Warehousing cluster



Source: Knight Frank Research All maps are for representational purpose and are not to scale

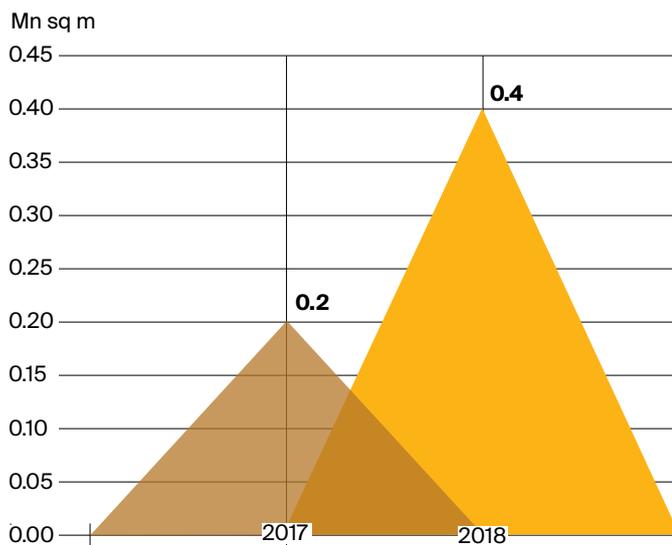
MAJOR INFRASTRUCTURE IN CHENNAI

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

Source: Knight Frank Research

Note: NH stands for National Highway, MMLP stands for Multi - Modal Logistics Park

WAREHOUSING MARKET TRANSACTION VOLUME



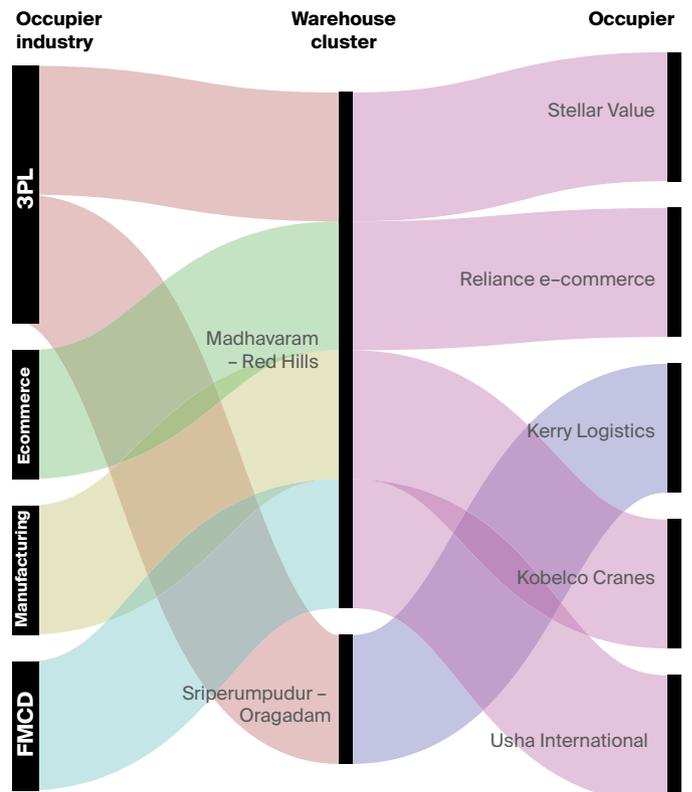
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
Ascendas - Firstspace	Periyapalayam and Oragadam
Casa Grande	Sriperumpudur - Oragadam
Indospace	Sriperumpudur - Oragadam
Sugal & Damani	NH 16 - Periyapalayam
NDR Logistics	NH 16 - Periyapalayam

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn./acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Sriperumbudur – Oragadam cluster	Sriperumbudur	15–25	194–237 (18–22)	172–194 (16–18)
	Oragadam	20–30	258–301 (24–28)	194–215 (18–20)
	Mappedu	10–15	172–205 (16–19)	151–161 (14–15)
	Mannur	17–25	172–194 (16–18)	151–172 (14–16)
	Irungattukottai	30–40	215–237 (20–22)	172–194 (16–18)
	Pollivakkam	13–18	172–215 (16–20)	140–172 (13–16)
NH 16 – Periyapalayam cluster	Cholavaram	8–10	161–172 (15–16)	140–151 (13–14)
	Red Hills	15–20	161–194 (15–18)	140–151 (13–14)
	Karanodai	15–20	161–194 (15–18)	140–151 (13–14)
	Periyapalayam	10–15	161–194 (15–18)	140–151 (13–14)

Source: Knight Frank Research

Guwahati

WAREHOUSING MARKET

Guwahati is strategically positioned to serve as a warehousing gateway to the seven north-east states of India

In 2018, nearly 0.05 mn sq m (0.53 mn sq ft) of warehousing space was leased in Guwahati

The upcoming warehousing clusters are shifting to the north of the city limits or “North Guwahati” due to ample availability of large land tracts in this belt

- Guwahati is a key city next to the Brahmaputra River in the north-east Indian state of Assam. Since Assam has a total length of 3900.44 km. of National Highways, Guwahati is strategically positioned to serve as a gateway to the seven north-east states of India.
- In 2018, nearly 0.05 mn sq m (0.53 mn sq ft) of warehousing space was leased in Guwahati, of which Third Party Logistics (3PL) players accounted for 36% of the total pie followed by Fast Moving Consumer Goods (FMCG) companies at 24%. E-commerce and manufacturing accounted for 15% share each in the total warehousing leasing volume.
- The upcoming warehousing clusters are shifting to the north of the city limits or “North Guwahati” due to ample availability of large land tracts in this belt all the way up to Rangia in the Kamrup rural district. All locations on the National Highway-27 (NH-27) cluster in the northern pockets after crossing over from the Saraighat Bridge are upcoming warehouse locations where large land banks are held either by industrial developers for self-use or Build-to-Suit (BTS) construction or available for aggregation for large facilities.
- Locations on the NH-27 cluster comprise warehouses of companies across sectors such as FMCG, pharmaceuticals and Fast Moving Consumer Durables (FMCD). Some of the prominent warehouse occupiers in this cluster are Donwell Pharmaceuticals Pvt. Ltd., Havells India Pvt. Ltd., Kingfisher, Jerico, Reliance Jio, Hometown, Coca-Cola and ERIS Life Sciences. E-commerce companies have also started establishing their footprint in this cluster with mid-sized facilities; a trend which is likely to continue and garner a higher share in total warehousing space consumed going forward.
- Warehouse development is also moving towards the National Highway-17 (NH-17) cluster. Several locations in this cluster, such as Palashbari and Azara, are prominent warehouse pockets despite narrow road width and congestion, as they are in proximity to the airport which is preferred by pharmaceutical companies. Many pharmaceutical occupiers, such as Sun-Pharma Brahmaputra Group and Natco Pharma, have an established footprint in this belt. In this cluster, land is available but requires land aggregation for large facilities.
- Rampur has been declared as an Industrial Zone by the Government of Assam for fast track industrial development and mainly comprises three blocks – Dakshin Rampur, Uttar Rampur and Dakshin Sarubongsor. This cluster is located near the National Highway-37 (NH-37) and is well connected to nearby towns and cities by road.

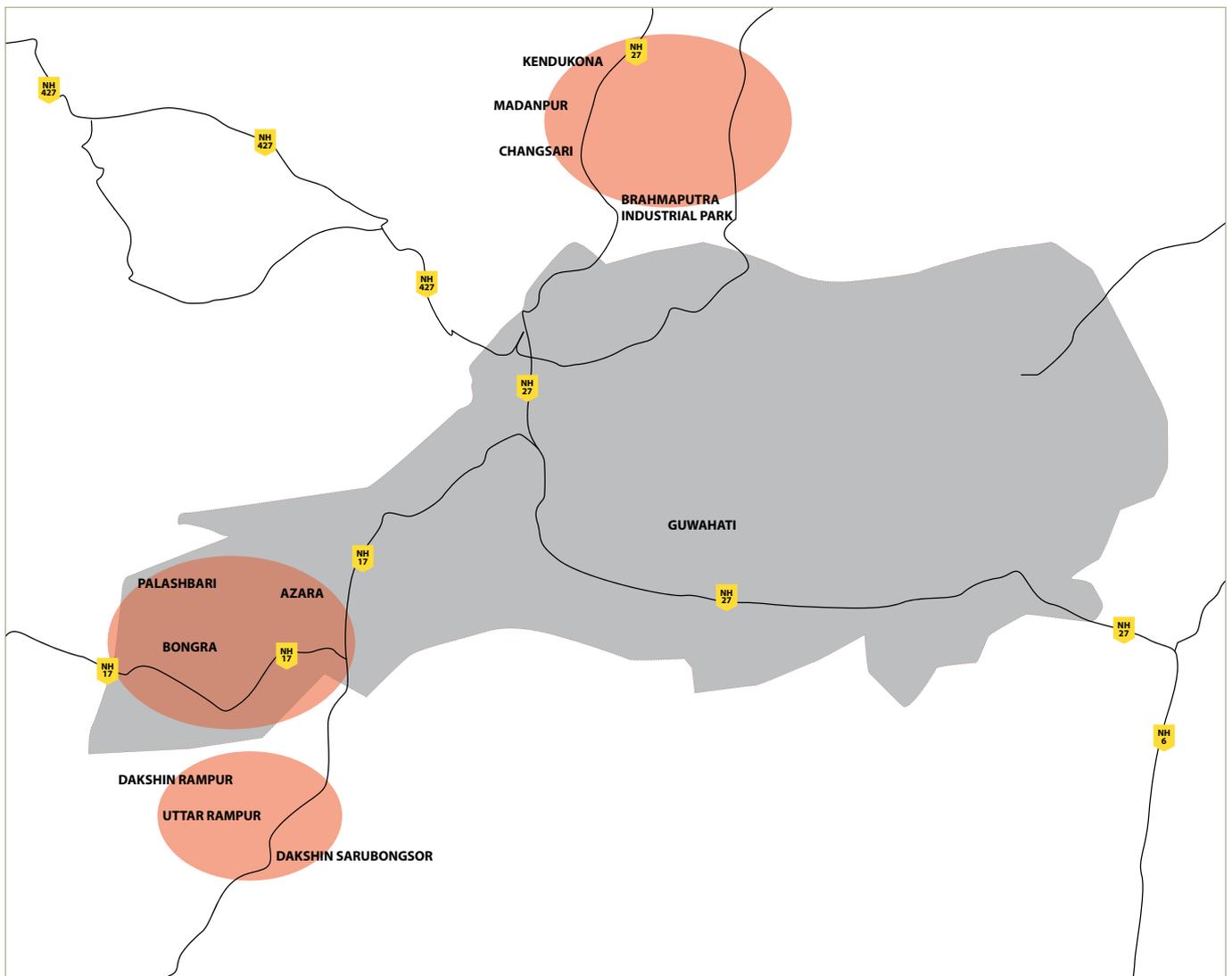
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

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

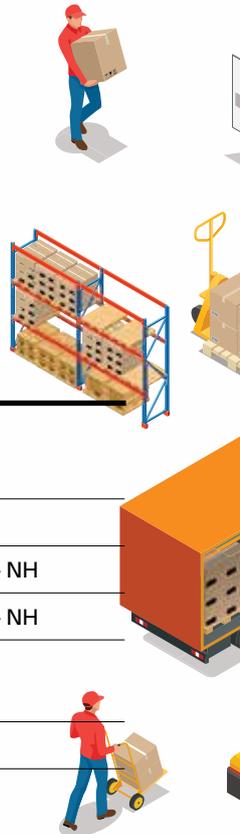
Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN GUWAHATI

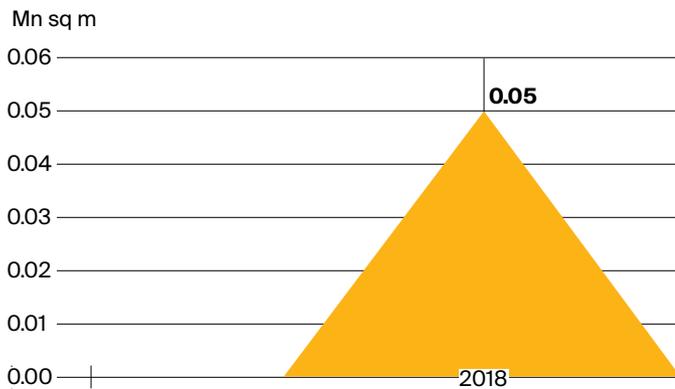
 Warehousing cluster



Source: Knight Frank Research All maps are for representational purpose and are not to scale



WAREHOUSING MARKET TRANSACTION VOLUME



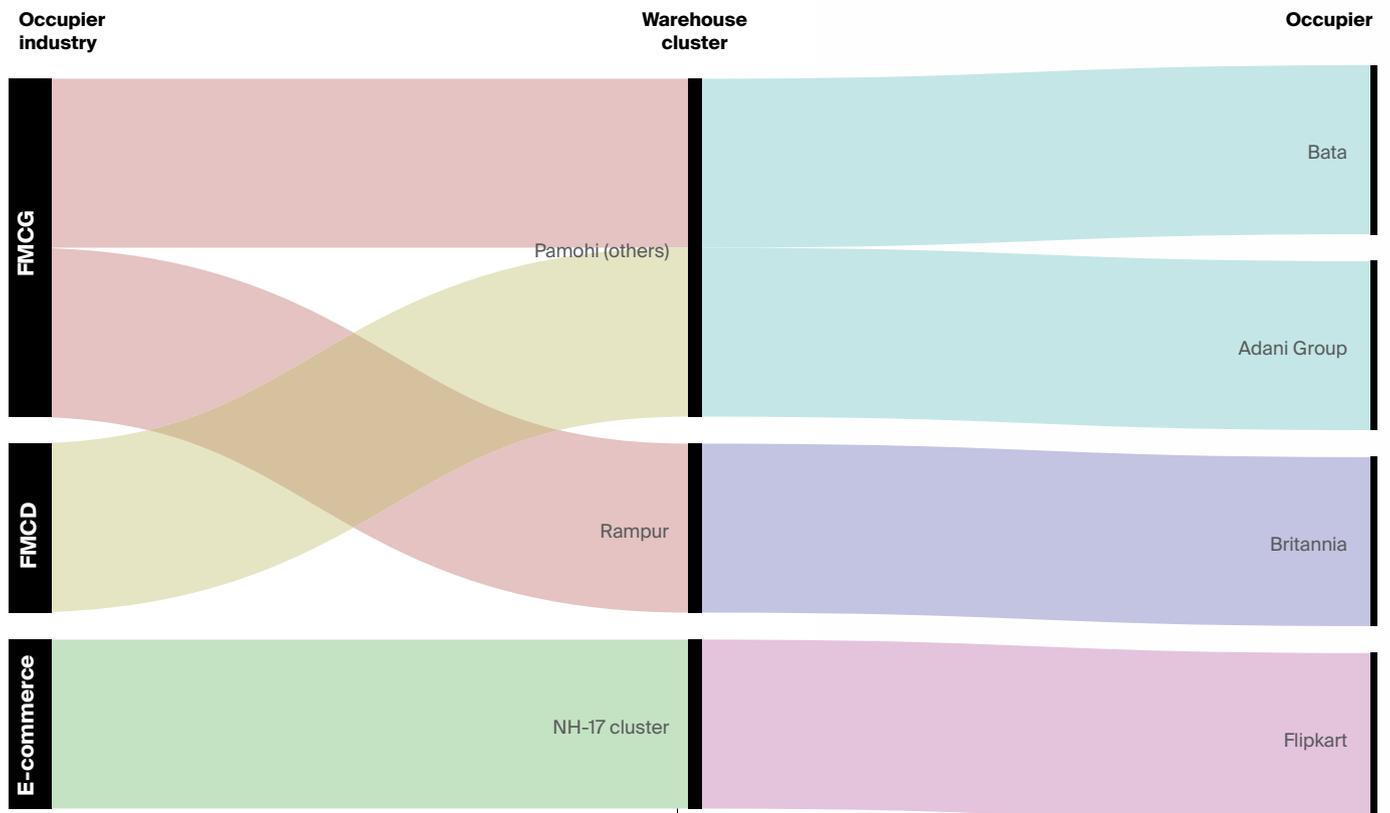
Source: Knight Frank Research

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

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
NH-27 cluster	Brahmaputra Industrial Park	18-24	161-194 (15-18)	151-161 (14-15)
	Changsari	13-20	215-237 (20-22)	172-194 (16-18)
	Madanpur	12-18	161-205 (15-19)	161-183 (15-17)
	Kendukona	10-14	161-172 (15-16)	140-161 (13-15)
NH-17 cluster	Bongra-Airport	22-26	194-226 (18-21)	172-194 (16-18)
	Palashbari	14-18	172-194 (16-18)	151-172 (14-16)
	Azara	15-19	172-194 (16-18)	151-172 (14-16)
Rampur	Dakshin Rampur	10-15	161-183 (15-17)	140-161 (13-15)
	Uttar Rampur	10-15	161-183 (15-17)	140-161 (13-15)
	Dakshin Sarubongsor	10-15	161-183 (15-17)	140-161 (13-15)

Source: Knight Frank Research

Hyderabad

WAREHOUSING MARKET

The bulk of warehousing activity in the city (approximately 70% as per various stakeholders in the city) is located in the Jeedimetla–Medchal–Kompally cluster.

The Shamshabad cluster has emerged as a major cluster largely because of 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.

- Warehousing activity in Hyderabad is largely concentrated in three major clusters. These are the Jeedimetla–Medchal–Kompally cluster, located along the Hyderabad–Nagpur highway; the Patancheru cluster, on the Mumbai–Hyderabad highway and the Shamshabad cluster along the Bengaluru–Hyderabad highway.
- Of the three clusters, the bulk of the warehousing activity in the city (approximately 70% as per various stakeholders in the city) is located in the Jeedimetla–Medchal–Kompally cluster. There are a couple of reasons why the Jeedimetla–Medchal–Kompally area has garnered the lion's share of warehousing activity in Hyderabad. First, this belt is closest to the consumption hotspots in the city. It has good connectivity largely because of the inner ring road, the outer ring road and the Hyderabad–Nagpur highway.
- The primary driver primary driver for Kompally–Medchal belt is the efficiency of logistics and supply chain developed due to proximity with micro markets across Secunderabad & Hyderabad. This includes both traditional retailers such as FMCG, electronics as well as e-commerce players.
- The Patancheru cluster is another good option but the only challenge with this belt is that land prices in this area have increased drastically over the years. The primary reason for land prices moving up in this area is due to proximity of HITECH City and IT development leading to higher residential demand and thereby surge in real estate pricing. Land owners are finding it lucrative to develop real estate at such locations.
- The Shamshabad cluster has emerged as a major cluster largely because of its proximity to the airport and good connectivity due to Bangalore–Hyderabad highway. With established players providing quality supply close to the airport, global players too have moved into this area.
- Most of the real estate development (as in warehousing development) near the airport is taking place towards the southern side of the airport towards Kothur, Shadnagar, Tukkuguda and Maheshwaram Mandal.
- What is worth noting about this Kompally–Medchal cluster is that unlike warehouses of the past, in Hyderabad, which were typically built on ancestral lands and were more of godowns, organised players have moved into this area and modern day Grade A warehouses have started to come up in this region. As per our survey with stakeholders, going forward, the Shamshabad cluster is expected to emerge as a major warehousing cluster. This is largely because of tie-ups between renowned warehousing & realty developers.
- The major driver of the warehousing sector in Hyderabad is e-commerce. Of the total transacted space in the city in 2018, close to 40% of the space was picked up by companies operating in the e-commerce space.
- Other sectors driving the warehousing sector in the city are organised retail, Fast Moving Consumer Goods (FMCG) (read electronics and cold storage) and pharma.

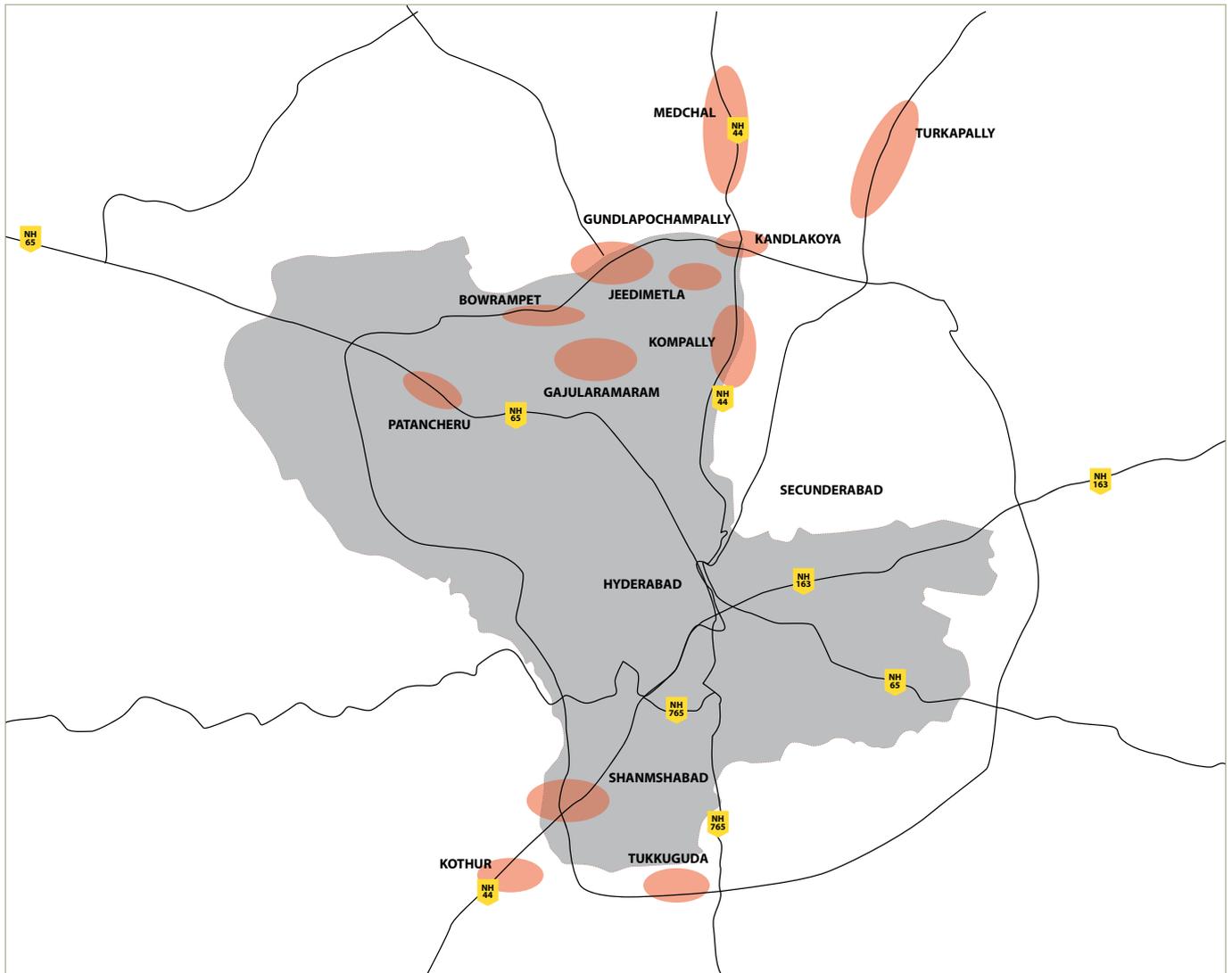
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Jeedimetla–Medchal–Kompally cluster	Jeedimetla, Gundlapochampally, Kandlakoya, Kompally, Bowrampet, Gajularamaram, Medchal, Turkapally
Patancheru cluster	Patancheru, Toopran, Pudur, Muthangi, Bollaram, Edulanagulapally
Shamshabad cluster	Shanmshabad, Kothur, Tukkguda, Pashamylaram

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN HYDERABAD

 Warehousing cluster



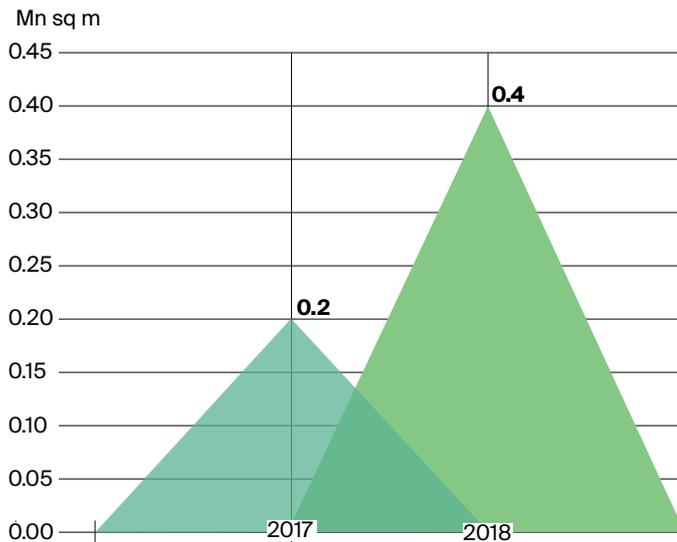
Source: Knight Frank Research All maps are for representational purpose and are not to scale

MAJOR INFRASTRUCTURE IN HYDERABAD

Name	Type
Outer Ring Road	Road Infrastructure
Inner Ring Road	Road Infrastructure
Bengaluru-Hyderabad Highway	Road Infrastructure
Mumbai-Hyderabad Highway	Road Infrastructure
Nagpur-Hyderabad Highway	Road Infrastructure
Rajiv Gandhi International Airport	Airport Infrastructure

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

WAREHOUSING MARKET TRANSACTION VOLUME



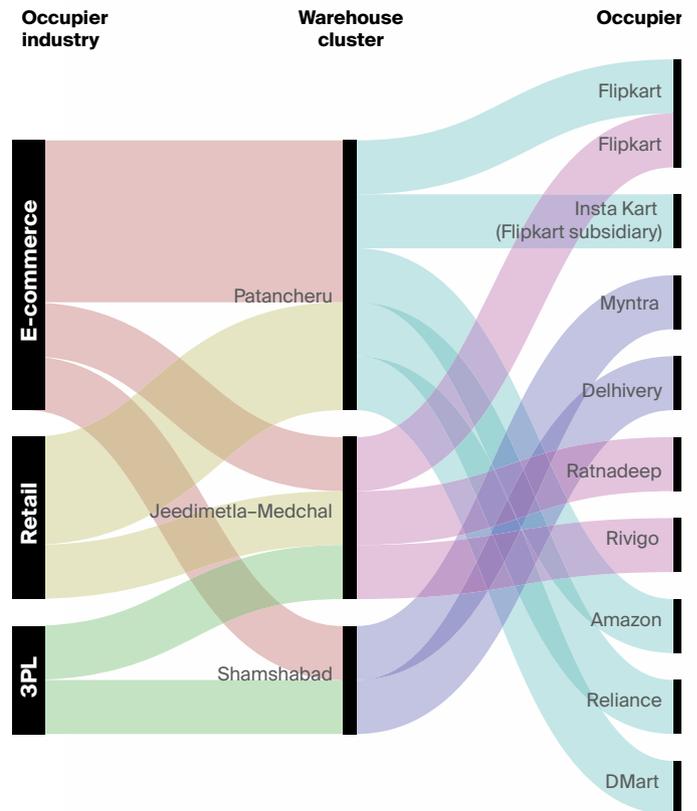
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

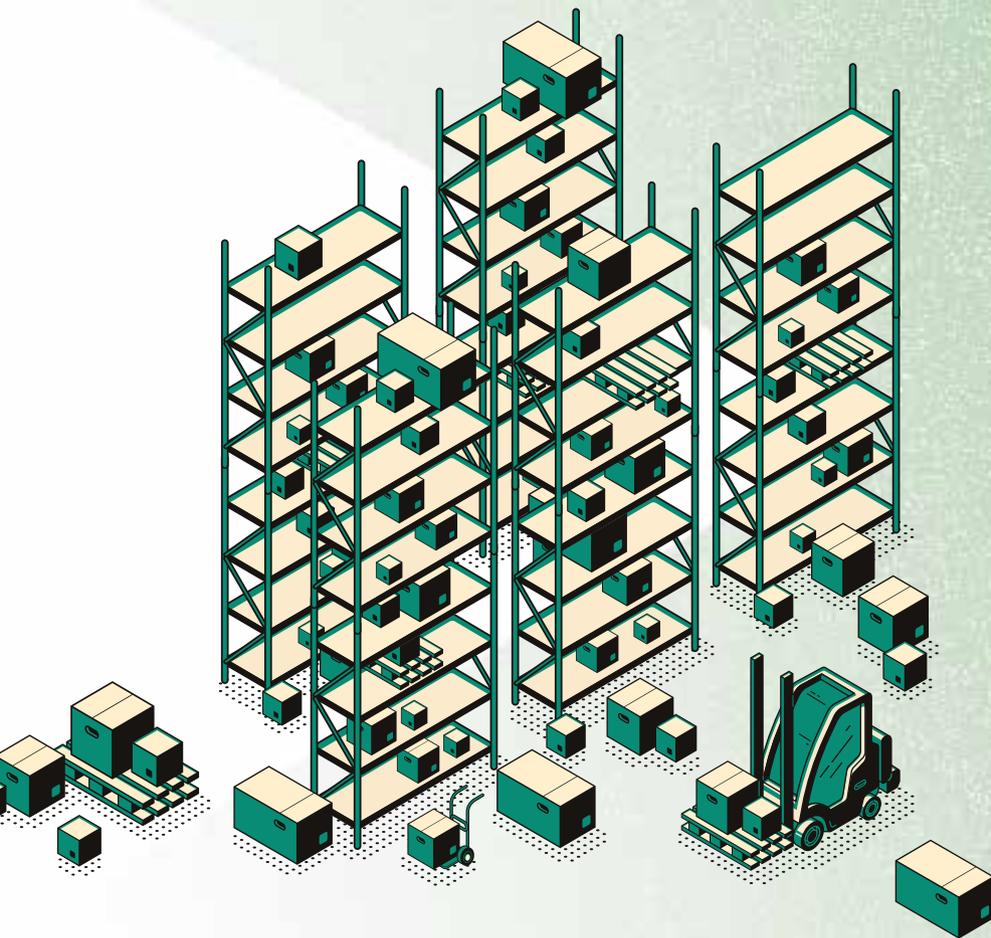
Warehouse project	Warehouse cluster
All Cargo Logistics & Industrial Parks	Patancheru
Zero Mile Warehousing	Jeedimetla-Medchal-Kompally
Embassy Industrial Parks	Shamshabad
K Raheja Corp – Industrial Park	Shamshabad
K Raheja Corp – Industrial Park	Pocharam

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Jeedimetla-Medchal-Kompally cluster	Jeedimetla	30-60	194-237 (18-22)	151-215 (14-20)
	Ayodhya Junction-Devaryamjal-Gundlapochampally	20-40	172-215 (16-20)	129-172 (12-16)
	Kandlakoya	25-40	172-215 (16-20)	129-183 (12-17)
	Kompally	30-60	215-237 (20-22)	151-215 (14-20)
	Bowrampet	22-35	151-215 (14-20)	108-151 (10-14)
	Gajularamaram	20-35	151-215 (14-20)	108-151 (10-14)
	Medchal (Nagpur Highway)	12 - 35	172-215 (16-20)	129-172 (12-16)
	Turkapally	12-30	172-215 (16-20)	129-172 (12-16)
	Toopran	0.80 - 20	172-215 (16-20)	118-140 (11-13)
Patancheru cluster (Hyderabad-Mumbai Highway)	Pudur-Ghanpur	10 - 25	172-215 (16-20)	129-172 (12-16)
	Patancheru	40-60	194-215 (18-20)	151-205 (14-19)
	Muthangi	15-40	172-215 (16-20)	129-172 (12-16)
	Edulanagulapally	12 - 35	194-215 (18-20)	151-194 (14-18)
	Pashamylaram	15-30	194-215 (18-20)	129-161 (12-15)
Shamshabad cluster	Bollaram	25-50	172-215 (16-20)	129-172 (12-16)
	Shamshabad	20-60	194-215 (18-20)	151-205 (14-19)
	Kothur	15 - 25	151-194 (14-18)	108-151 (10-14)
	Tukkguda	20 - 60	183-215 (17-20)	129-194 (12-18)

Source: Knight Frank Research

Kolkata

WAREHOUSING MARKET

Strategic location and well-connected transport corridors enable Kolkata to serve the consumption needs of the nearby catchment areas, mainly in South Bengal

In 2018, healthy warehousing leasing of 0.4 mn sq m (4.68 mn sq ft) was noted in Kolkata

E-commerce and third party logistics (3PL) providers' biggest occupier sectors to lease warehousing space in Kolkata in 2018

- Kolkata is a major warehousing hub serving the primary requirements of the entire eastern belt of India. Its strategic location and well-connected transport corridors enable it to serve the consumption needs of the nearby catchment areas, mainly in South Bengal. With the government's thrust on setting up industrial corridors and the rollout of Goods and Services Tax (GST), the demand for warehousing spaces has rapidly surged in the peripheral warehousing clusters of Kolkata in the past one year. In 2018 alone, healthy warehousing leasing of 0.4 mn sq m (4.68 mn sq ft) was noted in Kolkata.
- The sudden surge in demand for warehousing space in Kolkata over 2017 led to a massive 191% year-on-year (YoY) growth in total leasing making it the highest across the top eight cities in India. In 2017, 0.1 mn sq m warehousing space was leased in the city.
- The planned Eastern Dedicated Freight Corridor (EDFC), exclusively for rail transport, extending 1,839 km. from Ludhiana to Dankuni towards the port of Kolkata provides a strong enabling environment for intermodal logistics and warehousing. Dankuni and its suburbs are a major warehousing cluster and both, the Durgapur
- Expressway from Dankuni as well as Old Delhi Road (NH-19 [Old NH-2]), are populated with industrial parks and warehouses of industries such as steel, coal, cement, e-commerce and manufacturing. Located only 25 kms away from the central business district, Dankuni has easy access to source both labour and raw materials. Seamless access through both national highways has made it a popular location for transportation and logistics. Many e-commerce companies and 3PL players are sitting up and taking note of this belt for setting warehouse footprint in eastern India.
- National Highway-16 (Old NH-6) is a six-lane highway populated with automobile, food processing and steel industries. Multiple small-scale industrial parks and Grade B warehouses in this belt are paving way for high specification Grade A warehousing facilities and many private players are actively revamping this warehousing belt which has excellent connectivity to the peripheral belts in West Bengal such as Bagnan, Jangalpur, Alampur, Kharagpur and finally to Mumbai. Sankrail on this node is an established warehousing hub for consumer goods just outside city limits with transit hubs in the nearby Bardhaman-Durgapur belt.
- Not only is this cluster well connected to other consumption markets, easy accessibility to 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 Haldia Dock Complex in comparison to Kolkata Port Trust, which is a partner to this port. This cluster accounted for 70% of the total warehousing leasing in Kolkata in 2018.
- Taratala-Maheshtala is an erstwhile regional warehousing hub in Kolkata in proximity to the Kolkata Port and Kolkata Suburban Railway. This cluster has many industrial plants established eons ago with godown like structures dotting the entire stretch and is popular with the FMCG players. Due to high land prices and lack of land availability, contiguous supply of new warehouses in this area does not seem feasible but the cluster is strategically located to serve the needs of occupiers across sectors who require frequent cargo movement via waterways and at the same time being closer to consumption centres.

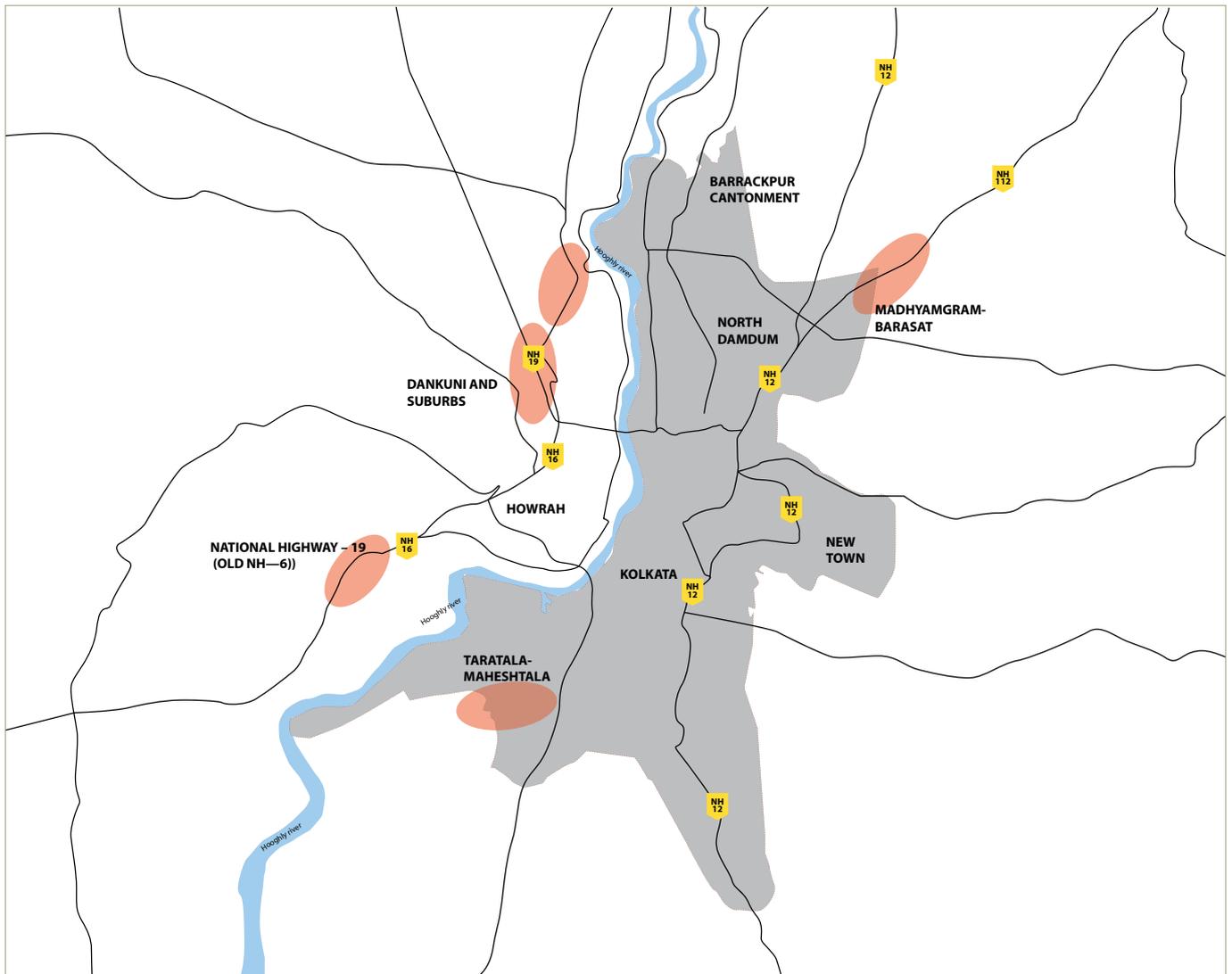
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

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 WAREHOUSING LOCATIONS IN KOLKATA

 Warehousing cluster



Source: Knight Frank Research All maps are for representational purpose and are not to scale

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

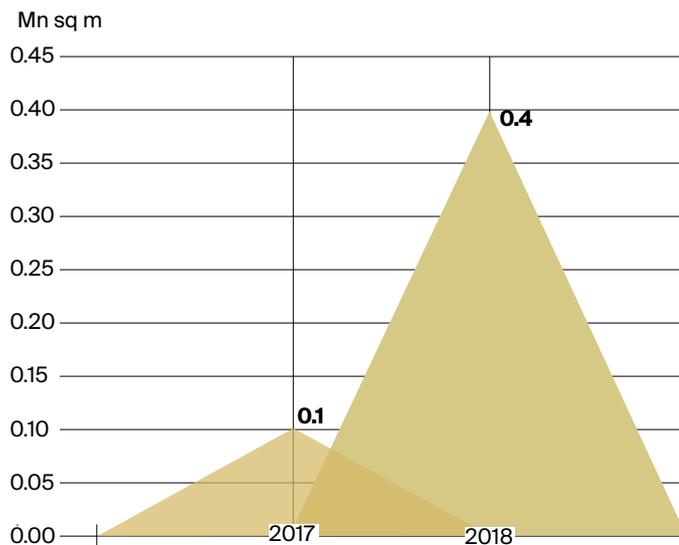
Source: Knight Frank Research

Note: NH stands for National Highway

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

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

WAREHOUSING MARKET TRANSACTION VOLUME



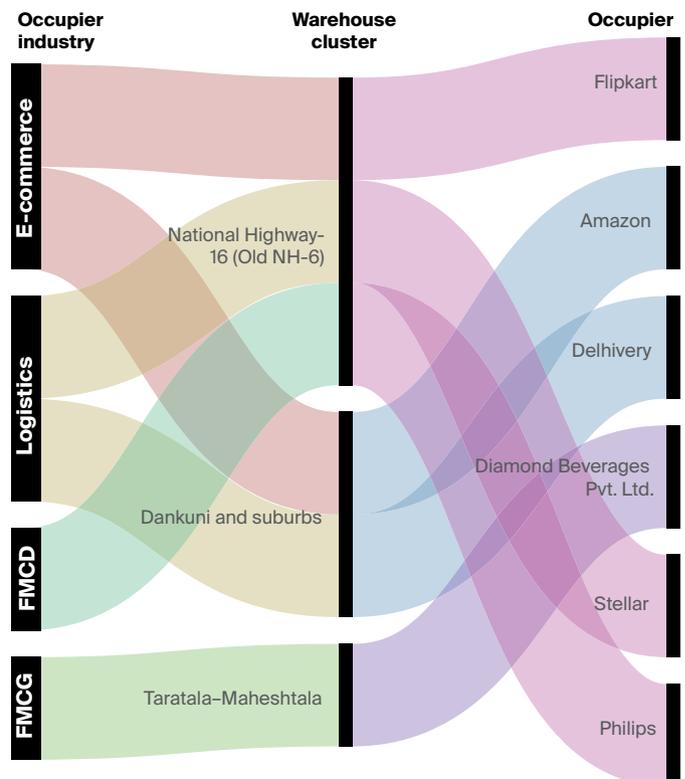
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
Aarjav 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)
Aarna Projects Warehouse	Dankuni and suburbs
Sankrail Industrial Park	National Highway-16 (Old NH-6)

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Dankuni and suburbs	Dankuni - Before Toll	24-30	226-269 (21-25)	183-205 (17-19)
	Dankuni - After Toll	12-18	172-215 (16-20)	151-172 (14-16)
	Old Delhi Road	18-24	194-237 (18-22)	172-194 (16-18)
National Highway-16 (Old NH-6)	Jangalpur	38-50	194-237 (18-22)	172-194 (16-18)
	Sankrail	36-42	194-226 (18-21)	172-194 (16-18)
	Uluberia	13-20	194-215 (18-20)	161-183 (15-17)
	Bagnan	11-14	172-194 (16-18)	151-172 (14-16)
Taratala-Maheshtala Madhyamgram-Barasat	Hide Road	18-24	237-269 (22-25)	205-226 (19-21)
	Budge Budge Trunk Road	40-60	194-237 (18-22)	172-194 (16-18)
	Badu Road	45-55	215-237 (20-22)	183-205 (17-19)
	Airport area	55-65	237-269 (22-25)	194-215 (18-20)

Source: Knight Frank Research

Mumbai

WAREHOUSING MARKET

There are three major warehouse clusters in Mumbai – Bhiwandi, Panvel & JNPT.

As residential developments are becoming pervasive in Bhiwandi, the land prices are becoming unsustainable for traditional warehousing activities.

34% year-on-year (YoY) growth in transactions in 2018

- The three primary drivers of warehousing space demand in Mumbai are – manufacturing, export-import (EXIM) and consumption (which includes demand from e-commerce). Over the years, the share of manufacturing demand for warehouse space has come down drastically and consumption has taken over that share.
- There are three major warehouse clusters in Mumbai – Bhiwandi, Panvel & JNPT. The Bhiwandi warehousing cluster caters primarily to the consumption-led demand and the Panvel & JNPT warehousing cluster caters to the EXIM demand.
- Being strategically located within the Mumbai Metropolitan Region (MMR), the Bhiwandi warehousing cluster is situated in proximity to the large consumption markets of Mumbai, Thane city and Navi Mumbai. Hence, the warehousing space in Bhiwandi is being taken up primarily to serve consumption demand. The warehouses are mainly concentrated on Old Agra Road and the NH-3 (Mumbai-Nashik highway). The regions from Kalher to Anjurphata and Dapode Road in the Bhiwandi warehousing cluster have now become dense residential catchments leading to traffic congestions and higher land costs, thereby, stifling modern warehousing growth.
- As residential developments are becoming pervasive in Bhiwandi, the land prices are becoming unsustainable for traditional warehousing activities. Earlier lack of connectivity of suburban railway network hindered the growth of residential in Bhiwandi. But with the upcoming Thane-Bhiwandi-Kalyan metro coming up, the transformation into a residential cluster is likely to expedite. Hence, the warehouses are shifting further away from Bhiwandi on the Mumbai-Nashik highway in areas after the toll booth and along the Padgha-Sape road, which falls before the toll booth. The Padgha-Sape belt has a single-lane road connecting it to the NH-3; the quality of the road is poor and it has no dividers. However, a large number of warehouses have come up in this belt as land rates are affordable for warehouse development. The areas after the toll booth have excellent road connectivity to MMR via the NH-3, which is a good quality 2x2 lane road with dividers. Land around this region is available in the range of INR 10-15 mn/acre which makes it sustainable for warehousing activities. Slowly and steadily these regions are emerging as new warehousing clusters catering to the outflow from Bhiwandi. Also, the road expansion work at the existing Mumbai – Nasik highway is underway. This will further boost the infrastructure and the travel time to the consumption centers.
- The other prominent warehouse cluster in MMR is the EXIM-driven Panvel warehouse cluster. The Panvel warehouse cluster on account of its proximity to JNPT has emerged as a suitable warehouse hub for EXIM cargo that is mainly inbound.
- The emerging new Infrastructure and the quick access to JNPT from Chirner road via Navi Mumbai - Belapur will drive in more consumption-based demand in near future.
- Taloja which was predominately dominated by the industrial belt has been witnessing demand for commercial warehousing from 3PL clients due to its proximity to Navi Mumbai. Developers having land in this location are open to develop warehouses for prospective clients.
- During 2018, transaction volumes in the Mumbai warehousing market grew by 34% year-on-year (YoY) to 0.7 mn sq m (7.0 mn sq ft).

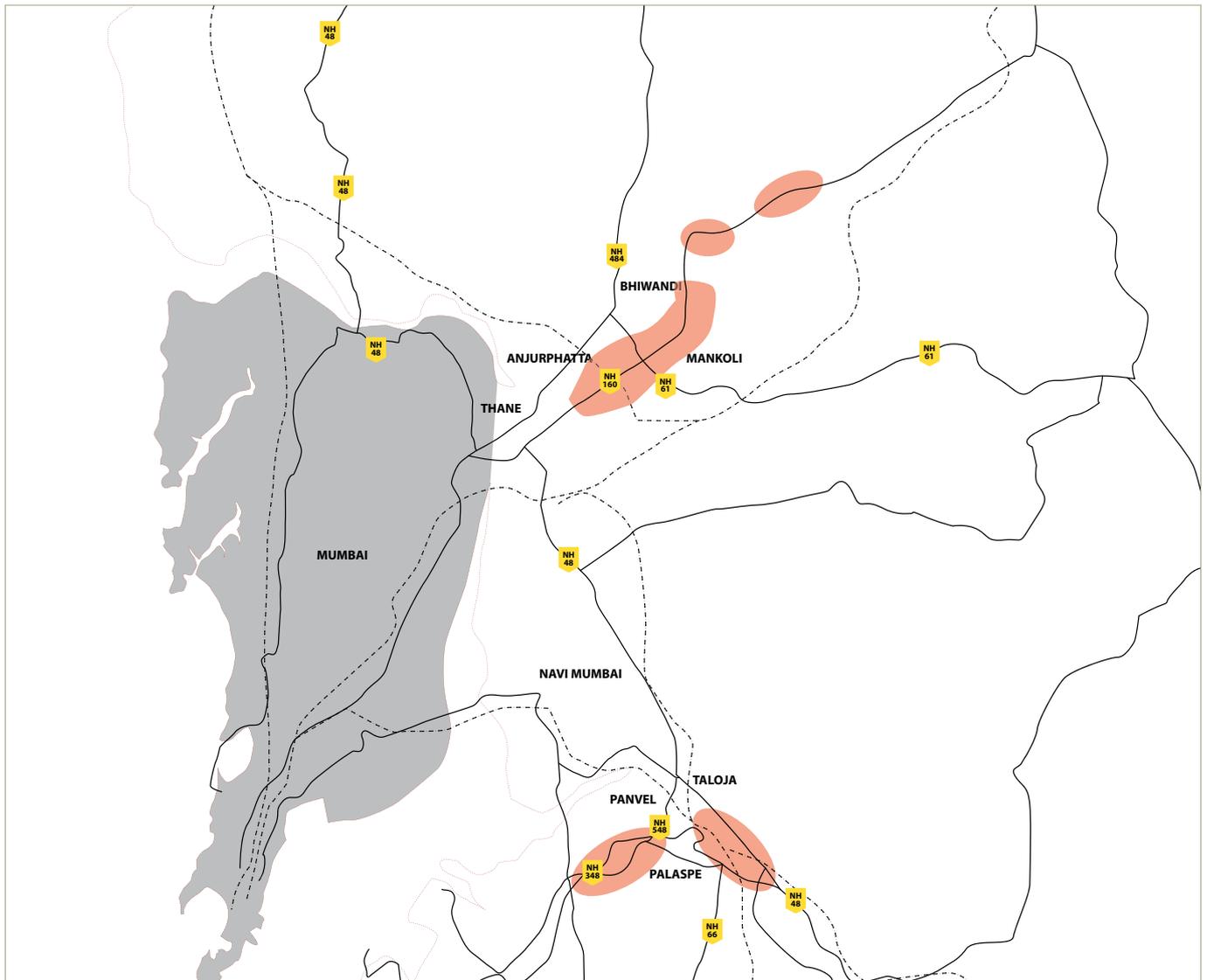
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Bhiwandi	Mankoli, Kalher, Kasheli, Dapode, Padgha, Vashere, Vadpe, Saape, Lonad, Bhavale, Sawad Naka, Dohole, Sonale, Anjurphatta
Panvel	Palaspe, Uran Road, Taloja, Patalganga

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN MUMBAI

 Warehousing cluster



Source: Knight Frank Research All maps are for representational purpose and are not to scale

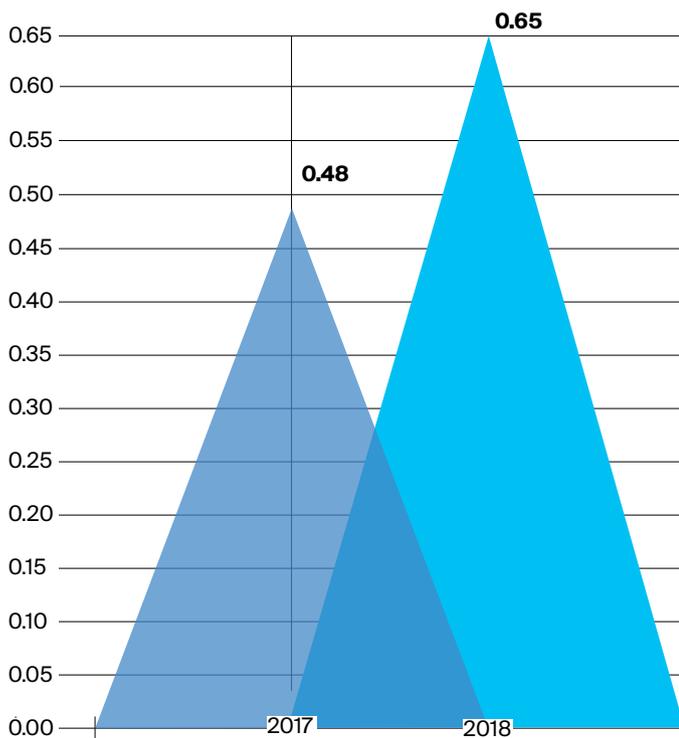
MAJOR INFRASTRUCTURE IN MUMBAI

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
Mumbai-Nagpur Expressway	Express highway
Virar-Alibaug Multi-modal Corridor	Road
Mumbai (JNPT)-Vadodra Highway	National Highway

Source: Knight Frank Research

WAREHOUSING MARKET TRANSACTION VOLUME

Mn sq m



Source: Knight Frank Research

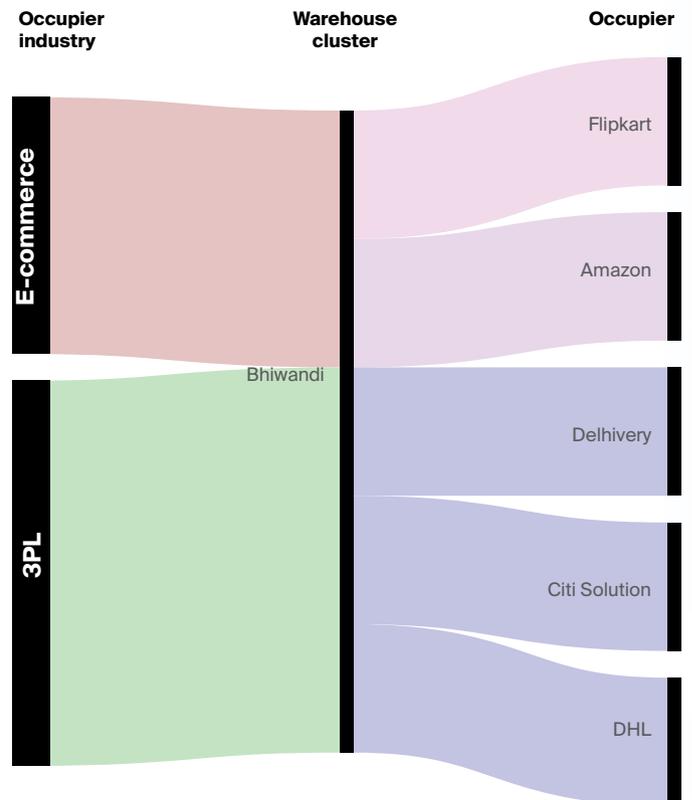
SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
KSquare	Bhiwandi
BGR	Bhiwandi
ESR	Bhiwandi
NDR	JNPT
New era warehousing	Panvel, Patalganga

Source: Knight Frank Research



SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Bhiwandi	Mankoli	30-50	205-248 (19-23)	129-172 (12-16)
	Vadpe	25-35	215-269 (20-25)	194-215 (18-20)
	Padgha	16-22	194-215 (18-20)	172-194 (16-18)
	Vashare	16-22	194-215 (18-20)	172-194 (16-18)
Panvel	Palaspe-Goa Road	20-30	215-269 (20-25)	194-215 (18-20)
	JNPT	16-25	215-269 (20-25)	161-194 (15-18)
	Taloja	20-30	269-323 (25-30)	215-269 (20-25)
	Patalganga	16-25	172-215 (16-20)	151-172 (14-16)

Source: Knight Frank Research

NCR

WAREHOUSING MARKET

NCR not only caters to the intrinsic warehousing demand but also acts as a key storage and warehousing hub for the neighboring states and other distant regions in the North.

Consumption/retail sector took 36% of the total warehouse space leased in NCR in 2018

The entry of organized players with quality warehouse space has translated into an increase in the average rents across NCR.

- The national capital region being the country's largest urban agglomeration is one of the most important warehousing markets of the country. Also called the gateway to the north, warehousing in NCR is spread across major road networks in Gurugram, Delhi, Noida Greater Noida Ghaziabad and Faridabad. The market not only caters to the intrinsic warehousing demand of the national capital region, but also acts as a key storage and warehousing hub for the neighboring states of Punjab, Uttar Pradesh, Haryana, Rajasthan and other distant regions in the North.
- Over the years, warehousing in NCR has shifted from areas such as Delhi, Alipur, Grand Trunk Road, Kapashera, Bamnoli, Dhul Siras and Okhla, that had godown-type structures to newer areas that are well connected to major infrastructure roads and have the luxuries of contiguous land availability for the organized warehousing players to build good quality warehouses. These newer locations are just off the main national highways and have witnessed phenomenal growth in terms of quality warehousing clusters and facilities. Locations such as the Pautaudi – Luhari road, Jamalpur-Panchgaon road, Bilaspur-Tauru-Sohna road, Farrukhnagar in Gurugram have assumed strategic importance.
- Apart from the major highways like NH-48, NH-19 in the south west region, one of the most unifying factor in the current warehousing distribution in NCR is the Eastern Peripheral Expressway or Kundli-Ghaziabad-Palwal (KGP) Expressway or National Expressway II (135 kms) and the Western Peripheral Expressway or Kundli-Manesar-Palwal (KMP) Expressway (135.6 kms), that form a 270 kms ring around the national capital region and other consumption areas in NCR.
 - This infrastructure loop with enhanced infrastructure has started to garner interest from major logistics and warehousing players who are looking at establishing themselves along the key exit points of this 270 kms ring road. The increased demand for organized warehousing with quality infrastructure has attracted large scale warehouse developers to enter the NCR market. Companies such as IndoSpace, Allcargo Logistics, Embassy group have developed significant warehouse portfolios in key locations such as Farukhnagar, Luhari and Badli along the Kundli-Manesar-Palwal (KMP) Expressway.
 - In terms of demand, majority of the warehousing demand in NCR comes from the manufacturing sector comprising of auto and auto ancillary, metals, textile and engineering along NH-48 and NH-2, and food processing, metals, chemicals and pharmaceuticals along on the north eastern part of NCR along NH-91, NH-24 and NH 58 and these regions together account for approximately 85% of the total manufacturing activity within NCR.
- However, the consumption/retail sector has seen significant take up in the year gone by, taking up 36% of the total warehouse space leased in NCR. The major large retail occupiers such as Flipkart, Amazon leasing space around the exit points of the western peripheral expressway highway, also called the Kundli Manesar Palwal Expressway. With the share of E-tail expected to rise steadily in the total retail spending in the coming years, demand for warehousing in this segment is poised for a healthy growth.
- The demand for warehousing in NCR is on an upward swing with a YoY 94% increase in the total transacted space in 2018. The entry of organized players with quality warehouse space translated into an increase in the average rents across NCR.
- Going forward, we expect the NH-48/ Kundli-Manesar-Palwal (KMP) Expressway cluster in Haryana to see continued interest from occupiers and developers alike, owing to its locational advantage and proximity to the major consumption markets in NCR. The seamless connectivity offered by the Kundli-Manesar-Palwal (KMP) Expressway will act as a catalyst in steering the warehousing and logistics demand along this cluster. Further, the recent Haryana Logistics, Warehousing & Retail Policy, 2019 which aims at creating multi-modal logistics and warehousing infrastructure in Haryana along the alignment of the eastern and the western expressway will further incentivize the cluster.

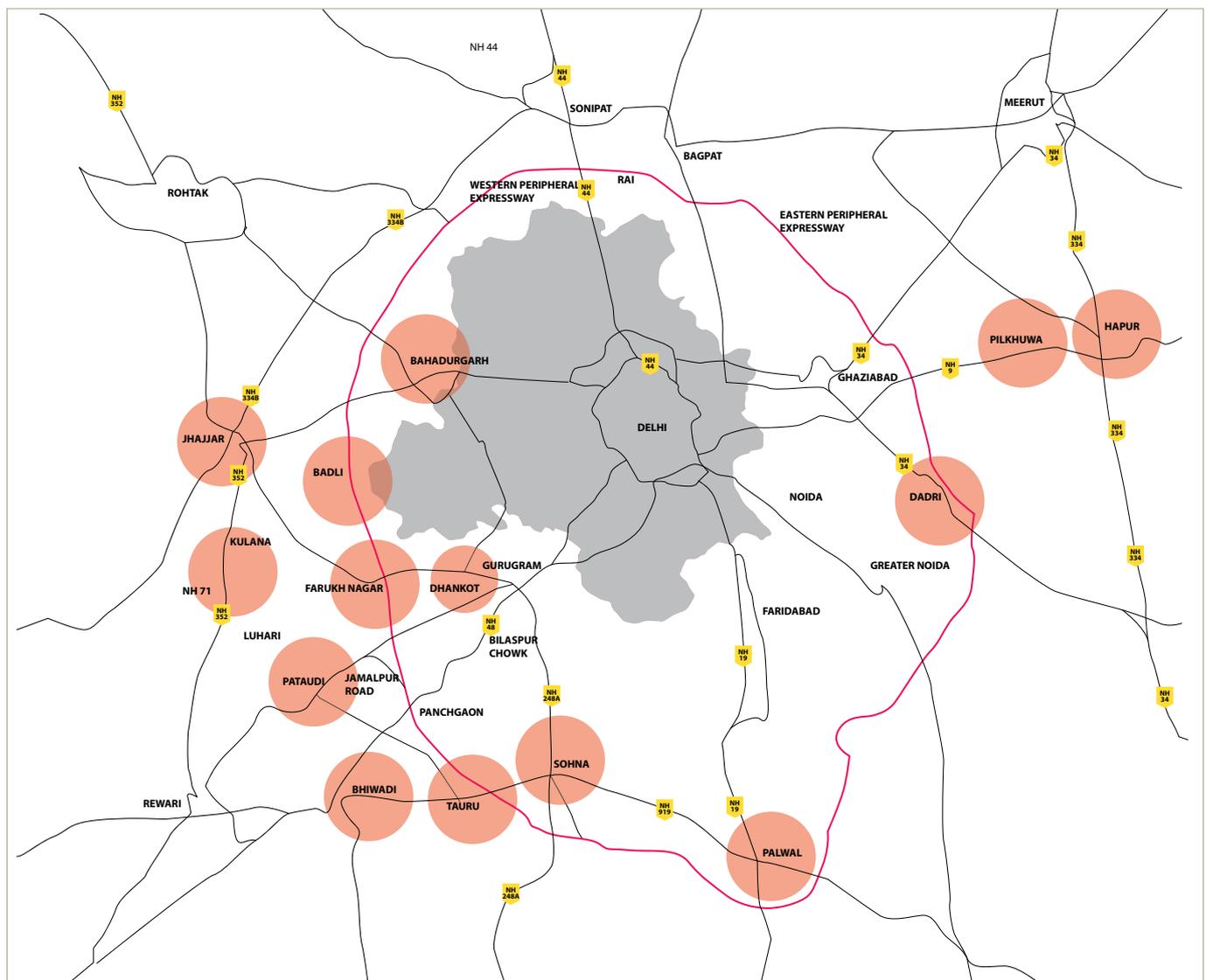
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
NH-48/ Kundli Manesar Palwal Expressway (KMP)	Dharuhera, Pautaudi-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, Pilkhuwa and Meerut and other areas assessible from NH-24 and NH-34
Others	Palwal, Sohna, Faridabad, Noida-Greater Noida, Alipur, Kundli, Sonipat, Murthal, Barota and Mundka

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN NCR

 Warehousing cluster



Source: Knight Frank Research All maps are for representational purpose not to scale

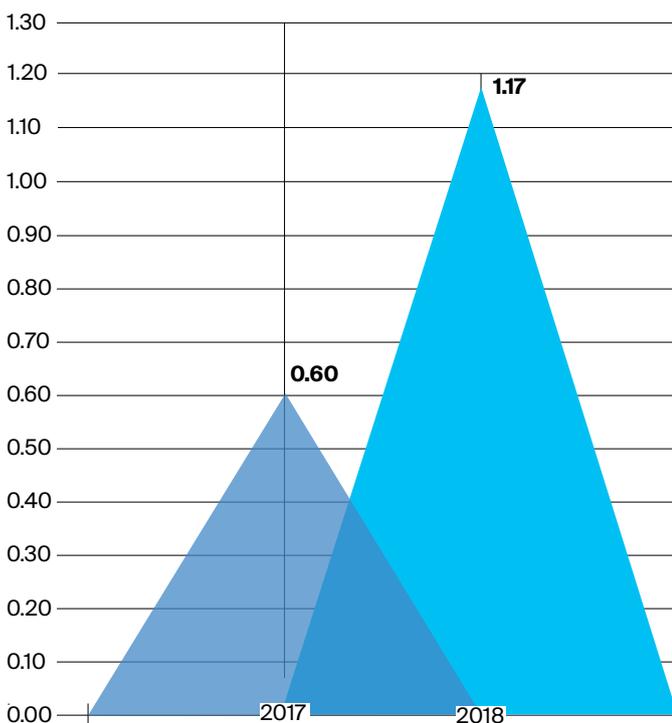
MAJOR INFRASTRUCTURE IN NCR

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

Source: Knight Frank Research

WAREHOUSING MARKET TRANSACTION VOLUME

Mn sq m



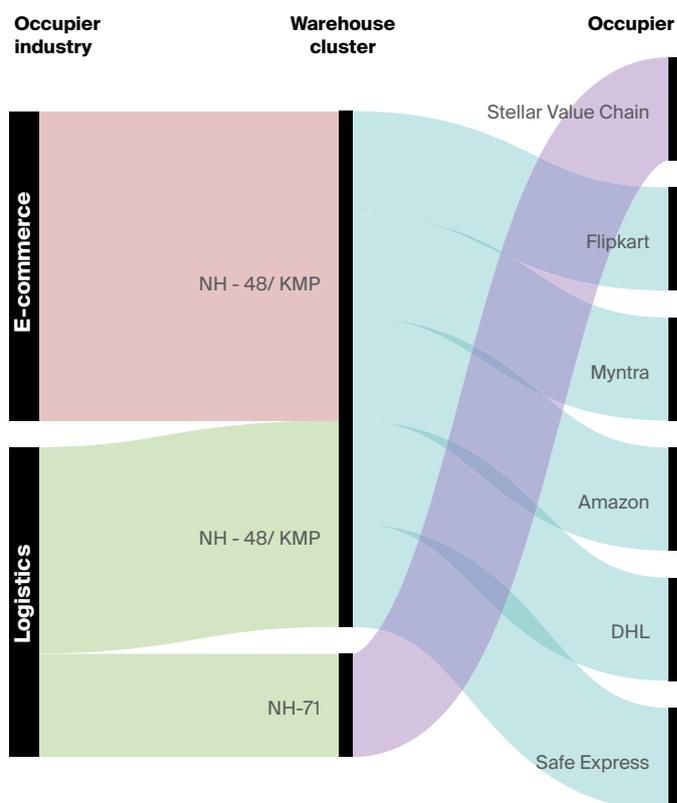
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
IndoSpace	NH - 48/ KMP (Luhari & Badli)
Allcargo Logistics	NH - 48/ KMP
Embassy Industrial Park	NH - 48/ KMP
Gokuldas	NH - 48/ KMP
Apeejay Global Logistics Park	Faridabad
CCI Logistics/JKF Infra	NH - 48/ KMP

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
NH-48 cluster/ KMP cluster	NH-48 (Gurugram - Binola)	20-25	204-258 (19-24)	183-215 (17-20)
	Pataudi Road/Luhari	10-20	194-258 (18-24)	161-183 (15-17)
	Jamalpur-Panchgaon Road	17-25	215-258 (20-24)	183-215 (17-20)
	Bilaspur-Tauru -Sohna Road	11-25	194-258 (18-24)	151-194 (14- 18)
	Dharuhera	14-18	194-215 (18-20)	161-194 (15-18)
	NH 71 - Kulana	12-14	194-226 (18-21)	183-194 (17-18)
	Badli	13-15	183-215 (17-20)	161-183 (15-17)
Ghaziabad cluster	Farrukhnagar	14-17	194-215 (18-20)	161-183 (15-17)
	NH-91 (Dadri) & NH-24 (Hapur) (Dasna-Pilikhua, Meerut)	15-25	205-269 (19-25)	172-194 (16-18)
Other clusters	Greater Noida	17-30		183-269 (17-25)
	Faridabad	13-16		194 -215 (18-20)
	Mundka	20-40		194-258 (18-24)

Pune

WAREHOUSING MARKET

Chakan is the most developed and mature industrial hub amongst the three MIDCs in Pune.

Talegaon has tremendous potential to develop on the lines of Chakan.

41% year-on-year (YoY) growth in annual transaction in 2018

- The two primary drivers of warehousing space demand in Pune are – manufacturing and consumption.
- Chakan is the most developed and mature industrial hub amongst the three MIDCs in Pune. As Chakan offers a thriving manufacturing environment and an established support ecosystem, new entrants are keen to move into this cluster despite high rentals. The warehousing space currently available in Chakan is predominantly catering to the in-house / captive demand of manufacturers from Chakan MIDC. High land price in Chakan is adding upwards pressure on the warehouse rentals and rendering the cluster unviable for traditional warehousing space occupiers who cater primarily to the city's consumption demand.
- Due to high land prices in Chakan, Talegaon has emerged as an attractive location for pure warehousing as well as industrial warehousing demand. Talegaon has a mix of industrial as well as pure warehousing occupiers. Initially, the local level problems, including labour issues, were hindering the growth of Talegaon, but as this cluster is maturing these issues are getting resolved and becoming insignificant. Talegaon has tremendous potential to develop on the lines of Chakan. The cluster has excellent utility infrastructure along with good quality 2x2 lane roads with dividers and enjoys excellent connectivity with Pune city via NH-48 and also to the port in Mumbai. MIDC is currently acquiring land for expansion – Chakan phase 4 and 5. Once these phases become operational, Chakan and Talegaon will merge into a single cluster.
- Ranjangaon MIDC has several large multinational companies (MNCs) carrying out their manufacturing activities from this cluster. Amongst the three MIDCs mentioned above, Ranjangaon has the best infrastructure with 3x3 lane main roads with dividers and the internal roads are 2x2 or 1x1 with dividers. However, this cluster is still in developing stage and it may take some more years for the cluster to mature. This cluster is around 58 km away from the city and it takes around two hours to reach Pune city and 1.5 hours to reach Chakan.
- E-commerce has a big customer base in Pune and the demand from e-commerce for warehousing space is high. The current land prices and rentals at Chakan is high and at Talegaon it is rising, making it challenging to accommodate consumption led warehousing activities. Unlike industrial warehouse occupiers, for consumption demand, the rentals cannot be very high. In such a scenario there is a likelihood of new locations to emerge as alternatives. One such location is the Khed-Shirwal belt in south Pune.
- Khed-Shirwal belt is around 50 km from the city and enjoys excellent connectivity to the city via NH-48. The eastern, western and central regions of Pune are easily accessible from the Khed-Shirwal highway via the bifurcation of roads at Katrej, which leads to these three regions. The national highway, NH-48, has good quality 3x3 roads with dividers. The travel time is marginally greater than the time required to travel from Chakan or Talegaon to Pune and less than time required to travel from Ranjangaon to Pune. The land rates in this belt are below INR 12 mn/acre, however, the main challenge in this belt is to get large contiguous land parcels for setting up a logistics or warehousing park as this region is not under MIDC and land is privately held and also the issue of labour shortage and lack of a support logistics ecosystem persist. Addressing the challenges, the location has the potential to emerge as a future warehousing hub for consumption demand.
- During 2018, transaction volumes in the Pune warehousing market grew by 41% year-on-year (YoY) to 0.3 mn sq m (3.5 mn sq ft).

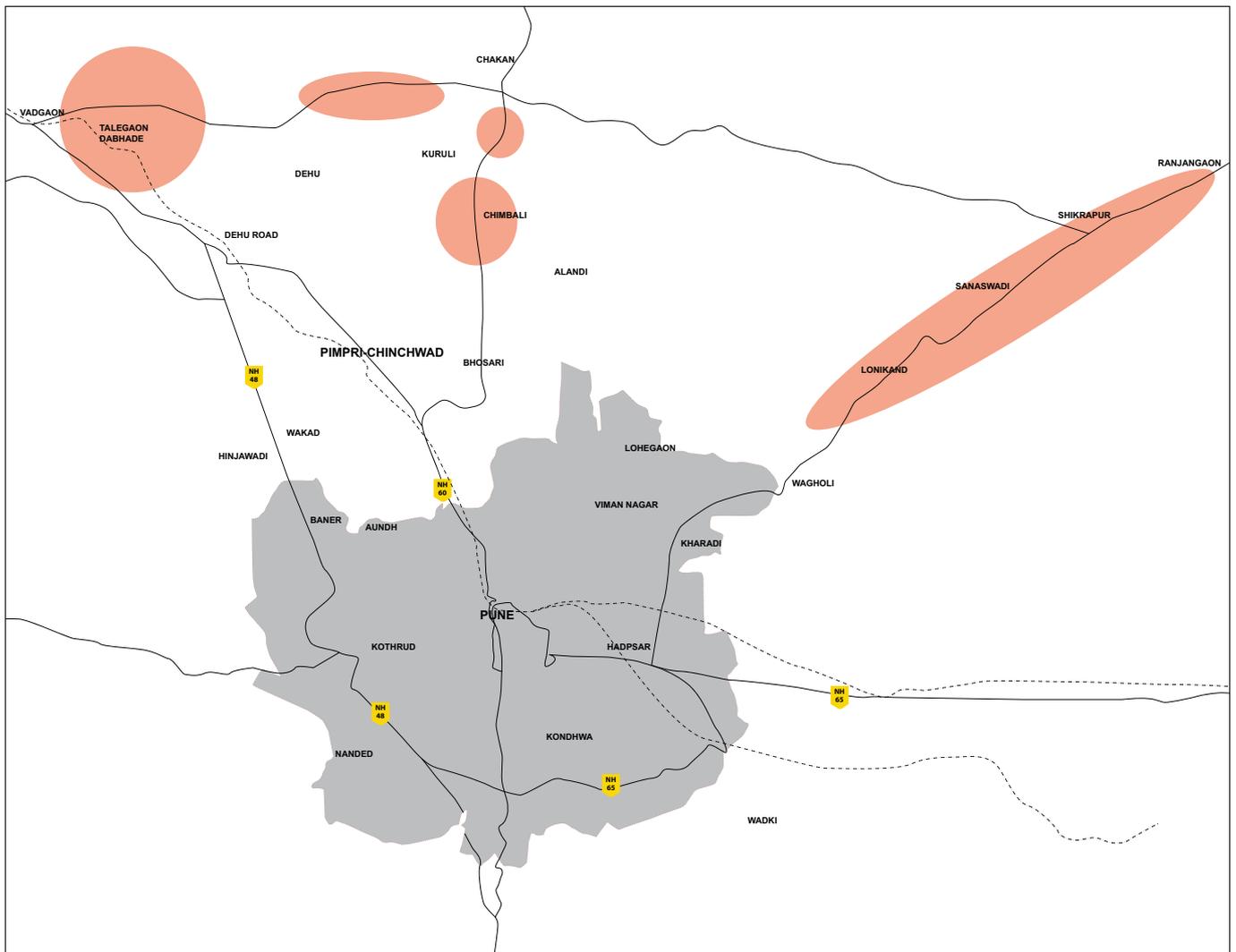
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Chakan-Talegaon belt	Chakan, Talegaon, Kuruli, Chimbali
Wagholi-Ranjangaon belt	Wagholi, Lonikand, Chakan-Shikrapur road, Sanaswadi, Ranjangaon

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN PUNE

 Warehousing cluster



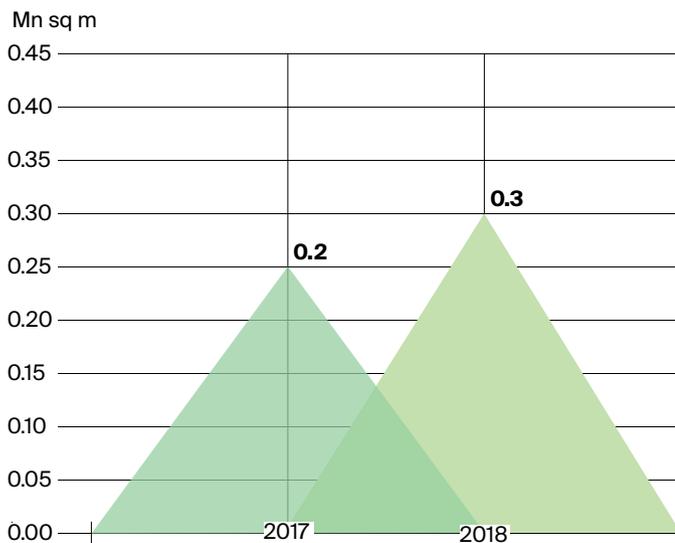
Source: Knight Frank Research All maps are for representational purpose and are not to scale

MAJOR INFRASTRUCTURE IN PUNE

Sr. No.	Name	Type
1	Ring Road	Road infrastructure
2	MIDC Chakan phase 4 and 5	Industrial Park

Source: Knight Frank Research

WAREHOUSING MARKET TRANSACTION VOLUME:



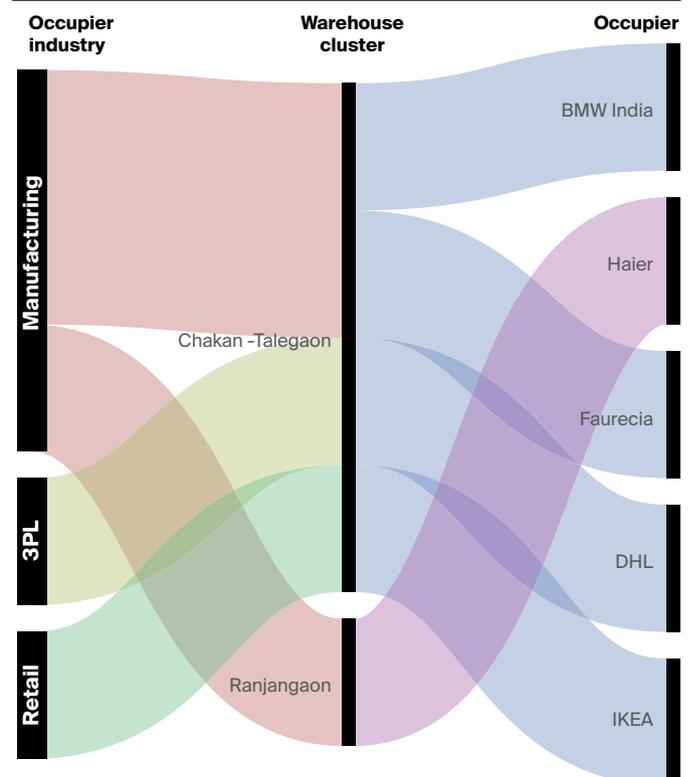
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

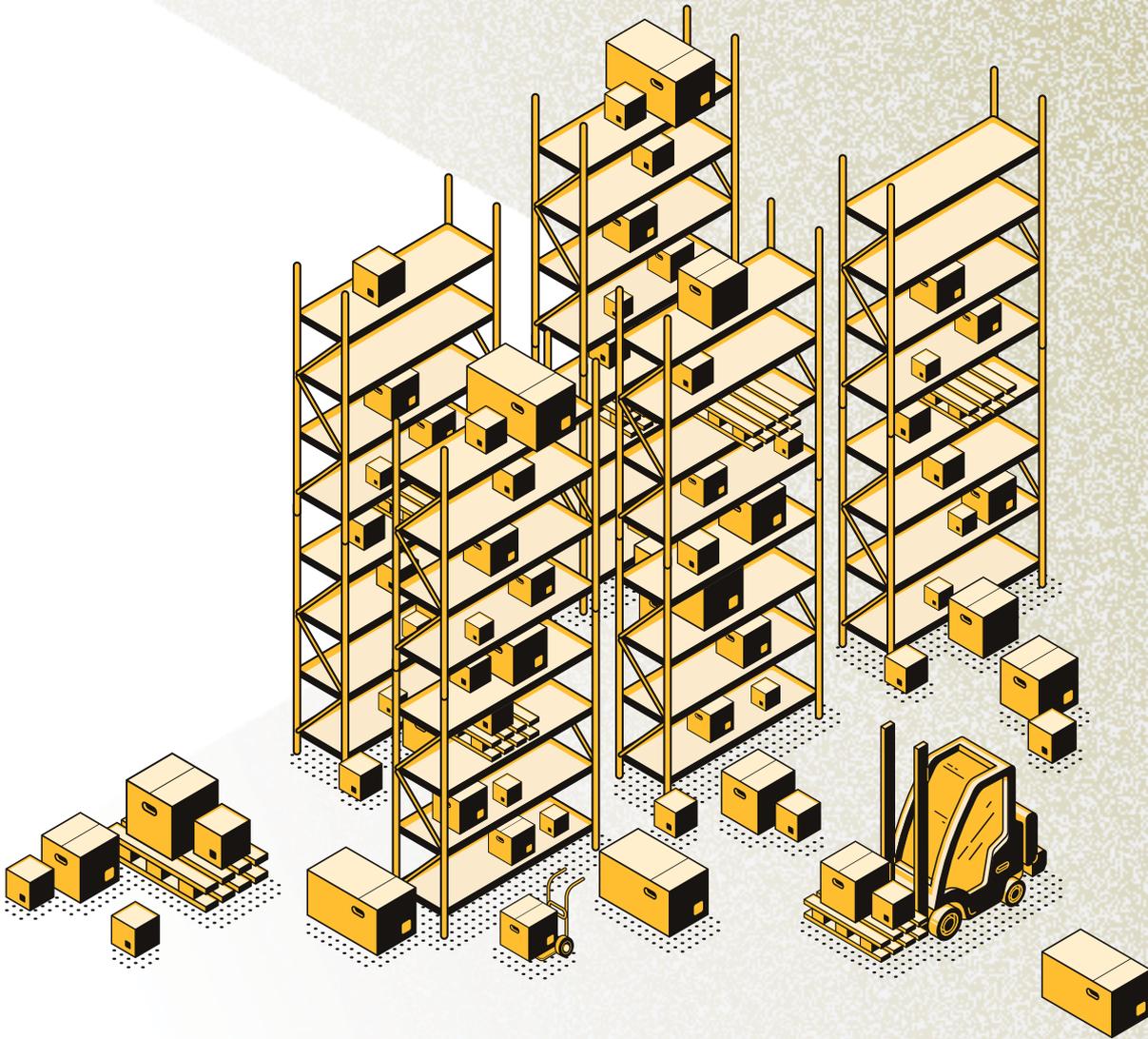
Sr. no.	Warehouse project	Warehouse cluster
1	Indospace Park 1,2,3	Chakan -Talegaon
2	Indospace park	Ranjangaon
3	Embassy Park	Chakan -Talegaon
4	ESR Park	Chakan -Talegaon
5	KSH Group	Ranjangaon

Source: Knight Frank Research

SELECT LARGE OCCUPIERS



Source: Knight Frank Research



LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
Chakan-Talegaon belt	Chakan	20-30	258-301 (24-28)	194-226 (18-21)
	Talegaon	10-20	215-258 (20-24)	172-194 (16-18)
	Kuruli	20-30	172-215 (16-20)	151-172 (14-16)
	Chimbali	20-30	172-215 (16-20)	151-172 (14-16)
Wagholi-Ranjangaon belt	Wagholi	25-35	172-215 (16-20)	140-161 (13-15)
	Lonikand	10-20	129-172 (12-16)	118-151 (11-14)
	Chakan-Shikrapur Road	15-20	194-237 (18-22)	172-194 (16-18)
	Sanaswadi	14-22	172-215 (16-20)	172-194 (16-18)

Source: Knight Frank Research

Rajpura

WAREHOUSING MARKET

Rajpura is also called the “Gateway to Punjab, since all major roads including the historical Grand Trunk Road and rail transport cross through Rajpura for routes going to major cities within Punjab and Jammu and Kashmir

The Rajpura Zirakpur cluster is poised to develop into a hub and spoke model of warehousing in future.

Most of the warehousing market in Rajpura is driven by the fast-moving consumer goods companies (FMCG).

- The Rajpura cluster is one of the major upcoming warehousing clusters in north India. Starting from the Punjab Haryana border or the Shambhu barrier, sporadic warehousing facilities can be seen along the Grand Trunk Road between the barrier to Rajpura and then on the Banur Zirkpur Tepla Road.
- The Rajpura Cluster falls in District Patiala and Rajpura is also called the “Gateway to Punjab, since all major roads including the historical Grand Trunk Road and rail transport cross through Rajpura for routes going to major cities within Punjab and Jammu and Kashmir which is approximately a 5.5-hour drive from Rajpura. Being an industrial town, Rajpura houses various large-scale industries such as Bunge India Private Limited, Hindustan Uniliver, Seil Chemicals Limited, Alliance Metaliks Integrated Ltd (AMTEK GROUP) and more. Apart from this, Rajpura is only second to Khanna in Punjab in having Asia’s largest grain market.
- Given the locational advantage and land at competitive prices along the major axis roads, Rajpura cluster is slowly becoming an important warehousing cluster that not only has the potential to cater to the neighboring states of Punjab and Haryana but also Himachal Pradesh

and further to Jammu and Kashmir. The fact that many organized national warehouse developers are taking up position in this cluster bears testament to its strategic importance.

- The Rajpura Zirakpur cluster is poised to develop into a hub and spoke model of warehousing, where the mother hub will be set at Rajpura with various distribution centers across the neighboring consumption states.
- Majority of the current warehouse facilities in the cluster are with the private players who own single warehouses which further are leased to various occupiers. Since Rajpura is not a pronounced consumption market, warehousing for ecommerce is negligible. Most of the warehousing in Rajpura is taken up by the fast moving consumer good (FMCG) companies such as Samsung, Future Group, Patanjali, Godrej, and Reckitt Benckiser.
- Not only this, to give a further boost to the locational advantage, the state government under the invest Punjab umbrella has proposed to set up a Global Manufacturing and Knowledge Park /Integrated Manufacturing Cluster (IMC) at Rajpura in an area of 1000 Acres under the Amritsar-Kolkata Industrial Corridor (AKIC). Along with

this, the upcoming Quark city along the Grand Trunk Road in Rajpura, will add to the clusters attractiveness, with investment potential of Rs 2,000 crore in the park across various sectors such as manufacturing, food processing, furniture and warehousing. Work of the first phase of 255 acre has already started and some of the major players that have taken position at the Quark city are Indospace, Geekan Design and Virgo mark. Overall the QuarkCity company plans to develop 650 acres of land in total along the GT Road.

DISTANCE OF RAJPURA CLUSTER FROM MAJOR LOCATIONS

City	Approximate	
	Distance	Drive time
Chandigarh	226 kms	3.5 hours
Jalandhar, Punjab	150 kms	2.2 hours
Ludhiana, Punjab,	87 kms	1.1 hours
Amritsar, Punjab	229 kms	3.4 hours
Jammu and Kashmir	369 kms	6 .0hours
Shimla, Himachal Pradesh	140 kms	3.4 hours
Delhi	226 kms	3.5 hours

Source: Knight Frank Research

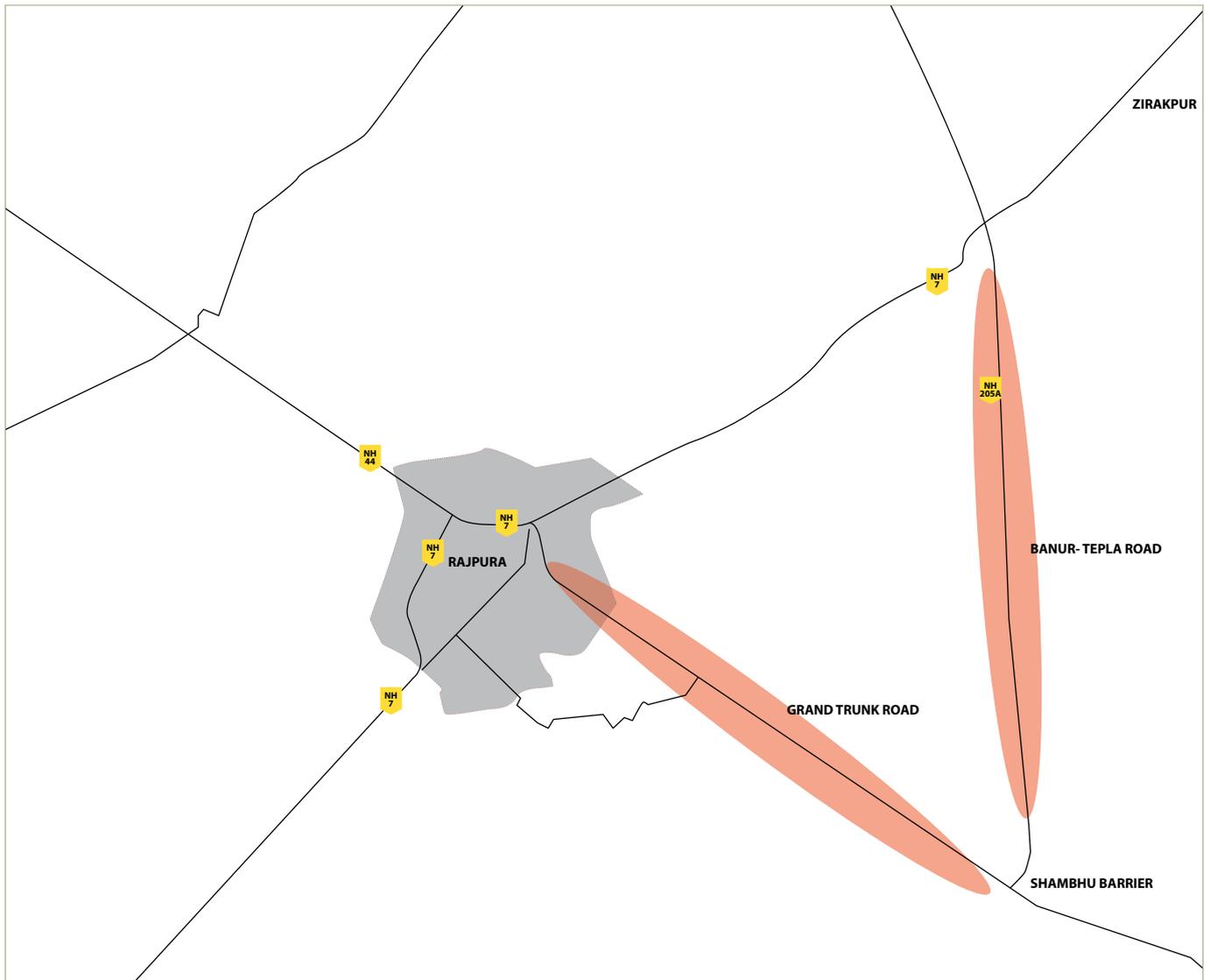
CLASSIFICATION OF WAREHOUSING LOCATIONS INTO MAJOR CLUSTERS

Warehousing cluster	Major warehousing locations
Rajpura	Along the Grand Trunk (GT Road and Banur Tepla road

Source: Knight Frank Research

MAJOR WAREHOUSING LOCATIONS IN RAJPURA

 Warehousing cluster



Source: Knight Frank Research All maps are for representational purpose and are not to scale

MAJOR INFRASTRUCTURE IN RAJPURA

Name	Type
NH 44	Road infrastructure
NH 250A	Road infrastructure
NH 7	Road infrastructure

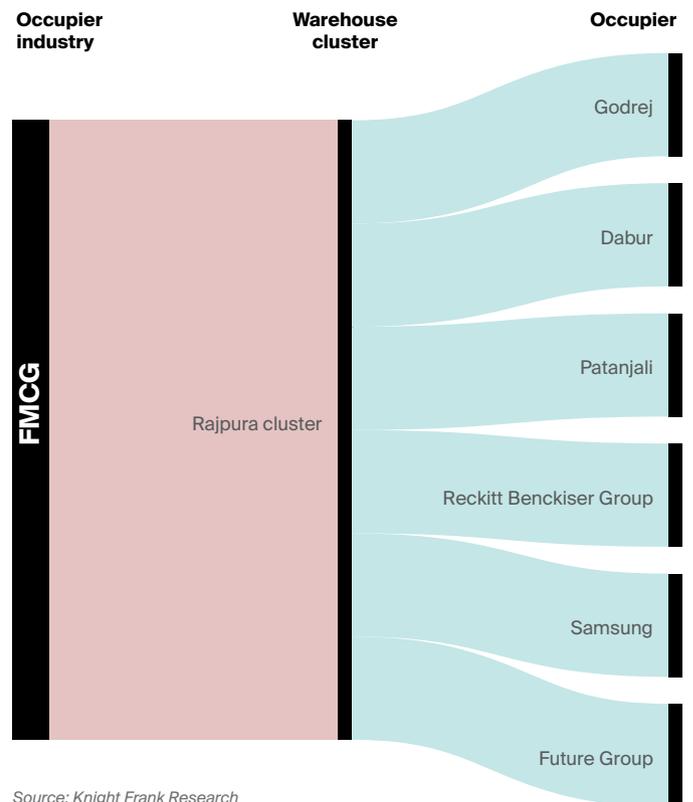
Source: Knight Frank Research

SELECT WAREHOUSE PROJECTS

Warehouse project	Warehouse cluster
Indoswift	Rajpura cluster
Contract Logistics	Rajpura cluster

Source: Knight Frank Research

SELECT LARGE OCCUPIERS

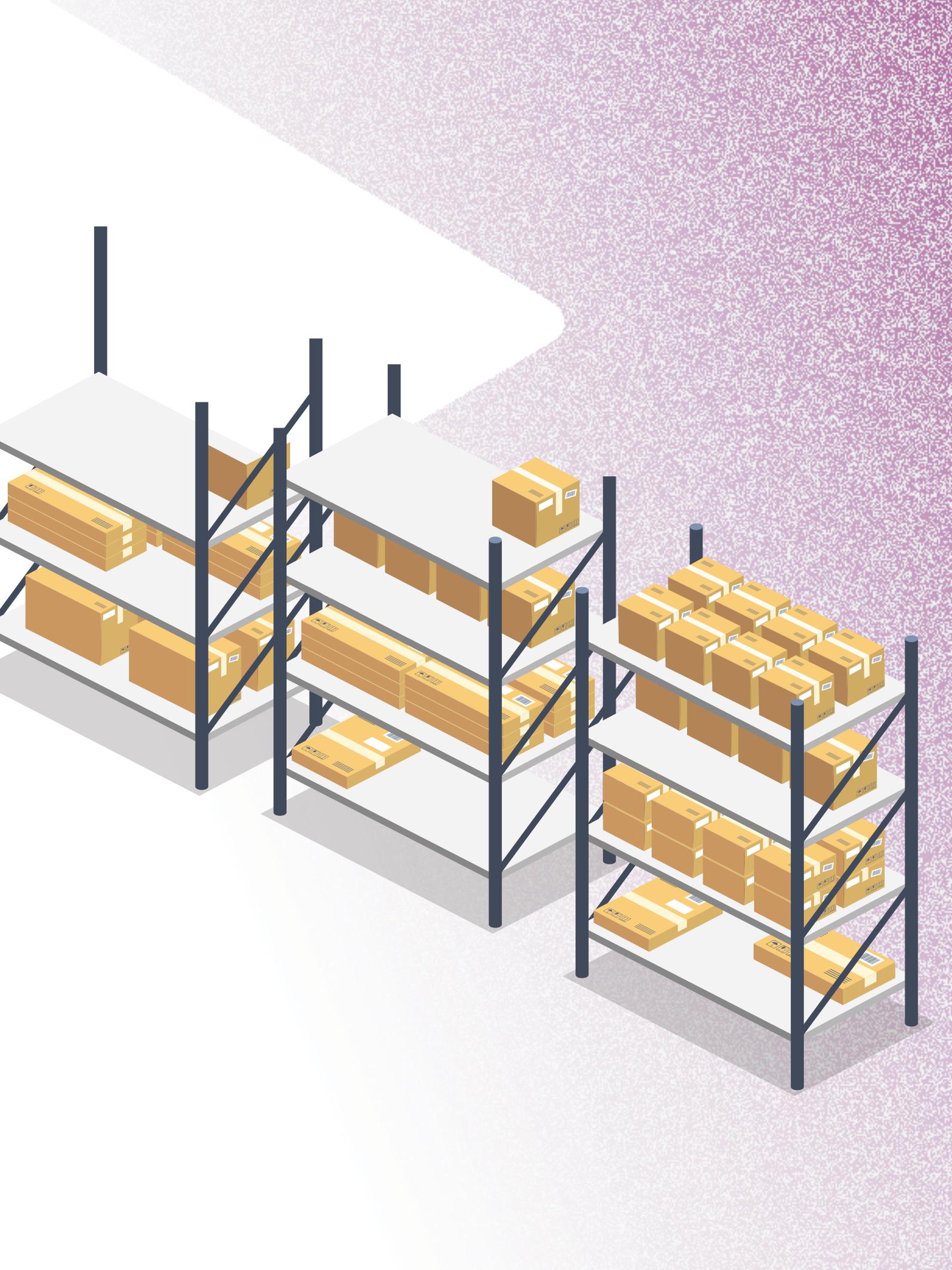


Source: Knight Frank Research

LAND RATE AND RENTS

Warehouse cluster	Location	Land rate (INR mn /acre)	Rent INR/sq m/month (INR/sq ft/month)	
			Grade A	Grade B
			Rajpura cluster	GT Road, Banur- Tepla Road

Source: Knight Frank Research



Other warehousing markets



Ludhiana

- Ludhiana, in Punjab, lies on that strategic Dedicated Freight Corridor (DFC) which once completed will drive the establishment of industrial corridors and logistic parks along its alignment. The freight corridor will cover first 447 km of the Ludhiana–Dhari–Khurja section with a single electrified track. The DFC passes through the important districts of Sahnewal, Doraha, Ludhiana, Sirhind, Rajpura, Ambala, Yamunanagar, Saharanpur, Muzaffarnagar, Meerut, Hapur, Bulandshahr, Aligarh, Hathras, Barhan, Tundla, Firozabad, Etawah, Kanpur, Allahabad and Mughalsarai, all these districts will reap the benefits of this alignment.
- Taking cues from this strategic alignment, the state has envisaged three multimodal logistics parks to come up near Kila Raipur village in Ludhiana. These three multimodal parks by Adani Group, Punjab Logistics Infrastructure Limited and State Warehousing Corporation will increase the attractiveness of Ludhiana as a warehousing and logistics hub in the coming years. The 77-acre logistics park by the Adani group lies on the DFC and has already started operations, capturing cargo from Punjab and nearby states and helps to consolidate additional volumes for Mundra Port.
- Currently, the warehousing facilities in the Ludhiana–Doraha belt are unorganised and cater to mostly the Fast-Moving Consumer Goods (FMCG) consumption market, but with the impending logistics parks, the city is slated to be a major warehousing hub. At present, the major occupiers who have taken up space in the range of 4,645–92,903 sq m (50,000–100,000 sq ft) include Amazon, Flipkart, Samsung, LG, Sony, Mitsubishi, Rivigo, Nestle and Cadbury.
- Though the warehousing market in and around Ludhiana is in a nascent stage, land rates near Doraha range between INR 8–INR 10 million per acre with the rents already reaching between INR 151–INR 161/sq m/month (INR 14–INR 15/sq ft/month) for Grade B quality warehouses, which is comparable to the upcoming warehousing hub of the Rajpura–Zirakpur–Tepla belt in Punjab. Going forward, the Ludhiana–Doraha cluster along with the Jalandhar bypass are slated to see increased interest from organised developers given the viable land rates and the lack of quality warehousing facilities.

Siliguri

- The “Logistics Park Development and Promotion Policy of West Bengal 2018” envisages the development of its logistics sector in the state, with Siliguri being a prime regional site.
- Not only is Siliguri a significant consumption centre, it is also a key region for development of the end-to-end logistics parks with multimodal capabilities in the northern part of West Bengal.
- Siliguri is the second largest urban agglomeration in West Bengal with a huge population pool and is one of the fastest growing cities in eastern India. Locations such as Ghora More and Bypass area are emerging as warehousing hubs and some prominent companies in Fast Moving Consumer Durables (FMCD) and e-commerce have started establishing footprint here.
- A city where tea exports was the major source for economic growth is slowly getting organised as a warehousing hub with demand for quality warehouses coming to the fore since last year. In 2018, nearly 18,50 sq m (200,000 sq ft) of warehousing space was leased in the city. Despite the warehousing market being in a very nascent stage, the rental rate is estimated in the range of INR 161–183/sq m/month (INR 15–17/sq ft/month), which is at par with select established micro markets in cities such as Bengaluru and Kolkata.

Visakhapatnam

- Also known as **Vizag**, Visakhapatnam is a port city in the state of Andhra Pradesh. It will be developed as a Smart City under the first phase of Smart Cities Mission. A Memorandum of Understanding (MoU) has already been signed between the United States Trade and Development Agency (USTDA) and the state government for this.
- Visakhapatnam has a significant presence of heavy industries like steel fabrication, ship building, thermal energy, oil & petroleum, and dredging along with pharmaceutical companies. The Information & Technology (IT) industry along with the Tourism, Film & Health industries also have a dominating presence.
- Fishing is a major occupation in the city and sea food forms a major component of exports from the city port. Agricultural produce, iron and steel, and coffee are other major exports from Visakhapatnam.
- Visakhapatnam port, one of the 13 major ports in India, is the only natural harbour on the east coast and the fifth-busiest cargo port in the country. It is also the only major port that can handle cape size vessels (large-sized bulk carriers and tankers). Besides this major port, the city also has two other port facilities – the Ganagavaram Port (more suitable for dredging) and the Bheemli Port (upcoming).
- Warehousing in Vishakhapatnam is mainly driven by the sea food, iron & steel, pharmaceutical, coal, and minerals (like bauxite and sulphur) industry clusters. The primary industrial locations in the city include Gajukawa, Auto Nagar, Parawada, the Atchutapuram Special Economic Zone (SEZ) and Madhurwada. Accordingly, most of the warehouses are concentrated in the north-west (Gajukawa, Gopalapatnam Rural, Green City, LBS Nagar and Zinc Colony) and north-east (Dwaraka Nagar and Siripuram) portions of the city, near to the port. Consumption-led warehousing is also based out of the above locations.
- Vishakhapatnam is an important node on the East Coast Economic Corridor and the work on the Visakhapatnam Chennai Industrial Corridor component is already underway. The National Highway (NH)-16, popularly known as the Chennai Kolkata Highway, passes through the city and is further connected to a network of city arterial roads including Beach Road, Daba Gardens Road, Waltair Main Road and Dwaraka Nagar Road. Further, central government's Logistics Efficiency Enhancement Program (LEEP) proposes Multi – Modal Logistics Parks (MMLP) across the country and one of them is expected to be in Visakhapatnam. An international airport is also being planned at Bhogapuram in addition to the existing international airport at Visakhapatnam. The Andhra Pradesh Petroleum, Chemical and Petrochemicals Investment Region (APPCPIR) is also at an advanced stage of implementation. All these infrastructure projects will definitely boost movement of cargo in and out of the city and give impetus to the logistics & warehousing industry here.

Lucknow

- Private warehousing in Uttar Pradesh is mainly for catering to the consumption demand. As a result, warehousing clusters have always been located near the consumption hubs and Lucknow is one of the most important consumption markets in the state of Uttar Pradesh. By virtue of being the state capital, Lucknow has become an ideal location for development of warehouses with the development moving towards the Lucknow-Kanpur road and Unnao, since large land parcels are still available for a greenfield development.
- The warehousing market in Lucknow is largely unorganised, with quality facilities coming into operation only in the last decade. The major warehousing facilities are located in four major areas, which are either positioned close to the airport or are on the Lucknow-Kanpur national highway. The dearth of quality Grade A warehousing is driving up rents even in the shop cum godown style warehousing facilities in and around Lucknow. For instance, rental range in locations of Transport Nagar, Bijnor and Nadarganj industrial area is in the range of INR 161-INR 215/sq m/month (INR 15-20/sq ft/month) for Grade B quality warehouses, whereas, rents in the newer locations of the Lucknow-Kanpur national highway, near Nawabganj, range between INR 194-INR 236 (INR 18-22/sq ft/month) for Grade A type

warehouses and between INR 161–INR 183/sq m/month (INR 15–INR 17/sq ft/month) for Grade B type warehouse facilities.

- Majority of the warehousing markets in Lucknow are dependent on consumption by FMCG and Fast-Moving Consumer Durables (FMCD). In addition to this, pharma is also emerging as a major demand driver for warehousing because of the GB Nagar and Lucknow–Kanpur cluster that has a concentration of over 450 pharma companies. Demand from agriculture, industrial and e-commerce is increasing and most of the big companies are scouting for warehouses in the Lucknow–Kanpur cluster. At present, the major occupiers who have taken up space in the area include Amazon, DHL, Airtel, Precision Tools and Coca-Cola.
- Going forward, we foresee the Lucknow warehousing market witnessing an increase in large size organised warehouses, as most of the existing facilities are near saturation levels. This in turn will put an upward pressure on rentals and drive the organised quality warehousing market. The area along the Lucknow–Kanpur road is expected to witness maximum traction due to availability of large land parcels at reasonable rates, good road connectivity and the benefits of the industrial land use classification under Lucknow Industrial Development Authority (LIDA).

Nagpur

- Nagpur has the third largest population base in Maharashtra and is centrally located from major consumption markets. Popular for being an Orange City and food manufacturing hub, Nagpur is yet to make its mark on the state's warehousing map.
- Despite its strategic location, the major consumption markets such as Delhi, Mumbai, Kolkata, Bengaluru and Chennai are very far away from Nagpur (nearly 800–1000 kms). Tier II and III cities near Nagpur, such as Raipur, Jabalpur, Bhopal, Bhilai and Indore fare far below in the pecking order from a consumption perspective. Hence, Nagpur's evolution as a warehousing hub remains uncertain due to lack of proximity to a major consumption center. While it is still premature to write off Nagpur, its warehousing clusters are not getting organized as fast as what is prevalent in other cities post the Goods and Services Tax (GST) implementation.
- The in Multi-modal International Cargo Hub and Airport at Nagpur (MIHAN) project, due to its sheer size of economic development, is expected to attract a lot of investments and land allotment to various business conglomerates for both the Special Economic Zone (SEZ) and the non SEZ area is currently underway. This project is set to transform Nagpur into a major cargo hub. The SEZ area in MIHAN will be the one of its kind with the largest multi-product SEZ in India spread across 1,472 hectares. The manufacturing industry units will include multiple industries from sectors like food processing, pharmaceuticals and textiles. The large-scale concentration of industrial activity in this region is bound to give a fillip to quality warehouse developments in the vicinity.
- For the growth of an organized warehousing market, erstwhile industrial suburbs developed by Maharashtra Industrial Development Corporation (MIDC) such as Butibori and Hingna have a major role to play. Both these micro markets account for majority of the city's industrial activity and large warehousing and logistics park have come up in and around them. Gumgaon, Waddhamana, Hingna Road, Hingna MIDC area, Kotewada and Kamleswar are some upcoming warehousing locations.
- Gumgaon, a surrounding district of Butibori, is home to Orange City Logistics Park which is in close proximity to the Mumbai-Kolkata Highway. This huge warehousing facility is ideally located to meet the upcoming warehousing requirements of large companies which will eventually set footprint in MIHAN.

Bhubaneswar

- Bhubaneswar, the capital of Odisha, is a key trading and commercial hub in eastern India. Though a small percentage of the population is employed in the secondary sector, it is coming to the fore as an active warehousing market.
- In 2018, 0.49 million sq ft 46,079 sq m (0.49 mn sq ft) of warehousing space was leased in Bhubaneswar. Of the total leased space, 38% was consumed by Fast Moving Consumer Goods (FMCG) followed by 25% by the Third-Party Logistics (3PL) sector.
- Warehousing space enquiries have been rising and this demand wave is largely driven by a variety of sectors such as e-commerce, 3PL, FMCG and FMCD. Companies like Amazon, Delhivery, Godrej and Dabur leased warehouse space in Bhubaneswar in 2018.
- Based on the total transaction volume in 2018, the average size of warehouses leased was nearly 4,645 sq m (50,000 sq ft) Warehouse requirements from most multinational occupiers ranged between 1,858 to 5,574 sq m (20,000 to 60,000 sq ft).
- The erstwhile industrial areas established by the Department of Industries, such as Rasulgarh, Mancheswar, Chandaka and Bhagabanpur, are now witnessing organised warehousing clusters developing in the vicinity. Chandaka and Mancheswar, in particular, are becoming popular amongst warehouse occupiers. Nakhara, Rudrapur, Khurda, Pitpali and Pahal are some other locations gaining traction amongst occupiers.
- Due to the fragmented nature of transactions, it is still too early to arrive at rental ranges for particular locations. However, to put things broadly, the city commands rentals in the range of INR 161–269/sq m /month (INR 15–25/sq ft /month) for leased warehouse spaces.

ANNEXURE 1

Developer Benefits	Maharashtra	Haryana	Uttar Pradesh	Madhya Pradesh	Chhattisgarh	West Bengal	Gujarat
Industry status	1	1	1	1	1	-	1
Single window and time bound clearances	1	1	1	1	-	-	-
Minimal zone restrictions	1	1	-	-	-	-	-
Real estate relaxations	1	0.25	0.25	-	-	-	-
Capacity building incentives	1	1	1	-	1	1	-
State to provide access to critical utilities at no cost	1	1	-	-	-	-	-
Concessions in development charges	1	1	-	1	-	-	-
Labour law relaxations	1	1	-	-	-	-	-
Power at concession rate	1	1	1	1	1	-	-
Allotment of government land	1	-	-	-	-	-	-
Interest subsidy	-	1	1	1	1	-	-
State to earmark land for warehouses/logistics parks	-	1	1	1	-	-	-
Stamp Duty and Registration Fee concessions	0.5	0.5	0.5	1	0.5	-	1
Capital subsidy	-	1	1	1	1	-	1
TOTAL	10.5	11.75	7.75	8	5.5	1	3

Occupier Benefits	Maharashtra	Haryana	Uttar Pradesh	Madhya Pradesh	Chhattisgarh	West Bengal	Gujarat
Industry status	1	1	1	1	1	-	1
Single window and time bound clearances	1	1	1	1	-	-	-
Capacity building incentives	1	1	1	-	1	1	-
Labour law relaxations	1	1	-	-	-	-	-
Power at concession rate	1	1	1	1	1	-	-
Interest subsidy	-	1	1	1	1	-	-
Capital subsidy	-	1	1	1	1	-	1
TOTAL	5	7	6	5	5	1	2

RESEARCH

Note 1: The above scoring analysis has been drawn by studying logistics policy documents of the seven mentioned states

Note 2: List of documents considered –

Maharashtra Incentive for Development of Integrated Industrial Area 2018;

Maharashtra's Logistics Parks Policy – 2018;

Haryana Logistics, Warehousing & Retail Policy – 2019;

Uttar Pradesh Warehousing and Logistics Policy 2018;

Madhya Pradesh Warehousing & Logistics Policy 2012;

Madhya Pradesh Logistics and Warehousing Order Dated 22 June 2018;

Chhattisgarh Logistics Park Policy 2018-23;

Logistics Park Development and Promotion Policy of West Bengal 2018;

Scheme for Financial Assistance to Logistic Park, Gujarat Industrial Policy, 2015

Note 3: The real estate relaxation parameter clubs together base FSI relaxation, additional FSI relaxation, higher ground coverage permissible, and no height restrictions. Each of these sub-parameters have been assigned a weight of 0.25. Hence, if a state logistics policy provides for two of the above sub-parameters, its score will be 0.5

Note 4: Stamp Duty and Registration Fee concession parameter covers any incentive extended by the state logistics policy on these two components. Since the two are mutually exclusive, they have been assigned independent weight of 0.5 each. Hence, if a state logistics policy provides for Stamp Duty concession alone then its score will be 0.5

Note 5: In case of parameters such as capital subsidy, interest subsidy, etc. quantum of the benefit has not been captured for the purpose of this analysis. Only the presence of such a benefit in the state logistics policy has been considered

ANNEXURE 2

BENEFITS UNDER STATE LOGISTICS POLICIES

Benefits under Maharashtra's Logistics Parks Policy – 2018

- 1) Logistics sector will be accorded industry status.
- 2) For Integrated Logistics Parks (ILP) and Logistics Parks (LP), 1 or permissible basic FSI, whichever is more will be applicable. Also, up to 200% additional FSI will be admissible over base FSI for development of ILP and LP.
- 3) Higher ground coverage of up to 75% allowed for ILP.
- 4) Logistics facilities permitted in any zone across the state.
- 5) Relaxation on height restrictions to ensure optimum space utilisation.
Further, excess height of floor as per requirement will not be calculated / considered for additional FSI to make logistics activities affordable.
- 6) Power at industrial rates.
Also, production using non-conventional energy sources, its distribution and selling by ILP and LP will be permissible.
- 7) State government would ensure last-mile connectivity access to critical utilities like power and water at no cost.
- 8) Security support will be provided by the state government through its Maharashtra Security Force.
- 9) All window clearances through single window investor facilitation cell – MAITRI.
- 10) ILP and LP will not be covered under the ambit of Labour Law. Permission to work 24*7.
- 11) Government support to skill development.
- 12) Government will facilitate development and upgrading of the existing logistic infrastructure in declared logistics zones.
- 13) An empowered inter-departmental committee will be formed to ensure smooth integration and operation between departments.

Benefits under Maharashtra Incentive for Development of Integrated Industrial Area 2018

- 1) Relaxation in the minimum area requirement from 40 hectares (100 acres) to 20 hectares (50 acres)
- 2) Relaxation in minimum width of approach road from 24 metres to 12 metres
- 3) Up to 50% concession in Stamp Duty
- 4) If government land is required for maintaining contiguity of the IIA then it can be allotted to developer at market rates
- 5) FSI and additional FSI as applicable to special township projects will be allowed for IIA
- 6) Captive power generation will be allowed
- 7) 50% exemption in payment of development charges

Benefits under Haryana Logistics, Warehousing and Retail Policy – 2019

- 1) Industry status to Logistics and Warehousing Industry
- 2) Capital subsidy:
 - Warehousing - Financial assistance @ 25% of the fixed capital investment subject to maximum of INR 5 Crore.
 - Logistics Park - Financial assistance @ 25% of the fixed capital investment up to a maximum of INR 15 Crore for developing infrastructure in Logistics park.
 - Integrated / Multi Modal Logistics Parks - Financial assistance @ 25% of the fixed capital investment up to a maximum of INR 25 Crore for developing infrastructure in Integrated/ Multi Modal Logistics park.
- 3) Interest subsidy:
 - Warehousing: Financial assistance in the form of interest subvention @ 5% on loan taken to meet working capital requirements subject to a maximum of INR 10 lakhs per year for 3 years.
 - Logistics Park: Financial assistance in the form of interest subvention @ 5% on loan taken to meet working capital requirements subject to a maximum of INR 20 lakhs per year for 3 years.

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Integrated/Multi Modal Logistics Park: Financial assistance in the form of interest subvention @ 5% on loan taken to meet working capital requirements subject to a maximum of INR 50 lakhs per year for three years.

- 4) Reimbursement of 100% of Stamp Duty.
- 5) 100% of Electricity Duty exemption for a period of seven years.
- 6) 50% reimbursement in External Development Charges (EDC) for select developments
- 7) Capacity building incentives - Re-imburement to logistics and warehousing units on technical training cost of the worker
- 8) Single desk clearance mechanism – Haryana Enterprise Promotion Centre (HEPC)
- 9) 60% ground coverage permissible
- 10) Developing green cover on minimum 15% area
- 11) Self-certification on fire-fighting scheme
- 12) Permission to set up warehousing cum retail facility in agricultural zone
- 13) Government's e-Bhoomi web portal to be used for land acquisition in the state
- 14) Permission to operate 24*7
- 15) 5% area in Industrial Model Townships to be reserved for setting up logistics infrastructure
- 16) State government shall facilitate development of Truckers Parks along National Highways in Haryana
- 17) State government would ensure last-mile connectivity access to critical utilities like power and water at no cost.
- 18) State shall earmark land for developing Warehouses, Logistics Parks, Warehousing cum Retail hubs and Integrated / Multi Modal Logistics Park in the master plan of Panchgram Cities
- 19) State will actively participate in human capital development for the sector

Benefits under Uttar Pradesh Warehousing and Logistics Policy 2018

- 1) Industry status to Logistics and Warehousing Industry
- 2) 60% ground coverage permissible
- 3) Development of Green Channel for Exim Cargo
- 4) State government to create Free Trade and Warehousing Zones (FTWZs)
- 5) Encouraging PPP, innovations and technology in logistics
- 6) Promoting green logistics and solar-powered logistic parks
- 7) Incentives for Private Logistics Parks:
 - Capital interest subsidy - reimbursement to the extent of 5% per annum for five years on loan taken for procurement of material handling equipment, loading and unloading plant and machinery, subject to maximum INR 2 lacs per annum per unit, with an overall ceiling limit of INR 10 crores;
 - Infrastructure interest subsidy - reimbursement to the extent of 5% per annum for five years on loan taken for development of infrastructural amenities like roads, drainage, erection of power lines, solar panels, etc. subject to maximum INR 2crores per annum, with an overall ceiling limit of INR 10 crores;
 - 100% reimbursement/exemption of stamp duty paid for developers on purchase of land;
 - 100% electricity duty exemption for 10 years;
 - Incentives on purchase of transport vehicles;
 - EPF reimbursement facility to the extent of 50% of employer's contribution to the developer of the park providing direct employment to 100 or more unskilled workers, and additional 10% of employer's contribution on direct employment to 200 skilled and unskilled workers
 - 50% concession on land use conversion charges to the developer;
 - Skill development incentives in the form of reimbursements;

Interest subsidy to the extent of 5% per annum subsidy in form of reimbursement on loan taken for setting up automated supply chain technology

8) Incentives to logistics parks:

Capital interest subsidy - reimbursement to the extent of 5% per annum for five years on loan taken for procurement of material handling equipment, loading and unloading plant and machinery, subject to maximum INR 50 lacs per annum per unit;

Infrastructure interest subsidy - reimbursement to the extent of 5% per annum for five years on loan taken for development of infrastructural amenities for self-use like roads, drainage, erection of power lines, solar panels, etc. subject to maximum INR 1 Crore per annum, with an overall ceiling of INR 5crores;

100% electricity duty exemption for 10 years to new logistics units set up;

Stamp duty exemption;

EPF reimbursement facility to the extent of 50% of employer's contribution to all new Logistics units providing direct employment to 100 or more unskilled workers, and additional 10% of employer's contribution on direct employment to 200 skilled and unskilled workers;

Land use conversion charges – 50% concession on land use conversion charges to defined logistics units;

Quality certification of warehouses – 50% of cost of quality certification up to maximum INR 1.5 lacs, will be reimbursed;

Skill development incentives in the form of reimbursements

- 9) Single window clearance, directly monitored by CMO
- 10) Time bound clearances
- 11) Quality power supply 24*7
- 12) State government to provide industrial security
- 13) Empowered Committee for simplifying sanction and disbursal of incentives

Benefits under Logistics Park Development and Promotion Policy of West Bengal 2018

- 1) Different kinds of fiscal and non-fiscal incentives
- 2) Capacity building measures – promoting skill development, promoting start-ups

Benefits under Chhattisgarh Logistics Park Policy 2018-23

- 1) Fixed capital investment subsidy
- 2) Interest subsidy on term loans
- 3) Electricity Duty exemption
- 4) Stamp Duty exemption
- 5) Exemption / concession in land premium on allotment of land in industrial areas / industrial parks
- 6) Quality certification subsidy of up to INR 1.5 lacs
- 7) Technical patent subsidy of up to INR 6 lacs
- 8) Technology purchase subsidy of up to INR 6 lacs
- 9) Differently abled employment subsidy
- 10) Reimbursement of EPF contribution
- 11) Rebate in vehicle registration fees

Benefits under Scheme for Financial Assistance to Logistic Park, Gujarat Industrial Policy, 2015

- 1) The new logistics park will be provided incentive @ 25% of the eligible fixed capital investment in building and infrastructure facilities (except land cost and transport vehicles and other ineligible expenses as mentioned in 1.4) upto maximum INR 15 crores
- 2) The developer of the logistics park eligible for reimbursement@ 100% of stamp duty paid on purchase of land as required for approved

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Benefits under Madhya Pradesh Warehousing and Logistics Policy 2012

- 1) Single window clearance through TRIFAC
- 2) 10% land in proposed green field industrial estates/clusters to be reserved for warehousing
- 3) Warehouse zone to be developed in the state – minimum 50 acres of land to be earmarked for it
- 4) Capital subsidy
- 5) Interest subsidy
- 6) Expansion benefits
- 7) 50% of the cost of quality certification to be reimbursed
- 8) 2% reduction in vehicle registration fees applicable for carrier goods fleet

Benefits under Madhya Pradesh Logistics and Warehousing Order Dated 22 June 2018

- 1) Incentives for establishment of Silos of 5 lakh metric tonnes
- 2) Investment assistance
- 3) Reimbursement of stamp duty and registration fee
- 4) Power at concessional rate
- 5) Infrastructure development assistance
- 6) Higher Floor Area Ratio (FAR) and 60% ground coverage permissible

ANNEXURE 3

Specifications for Grade A and B warehouses

S. no	General Warehouse building specifications	Grade 'A' Warehouse Structure	Grade 'B' Warehouse Structure
1	Plot Area Layout	With 50% to 60% max ground coverage with all around setbacks as per norms	70 - 80% ground coverage with limited set backs
3	Building Height at Eaves (Clear) in Ft	Varies from 9 m to 13.5 m	6m to 9m
4	Insulation	Wall & Roof -Super Polynum bubble wrap - R Value of 3.7 m ² .K/W min/ Polynum sheets or glass wool creating temp. diff of 5 to 7 degrees	No insulation
5	Translucent Lighting Panels in Roof	4 ~ 5% of area-Polycarbonate sheet with underdeck mesh, Water proofed design	< 4-5%
6	Rain water /Storm Water Management	Mandatory	May or may not be provided
7	Fire Fighting	Ceiling Sprinkler system with IS Std/FM Global Stds	Not provided
8	Fire Alam and detection system with PAS	IS Std/FM Global Stds	Not provided
9	Flooring Type	FM 2 laser guided floor with high point load	VDF / trimix
10	Floor Loading Capacity	6 - 10 Tons / sqm	4- 8 Tons / sqm
11	Structure	PEB structure	Steel structure or PEB structure
12	Roof Type	Seamless & screwless with leak proof guarantee	With screws
13	Roof Slope	10 - 20 degree downward slope	Undefined specs
14	Equipment	Mechanized loading, dock levellers, conveyors	Loading platform, fork lifts, dock levellers
15	Docks and Docks Type	Electric Powered with Hydraulic Actuation/ 1.2 m above Ground level, Docking platforms	Less than 1.2 m plinth height
16	Air Circulation	5 - 6 Air changes with Ridge type Ventilation	Turbo Ventilation or others
17	Infrastructure	STP, D.G, Drainage Systems, Concrete Roads and setbacks,BMS, Access Control Security, land scaping,	Limited infrastructure
18	Amenities	Common toilets, canteen facilities, Driver Rooms, Parking, Ambulance etc	Limited infrastructure

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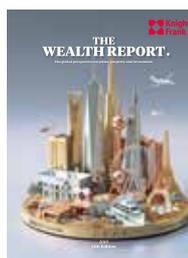
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