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How the Race for Faster Delivery Speeds
Drives the Value of Infill Space

AUTHORS:

Matthew I. Rand, Managing Director
Victoria Francis, Senior Associate

CONTRIBUTORS:

Nina Pikula, Senior Associate
Josh Levy, Senior Analyst

The evolution of e-commerce has proven that consumers prefer faster delivery speeds. Amazon unlocked this demand-driver first, and other retailers are following fast. The value of faster distribution extends beyond e-commerce, too: Retailers are replenishing stores more frequently than in the past, which allows for lower backroom inventory levels. This report from Link Logistics' Research & Analytics department examines how Amazon built a distribution network that delivers goods to end consumers quicker, how other firms are trying to compete— and the spatial economics underlying it all.



Link Logistics Interstate 45, Wilmer, Texas



More speed = more sales

After delivering packages faster than ever in 2023, Amazon got even quicker in 2024. Across the 60 largest U.S. metro areas the company serves, nearly 60 percent of Prime orders were delivered same or next day during the first quarter of the year; this figure was closer to 75 percent in major global cities such as London, Tokyo and Toronto. Widening our lens further illuminates the company's trajectory: It offered free two-day delivery on 1 million items in 2005; today, it offers same-day delivery on "tens of millions" of products. As CEO Andy Jassy noted earlier this year, more speed leads to more sales.

60%

OF PRIME ORDERS WERE DELIVERED SAME OR NEXT DAY DURING THE FIRST QUARTER OF THE YEAR.



As we get items to customers this fast, customers choose Amazon to fulfill their shopping needs more frequently, and we can see the results in various areas, including ... the continued increase in Prime member purchase frequency and total spend with us."

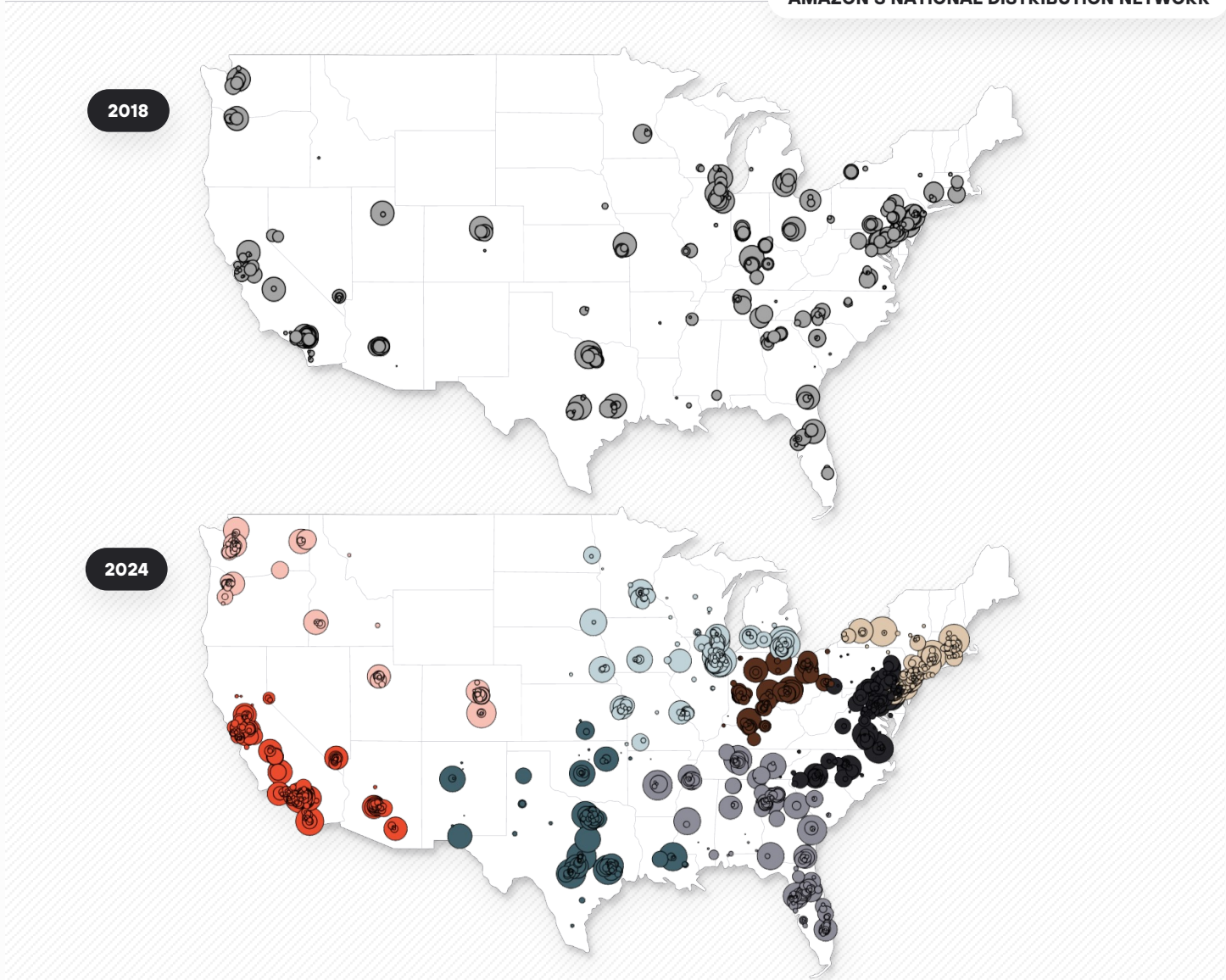
— Amazon CEO Andy Jassy on the company's Q1 2024 earnings call



Link Logistics
Orange Show Road,
San Bernadino, California

→ **How did Amazon get so fast?** The maps below illustrate how Amazon adapted its outbound fulfillment network to form eight regions that can function independently or switch to national distribution as required.

AMAZON'S NATIONAL DISTRIBUTION NETWORK



		Southwest	Northwest	Texas	Great Lakes	Midwest	Northeast	Mid-Atlantic	Southeast	Total
Number of Facilities	2018	83	31	37	47	35	39	54	52	378
	2024	231	92	137	161	95	164	159	187	1226
Total SF, millions	2018	38	15	20	27	22	23	27	22	195
	2024	121	46	81	97	55	76	81	106	664
Avg. Facility SF, *000s	2018	456	490	541	578	627	583	502	432	515
	2024	523	504	594	605	583	462	507	566	541

*Source: MWPVL, Company documents, Link Logistics Research & Analytics

→ How did Amazon get so fast? (Cont.)

Regional fulfillment clusters allow for shorter distances and fewer stops in getting items to customers—which means lower cost to serve as consumers receive their shipments faster. In April 2023, Amazon adapted its outbound fulfillment network to form eight regions that operate self-sufficiently or can shift to national distribution when needed.

Carrying the same inventory across all eight regions might have been considered duplicative in the past. Today, it is essential to meeting consumers' delivery-time expectations. When you click "buy" on a bottle of shampoo, that bottle is already in your region. Regionalization reduced Amazon's number of package touches (that is, times a parcel is handled during its journey) by 20 percent and miles traveled by 19 percent. Having inventory in the right places across all eight regions also allows Amazon to limit its use of expensive air freight. As of July 2023, 76 percent of Amazon packages were fulfilled in-region. This percentage is "expected to continue to climb," the company [says](#).

According to recent reporting in [The Wall Street Journal](#), Amazon is expanding its one- to two-day delivery offerings to more rural parts of the U.S. by opening smaller distribution centers in those regions and increasing automation across its network.

Infill, infill, infill:

Amazon built its distribution network close to end consumers to increase speed and reduce fulfillment costs per unit. The company continues to invest in sub-same-day facilities ranging from approximately 100,000 to 200,000 square feet in size.



Link Logistics Lincoln Highway
Kearny, New Jersey

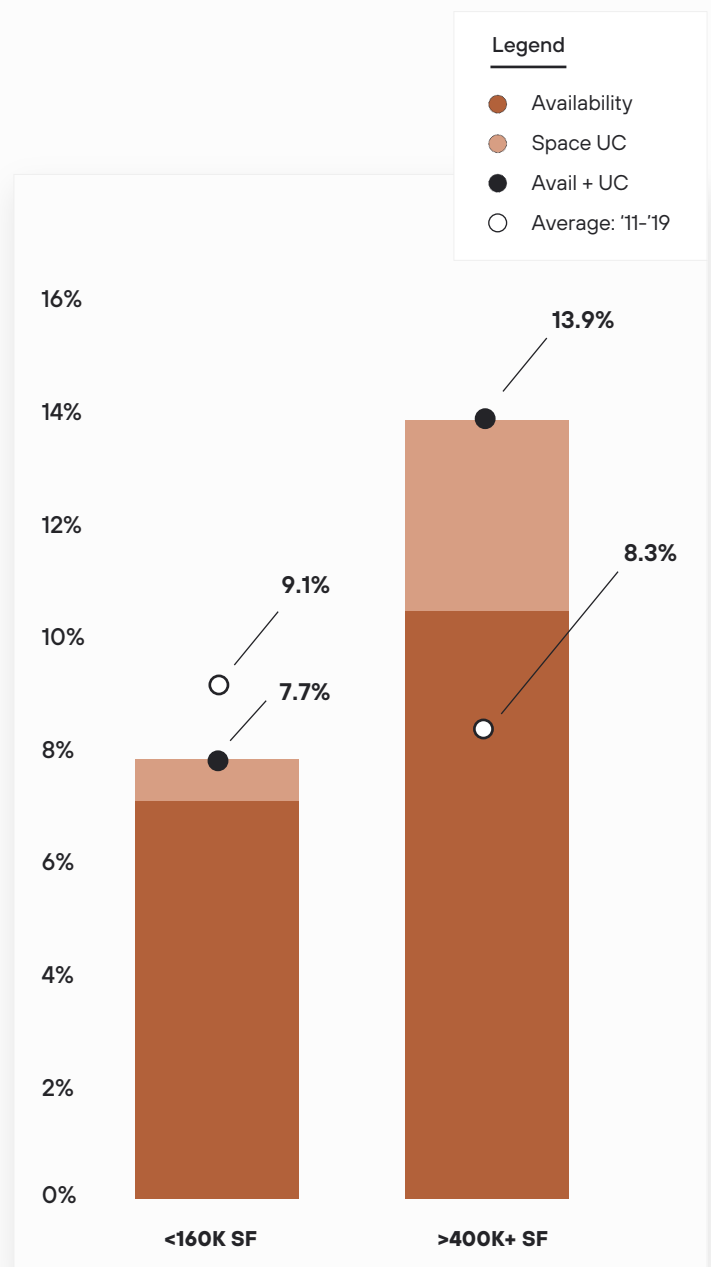


The race for speed

Looking to boost sales, competitors such as Walmart and Target refuse to be left behind in the race for speed. In March, Target [launched](#) a paid membership program featuring free same-day delivery. The same month, Walmart [introduced](#) an early-morning delivery service. As of November 2023, Walmart had more than 4,000 brick-and-mortar stores [doubling](#) as fulfillment centers and delivery hubs for e-commerce orders. Target is employing a [similar strategy](#), with proximity to consumers making shipping from stores 40 percent cheaper than doing so from dedicated fulfillment centers. Meanwhile, adding “flow centers” used to restock stores more frequently and with smaller shipments helped Target cut store-replenishment lead times by 20 percent, according to [The Wall Street Journal](#).

On an earnings call in May, Walmart president and CEO Doug McMillon [said](#) his company completed same- or next-day delivery of 4.4 billion items over the preceding 12 months, with about 20 percent of those goods arriving in under three hours. But Amazon still dominates market share, with analysts [projecting](#) it to surpass 40 percent of all e-commerce retail sales this year.

The modern emphasis on delivery speed—whether to e-commerce consumers or the backrooms of brick-and-mortar stores—is driving organizations to seek more warehouses that are smaller in size. Demand for smaller buildings continues to grow relative to supply. The availability of industrial space below 160,000 square feet has grown tighter for the past several years. As of the third quarter of 2024, availability plus under-construction space for such units was 1.4 percent lower than it was during the pre-COVID decade; by comparison, availability plus under-construction space for units exceeding 400,000 square feet was 5.6 percent higher.



*Source: CBRE-EA, Link Logistics Research & Analytics

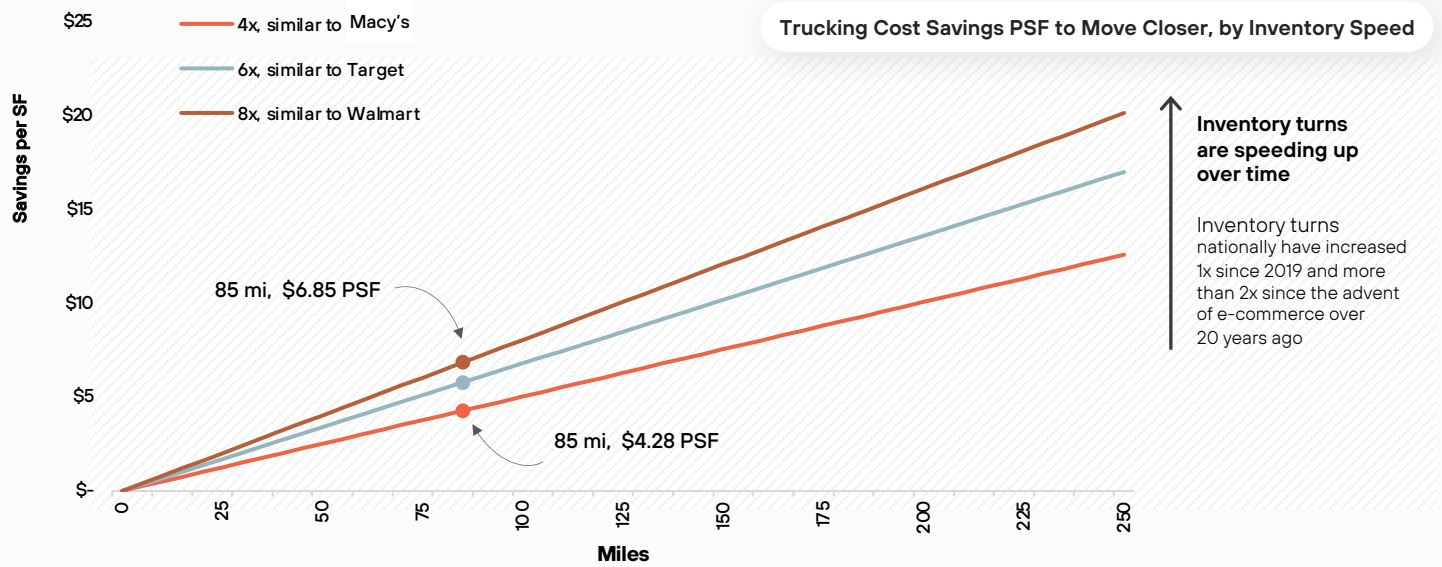
→ **The spatial economics of last-mile locations**



Link Logistics, Iberia Street, Mira Loma, California

Last-mile warehouses in infill locations close to population centers are the most cost-effective way to achieve faster delivery times. Warehouse users frequently optimize their distribution networks for transportation costs, which typically make up between 50 and 80 percent of total operating expenses for warehouse distribution.

In the graphic below, we estimate hypothetical truck transportation costs for a 100,000-square-foot warehouse in the New Jersey Meadowlands region compared to neighboring markets like southern New Jersey or Pennsylvania’s Lehigh Valley.



How users price distance: Higher trucking costs = willing to pay more rent. Meadowlands to Lehigh Valley is ~85 miles (~\$7 PSF rent difference). We estimate a retailer with 8x inventory turns saves \$6.85 PSF for saving 85 miles of distance.

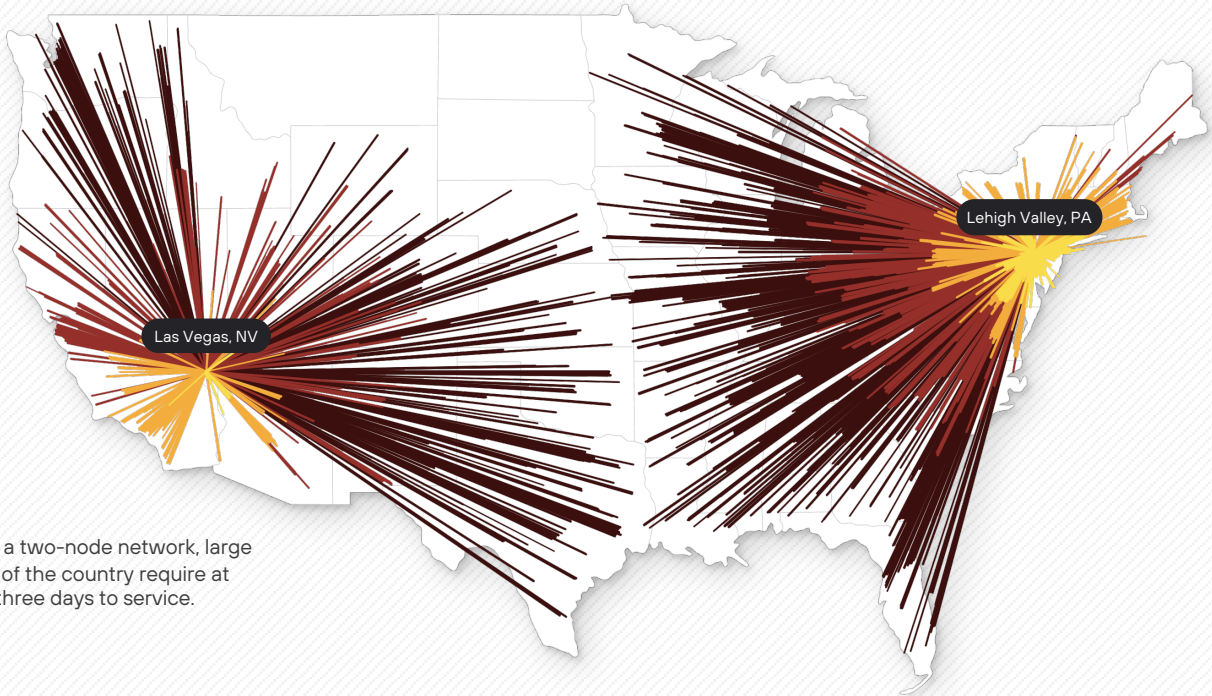
*Source: Link Logistics Research & Analytics, DAT National Dry Van Rates



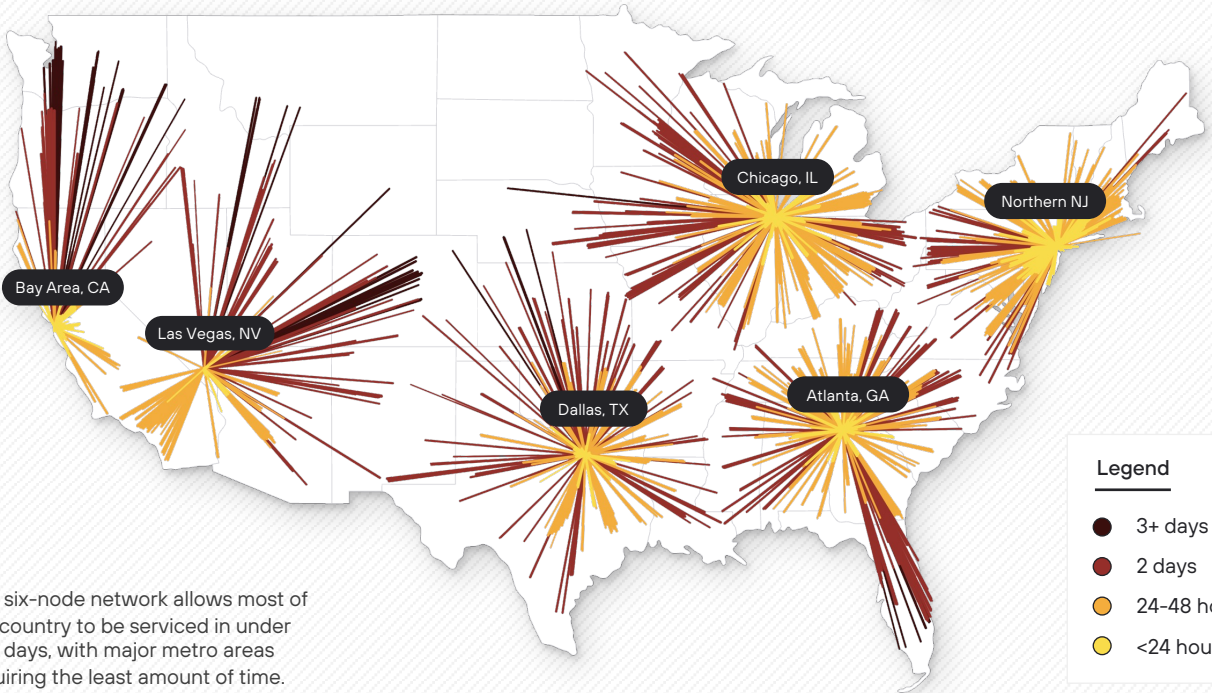
The spatial economics of last-mile locations (Cont.)

DISTRIBUTION NETWORKS

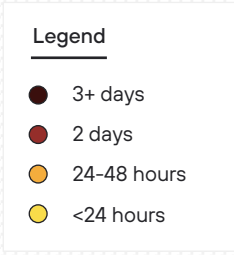
Here, we look at two hypothetical distribution networks, one with two nodes (Lehigh Valley, Las Vegas) and one with six nodes (Northern New Jersey, Atlanta, Chicago, Dallas, Las Vegas, Bay Area). Spreading distribution nodes decreases retailers' distance to end consumers, which lowers last-mile transportation costs and increases delivery speed.



Using a two-node network, large areas of the country require at least three days to service.



The six-node network allows most of the country to be serviced in under two days, with major metro areas requiring the least amount of time.



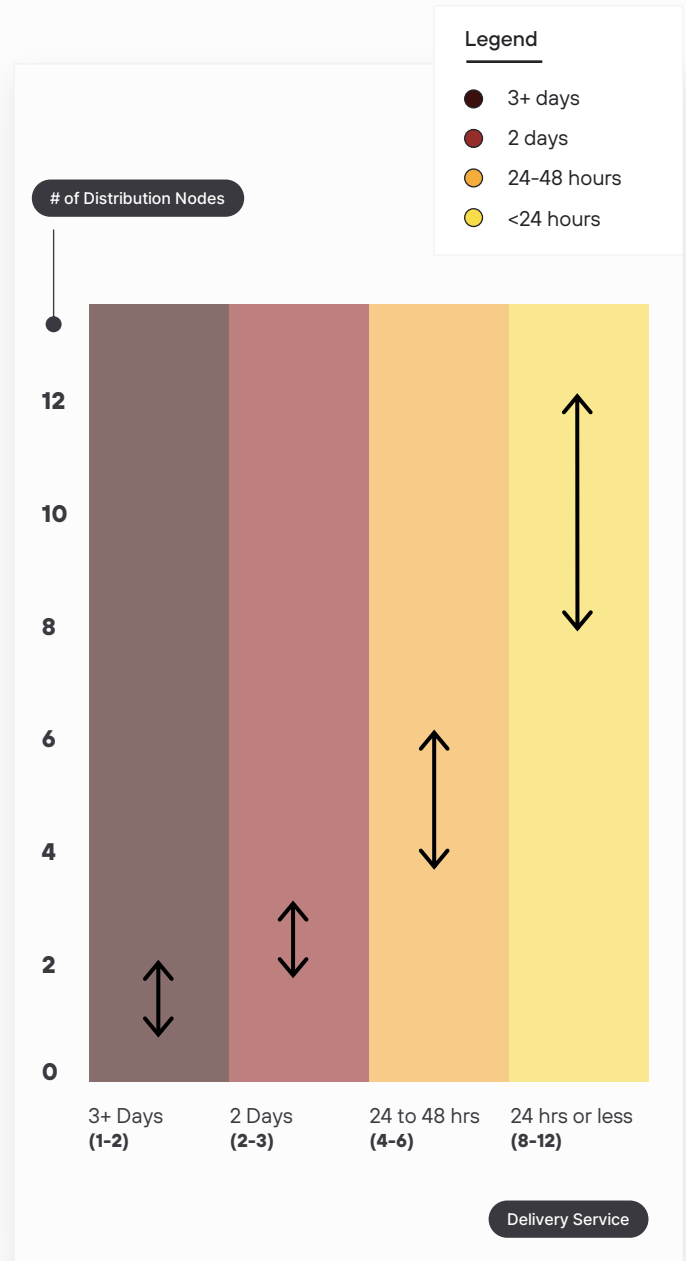


Warehouse network scaling is non-linear

Achieving greater speed requires more delivery network nodes, and the number of required network nodes increases rapidly as faster speed is achieved. Factors that drive higher network density include a less concentrated customer base, more diversified sourcing to reduce inbound transportation miles, lower average order value (which warehouse users will hope to make up for with volume) and higher service-level requirements.

Still, the number of warehouse nodes required by service level varies based on the operation. More concentrated delivery points could result in a lower number of nodes, for example, and warehouse users can operate with fewer delivery nodes if willing to pay more for premium parcel service. Customers of a tractor parts retailer or distributor will demand expedited shipping of heavy parts anywhere at any time; the tractor parts seller, in turn, will want more network density or higher average order value.

For all the variables, however, the net result is that consumers and warehouse users alike continue to prioritize speed. At the same time, spatial economics make last-mile warehouses in infill locations a uniquely cost-effective way to connect goods with consumers quickly. Given these factors and the firm's own proprietary data, Link Logistics' Research & Analytics department sees companies seeking to store goods closer to customers as a trend that will endure long-term.



Link Logistics' [previous Pulse Report](#) explored the demand for spillover industrial space driven by the clean energy transition. In a [November 2023 Q&A](#), managing director Matthew I. Rand discussed how the unique work of the firm's Research & Analytics department distinguishes Link Logistics from its competitors.