# Disruptive Forces *in* Industrial Real Estate



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## Executive Summary

The industrial real estate sector is at an inflection point in the United States due to a confluence of both technological and physical events and disruptive forces impacting trends. The rise of e-commerce has led to a reduction in physical store size, and an increased demand for immediate delivery. As a result, industrial space that once served as back rooms has been transformed into fulfillment centers that require state-of-the-art technology. These changes necessitate locating industrial facilities closer to urban areas to allow rapid same-day fulfillment of consumer orders, thereby revolutionizing transportation of goods and industrial location strategies.

Meanwhile, the 2015 expansion of the Panama Canal will allow larger ships and containers to transit between the East and West Coasts of the United States by sea. East Coast ports are modernizing their facilities to accommodate these larger vessels and containers. The result thus far has been a boon to the real estate industry, as new facilities must be constructed. This is among the only real estate sectors experiencing major new development, even on a speculative basis.

Considering the longer term, however, today's solutions may not be viable in the future as technology becomes ever more sophisticated and replaces traditional manufacturing.

## The Sector Today

The industrial marketplace, comprised of both flex and warehouse properties, is one of the most dynamic sectors in commercial real estate, one with great need for new space. The global economic recovery has led to rising retail sales and a consequent need for consumer goods. In 2013, the United States imported nearly $2.3 billion of goods, according to the U.S. Census Bureau/U.S. Bureau of Economic Analysis.[1] As of the second quarter of 2014, U.S. industrial volume rose 13 percent year-over-year to $11.883 billion.[2]

The results are rising occupancy and rent rates, a shortage of modern Class A space, and a significant amount of new development. Overall vacancy is down to 7.6 percent in Q2 2014, its lowest level since 2008, and is forecast to decline to 7.1 percent by year-end.[3] Leasing activity in 2014 does, however, vary in the top industrial markets:

1. Greater Los Angeles: 19.3 million square feet, up 2.9 percent
2. Inland Empire, Calif.: 16.1 million square feet, up 2.0 percent
3. Chicago: 16.0 million square feet, down 8.8 percent
4. Dallas: 13.9 million square feet, down 2.1 percent
5. Atlanta: 9.2 million square feet, up 10.8 percent.[4]

Investors are realizing the strength of this sector, with a number of transactions taking place. Cap rates have compressed, falling about 30 basis points from Q1 2014 to Q2 2014, and are now at 7.1 percent.[5]

This sector, however, is facing several opportunities and challenges that will force it to evolve.

[1] http://www.census.gov/foreign-trade/Press-Release/2013pr/12/ft900.pdf
[2] Real Capital Analytics US Capital Trends, 2014 Mid-Year Review Industrial, July 2014
[3] Marcus & Millichap Industrial Research Market Report, First Half 2014.
[4] Cushman & Wakefield MarketBeat Industrial Snapshot, United States Q2 2014.
[5] Real Capital Analytics Trend Tracker, US Industrial Cap Rate Quarterly Average, Data as of September 18th, 2014.



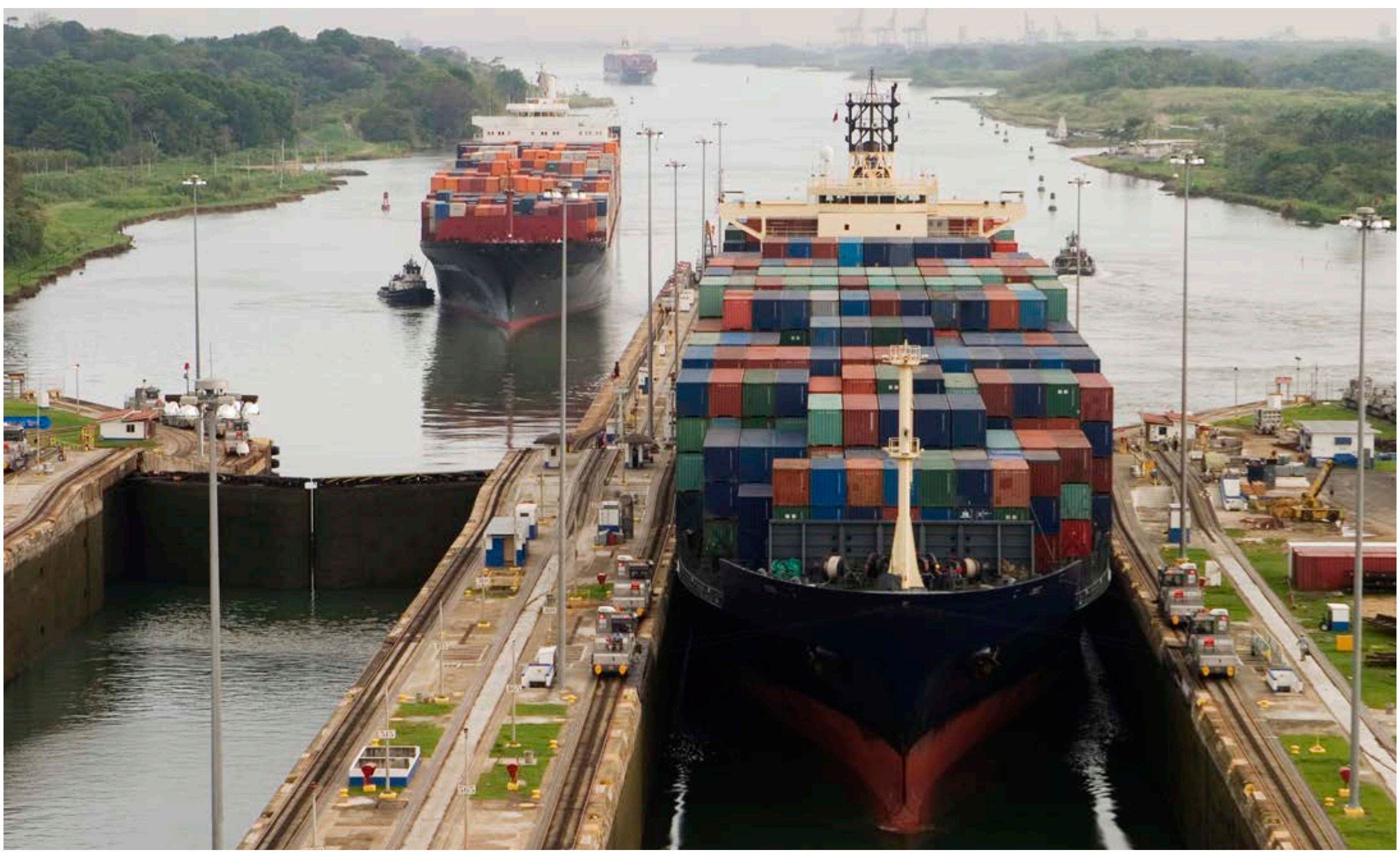
# Disruptive Forces

## *Panama Canal*

One of the great technological marvels of the 20th century, the Panama Canal, is readying to become a marvel of the 21st Century, as it expands in 2015 to accommodate even larger vessels. These vessels, known as post-Panamax ships (PPMX), can hold larger shipping containers and offer double the capacity of vessels used in the past.[6]

This enhanced capacity and accessibility will have a significant impact on both sea and land transportation, and thus the demand for and location of industrial space. With ships' large containers no longer required to be off-loaded on the West Coast for land transport east, East Coast ports such as Port Newark in Elizabeth, N.J. and the ports in Baltimore, Md. and Savannah, Ga. are modernizing their facilities. New state-of-the-art distribution hubs are being developed in nearby Cranbury/Robbinsville, N.J.; York, Pa.; and Pooler, Ga. This increased international container volume also presents opportunities for development for inland ports, including those in Chicago, Dallas/Fort Worth, Atlanta and California's Inland Empire.[7]

Meanwhile, to remain viable, smaller facilities near major cities are being outfitted with state-of-the art technology to enable same-day delivery fulfillment of retail orders and shipment of perishable foods to retailers.



[6] Colliers International North American Port Analysis, December 2013
[7] Cushman & Wakefield MarketBeat Industrial Snapshot, United States Q2 2014



## *E-Commerce — Boom and Disruptor*

Much of the new industrial space needed today is due to the e-commerce boom, which launched in 1994 with the founding of Amazon.com, and has grown to 6.4 percent of all U.S. sales in Q2 2014. Growth is expected to increase to 10.3 percent of sales in 2017.(8)

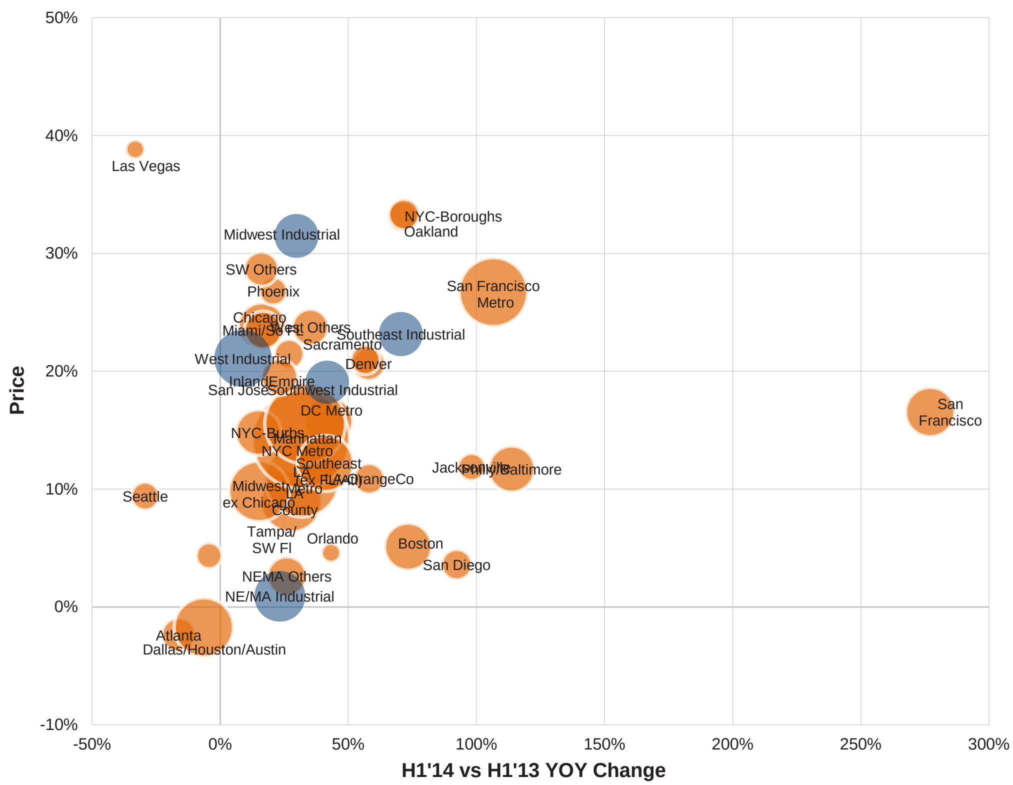
To remain competitive, traditional retailers have embraced an omni-channel experience, upgrading their online presence and technology capabilities to suit a variety of shoppers:

- Those who research in-store then purchase online for delivery to their home (showrooming)
- Those who purchase online for same-day in-store pickup (click and collect)
- Those who research online for in-store purchase

This has resulted in change in how inventory is warehoused and conveyed to stores and consumers. Specialty retailers are downsizing stores, with inventory moving to distribution centers, which now are becoming consumer fulfillment centers as well. The need for big-box warehouses of more than 300,000 square feet has increased – and these facilities must possess state-of-the-art technologies such as excess clear heights, larger bays, greater parking and vastly more power to run fulfillment equipment.(9)

While large facilities continue to be located in suburban areas, there is a growing need for sites close to population centers to combat the "Amazon Effect." Amazon.com, itself, has been testing flying robot technologies to reduce delivery times to as little as 30 minutes, further challenging its competitors.

### *Year-Over-Year Industrial Volume and Price Trends*

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[8] CBRE Global Research and Consulting: "E-Commerce and the Changing U.S. Industrial Landscape," July 2014
[9] *Ibid.*



## *Amazon: A Case Study*

Founded in Seattle, Wash., in 1994, Amazon.com is one of the largest Internet companies in the world. Starting out as a bookseller, the company has grown into a $74.4 billion global general merchandise retailer.

As it has expanded, so have the number and size of its distribution facilities. The company has 66 distribution centers across the United States and has been engaged in a massive expansion to compete with large brick-and-mortar retailers, such as Walmart, and other e-tailers, including eBay. Amazon has opened 27 new fulfillment centers in the United States since 2011, including eight new projects in 2013 alone. It has become one of the major real estate entities in California's Inland Empire.[10]

Yet even this massive growth may not be enough. Seeing that it could lose its convenience advantage to physical retailers now utilizing same-day delivery and pickup options, Amazon has proposed Amazon Prime Air, flying robots, otherwise known as drones, which can deliver items within 30 minutes. Although drone use is a critical growth strategy, it requires approvals from a number of federal agencies before it can be employed in the United States. However, the company may begin tests in less-regulated geographies such as India as soon as October 2014.[11] If successful, the use of drones could be a game-changer going forward, with warehouse facilities locating closer to major population centers to allow quick delivery.

## *Construction & Development*

Unlike for other sectors, key drivers of growth, such as new construction and development, are needed and occurring for large, state-of-the-art boxes located in major port markets including Atlanta, Chicago, Miami and Houston. Because of the extreme degree of specialization required by retailers and e-tailers, many of these facilities are being developed by the owners themselves or are build-to-suit projects.

Build-to-suit industrial construction deliveries totaled 29.7 million square feet in the first half of 2014, with an additional 43.2 million square feet anticipated by year-end.

Demand is so high and modern space is in such short supply that developers are building on a speculative basis: some 40 percent of the 110.9 million square feet of industrial space under construction at Q1 2014 is speculative. Building on spec is a risky proposition in nearly every sector. For the industrial asset class, spec space is not expected to catch up with demand in the foreseeable future.[12]

This growth is being financed by a combination of international banks, regional and local banks, and CMBS and private investors, with interest in major U.S. markets such as: Chicago, Los Angeles, Dallas, New York City and California's Inland Empire.[13]

## *3D Printing — The Impact of High-Tech, Do-It-Yourself Capabilities*

One of the most intriguing, and possibly disruptive, technologies now emerging is 3D printing. Still in its infancy and extremely expensive, this new method of manufacturing products — including apparel, and even automobiles from programming — could revolutionize retail, shipping and the need for warehousing space.

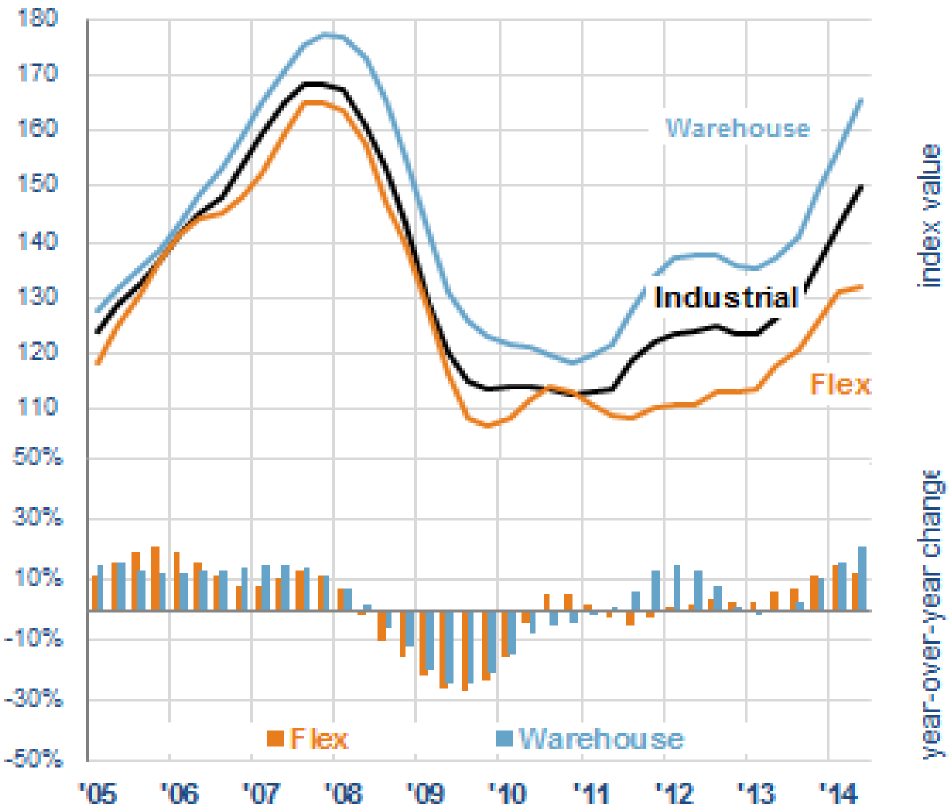
With customizable goods available at relatively low cost, some consumer items need not be shipped or stored at all, as customers purchase programs, patterns and materials for the machine to replicate. These items would reduce the need for massive facilities – precisely what is under construction now. Facilities near major ports may also be less necessary as more production takes place locally.

The technology could, however, benefit small and medium-sized facilities, particularly those located near population centers. These could become quasi-manufacturing plants as well as fulfillment and storage facilities, allowing consumers to pick up their orders.[14]

[10] *Ibid.*
[11] http://www.businessinsider.com/amazon-testing-delivery-drones-in-india-2014-8.
[12] CBRE Global Research and Consulting: "E-Commerce and the Changing U.S. Industrial Landscape," July 2014.
[13] Real Capital Analytics US Capital Trends, 2014 Mid-Year Review Industrial, July 2014.
[14] Jones Lang LaSalle: Advance - "The Evolution of Manufacturing" (June 2014).



*National Industrial Price Trends*

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## Conclusion

Although it is a time of great opportunity and growth for the industrial real estate sector, flexibility is critical as trends and technology change rapidly. The growth of e-commerce and traditional retail's embrace of omni-channel selling, as well as the expansion of the Panama Canal, are creating new demand for large, technologically advanced facilities near major ports, as well as inland ports. Developers and investors are responding with a surge of new building, with inventory located in suburban areas for longer-term storage, and smaller facilities near population centers for immediate fulfillment.

Flexibility will be necessary for these facilities as new technology, including drone delivery, permits very rapid fulfillment of orders – and 3D printing eliminates a significant portion of the need for large centers as consumers acquire the ability to order customized items near their homes.

With all of this in mind, clear foresight and caution should be the watchwords despite the current boom.

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