U.S. industrial leasing observations

1. **Vacancy drops to 4.8%—U.S. industrial off to a good start**
   - Vacancy dropped by 20 basis points to an all-time-low rate of 4.8 percent.
   - Strength in demand also served as indicator for coming current landlord-favorable market conditions, continuing with the trend seen in 2017.

2. **Q1 shows slowdown in U.S. net absorption, as compared to the previous quarter; demand remains stable**
   - After a stellar fourth quarter (81.7 million square feet of absorption), the U.S. industrial market’s total net absorption slowed down to 48.9 million square feet, but remains consistent with the absorption levels from a year ago.

3. **Development pipeline is robust nearly 58.6 m.s.f of new product delivered**
   - Spurred by an increase in absorption of warehouse space, U.S. development pipeline remains healthy, delivering nearly 58.6 million square feet of new product. The overall under construction pipeline includes 230.6 million square feet with Dallas, Inland Empire, Eastern and Central Pennsylvania combined making up nearly 26.0 percent of the U.S. total.
Vacancy drops to 4.8%—U.S. industrial off to a good start

Source: JLL Research

**U.S. Leasing stats are based on Q1 2018 preliminary estimates**
In markets like New Jersey and Chicago, net absorption outpaces new development

<table>
<thead>
<tr>
<th>City</th>
<th>Net Absorption</th>
<th>Vacancy (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jersey</td>
<td>3.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Dallas / Fort Worth</td>
<td>6.6%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Chicago</td>
<td>7.0%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>7.3%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Eastern &amp; Central Pennsylvania</td>
<td>4.9%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Inland Empire</td>
<td>3.7%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: JLL Research
Nearly 81% of the U.S. development pipeline is dominated by smaller to mid-sized industrial buildings ranging from 50,000-500,000 s.f. This is in response to an increased leasing demand of smaller to mid-sized spaces and the lack of available buildable land for mega-box warehouses (over 1 m.s.f.). Atlanta, followed by Eastern & Central PA, are the two leading markets with the most number of + 1 m.s.f buildings in the development pipeline.
Industrial rental rate Weather Map

Rental conditions

- Rents growing (greater than 1.5% growth year-over-year)
- Rents stagnant (between -0.5% and 1.5% year-over-year)
- Rents falling (greater than 0.5% decline year-over-year)

Average rental % change year-over-year

Please note: weather imagery indicates only the direction of movement of rental prices in a particular market and is not designed to indicate favorable or non-favorable conditions for a specific leasing perspective.
Q1 2018 U.S. Industrial clock

Source: JLL Research
Robust investment activity further advances volumes to start 2018

1. YOY increase of 17.3 percent for first quarter, closing at just under $15.5 billion.
2. Volumes in 2018 are expected to remain propelled, aided by continued surge in portfolio acquisitions.

Persistent cap rate compression throughout all markets as opportunities remain scarce

2. Institutional grade industrial assets continued to attract investor interest throughout all market types as exposure to e-commerce and last mile assets pushes strategy.

Primary market spreads over risk-frees narrowing, however still remain healthy in historical perspective

3. Available industrial opportunities remain very scarce, as product that becomes available becomes increasingly competitive in terms of underwriting with relatively healthy spreads helping to support record values.
Long lasting growth in Industrial investment volumes advanced further to begin 2018

Total investment volume up over 17.3 percent in first quarter, as volumes expected to remain propelled, aided by continued surge in portfolio acquisitions

Source: JLL Research, Real Capital Analytics (Transactions larger than $5.0m)
Major Real Estate Trends

1. West Coast’s sky-high rents correspond to high occupancy rates
   - West Coast ports rents and port-market occupancy are sky-high with the majority of their rents reaching close to double digits.
   - As rent and port-market occupancy both increase, occupancy conditions are shifting in favor to landlords.

2. Lack of land near the port decrease availability
   - Oakland is seeing a decrease in available properties since land is becoming more scarce.
   - Houston is seeing a large decrease of 6.3% in availability from 2015 to 2016.
   - Over the last two years, East Coast ports of New York / New Jersey and Jacksonville, and West Coast ports of Oakland and Long Beach have seen the largest decline in vacancy rates, over 2.0 percent.

3. Real estate markets strong across the U.S., occupancy levels are over 90.0 percent in all markets.
   - So far in 2017, port-centric submarkets across all cities have seen robust growth and increasing industrial real estate occupancy levels.
   - In JLL PAGI markets, nearly 25.4 million square feet is currently under construction. Of this, nearly 65.0 percent is on the U.S. East and Gulf Coast Ports.
A closer look at growth rate at PAGI ports

Houston and Savannah are top two ports for TEU growth YOY 2016-2017

Source: JLL Research
TEU volume correlates to occupancy

The TEU volume correlates to the port-market occupancy. As a port handles more TEUs, the port-market occupancy increases with more cargo coming through the ports.

Source: JLL Research

Note: Real estate stats are based on industrial properties in a 15-mile radius from seaports with a minimum building size of 50,000 square feet.
East and Gulf Coast ports gaining share from the West Coast

- Larger vessels to the East Coast improves All-Water Panama Canal competitiveness
- South Asia container trade via the All-Water Suez Route have increased
- Congestion and labor issues on the West Coast have slowed growth
- Residential real estate market trends negatively impacted Los Angeles and Long Beach
- Gulf Coast benefitting from rail investments

Source: American Association of Port Authorities, JLL
Ships continue to get larger

**EVOLUTION OF CONTAINERSHIP SIZE**

1968  
Encounter Bay 1,530 teu

1972  
Hamburg Express 2,396 teu

1980  
Neptune Garnet 4,100 teu

1984  
American New York 4,600 teu

1996  
Regina Maersk 6,400 teu

1997  
Susan Maersk 8,000+ teu

2002  
Charlotte Maersk 8,890 teu

2003  
Anna Maersk 9,000+ teu

2005  
Gjerd Maersk 10,000+ teu

2006  
Emma Maersk 11,000+ teu

2012  
Marco Polo (CMC CGM) 16,800+ teu

2013  
Maersk Mc-Kinney Moller 18,370 teu

2014/2015  
CSCL Globe/MSC Oscar 15,000+ teu

2018  
???????? 22,000 teu

**Source:** Alphaliner, World Shipping Council

**Race to build larger ships**

- Few innovations in industry apart from building larger ships

**Scatter chart of all containerships built 1956-2020**

- Containerships delivered
- Converted containerships
- Semi-container ships
- Containerships on order

**Source:** Alphaliner, Liner Research Services
Industrial market near the ports are growing, albeit at a slower rate than the overall market

Comparing to 2015, the construction activity levels have doubled showing an increase in demand for warehouse and distribution space.

2016 vs 2010 US Ports Immediate Market size (m.s.f.)

- East Coast has slight upper hand in Immediate Market Size
- 45% West Coast
- 55% East Coast

Note: Real estate stats are based on industrial properties in a 15-mile radius from seaports with a minimum building size of 50,000 square feet.

Under Construction near the ports

- 25.4 (m.s.f) under construction
- 2x Amount of US construction in 2016 than in 2015
- 65% Of total US construction is at the East Coast

West Coast Ports include Long Beach, Los Angeles, Oakland, Seattle-Tacoma, and Vancouver

East Coast Ports include: Baltimore, Charleston, Houston, Jacksonville, Miami, New York/New Jersey, Savannah, Virginia, and Montreal
Ecommerce trends

RETAIL AND ECOMMERCE SALES

- Ecommerce share of retail sales has increased from less than 1% in Q4-1999 to 10.5% in Q4-2017
- Ecommerce is expected to continue to gain share as retailers adapt their business models and re-optimize their distribution networks
- The goal is to develop a successful omnichannel strategy

Source: Census Bureau, JLL
Omnichannel strategy

- Omnichannel is about maximizing share of each type of consumer
- Ecommerce requires more inventory in more places
- Successful retail outlets display more and hold less inventory
- Ecommerce fulfillment can be used to replenish retail outlets
- Successful omnichannel strategy requires more locations and types of structures
- Distribution networks development requires a lot more expertise compared to 10 years ago