

Global Logistics Update 2022

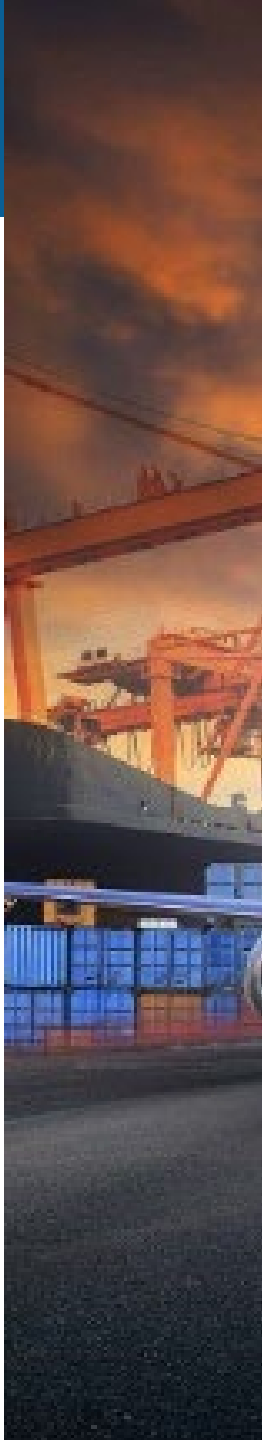


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Agenda/Discussion

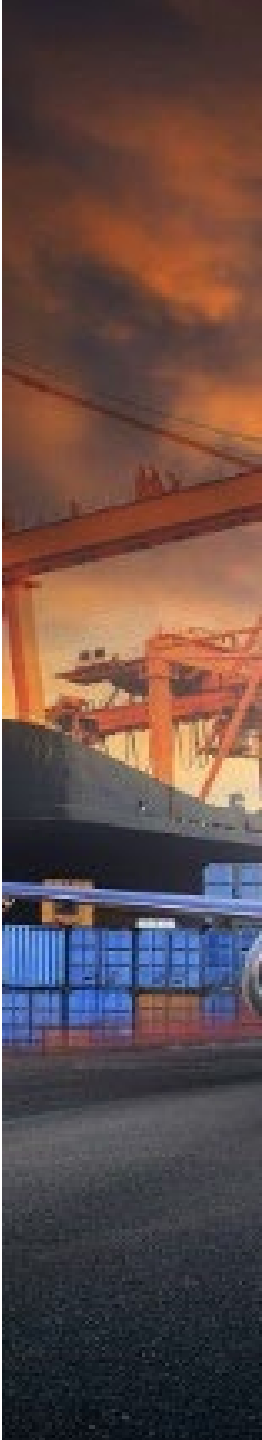
- COVID-induced disruptions to the global supply chain
- Supply chain overview, demand shifts
- Trade Routes, Ports, Inland Ports and Airports
- E-commerce, the great disruptor
- Change agents and other challenges



Predictability left the supply chain in 2020

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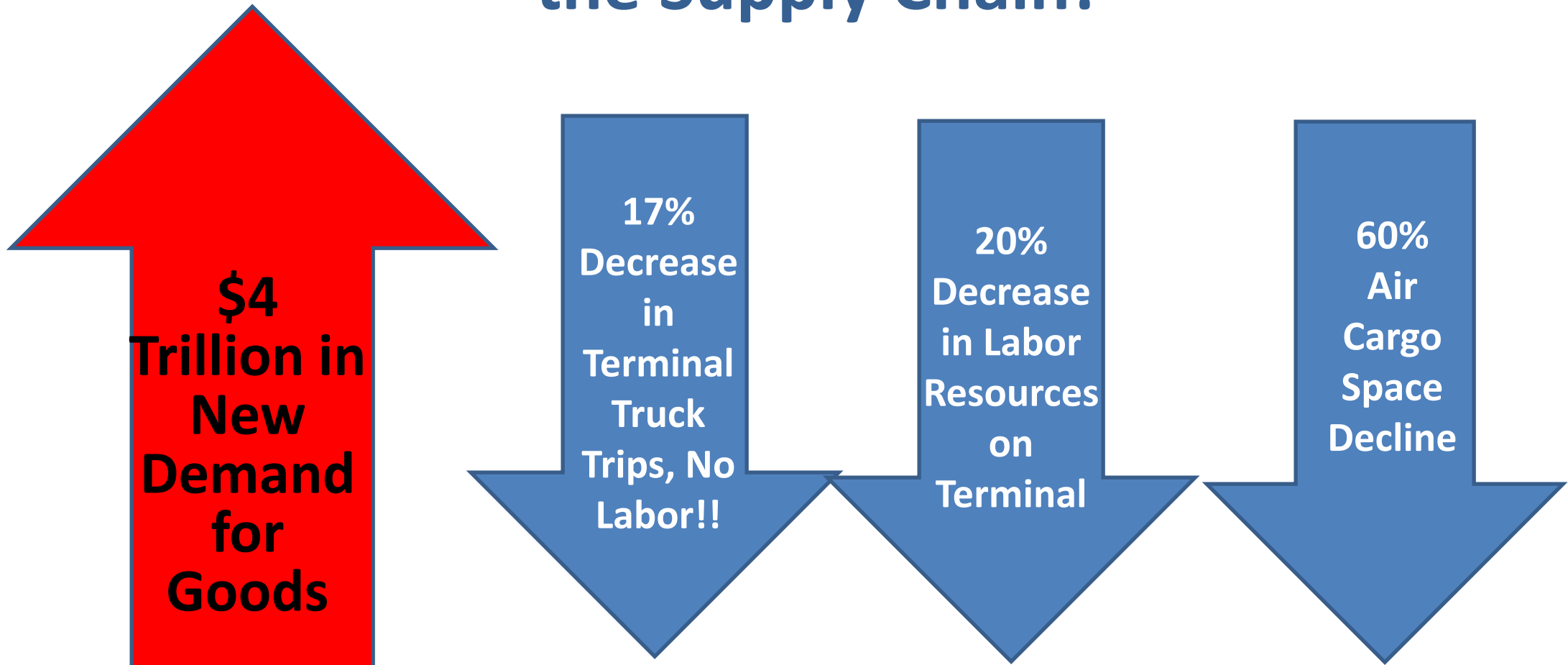
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Chaos in the Global Supply Chain

- **Ocean:** bookings, blank sailings and port congestion and record volumes, e-commerce, safety stock and re-shoring and chassis availability all impact this sector and drive Industrial RE growth
- **Rail:** congestion at ports-record dwell time, embargos placed certain major trade lanes, gateway transfer points cause shut down of hubs in Chicago, diverting cargo to Canada
- **Trucking:** driver shortages, shorter-length hauls, last mile deliveries and higher rates for TL, LTL and spot rates
- **Air Cargo:** demand, price highest ever, lack of passenger capacity, double global e-commerce by 2024, consolidation of forwarders and freighters cannot keep up with demand

How COVID Impacted the Supply Chain!

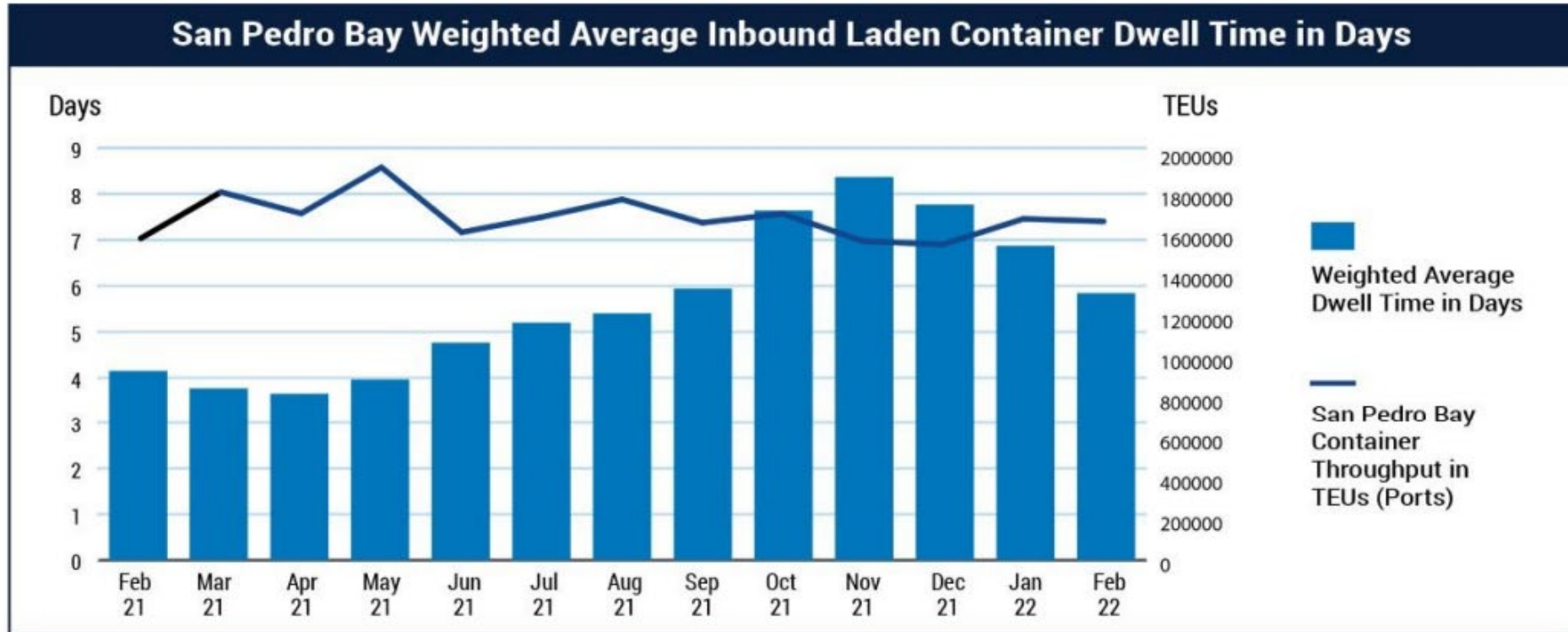


RESULTS? Slow-Down in the supply chain, bottlenecks, inflation, congestion and stock-outs

Cargo Diverting and Backed Up at Key US Ports

- More cargo is diverting away from the Pacific gateway in LA/LB
 - **Ship queue has fallen to 42.** (American Shipper, March 18, 2022) **down from 109 ships** reported on Jan. 9, 2022
- Backups were emerging at the U.S. East Coast ports of Charleston, Savannah; Norfolk; Houston; and NY/NJ
- 31 ships were anchored off the coast of Charleston, while 13 were waiting in Norfolk

Southern California Dwell Times



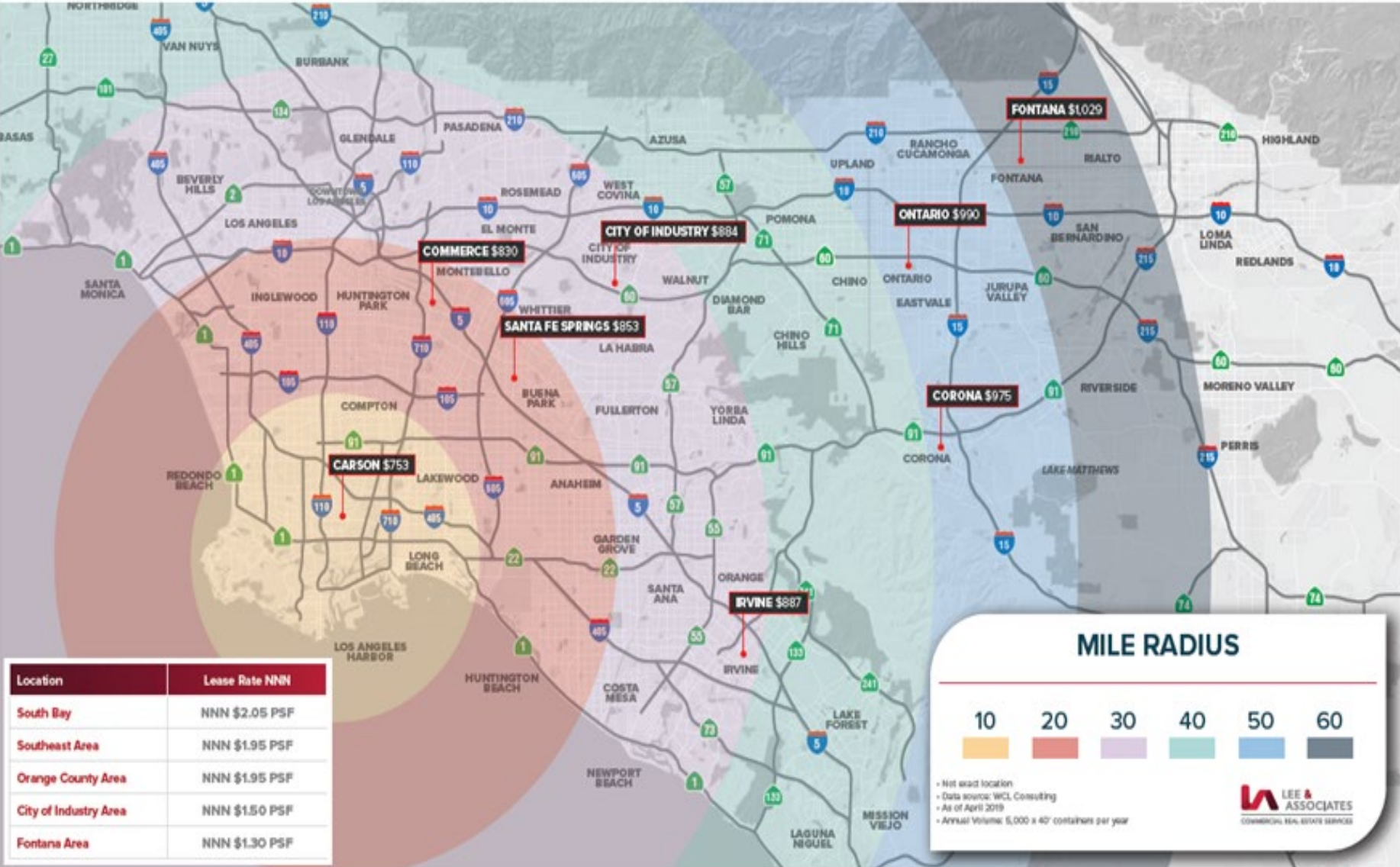
Source: Pacific Merchant Shipping Association, March 18, 2022

Southern California Dwell Times in 2022

- Progress was made in February 2022, with containers leaving on the port on trucks
 - Containers leaving by truck stayed on terminals for an **average of 5.8 days, down from 6.9 days the month before**
- Containers stayed on terminals an average of 5.2 days for cargo leaving by rail, up from 3.5 days the month before
 - Second consecutive month where dwell time for cargo departing on rail has increased

Source: Pacific Merchant Shipping Association, March 18, 2022

Truck/Drayage Rates in So Cal, Up 300% from 2019



Industrial Demands Post COVID

- Safety stock growth of 5% in Industrial will result in 750M/SF to 1B/SF additional space (Colliers International)
- Global cold chain expansions, 75 M/SF up to 100M/SF to meet demand for on-line groceries (CBRE Research Group)
- Ryder Logistics reported that at the end of the fourth quarter of 2021, 98% of their U.S. warehousing portfolio was occupied, with their Southern California market at 99.6% occupied (Ryder Logistics Report March 2021)

Example: Supply Chain for stuff you use can be very complex and very international

Hot Tub Production Center in Utah:

- 500 workers assemble the parts to create one hot tub
- 1,850 parts make one specific hot tub model
- It now takes up to 6 weeks from order to delivery, pre-CV 19 was two weeks lead time
- Parts come from 7 countries and from 14 states
- Parts travel 887,776 miles to make one hot tub

Source, Wall Street Journal, August 26, 2021 (*Why is the supply chain so snarled, we explain with a hot tub*)

Unexpected Supply Chain Issues Can Arise

Suez Canal – March 2021





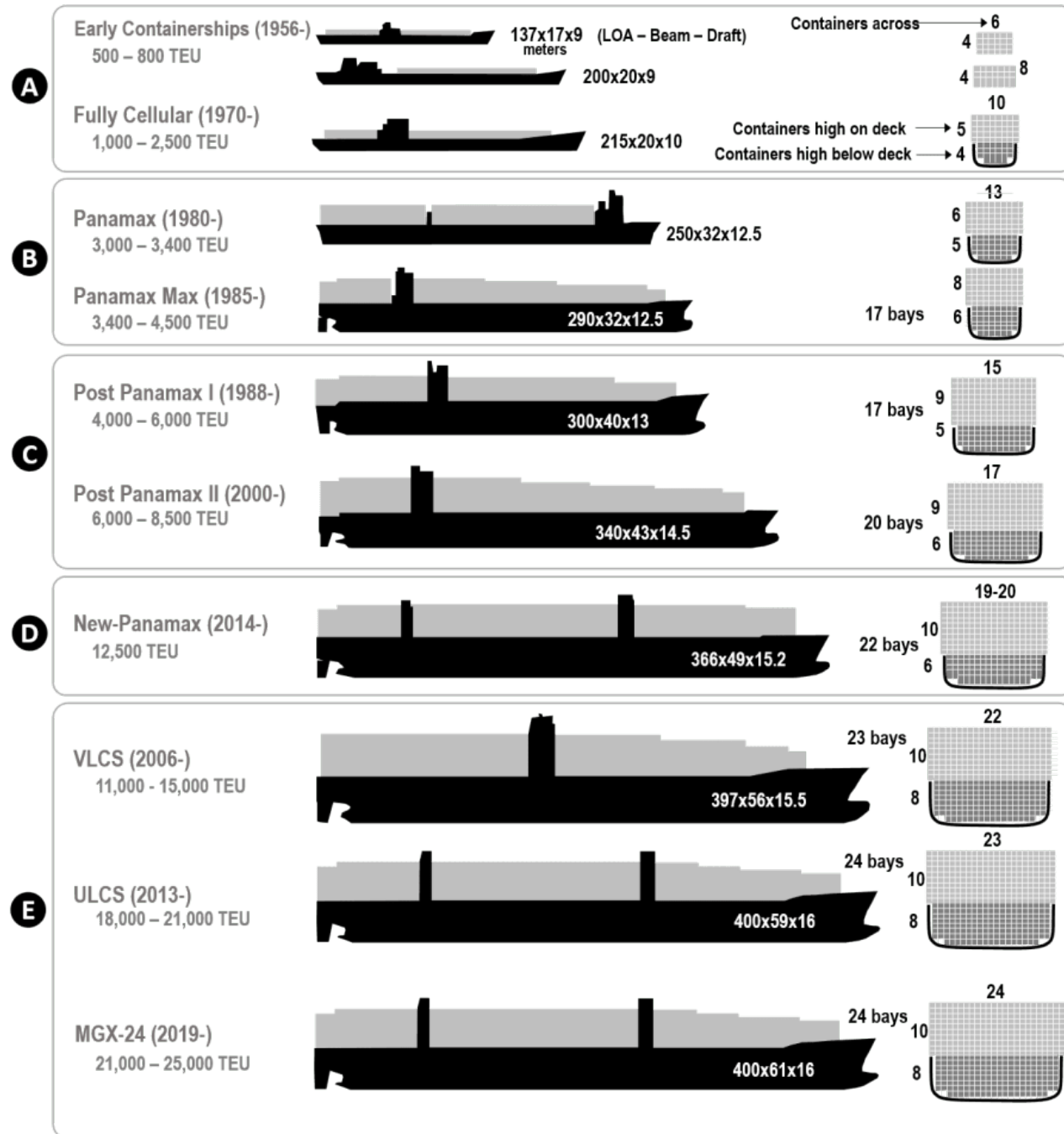
Global Trade Overview

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26,000 TEU's loaded
on a short chassis +
truck stretches 354
miles





World Port Statistics

TEU/Metric Tons

World Shipment Council Top 25 Rank by TEU

- China has 9 ports
- US has 3 ports
 - Los Angeles (17)
 - Long Beach (20)
 - New York/New Jersey (24)

World Shipment Council Top 25 Rank by Metric Ton

- China has 12 ports
- US has 2 ports
 - South Louisiana (12)
 - Houston (13)

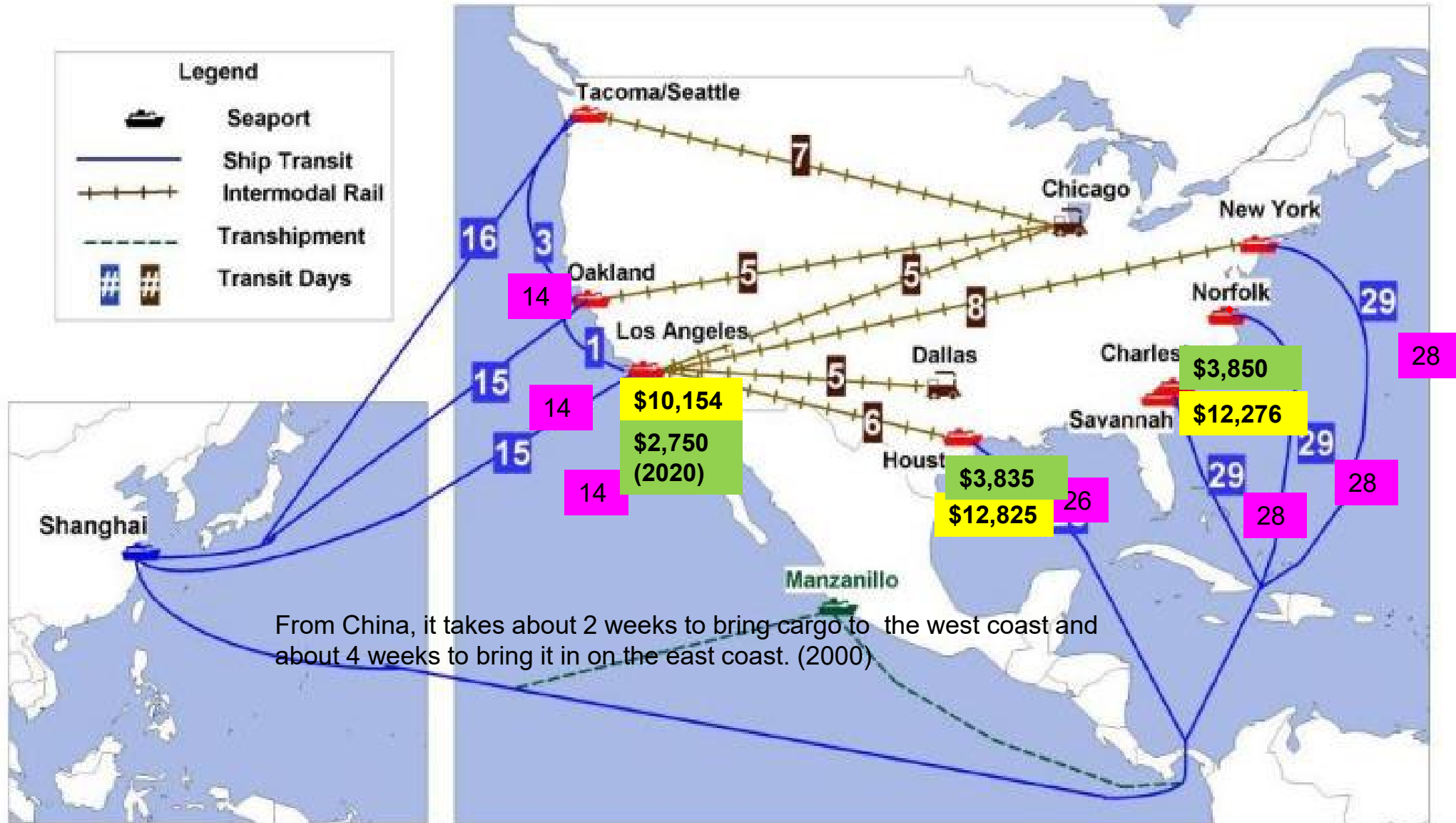
2021 US Port Ranking By Total TEU

Port of Entry	2021 TEU Volume
LA/LB	20,061,978
NY/NJ	8,985,929
Savannah	5,613,163
Seattle/Tacoma	3,736,206
Houston	3,553,226
Norfolk	3,522,834
Charleston	2,751,422
Oakland	2,448,243
Vancouver, BC	3,678,952

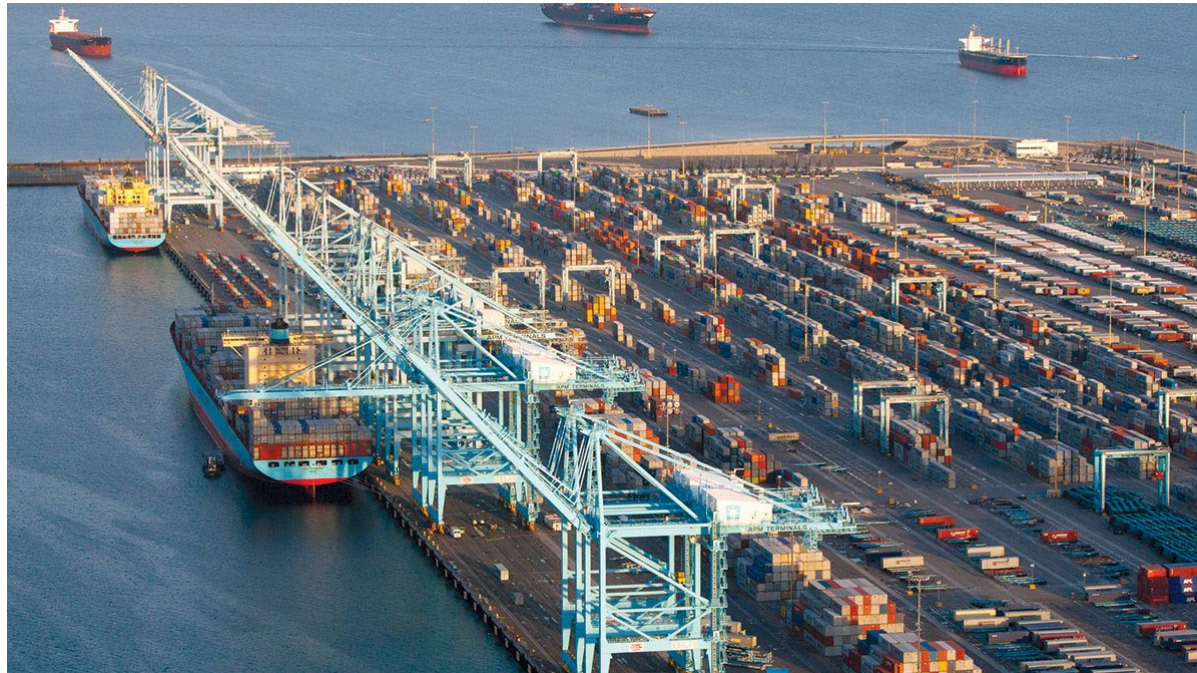
Spot Rates Annual Change vs. Weekly Change Indicates Impact of COVID

	3/17/2022	3/24/2022	Weekly Change	Annual Change
Shanghai to Los Angeles	\$10,154	\$9,926	-2%	137%
Shanghai to New York	\$12,276	\$12,261	0%	88%
Rotterdam to New York	\$6,491	\$6,793	5%	172%
Source: Drury Spot Rates, March24, 2022				

Shanghai to North American Ports: 2020 & 2022 Pricing as of Q2 2022



West Coast Ports



West Coast Ports:

- LA/Long Beach
- SeaTac
- Oakland
- Prince Rupert
- Vancouver

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Gulf Coast Ports



Gulf Coast Ports:

- Houston
- Corpus Christi
- New Orleans
- Mobile
- Freeport
- Plaquemines

East Coast Ports



East Cost Ports:

- NYNJ
- Norfolk
- Charleston
- Savannah
- Jacksonville
- Miami
- Halifax

Inland Ports

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Knowing Where the “Boxes” are Coming into the Ports or Airports Won’t Help Us.....

- Until we know where the box (container) or boxes (parcels) **STOP!**
- The real value prop in all of this logistics business, is in knowing where the goods will get off the “global conveyor belt” and put into an **INDUSTRIAL BUILDING** or delivered to a **HOME**.
- *This is why “logistics matters” and why investors and developers pay attention to supply chains*

Inland Port/Logistics Center

- An Inland Port is a location where organized economic development activity occurs and where these activities produce efficiencies for the users who occupy space or use logistics services
- Inland Ports are governed and created by railroads



Inland Ports are Growing!

- **Top Inland Ports:** Chicago, Memphis, Atlanta, DFW (Alliance)(South Dallas) Houston, KC,
- **Next Tier:**
 - VA: Richmond, Front Royal, Lehigh, Columbus, Greensboro and Rocky Mount
 - SC: Greer, Dillon, Vance
 - GA: Cordele, Chatsworth, Atlanta
 - OH: Columbus, Rickenbacker
- **Emerging:**
 - Phoenix, Salt Lake City, Denver



E-Commerce

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COVID and E-Industrial

- E-Marketer Research projects:
 - 933 billion in 2021
 - 1.65 trillion in sales by end of 2025
- CBRE, David Egan, “each 1 billion in additional e-commerce sales equates to at least 1.25 million square feet of distribution space”

Sources, Black Creek, US Census, Statistica



Global or Local, or Both?

- Pitney Bowes Parcel Shipping Index:
 - Global parcel volume was 87 billion pieces in 2018
 - Parcel volume exceeded 131 billion pieces in 2020
 - Will reach 266 billion pieces by 2026
- Boeing: Global growth in e-commerce trade driven by international online retail activity will drive the demand for 890 new freighters



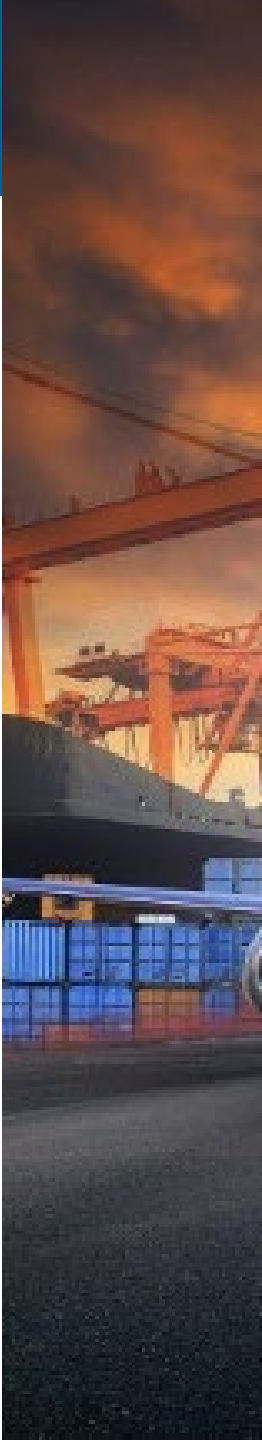
E-Commerce

- Ecommerce sales hit \$257.62 billion in Q4 2021, up 9.2% from \$235.96 billion for the same period in the prior year
 - Slowdown from 31.9% year-over-year growth for the same quarter in 2020
- Total retail sales reached \$1.27 trillion in Q4, up from \$1.12 trillion the prior year
 - The 13.0% increase is the highest-ever recorded growth rate for the fourth quarter. Sales through all channels increased 9.3% in Q4 2020
- Ecommerce accounted for 14.9% of gains in total retail spending in Q4 of 2021
 - This is a quarter of the online sector's 60.1% share of overall growth for the same quarter in 2020

Sources: US Commerce Department, Digital Commerce 360

Alibaba and/or Amazon

- Over 3000 cargo flights were used in supporting Alibaba 2021 Single Day sales
- Alibaba's 2021 Singles Day sales were \$84.5 B
- Amazon's Prime Day in 2021 generated \$11.2 B in sales



Cainiao

- Cainiao, Alibaba's logistics company has selected key cities for global hubs: Hangzhou, Dubai, Kuala Lumpur, Liege and Moscow
- Building out a \$1.53 Billion high-tech, high-volume logistics center at Hong Kong International Airport with National Aviation Group and YTO Express, sort operations to start in 2022
- Hubs are designed to support deliveries across China in 24 hours and globally within 72 hours



A Quick Look at Air Cargo

- Historically, 94% of the world's cargo moves on the ocean, 6% moves as air cargo
- About 60% +/- of the 6% of the total air cargo volumes moves in the “belly hold” of a passenger airliner
- Global passenger services stopped in early 2020 with fleets grounded worldwide, the 60% of Capacity disappeared almost overnight

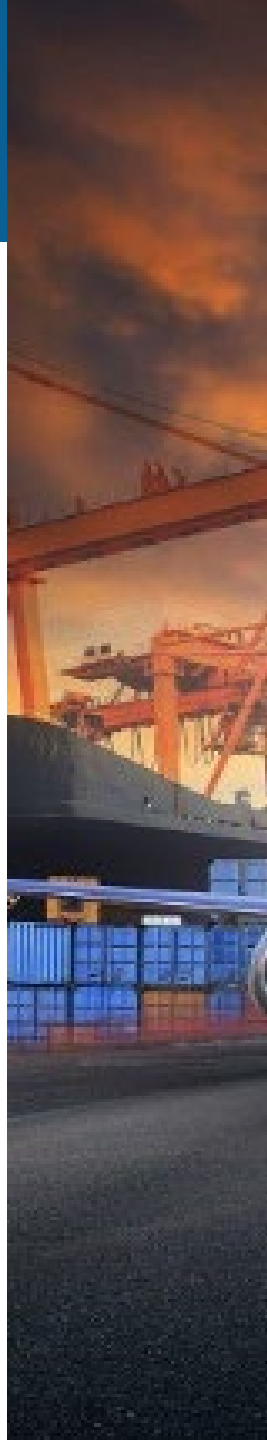
A Quick Look at Air Cargo

- Global e-commerce is driving demand for additional lift, yet the freighter fleet for air cargo is limited and traditional airports (LAX, ORD, JFK, ATL and MIA) are congested and carriers are looking to use alternative airports
 - A 1% shift in mode, from ocean to air drives a 16% increase in overall air cargo
 - In 2021, e-retail sales accounted for 19.6% of retail worldwide, it is expected to reach 21.8% by 2024 (statistica)

E-commerce's Challenge for Air Cargo

The challenge is in finding a location:

- With less/no congestion
- With mature transportation system
- That has a reach to population
- Where high-volume single-package transactions can be processed for automated expedited processing and delivery
- Most Ready, likely Airports for this?



Alternative Gateway Options for Cargo Growth Developing Due to Congestion at Traditional Gateways such as JFK, ORD, LAX, MIA and DFW/ATL/HOU



Columbus (LCK)

Chicago Rockford (RFD)

Indianapolis, IN (IND)

Pittsburgh, PA (PIT)

Cincinnati, OH (CVG)

Greenville, SC (GSP)

Huntsville, AL (HSV)

Mesa Gateway (AZA)

Salt Lake City (SLC)

Alliance TX

Ontario/March CA?

Amazon's Network

- Amazon has 60 Airports in its network
- Hubs/Focus Cities include: Cincinnati/Northern Kentucky; Ontario/San Bernardino, CA; Wilmington, OH; Fort Worth, TX/Alliance; Leipzig, Germany



Amazon's Network

- Expanded its airport network to be within 100 miles of 73% of the U.S population
- Primary focus is positioning goods at warehouses so that it is close to the consumer when an order is placed
- Increased flight activity by another 14% since August 2021, not including added lift by air-cargo partners
- Fort Worth Alliance's activity grew from 26 to 37 flights per day



Source: Chaddick Institute for Metropolitan Development, DePaul University

New Disruptors

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The Next Disruptor – International E-Com

- For the Journal of Commerce Outlook in 2019 submission: *“in the years ahead, e-commerce volumes will create growth opportunities for the air cargo industry, and that growth will alter trade patterns forever”*
- E-commerce is and will continue to be a disruptor and a game changer in retail, supply chain systems, ports and airports and industrial real estate
- Section 321, Type 86 impact on international e-commerce still developing
- Since 2012, Amazon has developed 938 active facilities, 302,600,369 SF as of 9/2021 AND 441 more facilities planned, another 145 /SF to be added. Walmart store SF is 702,684,014 SF plus 143.9 M/SF DC footprint

Disruptors and Changers

- Section 321 impact on E-Commerce
- Globalization of E-Commerce
- Dynamic growth of the Cold Chain
- Autonomy, drones and platooning *(when?)
- Blockchain, ELDs, TEU Tracking Devices will bring visibility back into the supply chain, this will positively impact predictability



Hottest Untapped Industrial Markets

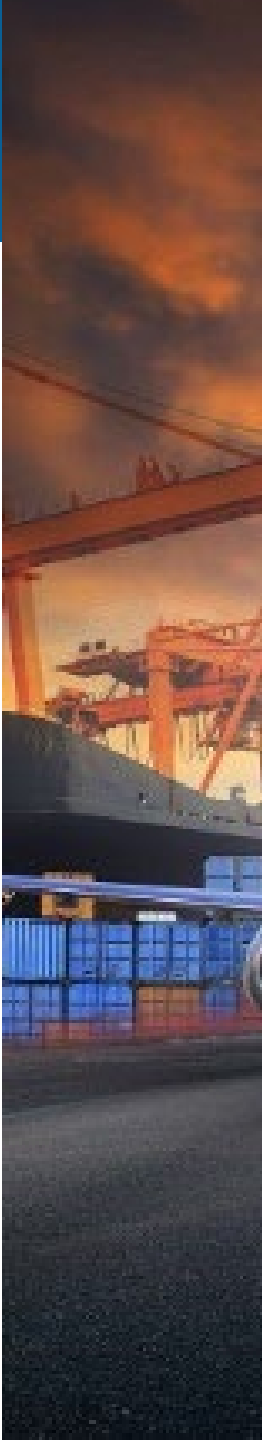
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Existing HOT Markets (not tapped out yet)

- Phoenix – West Valley (Buckeye, Goodyear, Glendale, New 202, Mesa)
- Houston – South and Southeast
- Columbus OH
- Central Valley CA



Top 10 Fastest Growing Market by Industrial Inventory

Market	2019-2022 Inventory Growth	2022 Vacancy Rate	2019-2022 Population Growth
Austin	20.6%	3.0%	6.0%
Phoenix	17.2%	5.5%	4.4%
Houston	11.8%	6.4%	4.0%
Las Vegas	11.6%	2.5%	5.1%
Indianapolis	11.5%	4.0%	2.8%
Dallas-Fort Worth	11.5%	5.4%	4.1%
Columbus	11.1%	3.5%	3.1%
Memphis	11.0%	6.0%	1.3%
Atlanta	10.5%	3.9%	3.3%
Riverside-San Bernadino	10.2%	2.0%	2.8%
United States Average	6.3%	3.9%	1.4%

Source: Marcus & Millichap Services; CoStar Group, Inc.; Moody's Analytics; U.S. Census

Thank You !

Questions?

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