Logistics Infrastructure: Transformational Opportunities

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PREVIEW OF LOGISTICS INFRASTRUCTURE: TRANSFORMATIONAL OPPORTUNITIES. PURCHASE FULL VERSION AT ACRE.CULVERHOUSE.UA.EDU
Dear Reader:

Build the Logistics Infrastructure (LI) and development will come is not a cliché – it is transformational logistics in action. Today, LI is driving the “why” and “where” decisions for real estate development across the country.

This Logistics Infrastructure call-to-action is validated by compelling transportation statistics. With the modern e-commerce supply chain growing 25-30 percent each year, the current age and state of existing infrastructure will inhibit future and economic development.

Our research highlights the utmost importance and impact of the Transformational Opportunities provided by LI. It also offers an outlook for LI and a glimpse into the most notable logistics, transportation, e-commerce and real estate statistics that are shaping tomorrow’s discussion today.

This paper is the first in an annual series from the Center on topics that impact Alabama’s real estate industry at large and the broader southeastern region of the United States, including the vitally important Gulf Coast. This continued advancement of real estate research and insights would not be possible without the legislative leadership at the local and state level, Alabama real estate licensees, and the support of our founding partners: the Culverhouse College of Business, the Alabama Real Estate Commission and the Alabama Association of REALTORS®.

With your continued support, our team looks forward to providing valuable and impactful insights for years to come.

Sincerely,

Grayson Glaze, JD, CPM, CCIM
Executive Director
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Author Bios and Acknowledgements

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The Key Takeaways
Logistics Infrastructure: Transformational Opportunities

1. The transportation statistics that validate a call to action on Logistics Infrastructure (LI) are compelling. Whether it's the 4.1 million miles of public roads requiring maintenance, 1.2 billion hours of annual delays for the trucking industry, the 17X increase in annual spending required to maintain the railroads, or e-commerce warehouse demand growing from less than 5 percent of industrial leasing a decade ago to 20 percent today, there is no doubt of the need for Logistics Infrastructure Investment.

2. A horseless-carriage supply chain from the 1950s cannot support a modern e-commerce supply chain that is growing 25-30 percent per year. The age and state of our existing Infrastructure is inhibiting future economic and real estate development, and forcing existing industry to relocate toward destinations that have modern LI.

3. “Build the Logistics Infrastructure and development will come” is not a cliché – it is transformational logistics in action today. Just as the steel and textile industries left the U.S. in the 1970s & 1980s in pursuit of cheap labor abroad, retail, distribution, and manufacturing businesses are at risk of leaving cities and states that don’t invest in LI and update aging Infrastructure.

4. LI is driving the “why” and “where” decisions for commercial real estate development. Examples of this transformation in action are the locations of new Amazon and Wal-Mart fulfillment centers developing near intermodal places like Bessemer and Mobile, Ala.; Ohio; Polk County, Fla.; and, Tucson, Ariz. One can also look to the locations for new aircraft, auto and machinery manufacturing plants in Alabama, Georgia, South Carolina and Texas.

5. The shift from shop-and-take-home to online-order-and-deliver will result in less retail store square footage, but the tradeoff will be many new fulfillment centers and warehouses aligned with new LI. E-commerce fulfillment centers will displace one-third of America’s 1,100 malls.

6. The development metrics by the major commercial real estate brokerages suggest a boom is ahead for new industrial warehouse development. Warehouse is the new department store or retail big-box due to e-commerce. Demand/absorption still exceeds supply resulting in another 800,000 to 1 billion square feet of new development across the U.S. over the next 3 years.

7. Today the margins for Online-Shop-and-Deliver do not beat Shop-and-Take-Home, but retailers will not reverse course from e-commerce. Retailers will double-down on technology and LI to get the margins right. Alix Partners crunched the numbers for CNBC in 2017 and found that apparel retailers’ net margin from merchandise sold at brick-and-mortar stores was 32 percent compared to 30 percent for online apparel sales.

8. Reliance on the federal government fund to Logistics Infrastructure for port projects, rail, intermodal or needed supply chain components is too lottery-like a strategy to fund our economy’s circulation system. Of the billions of dollars available annually to fund our ports and inland waterways via the Harbor Maintenance Trust Fund, only 10 percent of yearly balances are distributed to ports.

9. The time has come to rank our No. American ports based on a more dynamic method than the current single variable of TEU container count. A model that calibrates factors like port depth, Class I rail connectivity, number of PPMX Gantry Cranes, usage by Shipping Alliances, etc., should be used.
1. The e-commerce economy will drive online retail sales to 20 percent of total sales by 2022. Using Black Friday 2018 online sales of a record $6.2 billion (up 20 percent over 2017) as a proxy, the ratio of logistics related leasing will rise from its current level of 20 percent of total industrial leasing to 30-35 percent over the next three years. As annual online retail activity grows by a mid-teens to 20 percent rate, expands into more merchandise categories – such as grocery, pharmacy, and big-and-bulky (like appliances, furniture, and automobiles), at least another 1 billion square feet of logistics warehouses will be needed by 2022 to meet the growth of e-commerce. Although an estimated 800,000 square feet of new warehouse space is underway or planned for development by 2022 nationwide, ACRE estimates that development activity will rise even further from the current pipeline level of 800,000 to 1 billion square feet.

2. Industrial real estate will remain the top performing core commercial property type again in 2019. In 2017, for the 3rd consecutive year, Industrial real estate was the top preferred core property type by foreign investors in the U.S. – according to the annual AFIRE (Association of Foreign Investors In Real Estate) report conducted by the James A. Graaskamp Center for Real Estate. It is also outpacing all core-property types for price appreciation according to Green Street CPPi with 11-12 percent property price appreciation, ACRE forecasts continued double digit annual appreciation for industrial real estate, and no change to the current low vacancy rate of 5 percent despite more than 1 billion square feet of new supply expected over the next 5 years. Why? It’s as basic as demand exceeding supply due to growth in online retail. An expansion that is expanding into grocery, autos and everything we consume. There are not enough warehouses near LI to keep up with the growth in online consumption.

3. U.S. GDP will slow but remain above 2 percent in 2019, but it will bifurcate further between states that invest in LI and those that do not. States investing in LI are experiencing state-level GDP of at least 2 percent. Those states with less than 2 percent GDP lag in LI investment, States that fail to invest in LI will experience sub-2.0 percent annual GDP and miss out on new economic development opportunities to states with modern or upgraded LI.

4. States that rely on the Harbor Maintenance Trust Fund (HMTF) or TIGER grants to budget needed LI investment will continue to find that strategy insufficient and lottery-like. Recognizing the HMTF’s poor track record for funding their capital projects to dredge, diversify from bulk cargo to container handling, add RoRo (roll-on/roll-off) automobile and equipment processing operations, and develop inland ports, rail, and Intermodal infrastructure, etc. to lure additive manufacturing, e-commerce fulfillment centers, and industrial warehouse development.

5. The ports of Charleston, S.C. and Georgia (collectively the ports of Savannah and Brunswick) will be the Los Angeles & Long Beach, Calif. of the East Coast and rival those ports in container activity by 2030 with the development of the Jasper Ocean Terminal in Jasper, S.C. Savannah, Ga., ranks fourth in container activity in North America and surpassed the 4 million TEUs threshold in 2018. It has learned the benefit of inland ports from South Carolina and is adding multiple new ones to extend its reach to users in the Southeast and Mid-Atlantic, Brunswick ranks fourth for handling auto imports and exports (630,000 units in 2017 according to Automotive Logistics) behind #1 Vera Cruz in Mexico (1.05 million autos in 2017), #2 Baltimore (800,000 units) and #3 Jacksonville, Fla. (590,000 cars and trucks).

The South Carolina State Port Authority (port of Charleston) led by Jim Newsome ranks ninth in container activity with 2.2 million TEUs—just behind Oakland, Calif., and Houston—each with 2.5 million TEUs. The SCSPA is the model of economic development for states to emulate. Over the past decade its LI investment and growth have reached a $50 billion impact level supporting nearly 190,000 jobs statewide. In aggregate, the port now accounts for 10 percent of the state’s GDP. It has a $2.3 billion CapEx plan in place addressing every LI item from port depth, rail connectivity, RoRo and automobile processing, to truck chassis management and port security. It ranks as a top-10 North American port and has been the fastest growing container port 2009-2017 with an 8 percent CAGR. The aforementioned is why South Carolina continues to attract or see
expansion from the likes of BMW, Boeing, Michelin Tire, Volvo, Samsung, Harbor Freight, etc. The port of South Carolina epitomizes “develop LI and it will come”. And finally, the port of South Carolina handles the export of all U.S. German manufacturer cars made in the U.S. (Mercedes and BMW in both Alabama and South Carolina), which now exceeds the number of vehicles made in the U.S. by either GM or Ford.

6. The ports of Mobile (Alabama) and Freeport (Texas) near Houston have the greatest opportunity for growth if they make the needed LI investments and continue to develop their container terminal and rail infrastructure. Mobile has proximity to five Class 1 railroads and Freeport three. However, both ports handle less than one-half million containers today but have the potential to handle 2 to 3 million containers within three to five years. The Port of Mobile is expanding container terminal capacity to accommodate the new addition of Wal-Mart’s distribution center. This addition will add an estimated 1 million TEUs to Mobile by 2020. The port is also adding Roll-on, Roll-off (RoRo) operations funded by a 2018 TIGER grant. And don’t forget about Port of Mobile’s importance to Airbus as it manufactures the competitive commercial jetliner to what Boeing is building in Charleston, S.C. Port Freeport has the potential to be to Dallas what Port of Savannah is to Atlanta today. It will also become the Saudi Arabia of LNG (liquefied natural gas) gas exports to the rest of the world.

7. Don’t underestimate or count growth out at either the ports of New York or Los Angeles and Long Beach, Calif. Each will remain top-5 container ports in North America for the next decade. The New York Port Authority is finalizing the most comprehensive and long-range maritime master plan of all North American ports that will guide development of the port’s 3,000-plus acres of cargo-related property during the next 25 to 30 years. Forecasting a 68 percent rise in cargo traffic by 2045, authorities and freight industry stakeholders around the Port of New York and New Jersey aim to enhance rail systems, add barge routes, and make more efficient use of port facilities and to mitigate truck traffic. In addition, New York City officials have released a $100 million plan to “overhaul the city’s aging freight distribution systems,” and the New York and New Jersey port authorities are jointly looking to develop a container terminal in Brooklyn, N.Y., to be largely served by barges or Feeder Vessels. And in July 2018, New York State awarded a grant of $21 million to CSX Transportation to create an inland port at the DeWitt Yard near Syracuse, N.Y., that will be fed by rail to the port, New York does not plan to cede any more growth to the Ports of Baltimore, Virginia, Savannah or Charleston.

A similar story is occurring at ports of Los Angeles and Long Beach, Calif. The real story at both these dominant North American container ports is that container activity at West Coast ports from Seattle/Tacoma, Wash, and Portland, Ore, on down to Oakland, Calif, is consolidating to southern California as shipping alliances consolidate. What growth Los Angeles and Long Beach have lost from the expanded Panama Canal to the gulf and East Coast ports they are more than recouping from consolidation along the West Coast. The ports of Los Angeles and Long Beach are just deeper, more modern with more gantry cranes, and favored by shipping alliances.

8. Monitor LI investment in eastern Canada and America’s fourth coast (The Great Lakes) as both develop port and inland port projects. The Port of Cleveland and eastern Canada are emerging port markets. They are the up and comers to keep an eye on if you are the ports of New York or Vancouver.

9. Rail consolidation is ahead. With petroleum moving to pipelines freeing up carload capacity and rail competition as fierce as in the shipping industry, not all Class 1 railroads can continue to exist independently. Keep an eye on CSX – especially with Norfolk Southern’s HQ move to Atlanta, and Kansas City Southern – the only Class I railroad with direct access to all of Mexico and its key ports. Subscribe to the American Association of Railroad’s monthly RailTime indicators report to stay updated on rail traffic trends that are already flashing the merger signals.

10. The feeder vessel concept to unload mega oil tanker vessels will be applied to mega container ships in North America to better access smaller ports in Mexico – or river ports and inland waterways in the U.S. Known as boxships, ACRE forecasts this pioneering trend by A.P. Mollier-Maersk shipping will be the strategy that drives container growth at shallow ports with less than 50-foot depth, river ports, and inland waterways, Shallow-water ports in Mexico, along with river ports in the U.S. (Bucking 50-foot depth (Savannah, Ga, and Jacksonville, Fla) and ports with inland waterway connectivity, such as Mobile, Ala, could be beneficiaries. Orders for feeder vessels have been rising over the past two years as operators that run mega-containerships of 20,000 containers find it cheaper and less time consuming to move containers at sea rather than docking at ports. These feeder vessels (aka boxships) are also being used in Intra-Asia trade lanes as well as in routes in the Mediterranean and in Africa where small ports cannot cater to bigger vessels.
Throughout this paper many logistics, transportation, and real estate statistics are discussed. Among the dozens researched, a handful stand out in support of this paper’s premise. Whether it is e-commerce growth, increased intermodal and rail traffic, trucking delays from strained interstates, or the shift in warehouse leasing to logistics tenants, you will find these highlighted metrics support a call to action for Logistics Infrastructure investment. These measures help explain the why and where of future industrial development.

4.1 million miles of public municipal, county, state and federal roads requiring maintenance

grade for the state of infrastructure to the world’s largest economy by the American Society of Civil Engineers (ASCE) for 2013-2017 period

50 million containers handled annually at Top 30 North American ports
80 percent from the top 9 U.S. ports led by: #1 Los Angeles (9.3 million), #2 Long Beach (7.5 million), #3 New York (6.7 million), #4 Savannah (4.0 million), #5 Seattle (3.7 million), and then 2.1 million to 2.8 million TEUs for #6 Norfolk, #7 Houston, #8 Oakland, #9 Charleston

9:1 collection to outlay/spending ratio by the Harbor Maintenance Trust Fund (HMTF) – primary federal fund to maintain and improve our ports and inland waterways. Since 1998, the Beginning-of-Year balances in this fund have increased from $1 billion 20 years ago to over $9 billion at start of 2017, while the annual outlays to our ports and waterways have averaged just a small fraction - or less than $1 billion (2017)

+15-16% annual growth for each of the past 3 years

+32% increase in average e-commerce retail traffic for the 2018 Monday before Thanksgiving through Black Friday period over the same period in 2017
increase in the necessary annual capital spending by our Class 1 railroads since 1960 from just under $1.0 billion to more than $17 billion1

increase in Intermodal rail traffic since 1970 from 2.3 million containers to more than 14 million truck trailers and containers. At $40 billion, the North American intermodal market is the largest in the world; and it relies on a fleet of more than 700,000 chassis to move 35 million containers annually to distribution centers throughout the U.S. Intermodal is a big deal in LI

1.443 million Intermodal Rail Containers in October 2018
According to AAR.org, the U.S. originated 1,443,914 containers and trailers in October 2018, up 4.2 percent (58,546 units) over October 2017. The weekly average in October 2018 was the second most (behind June 2018) for any month in history.

1.2 billion hours of delays for the trucking industry on our nation’s highway system in CY 2016 as a result of traffic congestion. This delay is the equivalent of 425,533 commercial truck drivers sitting idle for an entire working year. Distributing this cost across the 11.5 million registered large trucks in the U.S. results in an average congestion cost per truck of $6,478.

12% YOY increase in Freight Expenditures Oct 2018 in the Cass Freight Index
The volume of freight shipments was up 6.2 percent YOY in October 2018 and the expenditures on freight shipments were up 12 percent (Q2 2018 was second highest reading in the index since Q2 2014) Since 1995, the Cass Freight Index® has been a reliable measure of North American freight volumes and expenditures that is closely correlated to GDP. It provides valuable insight into freight trends on all domestic freight modes derived from $25 billion in freight transactions processed by Cass annually on behalf of its client base of hundreds of large shippers. This is one metric where the picture is worth the thousand words of explanation.

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