LOGISTICS + FREIGHT BULLETIN

NCDOT is a part of your supply chain.

The *NCDOT Logistics + Freight Bulletin* is created and distributed by the NCDOT Office of Logistics + Freight. This bulletin is dedicated to the internal NCDOT audience, as well as those closely engaged with NCDOT. The Bulletin will share current issues, trends, data, and analyses on freight and logistics across every mode while expanding awareness and understanding of the larger supply chain ecosystem in which multimodal freight transportation is an active and important player. If there are topics you'd like us to address, please feel free to email us and offer your ideas, suggestions, or questions. If you would like to be excluded from future bulletins, please reply and we'll gladly remove you. Alternatively, if you would like to share this with your group or colleagues, please do. Email us if you'd like to sign up for future bulletins.

ABOUT THE NCDOT OFFICE OF LOGISTICS + FREIGHT

The NCDOT Office of Logistics + Freight are supply chain management professionals at NCDOT dedicated to supporting and providing resources to NCDOT stakeholders at every stage of project delivery from planning through construction, ensuring infrastructure investment is connected to industry + commerce. We are dedicated to driving North Carolina's development as the preeminent environment for freight transportation and logistics services. The Office of Logistics + Freight is also focused on promoting the understanding and facilitate freight + logistics development and activities throughout the state. We are available to provide relevant data, research, insight, and analysis for NCDOT project managers, planners, or stakeholders on freight activity and behavior across every mode of transportation.

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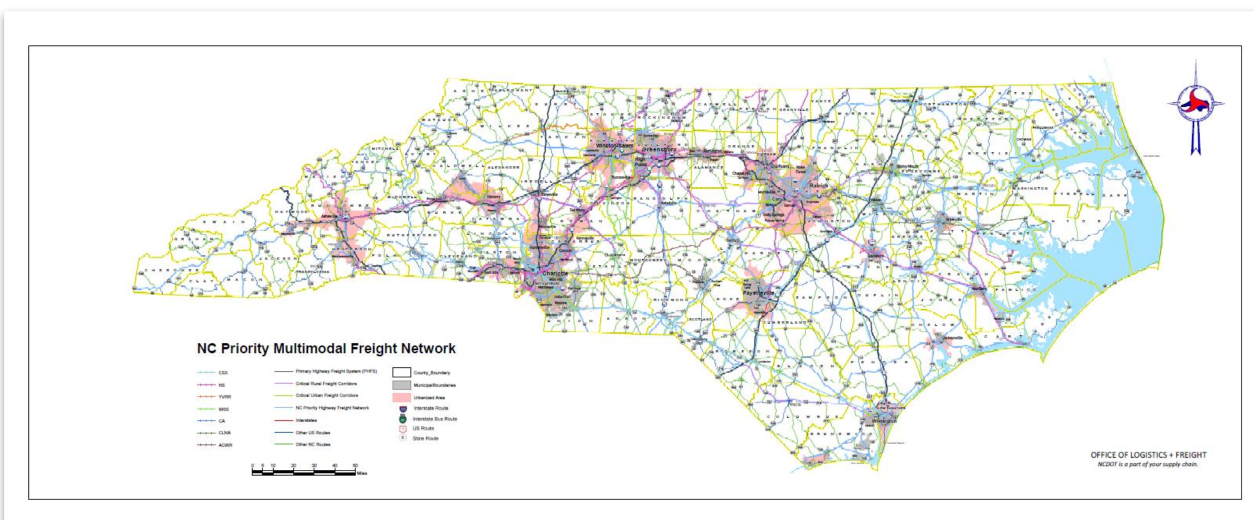
CURRENT LOGISTICS + FREIGHT ISSUES + DATA

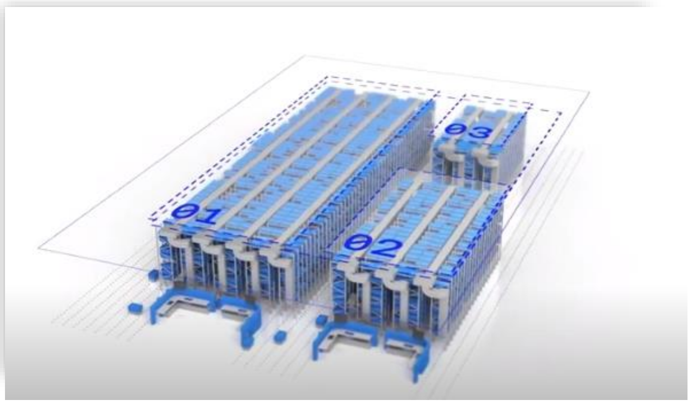


Get to know the NC Priority Multimodal Freight Network: GIS Resources Available Soon on our Connect page.

COVID-19 + the Transportation Sector: *Considering Distribution Changes*

As days run together and months feel like weeks, the COVID-19 pandemic is challenging nearly every facet of daily life. We find ourselves homebound, limiting the time spent in the brick and mortar retail space, and many have turned to online ordering or eCommerce for nearly every consumer good. It is not surprising that our experiences are reflective of larger shifts in economic behavior. The popularity of eCommerce is not new to the pandemic environment, but the situation is accelerating the pace of adoption, systemic change, and adding in no small element of disruption.

From the demand side, as consumers have made a significant shift to online purchasing the platform has proved better suited to the new normal. As consumer expectations also increase, supply chains are also adapting and changing across the full spectrum of activities from sourcing and manufacturing through distribution, last mile delivery, and return logistics. Many businesses address both changing demand patterns and increased consumer expectations by pushing products closer to the final consumer and introducing micro-fulfilment nodes into their supply chains. Already a factor in the grocery supply chain, the rapid growth in eCommerce is pushing this innovation into other consumer goods sectors. Take a moment to read this quick introduction on the concept from Supply + Demand Chain Executive Magazine on micro-fulfilment.



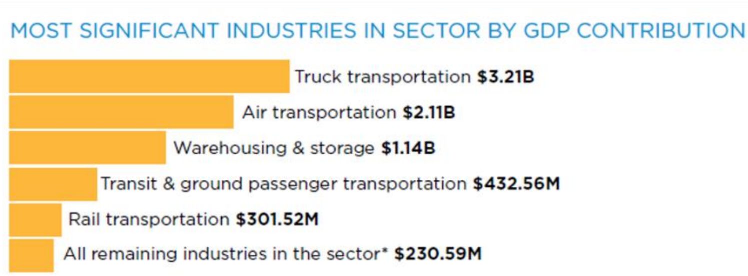
Check out this quick video by micro-fulfilment firm Fabric on how their business operates.

(no endorsement intended, just a cool view of how one firm manages micro-fulfilment)

Consider this: As you dive into this supply chain concept, there are many questions we can ask ourselves. Here are just a few for starters: As a transportation agency, how do we reconcile our planning and project delivery horizons with the pace of change in the marketplace. Are there plans in place today that are rendered obsolete by this kind of shift in business patterns? What are the multimodal implications of a shift towards micro-fulfilment? Can this trend be a benefit to areas beyond the urban environment? What kinds of planning or policy adjustments should be considered as the growth of localized distribution continues?

NORTH CAROLINA FREIGHT FACTS

Within the transportation, distribution and logistics sector, truck transportation leads by value of annual economic contribution with more than $3B of value added *(2016 values)*.



SOURCE: NC Supply Chain: Conduit for Economic Connectivity (2016)

Freight Bottleneck Overview: Each month we analyze freight bottlenecks on the North Carolina Priority Highway Freight Network. Bottlenecks as defined by the FHWA includes "any highway segment identified by a State DOT to have constraints that significantly affect freight mobility and reliability." This can be as straightforward a situation as a discrepancy between volume and capacity, but freight bottlenecks can also represent a challenge of reconciling the functionality of a highway system with the behavior of the economy. Shifts in manufacturing and distribution patterns may be a factor while incidents and crashes, both passenger and commercial vehicles, can significantly slow the fluidity of freight on the network. Here's a quick review of the top 10 freight bottlenecks on the NCPHFN from June 20 through July 20, 2020. Some of these are regulars on the top-10 list while others are new on the scene.

Rank	Previous Rank	Description	Total Delay (MVH)	Divison
1	1	US-421 South at US-17/US-74 in Wilmington	27.7	3
2	4	I-40 East at US-70 Exit 306 between Garner and Clayton	16.9	5
3	*	I-85 and I-485 Exit 30 near Charlotte Douglas International Airport	12	10
4	5	US-19 and I-240/US-74 in Asheville	11	13
5	*	I-40 at Aviation Parkway Exit 285 near Raleigh-Durham International Airport	9	5
6	*	I-26 at New Airport Road near the Asheville Regional Airport	9	14
7	*	I-26 and US-74 Exit 67 in Columbus, NC	7	14
8	*	I-77 and N -150 River Highway west of Mooresville	7	12
9	9	US-70/US-29 Business at Center Street in Lexington, NC	7	9
10	*	I-85 and NC-7 Exit 23 in eastern Gaston County	6	12

SOURCE: NCDOT Office of Logistics + Freight

MULTIMODAL LOGISTICS + FREIGHT SECTOR BRIEFINGS

In this section, we will regularly share timely, current information, analysis, and context for freight logistics and transportation sector organized by mode. This will be a mix of current events, and recaps on data or reports issued recently relevant to multimodal freight movement and planning in NC, our region, our nation, and the global economy.

TRUCKING

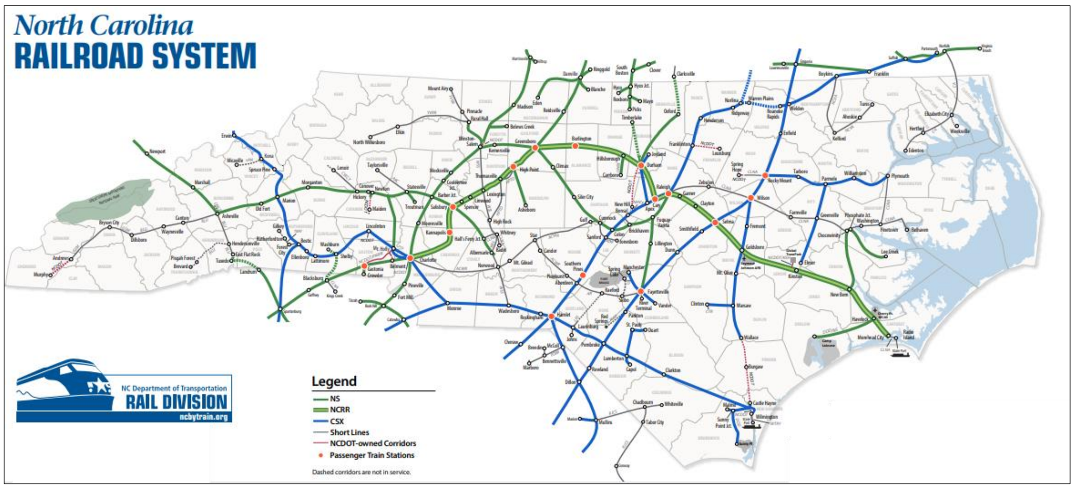
TRUCKING STILL KING: In a recent report, the American Trucking Association (ATA) reported that the sector had generated nearly $792B in revenue and moved more than 11.8B tons of freight in 2019. On the employment side, the trucking sector saw significant growth in the past year adding upwards of 140K jobs prior to the COVID-19 impact seen in March 2020. After a steep decline, employment in the trucking sector began a modest recovery mid-May. For more on the ATA's report, visit Freightwaves' recap.

INVESTMENTS IN ZERO-EMISSIONS TRUCKS: July was a busy month in the electric truck manufacturing sector with two major announcements from Tesla and Nikola Motors. Media gadfly Elon Musk's Tesla firm will assemble their battery-electric Class 8 heavy duty truck, the *Tesla Semi*, in the Austin, Texas Gigafactory beginning in 2021, while Arizona-based Nikola Motor broke ground on a plant facility in Coolidge, AZ which will produce two of their commercial heavy-duty trucks. With travel ranges of 300-500 miles, battery-electric trucks will soon be a factor in local to regional distribution. Other truck manufacturers like Freightliner and Volvo Trucks are also pursuing electric trucks as a part of their product offering. Check out Fleet Owner's recap on this news here.

RAIL

NORTH CAROLINA RAILROAD LEADERSHIP: In July, the North Carolina Railroad Company (NCRR) announced that former CSX executive Carl Warren will take the helm as NCRR's next president in August 2020 following the retirement of current president and CEO Scott Saylor. Warren comes to NCRR with experience in operational planning, sales and marketing, and port development. The NCRR is a private business corporation with one hundred percent of the stock owned by the state of North Carolina. Chartered in 1849 for the purpose of economic development, the NCRR manages more than 300 miles of track in North Carolina and partners with Class 1 railroads Norfolk Southern and CSX Inc. For more on this announcement, visit the Progressive Railroading article here.

GET TO KNOW SHORT LINE RAILROADS: Staying on the topic of short lines, the more than 600 regional and short line railways in the US and Canada are focused on economic development often with a hyper-local geography. Niche industry support is also a core part of the short line business model with some providers servicing agriculture and manufacturing facilities, while others are focused on intermodal traffic as a part of the maritime supply chain. For more info about short lines in NC, visit the Railway Association of NC or visit the NC Railroad Directory via the map below.



MARITIME

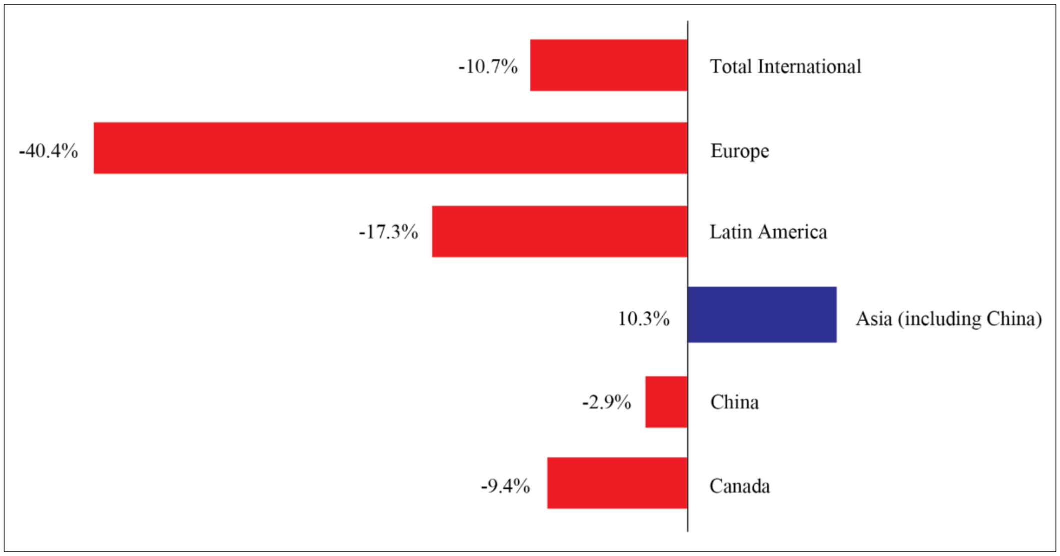
REEFER CAPACITY IMPROVED: The Port of Wilmington adds significant refrigerated cargo handling capabilities and storage capacity with the completion of a new refrigerated container yard on the Cape Fear River facility. The $14M investment in the NC Ports location more than triples the capacity of the port to handle refrigerated containers and meets the growing needs of the port. According to NC Ports, refrigerated container volume through the Port of Wilmington quadrupled from Fiscal Year 2014 to Fiscal Year 2019 while FY20 year-to-date volumes have been trending up for the niche service despite headwinds from the COVID-19 pandemic. For more on this development, visit Maritime Executive's recap here.

WALMART TO INVEST IN SC FACILITY: According to an announcement from the South Carolina Department of Commerce, retail giant Walmart will develop a 3-million square foot direct import distribution center in Ridgeville, SC near the Port of Charleston. In addition to an anticipated employment impact of 1,000+ jobs, the storage and cross-docking facility will serve regional distribution centers in the Southeast. Freight volumes associated with the facility are expected to increase volumes at the Port of Charleston by as much as 5% annually. Here's a Charleston Business Journal recap on the announcement. Tire manufacturer Michelin recently announced a similar partnership with SC Ports Authority to move tires via intermodal rail from the Port of Charleston.

WATCHING FOR ANTICOMPETITIVE ACTIONS: The U.S. Federal Maritime Commission is actively monitoring capacity reductions by container carrier shipping lines in response to COVID-19 impacts. With a spike in uncertainty and a steep drop in container volumes in the first quarter of 2020, many container carriers began to implement "blank sailings" in an effort to reduce capacity and bolster eroding rates. The FMC is also actively involved in monitoring the overall impact of COVID-19 on the container shipping industry through their *Fact Finding 29* initiative.

AIR CARGO

AIR FREIGHT VOLUMES DOWN: According to the U.S. Bureau of Transportation Statistics the air cargo sector experienced an 11% decline in total cargo by weight carried between U.S. and foreign airports in May 2020 versus May 2019. This included a 40% drop in cargo between the U.S. and Europe in May, a modest improvement over declines in March (-17%) and April (-16%). The only increase in air freight cargo volume was between the U.S. and Asia with an increase of more than 10% over 2019 figures (as seen in the below chart). For more from BTS, visit their release here.



SOURCE: U.S. Bureau of Transportation Statistics

AIR CARGO CAPACITY CONCERNS: Belly space on commercial passenger airlines represents more than 50% of the total freight capacity globally, however COVID-19 impacts and restrictions on passenger flights have significantly hindered the air cargo sector. Analysts at the International Air Transport Association (IATA) announced this week that they do not expect to see long-haul belly cargo space recovery to pre-pandemic levels until 2024. Beyond economic issues, air cargo analysts warn that the capacity crunch in air cargo could hinder potential global distribution efforts should a vaccine be developed. For more, read the Journal of Commerce's article here.

PIPELINES

JUNE RECOVERY BUT STILL BEHIND YOY: According to the American Petroleum Institute's June 2020 Monthly Statistical Report, U.S. petroleum demand rose by 1.4 million barrels per day to 17.6 mb/d, continuing the rebound first seen in April. Motor gasoline accounted for more than 85 percent of the demand rebound as easing restrictions saw increased vehicle miles travelled. The increase in demand was also supported by a long-overdue recovery for fuel deliveries which experienced its first increase of the year with a more than 41 percent hike between May and June. Compared to 2019, however, jet fuel remains more than 60% below last year's figures. Despite increasing demand, crude production remains bearish with June marking the 7th straight monthly decline and near record-level inventories further pressuring the economics of the sector. For more on the petroleum sector, read API's June report.