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20 NOVEMBER 2020



The *NCDOT Logistics + Freight Bulletin* is created and distributed by the NCDOT Office of Logistics + Freight. This update 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 + 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 share this with your group or colleagues, please do. Email us to sign up for future *Bulletins*.

TABLE OF CONTENTS

Bottlenecks Analysis

1

Congestion Costs + Performance Metrics

2

Multimodal Sector Briefings

2

Supply Chain Sector Deep Dive

4

TOP 10 STATEWIDE TRUCKING FREIGHT BOTTLENECKS— SEPTEMBER + OCTOBER 2020

Each month we analyze freight bottlenecks on the North Carolina Priority Highway Freight Network, more than 3,900 miles identified as important to freight transportation including interstates, state roads, and other key freight corridors. 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 as friction 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 review of the top 10 freight bottlenecks on the NCPHFN for September and October. Our podium stays the same, some bottlenecks are re-appearing now after several months off the charts, while most new arrivals or big movers are driven up the rankings from incident impacts.

Rank	Previous Rank	September - October 2020 Bottleneck Location	Average Daily Delay*	Events or Incidents	Division
1	1	US-421 South at US-17/US-74 in Wilmington	20 h 47 m	0	3
2	2	I-40 East at US-70 Exit 306 between Garner and Clayton	1 h 29 m	21	5
3	3	I-26 at US-64 Exit 49 in Hendersonville	33 m	69	14
4	16	I-77 North at Griffith Street in Davidson	7 m	29	10
5	†	US-19 and I-240/US-75 in Asheville	7 h 41 m	0	5
6	†	I-85 North at Main Street in Lowell	11 m	4	12
7	4	NC-150 East at I-77 in Mooresville	34 m	0	12
8	27	I-77 South at Trade Street, Exit 10 in Charlotte	38 m	26	10
9	8	I-26 at New Airport Road near the Asheville Regional Airport	37 m	49	13
10	7	US-70 Business West at Center Street in Lexington	16 h 16 m	0	12

* Average amount of time per day that congestion is identified at this location

† Previously outside of the top 1000 statewide

ABOUT THE NCDOT OFFICE OF LOGISTICS + FREIGHT

The [NCDOT Office of Logistics + Freight](#) is 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.



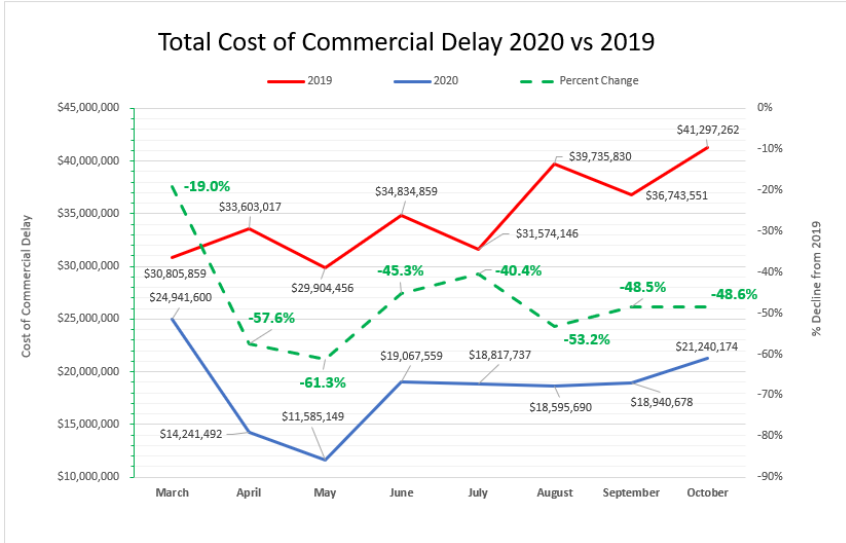
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Performance Measure	Sep-20	% CHANGE (month to month)	Q3 Quarterly Summary	Quarterly % CHANGE Q2-->Q3	Oct-20	% CHANGE (month to month)
Freight Network Travel Time Index (weekday)	0.93	1.1%	0.94	0.4%	0.93	0.0%
NCPFN System Total Cost of Delay	\$ 18,940,678	1.9%	\$ 18,784,702	25.5%	\$ 21,240,174	12.1%
NCPFN System Average Daily Total Cost of Delay	\$ 610,990	1.9%	\$ 605,958	24.2%	\$ 685,167	12.1%
NCPFN System Average Daily Cost per VMT	\$ 0.07	0.0%	\$ 0.067	25.0%	\$ 0.07	0.0%
Top 10 Bottlenecks Total Cost of Delay	\$ 255,421	-23.6%	\$ 286,287	-12.1%	\$ 444,671	74.1%
Top 10 Bottlenecks % of Total Cost	1.35%	-25.0%	1.53%	-28.8%	2.09%	55.2%
Top 10 Bottlenecks Average Daily Total Cost of Delay	\$ 8,239	-23.6%	\$ 9,235	-12.7%	\$ 14,344	74.1%
Top 10 Bottlenecks Average Daily Cost per VMT	0.29	-35.6%	\$ 0.353	-8.6%	0.32	10.3%

Congestion Cost Overview: Delay and congestion on the North Carolina freight network cost the commercial sector more than \$21M in October, a 12.1% increase over September, the largest such increase since June. We continue to see an overall upwards trend for congestion statewide as COVID restrictions are relaxed with nearly all of our monthly KPIs in the red. The upside for the start of Q4 is evident by comparison to 2019 congestion costs where 2020 figures continue to lag over the previous year by nearly half (46.7%) since the March impact of COVID. Incidents and events may also play a role in overall congestion increases as October saw a more than 30% increase in incidents over September. October experienced the highest number of incidents or events on the freight network since March 2020.



When looking at the top 10 freight bottlenecks, we’re seeing a larger share of overall congestion costs. This echoes the upward trend of congestion, but also highlights the volume at risk when we see unexpected delay in urban zones where most of our top 10 bottlenecks occur. We expect to see continued growth in both volume and congestion costs as overall VMT continues to increase.

MULTIMODAL LOGISTICS + FREIGHT SECTOR BRIEFINGS



NCDOT Ferry Division earns MARAD marine highway project designation: North Carolina Department of Transportation’s Ferry Division has earned the U.S. Department of Transportation’s designation as a part of the [Marine Highway Program](#), a select group of organizations focused on innovative approaches to expanding the use of navigable waterways in the national transportation network. A life-line for many areas of coastal North Carolina, NC’s ferry services transport more than nine thousand trucks annually, an important freight connection to the communities served. Inclusion in the Marine Highways Program provides projects with additional funding opportunities through MARAD and USDOT, as well as a smaller pool of competing applicants for funding. The program currently involves 35 designated projects nationally, and North Carolina’s ferry designation is the first of its kind for a state agency in the Marine Highways program. For more information on this great development, check out the [write up in gCaptain](#).



Maritime, trucking sectors square off over chassis pricing: At the majority of maritime ports in the U.S. ocean carriers have historically managed chassis contracting for drayage and trucking firms serving those ports. In August, the ATA’s Intermodal Motor Carriers Conference (IMCC) filed complaint against the Ocean Carrier Equipment Management Association as well as eleven ocean carriers for inflating prices at several U.S. ports. Alleging a violation of the [Shipping Act](#), trucking interests point to a noncompetitive chassis market directed by ocean carriers. The IMCC



sites this “sweetheart deal” between the chassis providers and ocean carriers resulting in overcharges over the past three years as much as \$1.8 billion. A recent ruling from the Federal Maritime Commission will allow the suit, denying the OCEMA’s motion to dismiss. This continues to be an interesting case to watch with significant implications for the intermodal drayage and trucking sector, as well as the ocean carriers involved. For more on this, check out Transport Topics’ [recap here](#).



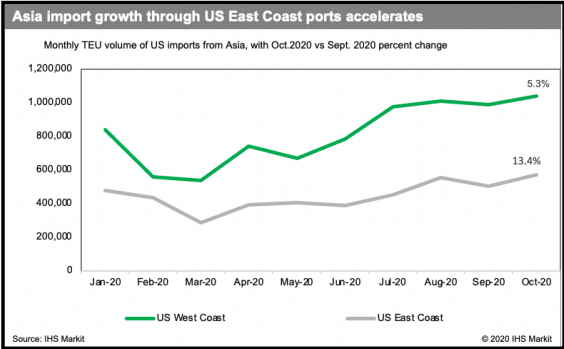
TRUCKING

Refrigerated, temperature controlled container cargo growing rapidly: The refrigerated or temperature controlled intermodal shipping sector is booming with growth in demand stemming from several factors including growing grocery eCommerce, consumer preference for fresh/local food regardless of geography, and increased demand for traceability and security for perishable goods. Potential significant demand could also arise from deployment of a COVID vaccine with current best prospects all requiring refrigeration for stability in transport. Analysts are [predicting](#) that reefer cargo will grow to a \$21.6B market by 2023 with a compound annual rate of more than 10% through 2025, far exceeding growth rates in any freight sector. In the trucking sector, reefer spot truckload rates have been growing too as demand increases for perishable cargo in advance of the holiday season in the U.S. Since August, reefer rates across the U.S. are up more than 9.4% and with trucking capacity tightening, rates are expected to continue to rise. Talking turkey specifically, strong purchasing growth over 2019 will compound these rate increases. In the five leading turkey producing states including North Carolina (NC, MN, AR, MO, IN), reefer rates were over the national average by nearly a [quarter per mile](#).



MARITIME

U.S. east coast ports gain big on Asian imports: October import volumes from Asia into east coast and gulf coast ports experience double-digit growth over September while the west coast also enjoyed more moderate increases. Imports from Asia to east coast ports were up more than 14% with gulf coast ports nearly doubling their previous month's figures. Overall imports from Asia into the U.S. increased nearly 24% over October 2019. Growth in this lane is attributed to retail sector inventory restocking, as well as rising demand from eCommerce activities. For more, visit [the JOC](#).



Source: Journal of Commerce



RAIL

Rail making gains as trucking faces tight capacity, high spot rates, driver shortage: In an industry call last week, opportunistic Class I railroads report gains in modal market share as the trucking sector wrestles with its own challenges. Active in North Carolina, both CSX and Norfolk Southern view the tight trucking market as an opportunity and are actively pursuing their share of the nearly \$980B freight market developing “truck competitive” service offerings, and leveraging new technologies, data, and analytics to enhance their service products. Norfolk Southern in particular highlights fuel efficiency and sustainability as competitive advantages over trucking, finding resonance with their customers. For more information, visit [Transport Dive](#).

U.S. rail freight traffic up with strong intermodal growth: U.S. freight railroads for the week ending on November 14, experienced volume a 5.2% volume increase over 2019, continuing a trend over the past several weeks according to the American Association of Railroads. Intermodal container volumes were 12.9% higher over 2019 during the time period. [AAR](#) highlights new and expanded inland intermodal terminals and shoreside cargo handling as key drivers in the growth of intermodal on rail. The intermodal segment is an important growth priority for railroads and in 2019, the segment was nearly 25% of all revenue for U.S. Class I railroads, outpacing all other sectors. More on this trend from [Progressive Railroad](#)ing.



Intermodal rail operations at the Port of Wilmington



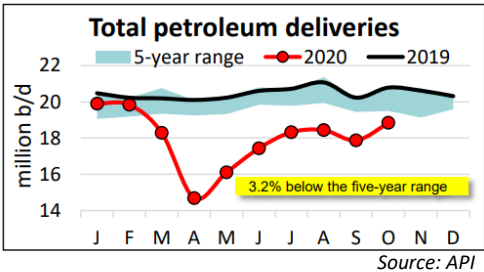
AIR CARGO

September 2020 U.S. international air cargo shows nearly 20% increase over 2019: Air cargo volumes between the U.S. and international points increased 19% by weight during September, the largest increase YoY in 2020 outpacing the 12% growth seen in July. The nearly 22% growth in domestic trade volume in September and the 10% increase in international trade represent the largest gains YOY for the year as well. Great statistics and more information is online through the [Bureau of Transportation Statistics](#).

International COVID-19 airfreight operations underway, proving capabilities: Air freight operations all over the world are preparing for the surge in demand tied to COVID-19 vaccine distribution with many firms including Volga-Dnepr and Virgin Atlantic Cargo are developing dedicated services and operations to meet the temperature and environmental requirements associated with the vaccines. Airport and air cargo handling facilities are also ramping up operations and investments to handle the expected international demand soon to be realized. In fact, air cargo flights distributing early supply of the vaccine are underway according to Air France/KLM. [Read more](#) on this important development.



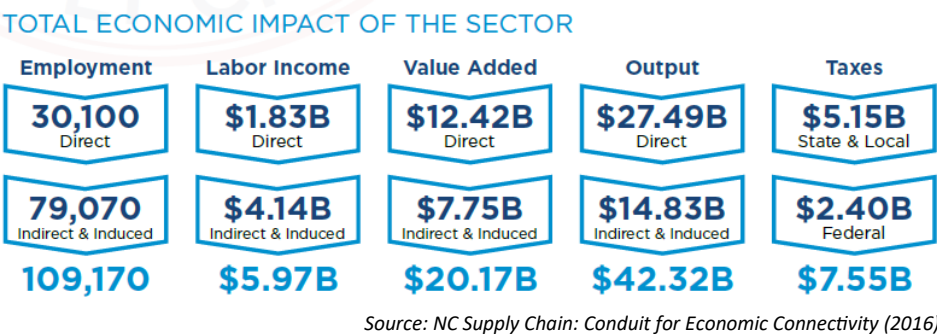
October petrol demand signals U.S. economic recovery: October 2020 saw stronger demand across all fuels, diesel, jet fuel, and other oils, a step which economists at the American Petroleum Institute say signals an economic recovery in the U.S. Motor gasoline deliveries however saw their first monthly decrease since April, still down nearly 14% YOY. Formulation data shows an increase of nearly 2%



in consumption in urban areas while rural areas declined just over 2%. Crude oil production in October dropped for the seventh consecutive month due in part to gulf coast hurricane complications. Imports for crude oil also dropped to their lowest level since 1990, marking our fourth consecutive month as a net exporter of total petroleum. Natural gas liquids on the other hand recorded its best October on record, while U.S. refinery utilization set an all time low for the pumpkin-spice month. The [API Monthly stat report](#) has more.

GET TO KNOW A SUPPLY CHAIN SECTOR: : Tobacco + Foodstuffs Manufacturing

Tobacco and Foodstuffs Manufacturing face a shift in consumer demand towards more healthful or health-conscious products. For tobacco, this is nothing new, and gains captured in market share are gathered from a shrinking pie. International markets are attractive, but fiercely competitive and served more directly by regions with less stringent regulatory environments. A volatile trade environment also complicates U.S. exports for the sector. Healthy decisions are driving the product mix demanded of foodstuffs as well, so manufacturers who adapt to this with innovation and agility may succeed in a growing market. One of the supply chain’s largest contributors to GDP value added, the Tobacco & Foodstuffs sector demonstrates moderate labor income, moderate wages, high productivity, and robust output. Sales, excise, income, and social insurance taxes lead all assessments for a whopping total tax contribution of nearly \$7.6B.



Much like textiles and furniture, tobacco cultivation and production has long been associated with North Carolina. Rightfully so, given the fact that the state remains the United States’ leading producer of this highly lucrative leaf, harvesting 117,400 acres in 2019 worth more than \$441M according to the USDA. In 2019, North Carolina produced 360 million pounds of flue-cured tobacco in particular, representing 77% of total U.S. production, however 2019 figures represent the lowest acreage and production in over 100 years at both the national and state level. Since 2004, China has been the most important export market for both U.S. and North Carolina tobacco, however as trade relations soured in 2019 and politically-motivated tariffs were put in place, tobacco export to China dropped by more than 99% between 2018 and 2019.

Foodstuffs and food products manufacturing also enjoys a legacy in North Carolina—from the birthplace of Pepsi in New Bern, to the *hot & now* signs at Winston-Salem-based Krispy Kreme Donuts bakeries across the state, to the front door of snack and chip giant Snyder’s-Lance’s corporate headquarters in Charlotte. These more recognizable retail brands represent just a small segment of Foodstuffs side of the sector. Within this area, bread and bakery product manufacturing is the most significant industry for employment impact, carrying more than 9,500 employees or nearly 32% of the sector’s labor count. The entire sector employs more than 30,000 people in North Carolina, and accounts for three-quarters of 1% of the state’s entire workforce.



You know what these are.



North Carolina tobacco ready to be topped.

Downward trends in tobacco consumption warn of a challenging future for this industry within Tobacco & Foodstuffs, however the sector remains a significant contributor to the economy in North Carolina. Representing 6.8% of the state’s manufacturing workforce as recently as 2015 and the sector contributes labor income of more than \$1.8B, ranking 9th of the 14 supply chain related economic sectors. The tax impact of Tobacco & Foodstuffs in North Carolina on state, local, and federal tax revenues is perhaps the most impressive and unique of its contemporaries. With total tax contributions of \$7.55B, the sector represents nearly one quarter of the \$32.1B in taxes paid to state, local, and federal governments by supply chain industries. It ranks first in taxes paid to state and local governments with nearly 40% of the supply chain contribution. Of these, sales and property taxes provide the most significant contributions. The \$2.4B paid in federal assessments places it 2nd of all supply chain sectors. The majority of federal taxes are corporate tax (\$608M) followed by excise tax payments (\$5.1M) reflecting the stringent excise environment around tobacco products.

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