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Cost of Congestion & Key Freight Bottlenecks — March & Q1 2023 Recap

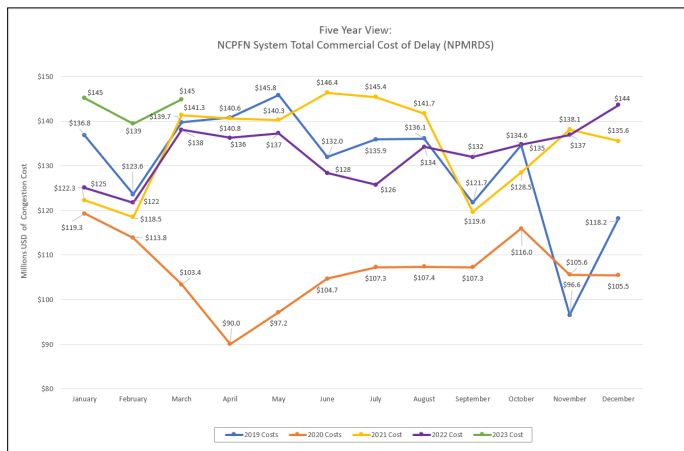
Delay and congestion cost commercial industry millions of dollars each year. This cost eventually becomes a burden on the sustainability of the freight transportation sector, and the cost of goods and services for the end-consumer. This can be as straightforward as friction between volume and capacity, but freight congestion can also represent the challenge of reconciling network functionality with economic behavior.

Performance Measure	Jan-23	% CHANGE (MoM)	% CHANGE (YoY)	Feb-23	% CHANGE (MoM)	% CHANGE (YoY)	Mar-23	% CHANGE (MoM)	% CHANGE (YoY)	Quarterly Summary (Q1)	Quarterly % CHANGE (Q1)	Quarterly % CHANGE (Q1 YOY)
NCPFN System Total Commercial Cost of Delay	\$ 145,167,319	1.1%	16.0%	\$ 139,465,854	-3.9%	14.5%	\$ 144,896,447	3.9%	5.0%	\$ 143,176,540	3.4%	11.6%
NCPFN System Commercial Average Daily Cost per VMT	\$ 0.28	-6.7%	3.7%	\$ 0.29	3.6%	3.6%	\$ 0.31	6.9%	3.3%	\$ 0.29	-3.3%	3.5%
Commercial VMT on the NCPFN System	520,455,961	9.7%	10.7%	480,322,473	-7.7%	9.0%	469,059,581	-2.3%	0.4%	1,469,838,015	8.0%	6.7%
NCPFN System Com. Vehicle-hours of Delay (#Hours)	1,444,595	1.1%	16.0%	1,387,858	-3.9%	14.5%	1,441,899	3.9%	5.0%	1,424,784	3.4%	11.6%

Rank	Previous Rank [†]	Top Freight Bottleneck Locations - November 1, 2022 - April 30, 2023	Average Daily Delay*	Division
1	3	I-40 West at US-276, Exit 20 between Clyde & Waterville Lake	4 h 57 m	13
2	1	I-40 East at US-70, Exit 306 between Garner and Clayton	2 h 5 m	5
3	2	I-77 South at Nations Ford Road, Exit 4 in south Charlotte	1 h 46 m	10
4	6	I-85 South at NC-273, Exit 27 between Charlotte and Belmont	1 h 10 m	10
5	8	I-77 North at Woodlawn Road, Exit 6 in Charlotte	54 m	10
6	7	I-485 East at NC-16, Providence Road, Exit 57 in Charlotte	1 h 28 m	10
7	5	I-26 West at NC-146 Exit 37 south of Asheville	2 h 14 m	13
8	14	I-40 East at US-276, Exit 20 between Clyde & Waterville Lake	2 h 19 m	13
9	9	NC-150 East at I-77 west of Mooresville	1 h 14 m	10
10	17	I-77 North at I-277, Exit 6 in Charlotte	44 m	10

[†] Previous rank based on rolling six-month analysis

* hours per day in which congestion was present



Congestion costs on the Statewide Priority Highway Freight Network in March 2023 exceeded \$144.8M, a 3.9% increase, erasing nearly all gains from the prior month and surpassing March 2022 cost figures by nearly 5%. Overall VMT on the network experienced a 2.3% decline over February reaching its lowest level volume since November of last year. For the 1st Quarter of 2023, congestion costs averaged nearly \$143.2M per month with freight drivers covering nearly 1.47B miles on the network during the first three months of the year. Compared to 1Q2022, this year has started with an 11.6% increase in congestion costs and a 6.7% increase in overall VMT on the network over the same period last year. March's Freight Network Bottleneck Top

10 analysis, based on a six-month rolling capture, continues to be dominated by urban congestion zones, however the previous period's only rural bottleneck, I-40 West at US-276 near Clyde has taken over the top spot (with a nearly 42% increase in total congestion) and welcomed its eastbound neighbor into the top 10 rankings from its previous position just outside of the rankings. Three of the previous period's top 10 saw an average of 9% reduction in total delay over the period enabling their improvement in the rankings. Total delay, the ranking factor, is established by multiplying the delay by volume and then aggregating the delays for the entire period that the bottleneck is active.

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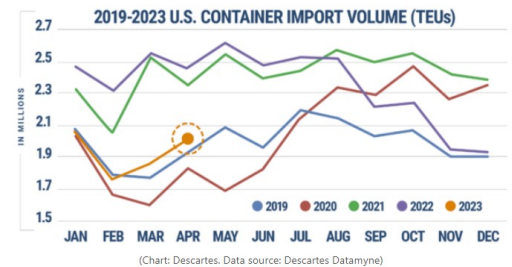
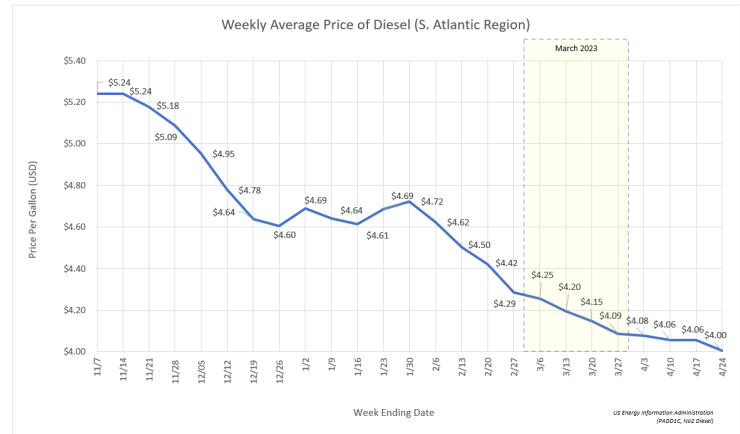
Cost of Congestion & Key Freight Bottlenecks, *cont.*

Despite congestion and bottlenecks, positive movement in fuel prices continued to alleviate related costs for commercial transportation. For the fourth month in a row, diesel fuel prices in the region declined, reaching \$4.00 in the last week of April, rapidly approaching the previous low point last February's \$3.99/gallon. Diesel prices in the region have been declining generally since November 2022 with just a few upticks during the overall timeframe.

Key Supply Chain Issues Facing North Carolina

West Coast Port Labor Negotiations Continue with Some Signs of Progress: Despite claims of work slowdowns, contract negotiations continue between the International Longshore and Warehouse Union (ILWU), the labor organization representing longshore and shoreside workers at the 29 US and Canadian West Coast container ports, and the Pacific Maritime Organization (PMA), the multi-employer collective bargaining association representing port operators and shipping carriers. Contract talks began in May 2022 prior to the most recent contract expiration on July 1, 2022; however no agreement has been reached. In July of last year, the two sides reached an agreement on the healthcare plan for labor (administered by the PMA for all 23,000+ ILWU members). Working for more than a year without a contract, talks had continued without significant confrontation; however, in early April 2023 the PMA accused the ILWU of work slowdowns that disrupted port operations. Despite this, the two sides have since found common ground on key issues including the use of technology and automation on port. With the rapid spread of technology in the supply chain sector, port automation has been a major sticking point for labor in negotiations on both the US West Coast, and US East and Gulf Coast Ports. With the tentative agreement on technology and automation, both sides will now move on to discussing wages and benefits where the ILWU is expected to push for wage increases. Both sides will also need to agree upon the length of the contract with labor hoping to renegotiate sooner than the employer-organization.

US Container Imports on the Rise Again: April US container imports exceeded 2 million TEU, a 9% increase over the previous month and a 5% increase over April 2019. Very few analysts expect US import volumes to keep the pace seen in 2021 and 2022 as the US economic recovery drove record-setting import volumes. For example, by comparison to 2022, April's figures show an 18% decrease YOY. Uncertainty facing the labor issues at US West Coast ports continues to influence shipper preference towards US East and Gulf Coast ports. The Port of New York/New Jersey witnessed a 19% increase in volumes over March and the Port of Savannah (GA) saw an increase of 15% MoM. Houston, the US Gulf Coast's most significant port experienced a 9% increase over this past month. Some analysts suggest that container shipping patterns may return to a familiar peak-seasonality recognized as the norm pre-COVID, a development which will be interesting to watch if freight volumes continue to migrate away from US West Coast ports to the East and Gulf Coasts.



The NCDOT Statewide Freight Advisory Committee met on April 12th at Central Carolina Community College's Emergency Services Training Center in Sanford. Interim Aviation Director Becca Gallas (pictured below) and team presented the recently released *State of Aviation* report and the NCDOT UAS team provided a series of UAS usage case demonstrations including a hands-on opportunity for SFAC members and guests (including NCDOT Board Member Lisa Mathis, pictured below) to try flying one of several NCDOT drones.

