



Freight & Logistics

NCDOT is a part of your supply chain.

Cost of Congestion & Key Freight Bottlenecks — July 2022 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	Jun-22	Jul-22	% CHANGE
NCPFN System Total Commercial Cost of Delay (NPMRDS)	\$ 128,352,420	\$ 125,740,799	-2.0%
NCPFN System Commercial Average Daily Cost per VMT (NPMRDS)	\$ 0.29	\$ 0.28	-3.4%
Commercial VMT on the NCPFN System	448,662,661	446,235,677	-0.5%
NCPFN System Com. Vehicle-hours of Delay (NPMRDS) (#Hours)	1,277,266	1,251,277	-2.0%
Top 10 Bottlenecks Total Cost of Delay	\$ 5,925,551	\$ 6,174,271	4.2%
Top 10 Bottlenecks % of Total Cost	4.62%	4.91%	6.4%
Top 10 Bottlenecks Average Daily Total Cost of Delay	\$ 197,518	\$ 199,170	0.8%
Commercial VMT on Top 10 Bottlenecks NCPFN System	11,376,198	16,098,264	41.5%
Top 10 Bottlenecks Cost per VMT	\$ 0.52	\$ 0.38	-26.9%

Rank	Previous Rank	July 2022 Bottleneck Locations	Average Daily Delay*	Events or Incidents	Division
1	270	I-40 West at Exit 33 west of Asheville	41 m	16	13
2	3	I-26 West at NC-146 Exit 37 south of Asheville	3 h 26 m	64	13
3	124	I-77 South at the Iredell/Mecklenburg County Line	4 h 36 m	85	12
4	2	I-85 South at NC-273 Exit 27 between Charlotte and Belmont	2 h 30 m	5	10
5	18	I-26 East at NC-146/Exit 37 near Asheville	55 m	39	13
6	15	I-77 South at Remount Road in Charlotte	3 h 16 m	27	10
7	6	I-77 North at Tyvola Road Exit 5 in Charlotte	2 h 26 m	11	10
8	53	I-26 West at NC-191 between Asheville and Fletcher	42 m	83	13
9	111	I-85 South at Statesville Avenue, Exit 39	37 m	12	10
10	665	I-40 East at Union Cross Road southeast of Winston-Salem	1 h 27 m	9	9

* hours per day in which congestion was present

The Statewide Priority Highway Freight Network experienced broad improvement during July 2022 with overall congestion costs on the network decreasing 2% to \$125.7M from June, as well a slight drop in total commercial vehicle miles traveled on the network. Concurrent with the reduction in overall costs, the network experienced a 2% decrease in overall vehicle hours of delay, a welcome improvement for commercial drivers and a freight transportation sector besieged by high fuel prices. Despite overall statewide congestion improvements on the network, July's Top 10 commercial bottlenecks experienced a minor increase in total delay cost by nearly \$250K and increased their respective contribution to the statewide congestion cost totals by more than 6%. July's Top 10 also represented a 41.5% increase in commercial VMT versus the prior month which can be explained in part by the concentration of bottlenecks in high-volume dense urban areas as all but one of the Top 10 bottlenecks were in the greater Charlotte or Asheville metropolitan areas.

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NCDOT RAIL DIVISION FREIGHT & LOGISTICS PROGRAM

The key NCDOT resource for supply chain, freight, and logistics-related issues, analysis, subject-matter expertise, related projects, and relevant initiatives.

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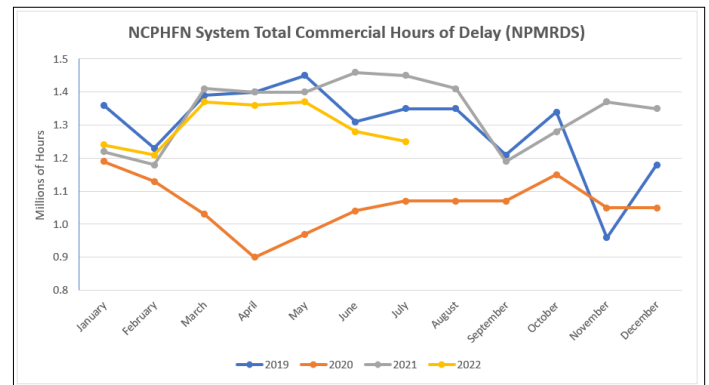
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Cost of Congestion & Key Freight Bottlenecks, *continued*

Many of this month's bottlenecks were recent newcomers to the Top 10 with events and incidents being a large contributing factor. In fact, following June's post-pandemic record number, July raised the bar higher yet with more than 350 events or incidents, marking the third month in a row with a nearly 30% increase since April 2022. Overall the Statewide Priority Highway Freight Network saw improved fluidity versus June 2022, and a healthy 13.5% improvement Year-over-Year from July 2021. Commercial hours of delay on the network are trending down but with shipping peak season right around the corner as retailers stock up for fall and winter holiday demand, it remains to be seen whether this positive trend will continue.



Key Supply Chain Issues facing North Carolina

- **East coast port congestion increasing as shippers seek to avoid west coast backlog:** Shippers looking to avoid congestion and backlogs on U.S. west coast ports are seeking new routings to the east coast. The import surge, upwards of 20% in 2021, created significant congestion at Los Angeles and Long Beach drawing media attention to the more than 100 vessels then awaiting docking and service motivated shippers to look for alternatives. West coast ports are also negotiating with labor over a new contract while currently operating without an agreement. This threat of possible work stoppages or slowdowns have shippers adjusting supply chains looking east to hedge against further disruption. With volumes shifting east and increased traffic with the rapidly approaching peak season, several east coast ports are now experiencing queues including most notably the Port of New York/New Jersey and the Port of Savannah. Additionally, the gulf coast port of Houston is also facing unprecedented congestion. Shoreside operations and storage capacity at these ports are also strained with the onslaught of cargo moving east. From January to May of 2022, NY/NJ experienced a 12% increase in volumes YOY while Houston witnessed an unprecedented 24% increase during the same period. East coast ports facing congestion are actively seeking solutions including setting up inland container storage facilities, especially for empty containers awaiting pickup by carriers. The situation is likely to continue although many importers, burned by port delays and reduced consumer spending in early 2022, are reducing orders from Asia and Europe which may help to ease congestion.
- **UK ports strike and China heat wave will impact global supply chain:** A labor strike at Britain's Felixstowe port and record temperatures in China shuttering factories and straining the Chinese energy grid may create ripple effects on a global supply chain still recovering from the impact of the pandemic. In the UK's largest container port of Felixstowe negotiations over dockworker pay have stalled leading to an 8-day strike action in late August. Analysts estimate the 8-day stoppage impacted more than \$4.7B adding a further ripple in the global supply chain. Although the initial strike has ended, no agreement has been reached and other UK ports such as Liverpool are facing labor actions and stoppages over wages, as well. Other global ports such as Hamburg, Bremerhaven, Busan, and Oakland have also experienced strikes and work stoppages recently adding to a potential tinderbox global supply chain. In China, record temperatures and a widespread heat wave are threatening the world's most productive manufacturing economy. Heavily reliant on hydroelectric power, dried up rivers are handicapping energy production amid record high temperatures. Several factory shutdowns resulting from limited power supply or provincial government orders include global manufacturers such as Toyota, Apple, Tesla, Volkswagen, Intel, and even SAIC Motor, the largest automaker in China. Combined with factory shutdowns, China's position as the global leader in lithium production has prices for this vital input to battery technology skyrocketing. Together with factory shutdowns due to China's zero-COVID policy, these most recent climate-crisis induced issues in China will undoubtedly have a significant global impact.
- **Rail labor talks stalled as workers' survey demonstrates strong disappointment in federal recommendations; NMB intervenes:** Wages and benefits continue to be the central issue in negotiations between freight railroads and labor. An August survey of more than 3,000 rail workers by the Railway Workers United, a caucus of multiple rail unions, found more than 90% of respondents did not favor the federal recommendations with more than 95% believing they should be able to exercise their right to strike on or after September 16 if an agreement is not reached. On September 3, the National Mediation Board recalled railroad negotiators and union leaders to return to guided negotiations in Washington on September 7.