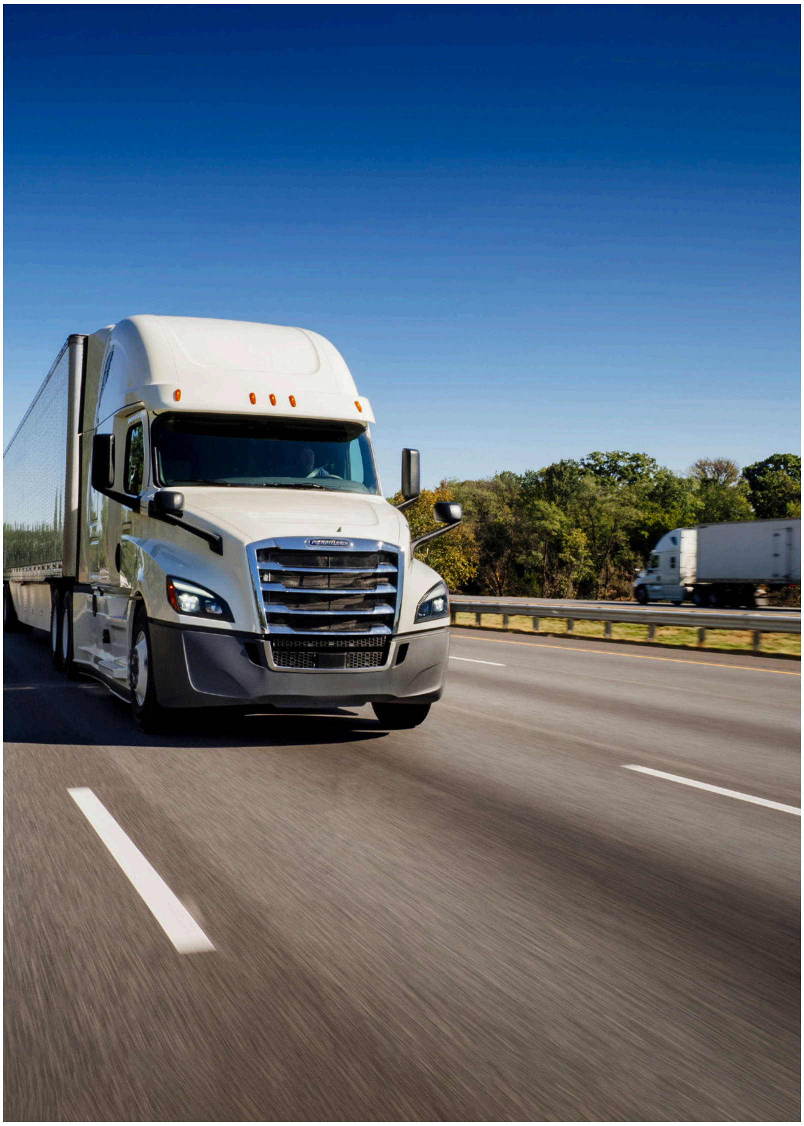

Executive summary 2022

CSCMP'S ANNUAL
STATE OF LOGISTICS REPORT®

AUTHORED BY KEARNEY

PRESENTED BY PENSKE
Rental | Leasing | Logistics

Chaotic conditions and cresting costs

In last year's *State of Logistics Report*, we said the COVID-related challenges of 2020 signaled a new era in which companies must simply learn to expect continual change. This turbulence was only extended and amplified in 2021, as the stubbornly durable and adaptable pandemic kept intense pressures on the entire logistics sector.

As services spending gave way further to the purchase of goods by consumers adjusting to new norms of work and social life, clogged ports and paltry capacity failed to meet surging and often desperate demand. Inventory-to-sales ratios dropped to near-record lows and capacity adds from carriers were in no way near the levels required by shippers.

Disruptions in all logistics networks effectively destroyed capacity, as ships loitered at ports; equipment waited to be unloaded; and trucks rushed out half-empty, dashing off to the next high-paying load with little regard for backhauls.

Even as companies furiously added capacity in trucking, parcel, air freight, and warehousing, it was just as quickly snapped up—with the partial and promising exception of the motor sector, in which the infusion of more vehicles and drivers did alleviate some pressure on ground transports.

But even such glimmers of hope were overshadowed by the larger reality facing the logistics sector in 2021: persistently rising costs. United States business logistics costs (USBLC) rose by 22.4 percent and came to represent 8 percent of the nation's entire GDP, a level not seen since 2008 (see figure).

Figure

USBLC rose by 22.4 percent, and came to represent 8 percent of the nation's GDP ($ billion)

	2021	2020	YoY 2021/2020	5-year CAGR
Transportation costs				
Full truckload	332.2	301.6	10.2%	4.5%
Less-than-truckload	83.0	73.3	13.2%	7.8%
Private or dedicated	415.2	298.0	39.3%	9.6%
Motor carriers	830.5	672.9	23.4%	7.2%
Parcel	134.5	116.8	15.2%	11.4%
Carload	71.9	60.2	19.4%	4.5%
Intermodal	16.4	14.1	15.9%	–1.0%
Rail	88.3	74.3	18.8%	3.3%
Air freight (includes domestic, import, export, cargo, and express)	52.7	44.2	19.2%	–6.4%
Water (includes domestic, import, and export)	32.4	25.7	26.3%	–4.1%
Pipeline	67.3	56.9	18.2%	8.7%
Subtotal	**1205.7**	**990.9**	**21.7%**	**6.1%**
Inventory carrying costs				
Storage	186.4	155.4	19.9%	7.6%
Financial cost (WACC x total business inventory)	164.5	123.3	33.4%	2.4%
Other (obsolescence, shrinkage, insurance, handling, others)	150.4	119.4	25.9%	5.0%
Subtotal	**501.3**	**398.1**	**25.9%**	**5.0%**
Other costs				
Carriers' support activities	77.1	62.4	23.6%	7.9%
Shippers' administrative costs	62.9	57.7	9.1%	5.6%
Subtotal	**140.0**	**120.1**	**16.6%**	**6.8%**
Total US business logistics costs	**1,847.02**	**1,509.09**	**22.4%**	**5.8%**

Notes: USBLC is United States business logistics costs. YoY is year-over-year. WACC is weighted average cost of capital. Includes 5.4% inflation for 2021 numbers
Source: CSCMP's 33rd Annual State of Logistics Report (see report appendix)

Like so much else that occurred in 2021, logistics inflation was at least partly attributable to the lingering pandemic. COVID was sidelining logistics workers as it disrupted their supply chains, and those who remained on the job saw their wages shoot up even as overall capacity flatlined or suffered further depletion.

Business inventories dropped near historic lows, but the costs to store, handle, and finance them spiked. Inventory carrying costs rose by 25.9 percent, and transportation costs—driven by increases in all modes and nodes—were up by 21.7 percent.

As a result of these factors, producers struggled with availability and put customers on allocation (limiting what each customer could purchase) even as they raised prices to compensate for soaring materials, logistics, and labor expenses while also expanding production. As Rick McDonald, chief supply chain officer at The Clorox Company, related, great feats were accomplished as hard lessons were learned. "The pandemic created demand for products that could help stop the spread of infection. As an essential business, we responded by doubling capacity of disinfecting wipes, going from an empty space to a high-speed automated line in nine months, and that meant our carriers also had to respond. We got a much closer look at what our transportation partners could and couldn't do, which informed who we're going to be working with."

Rising costs were not the only sources of agitation. Operationally, the sector's pain seemed to grow throughout the year as logistics and materials shortages created a vicious cycle of failed arrivals of materials and goods. Shippers started to pull orders forward to meet seasonal and holiday demand, which made capacity shortages more acute as increasing demand chased congested and shrinking supply.

Stepping back for a moment, it may sound a bit odd to speak of "agitation" and "pain" in the context of a year in which the logistics industry grew by 22.4 percent, to $1.85 trillion. But this was growth accompanied by chaos and high costs—and so far, 2022 seems to be offering little respite. Russia's invasion of Ukraine and massive pandemic shutdowns in China have created new pressures on the global supply chain.

Then there are the uncertainties facing the US national economy. It grew at a healthy clip in 2021, expanding by 5.7 percent to $23 trillion, but that growth rate is slowing to an estimated 2.8 percent in 2022—still hot by historical standards. That's obviously good news at the bottom-line level, but it also means relief on the demand side of the logistics is not coming fast enough.

In addition, there is a possibility that anyone seeking such demand relief might be about to get a little too much of it. As the inflation rate hit 8.5 percent in the spring of 2022, pressures for fiscal tightening became more acute. While hospitality, restaurants, and airlines were recovering strongly, the booming sectors of durable goods, retail, housing, home improvement, and e-commerce saw a slowdown as rising interest rates and expectations of lower future inflation began to bite into current demand. In short, the logistics sector must simultaneously contend with the hangover of red-hot demand and worries of a revenue-diminishing and inventory-swelling downturn.

A rundown of main sectors

Turbulent circumstances and rising cost pressures were the story of 2021 in all major logistical sectors. Here's a summary of how these forces played out across each one.

Air. Air freight costs increased by 19.2 percent, as demand continued to exceed supply throughout the year. Shippers made major moves to obtain more air capacity as ocean capacity proved insufficient. More planes were converted to cargo carriers, and cargo firms took in more plane deliveries, but air freight hubs were clogged by the surge in cargo demand, and this spilled over into secondary airports. Passenger routings did not recover substantially in 2021, putting a lid on the return of capacity, but 2022 sees passenger traffic returning and with it the belly-freight capacity.

Parcel and last mile. The explosive growth of last-mile delivery volumes continued, driven by the increased popularity of work-from-home and other social-distancing behaviors. E-commerce grew by 10 percent to $871 billion—13 percent of all US retail sales. The parcel sector was a direct beneficiary, growing by 15.6 percent and turning in the highest five-year compound annual growth rate (CAGR) of any of the cost components, at 11.4 percent. However, there is evidence that e-commerce growth has begun slowing a bit as shoppers return to stores.

Third-party logistics (3PLs). Amid all the uncertainties roiling the logistics sector, shippers increasingly turned to 3PLs to address scarce capacity, supply chain complexity, service disruptions, and surging customer demands.

Freight forwarding. The freight forwarding market expanded significantly in 2021 as shippers scrambled for available capacity and contended with widespread port congestion. Sustained high demand helped forwarders drive their gross margins high above historical standards.

Water/ports. US water shipment costs surged 23.6 percent, with ocean carriers earning more profit in 2021 than in the previous 20 years combined. Note international ocean expenditures, which grew much faster, are not reflected in this report as those revenues are earned by non-US carriers. Much as in the trucking sector, sea-dependent shippers expressed growing frustration with logjams and rising costs. Yet while ocean carriers did indeed hold back on adding capacity in 2021, it's hard to see how even a radical increase in ships would have made much of a difference, given continued port congestion.

Shippers increasingly turned to private and dedicated fleets and had to pay more for their drivers and the trucks, driving captive fleet costs up 39.3 percent.

Motor. Road freight, the biggest segment of US logistics expenditure, rose powerfully in 2021, growing by 23.4 percent to $831 billion. Carriers that had cut or delayed capacity early in the pandemic went into overdrive, spending at unprecedented levels to attract new hires and buy new trucks. Shippers worried about lost sales proved more than willing to pay ever-increasing spot rates. This sustained high demand at high prices powered profits, with top US carriers seeing profits rise by 50 percent, 100 percent, or more even as their own costs of operation continued to surge. However, troubles may be looming. Shippers miffed by low service levels increasingly see the development of their own "captive" truck fleets as a more reliable alternative that has become more affordable and the drop in demand and rates underway in Q2 of 2022 will squeeze carrier margins. As Andy Moses, SVP sales and solutions at Penske Logistics, observed, "Captive fleets rose to the occasion as they became more valued, driving an accelerated adoption that remains with us today. We've seen shippers that have gone 10 years without a private or dedicated fleet get into them."

Rail. Rail costs in the US were up 18.8 percent overall, but network speeds and service levels worsened due to the same kinds of disruptions seen by other modes, including port congestion, chassis shortages, and tight labor markets. Intermodal volumes were up modestly thanks to high prices and scarcity in trucking, and intermodal prices shot up accordingly. While carloads were up in both volume and price, leading railroads invested heavily to position for intermodal growth in such areas as infrastructure, visibility, and end-to-end solutions.

Warehousing. Consumers kept up their demand for ever-faster deliveries for a wider range of goods, and companies responded by buying more warehousing space, especially high-end facilities close to urban and suburban consumers.

Pipeline. The pipeline sector was up 18.2 percent, amid rising pressure on a variety of fronts, including an increasingly hostile regulatory environment, more frequent severe weather events, and geopolitical turmoil that could soon pose severe tests for the North American network.

Relative stability may or may not return, so the logistics sector must invest now in controlling what factors it can.

Seeking sync: new game, new rules

As mentioned in last year's report, COVID-19 showed that turmoil in logistics is the new rule of the game. But if getting back in sync still seemed out of reach as this current report went to print, shippers were already acting to build new resilience and agility in the face of a "no normal" context.

One way this has manifested is through merger and acquisition (M&A) activity—historically a popular way for railroads, trucking companies, and other logistics players to beef up capacity. But many have sought to address the current challenges at a deeper, more intrinsic level—by evolving their delivery offerings and seeking to bring greater efficiency to capabilities that had been stood up rapidly or accelerated at the onset of the epidemic in 2020.

Beyond such continuous plan redevelopment and adaptation, logistics must be permanently about embedding resilience and agility into its capabilities before shifting its focus back to such questions as cost minimization and efficiency. Relative stability may or may not return, so the logistics sector must invest now in controlling what factors it can.

This includes the further development of technology, especially in parcel tracking and automation. But it also means a deepening commitment to multi-shoring or friend-shoring, which in turn requires greater optionality as companies coordinate a more complex array of transit modes and facilities. Such enhancements of resilience and agility require better and more collaborative relationships among customers, suppliers, and third-party providers.

Finally, a true commitment to resilience will also incorporate sustainability—not only as a market-friendly signal to increasingly environment-minded customers and corporations, but also as a means of reducing fuel-cost vulnerabilities and abating the risk of future weather-related disruptions even more severe than the ones that rocked supply networks in 2021.

To sum up, 2021 was a flush year for the logistics sector—but also a deeply unsettled and trying one. For the industry to get back in sync and return to a more balanced long-term growth trajectory, it will need to invest in the ideas and capabilities that will make it more resilient—come what may.

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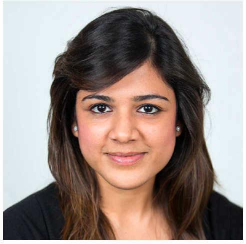

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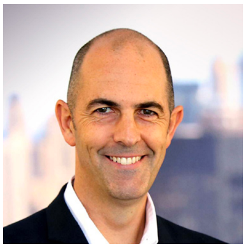

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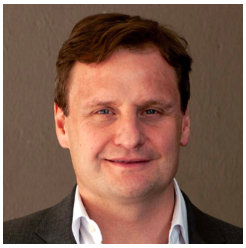

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