

Travel, Logistics & Transport Infrastructure Practice

US freight after COVID-19: A bumpy road to the next normal

Our new research foresees a difficult recovery of up to four years, with some pockets of growth. Freight and logistics companies will need to adapt.

This article is a collaborative effort by members of McKinsey's Logistics Practice. The authors include Sal Arora, Dilip Bhattacharjee, Scott McConnell, John Murnane, and Aniket Panda.



The US freight and logistics industry has coped well with the short-term disruptions created by the pandemic. Now, these companies are also pondering what the future holds for them, through the crisis and into the next normal. Our earlier research on intra-US freight (road, rail, and water) identified a long-running secular trend: the decline of what we call freight intensity (the ratio of freight tonnage to GDP). Freight intensity has been steadily falling since 1990 but stabilized after the great recession of 2009 (Exhibit 1). Simply put, the economy has been shifting away from heavy industry and other goods that require transport toward lighter manufacturing and services.

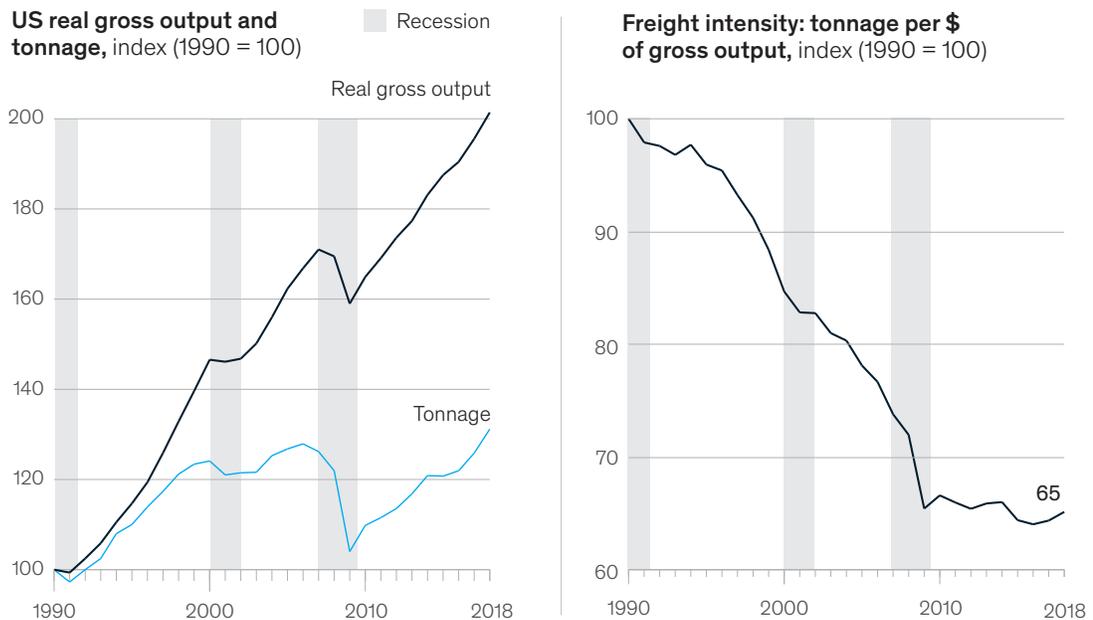
Our new research considers how freight intensity might develop in the coming years and how that would affect the recovery of US freight and logistics. We took as our base case a macroeconomic outlook, derived from McKinsey’s nine COVID-19 scenarios. To this we added an estimate of freight intensity in every US sector, analyzing historical trends and

considering the structural factors that may affect their recovery.

The research produced two insights for freight and logistics companies. First, full recovery will take about three to five years, a rough patch in which companies will be severely tested. Second, the recovery will differ by transportation mode and commodity. Some products, such as nonmetallic minerals, ceramic, clay, cement, agriculture and food products, and pharmaceuticals, will likely return to growth faster and more firmly than other products. Companies that can adapt their portfolios to shippers in these sectors can accelerate their own reversal of fortune, shaving as much as two years off the time needed to return to 2019 volumes. In this article, we will review the outlook for the macroeconomy and freight in specific sectors and offer ideas about how companies can best handle the bumpy return from this crisis.

Exhibit 1

US freight has not kept up with the broader economy.



Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis

A tough freight recovery, with pockets of growth

In our June 2020 survey of US executives, 44 percent said that a “muted world recovery” scenario seemed most likely: the coronavirus recurs, growth is slow, and GDP does not fully recover until Q1 2023. (We use this scenario as the basis for all analysis in this article. Other scenarios are possible and should not be discounted; see “Safeguarding our lives and our livelihoods: The imperative of our time,” on McKinsey.com for a full explanation.)

In that scenario, sectors’ recovery trajectories vary considerably (Exhibit 2). After the current contraction, services (a broad sector, including healthcare, information, communications, business services, and education) will recover fastest,

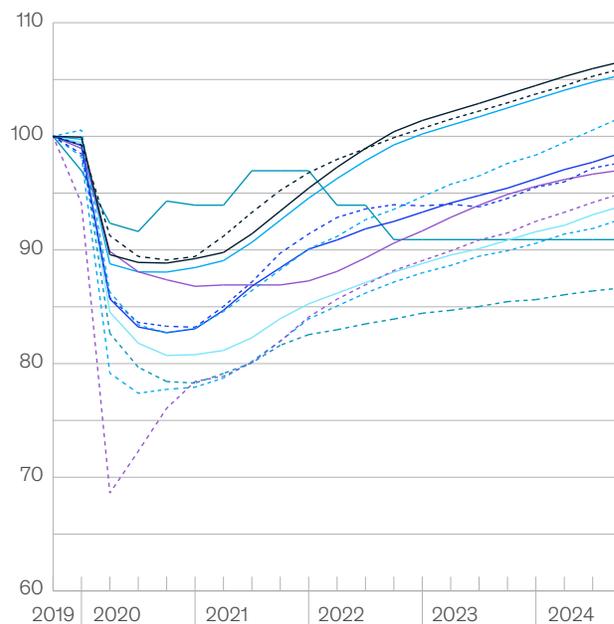
reaching precrisis gross output by Q4 2022. On the other hand, wood, paper, and textiles are not expected to recover fully by 2024.

Based on our estimates of economic outlook under the “muted world recovery” scenario and changes in sectors’ freight intensity (see sidebar, “Freight intensity by sector”), we estimated the recovery in tonnage for key products (Exhibit 3). In this estimate, tonnage of basic commodities will grow significantly by 2024 due to a likely jump in freight intensity. Tonnage in goods ranging from coal to machinery and appliances will likely shrink between 2019 and 2024. Electronics, services, and agriculture and food will likely increase freight tons between 2019 and 2024 due to some combination of GDP recovery and freight-intensity changes.

Exhibit 2

Recovery will likely vary by commodity in the ‘muted world recovery’ scenario.

US gross output by commodity type 2019–24, index (2019 Q4 = 100)



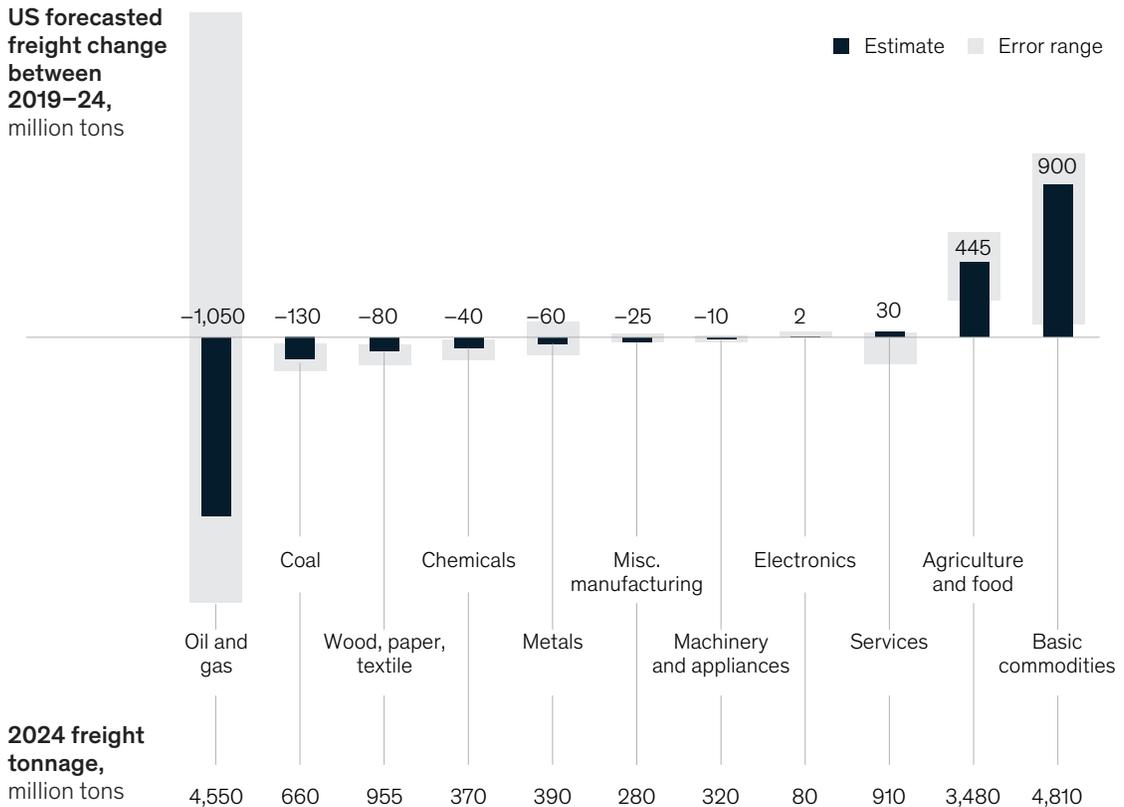
Gross output annual change, % Q4, 2019–Q4, 2024

Services ¹	1.3
Agriculture and food	1.2
Real GDP	1.1
Electronics ²	0.3
Chemicals ³	-0.3
Basic commodities ⁴	-0.5
Oil and gas	-0.6
Machinery and appliances ^{2,5}	-1.0
Misc. manufacturing	-1.3
Metals	-1.5
Coal	-1.9
Wood, paper, textile	-2.8

¹Includes healthcare services. ²Includes medical devices. ³Includes pharmaceuticals. ⁴Basic commodities include stone, sand, gravel, nonmetallic minerals, and metallic ores. ⁵Includes automotive.
Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis, in partnership with Oxford Economics

Exhibit 3

Freight tonnage will evolve differently for each commodity.



Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis, in partnership with Oxford Economics

Effects by mode of transport

The recovery for a mode of transport as well as for individual carriers will depend on its commodity exposure, thus creating a range in performance among carriers (Exhibit 4). In most scenarios, less-than-truckload (LTL) shipping and full-truckload (FTL) shipping are likely to recover faster than other modes due to their commodity-mix profiles (Exhibit 5). Both trucking modes carry a heavy proportion of fast-to-return agriculture, food, and services and benefit from growth in e-commerce. FTL’s freight mix also contains a significant portion (16 percent) of fast-to-return basic commodities. Air cargo will take four years to recover, as light machinery (28 percent) and electronics (18 percent), two of its largest shippers, will be slower to return. Rail volumes will likely take

more than four years to return, due to high exposure to slower-to-return coal, oil, and gas. Across all modes, demand hits bottom in 2020 and recovery starts afterward.

While the outlook is subdued, there will likely be pockets of growth, especially in e-commerce and last-mile delivery—opportunities that, as we discuss below, may be available even to companies whose presence in these pockets is small today. And while three to four years of recovery is no one’s idea of a picnic, the situation looks better than in 2008. After that crisis, FTL took eight years to return to precrisis levels. By that measure, the current prognosis seems mild.

Freight intensity by sector

One outcome from our earlier research was a clearer understanding of national freight intensity, as seen in Exhibit 1. However, the national freight intensity aggregates very different commodity markets, making it difficult to discern their nuances or to capitalize on them. We have since examined the historical record and calculated freight intensity at a sector level (exhibit).

Sectors vary widely in freight intensity. Services (with a freight intensity of 6) has low dependence on freight, while the figure for wood, paper and textile is higher (116). Some sectors simply require less freight tonnage to deliver the same value of goods; as that relationship changes, growth in

those underlying sectors may not directly translate to freight growth.

While these relationships are fairly stable, they do shift. Recent growth rates for sectors' freight intensity capture changes in demand and in the way goods are shipped. For example, services companies have historically not had to rely on transport on a regular basis, a trend that has accelerated in recent years. Agriculture and food, already freight intensive, have become more so in the past several years because e-commerce adds a few intermediate moves to distribution centers in the traditional journey from manufacturer to consumer.

Extrapolating from the historical trends, and applying some qualitative judgment about the conditions in each sector, we can anticipate how freight intensity might shift in each sector. Some recent trends will sustain and even accelerate over the next four to five years.

Categories where freight intensity is high and rising should interest freight companies most. All other things being equal, strengthening freight intensity in basic commodities, an already freight-intensive category, will make for a meaningful increase in tonnage; strengthening freight intensity in electronics will not.

Exhibit

Freight intensity will deepen in some commodities.

Structural factors affecting freight intensity (FI), by commodity

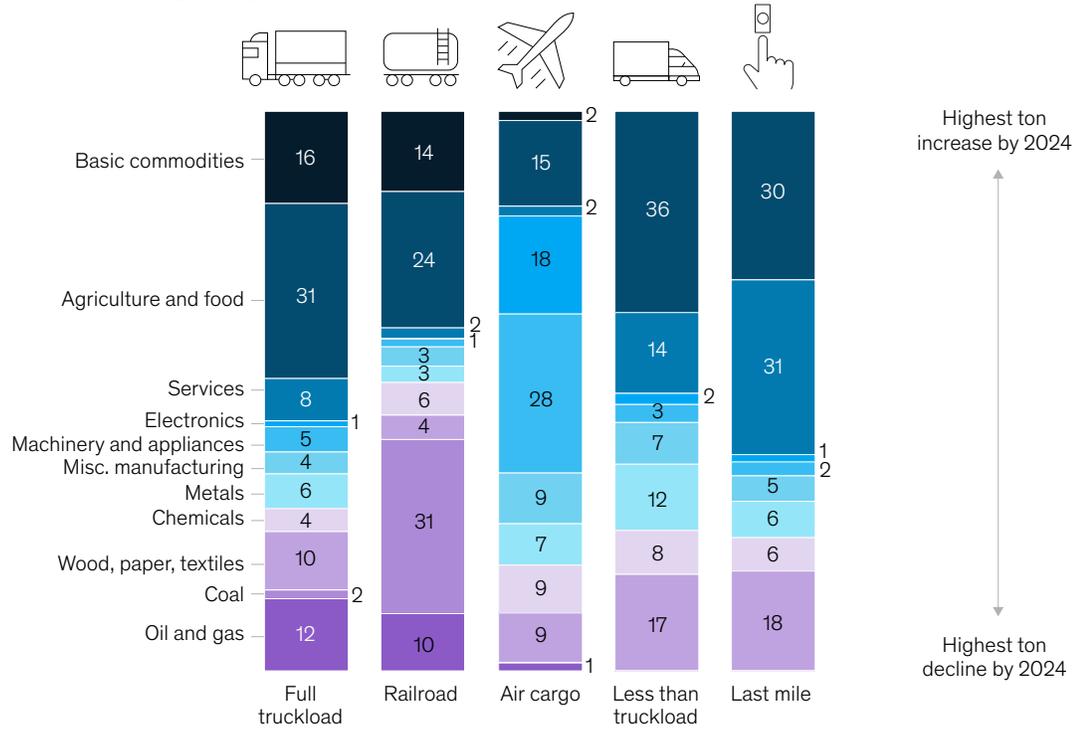
2018 commodity and FI	CAGR, ¹ %	Future trend
Basic commodities ² 1,452	2.4	↑
Agriculture and food 208	1.2	↑
Wood, paper, textile 116	1.1	↑
Machinery and appliances ^{3,4} 19	0.9	↑
Coal 2,391	0.2	—
Electronics ³ 8	3.1	—
Metals 61	0.9	—
Misc. Manufacturing 48	1.3	—
Services ⁵ 6	-1.9	↓
Chemicals ⁶ 47	-2.3	↓
Oil and gas 343	6.1	↓

¹5-year compound annual growth rate (CAGR) between average of 2011–13 and 2016–18. Includes impact of subcommodity-mix change within each commodity. Indexed to 1990 overall FI = 100. ²Basic commodities include stone, sand, gravel, nonmetallic minerals, and metallic ores. ³Includes medical devices. ⁴Includes automotive. ⁵Includes healthcare services. ⁶Includes pharmaceuticals. Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis, in partnership with Oxford Economics

Exhibit 4

Each mode's commodity exposure will affect its recovery.

2018 commodity mix by mode, % share

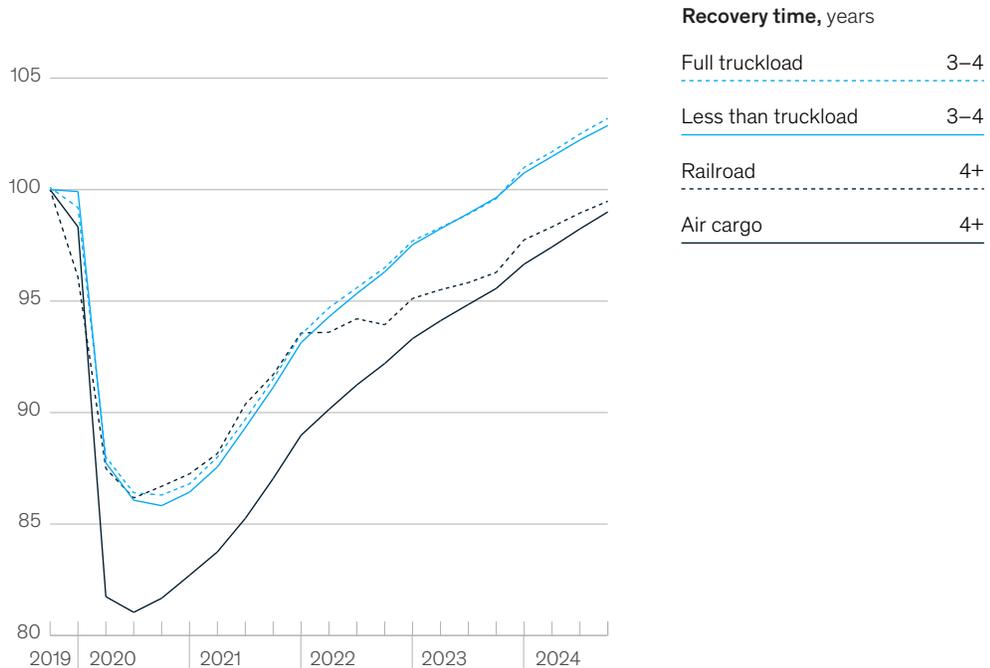


Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis

Exhibit 5

Each mode's commodity mix will help determine its recovery.

Freight tonnage 2020–24, index (2019 = 100)



Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis

How US freight and logistics companies can prepare

US freight and logistics companies are set for a moment in the spotlight—and a new kind of heft in their customer relations. Most have long felt overly managed by procurement departments. But the crisis has made logistics and transportation very much a C-suite issue, especially as shippers seek greater resiliency in their supply chains. Freight and logistics companies need to make the most of the opportunity. Transport is in for a difficult stretch, with subdued demand for the next three to five years. But the companies that can innovate and outperform their peers will have a chance to shine.

First, though, they must come to grips with the economic reality of the pandemic. Exhibit 6, an illustrative financial statement for a US trucking company, shows the potential effects. The pandemic's demand shock is reducing volumes and yields, and could turn a company from profit to loss.

In the face of this reality, leading companies will take action across three dimensions. First, they

will make bold moves on discretionary and non-people-related costs. Most logistics companies spend a significant amount on transportation, maintenance services, fuel, and parts— often up to 50 percent of their overall costs. While these costs will fall as volume decreases, leading companies are not waiting for that. Instead, they are taking this opportunity to “rebase” their spending, assess supply risks, and prepare new category strategies that will drive price and demand-side efficiencies.

Second, companies are reorienting their commercial model toward the pockets of growth that will be stronger in the coming years. Of course, every company has key accounts and a legacy of strength in certain commodities, but companies that can find the industries and markets where growth will return faster and begin to shift resources (network, sales force, operations) to those pockets could see a faster return than competitors. For example, a representative FTL company that rebalances its mix to favor commodities that are least affected by the COVID-19 crisis can accelerate its recovery by almost two years (Exhibit 7).

Exhibit 6

Full truckload carriers may need to restructure costs to remain competitive.

Example full truckload carrier, index (precrisis revenue = 100)

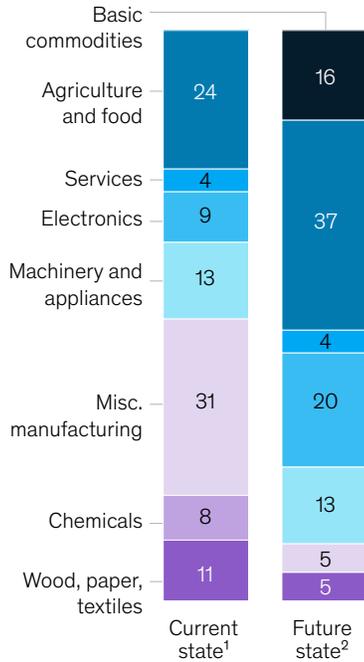
COVID-19 operations		Typical operations	Assumptions and rationale
Revenue	100	75	↓ Results from 15 percentage-point drop in volume and 10 percentage-point drop in yield
Salary and wages	27.1	23.8	↓ ~80% of labor costs are variable and will decline with volume
Fuel	23.5	16–20	↓ Drops roughly in line with volume
Rent and purchased transportation	18.4	~15.6	↓ Purchased transportation scaled with demand
Other external spend	17.4	~14.7–15.4	↓ Supplies, maintenance, and insurance claims scale with volume; permits and licenses are stickier
Depreciation	7.7	~6.4–7.7	↓ Partial cost-reduction potential
Other	0.9	~0.9	○ Costs such as utilities and communications are “stranded”
Earnings before taxes	5.0	–8.5 to –2.4	↓

Source: Company filings; McKinsey analysis

Full truckload carriers may emerge stronger if they change their commodity mix.

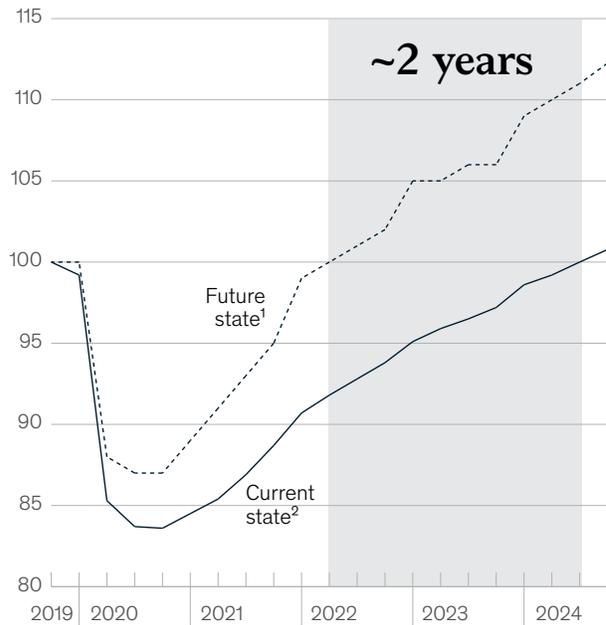
A shift in commodity mix ...

2018 commodity mix by mode, % share



... could improve recovery for a full truckload player

Freight tonnage evolution,¹ index (Q4 2019 = 100)



¹Commodity mix for an example of full truckload carrier.

²Shift in commodity mix in the next normal.

Source: American Trucking Association; Bureau of Economic Analysis; Bureau of Transportation Statistics; Federal Highway Administration; Federal Reserve; McKinsey analysis

Finally, leading companies are investing in new digital capabilities to unlock top- and bottom-line impact. Transportation is a business that has gone relatively undisrupted for decades—as long as freight needs to move from point A to point B, some combination of a truck, train, or plane is going to move it—and for newcomers to enter this business is not easy. While that physical movement will always remain, digital is changing the way that carriers

interact with customers, raising the bar for speed and experience. This can be seen in the significant growth of some digital start-ups in recent years, as much as 50 percent faster than carriers. Leading companies realize that if they do not digitize, they may get commoditized. This kind of transformation is not easy, but success stories are appearing in the landscape and the outlook for those that wait is not looking any better. There is no better time to make the leap than right now.

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