COVID-19 IMPACTS ON THE TRUCKING INDUSTRY

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Prepared by

The American Transportation Research Institute

ATRI American Transportation Research Institute

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The OOIDA Foundation

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The American Transportation Research Institute (ATRI), is a 501(c)(3) not-for-profit research organization engaged in critical research relating to freight transportation's essential role in maintaining a safe, secure, and efficient transportation system.

The Owner-Operator Independent Driver Association Foundation (OOFI), is a 501(c)(3) not-for-profit organization. OOFI was established to provide research and education for all truckers focusing on the small carriers and owner-operators. OOFI is an affiliate of OOIDA and its 160,000 members from all 50 states.

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INTRODUCTION

The COVID-19 pandemic of 2020 has likely impacted the U.S. economy like no other event since the Great Depression. Shelter-at-home laws, business closures and "social distancing" have dramatically affected every sector of the economy, from manufacturing to consumer spending. Recent economic analyses indicate that the COVID-related unemployment levels exceeded 20 percent in March 2020 – representing nearly 27 million lost jobs in the course of approximately 40 days.[1]

The American Transportation Research Institute's (ATRI) formal process for vetting, approving and conducting research normally begins with an endorsement by its Research Advisory Committee at its annual meeting. The Owner-Operator Independent Driver Association Foundation (OOIDA Foundation) also conducts research on a broad range of truck driver-related issues, and is a standing member of ATRI's Research Advisory Committee (RAC).

Recognizing that the COVID pandemic's unparalleled impact on the trucking industry necessitates immediate and timely COVID-related research, ATRI and the OOIDA Foundation developed a collaborative research methodology for ascertaining the myriad impacts that the pandemic is having on supply chains, trucking operations and truck drivers in particular.

BACKGROUND

In normal times, the trucking industry is the backbone of the nation's economy, leveraging its 3.5 million truck drivers to deliver more than 71 percent of all freight tonnage valued at $10.4 trillion, generating $796.7 billion in gross revenue.[2]

The trucking industry is also one of the most critical and resilient sectors of the U.S. economy. In times of both natural and man-made events and disasters, the trucking industry is heavily relied upon to deliver critical supplies, often directly into the sphere of danger. More recently, the industry played a lead role in emergency response during hurricanes such as Katrina, Rita, Irma and Harvey – where trucks laden with food, water, blankets and generators raced into the epicenter of the storms. The trucking industry has been equally critical during localized events such as flooding, wild fires and tornados.

While the extent of harm and danger in previous pandemics may not equate to the existing COVID-19 pandemic, the trucking industry was again the workhorse for SARS, Swine Flu (H1N1) and the more limited Ebola outbreak – moving medicine, medical equipment and other supplies from storage locations to medical facilities. The Swine Flu disrupted supply chains to some extent in 2009, although the Centers for Disease Control and Prevention (CDC) had predicted Swine Flu would be responsible for a 40 percent increase in employee absences across the entire transportation workforce.[3] Truck drivers were categorized as medium risk for contracting Swine Flu; as such, the CDC recommended that truck drivers modify their

[1] Zarroli, Jim and Avie Schneider. (April 23, 2020). Deluge Continues: 26 Million Jobs Lost in Just 5 Weeks. https://www.npr.org/sections/coronavirus-live-updates/2020/04/23/841876464/26-million-jobs-lost-in-just-5-weeks
[2] *Trucking Trends 2019*. American Trucking Associations. Arlington, VA
[3] Centers for Disease Control and Prevention (CDC). (December 3, 2018). Interim Guidance for Cargo Trucking Crews for the Prevention of Pandemic Influenza. Retrieved from https://www.cdc.gov/flu/pandemic-resources/archived/cargo-trucking.html

processes to increase social distancing.[4] Drivers were encouraged to stagger break times, limit social interactions, and use text messaging to communicate when possible to avoid face-to-face interactions.

On December 31, 2019, Chinese health officials informed the World Health Organization (WHO) of 41 patients who had been diagnosed with a "mysterious pneumonia." Chinese media reported its first death two weeks later, while the CDC confirmed the first case of the Coronavirus in the U.S. on January 20, 2020. On February 11, the WHO announced the novel disease would be called COVID-19, and a month later the WHO declared the virus a pandemic on March 11.[5]

Prior to becoming a pandemic, COVID-19 was already having an impact on global supply chains. Chinese manufacturing was shuttered to contain the spread of the virus and the resulting impacts on U.S. ports, particularly on the West Coast, was significant. According to a report in the Los Angeles Times, trade with China accounts for approximately half of the container volumes coming through the Ports of LA/Long Beach but the reduction in Chinese manufacturing output led to large decreases in container volumes and the ports were shut down for days at a time.[6]

President Donald Trump declared a national emergency on March 13, 2020 with most states following suit. In the wake of these declarations, many non-essential businesses were forced to close their doors and all public gatherings of more than ten people were banned.[7] In response to the pandemic, the Federal Motor Carrier Safety Administration (FMCSA) issued an emergency declaration on March 13 providing hours-of-service (HOS) relief to truck drivers transporting emergency supplies. The declaration was subsequently updated on March 18 and April 8, 2020 to include fuel haulers and to provide additional guidance on driver credentials and "mixed loads."[8]

During this same time period, Americans across the country began panic buying core grocery items, and grocery store shelves were emptied of toilet paper, paper towels, hand sanitizers, and cleaning supplies – among many other products.[9] In response, trucking fleets and drivers worked to restock store shelves and supply hospitals and pharmacies with critical medical supplies.[10]

At the federal level, additional regulatory relief and guidance was issued to ensure that truck drivers could continue to operate as efficiently as possible to deliver critical supplies. Among these actions was the inclusion of truck drivers and industry support personnel in the U.S.

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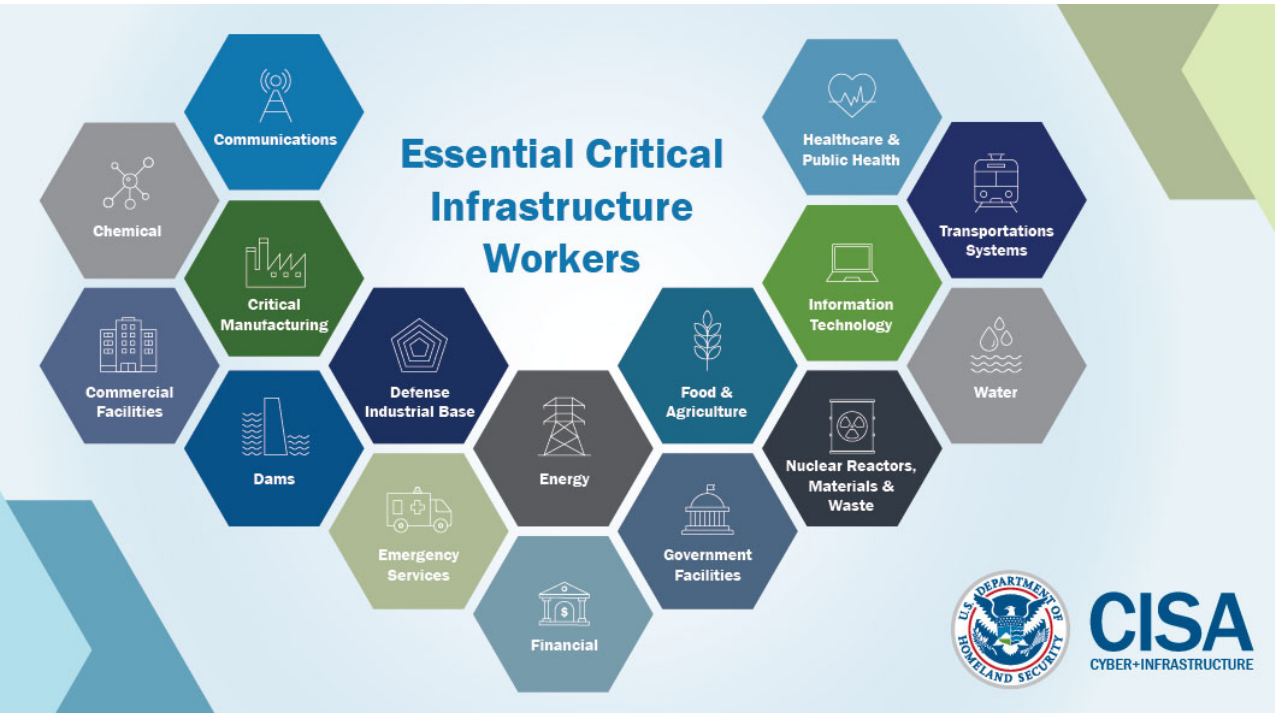
[4] Ibid.
[5] Bryson, Derrick. (March 27, 2020). A Timeline of the Coronavirus Pandemic. Retrieved from https://www.nytimes.com/article/coronavirus-timeline.html
[6] Roosevelt, Margo. Truckers, dockworkers suffer as coronavirus chokes L.A. Long Beach ports cargo. The Los Angeles Times. March 7, 2020. Available online: https://www.latimes.com/business/story/2020-03-07/la-fi-coronavirus-ports-california-economy
[7] Mark Schremmer, "A coronavirus timeline: How we got here," *Land Line Magazine* (April 1, 2020), https://landline.media/a-coronavirus-timeline-how-we-got-here/
[8] FMCSA. (March 18, 2020). Expanded Emergency Declaration Under 49 CFR 390.23 No. 2020-002. Retrieved from https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/2020-03/EXPANDED%20EMERGENCY%20DECLARATION%20UNDER%2049%20CFR%20%C2%A7%20390.23%20No.%202020-002.pdf
[9] Knoll, Corina. Panicked Shoppers Empty Shelves as Coronavirus Anxiety Rises. The New York Times. March 16, 2020. Available online: https://www.nytimes.com/2020/03/13/nyregion/coronavirus-panic-buying.html
[10] Marshall, Aarian. As COVID-19 Spreads, Truckers Need to Keep on Trucking. Wired. March 20, 2020. Available online: https://www.wired.com/story/covid-19-spreads-truckers-keep-trucking/

Department of Homeland Security (DHS) Cyber and Infrastructure Security Agency (CISA) Guidance on the Essential Critical Infrastructure Workforce (Figure 1). This designation provided direction to state and local authorities on how to ensure business continuity in the supply chain while protecting public health and safety.[11] Additional actions taken at the federal and state level are described in Appendix A.

Figure 1. Essential Critical Infrastructure Workers[12]



Even with this designation, the trucking industry encountered numerous obstacles as trucks continued to operate while most of the country began to implement shelter-in-place orders. States closed public rest areas, reducing the number of safe places where truck drivers could rest and use the facilities.[13] State licensing agencies also closed, prohibiting drivers from renewing the Commercial Drivers Licenses (CDLs). State orders to close dine-in restaurants severely limited food options for commercial drivers who are not able to access drive-thru food outlets in their trucks.[14]

To provide more accurate and timely information to trucking firms and drivers, most major industry associations created COVID resource centers. For example, OOIDA and Land Line

[11] CISA. (March 28, 2020). Guidance on the Essential Critical Infrastructure Workforce. Available online https://www.cisa.gov/publication/guidance-essential-critical-infrastructure-workforce#download
[12] CISA. (March 28, 2020). Advisory Memorandum on Identification of Essential Critical Infrastructure Workers During COVID-19 Response. Retrieved from file:///C:/Users/espeltz/Documents/Erin/Projects/Coronavirus/CISA_Guidance_on_the_Essential_Critical_Infrastructure_Workforce_Version_2.0_Updated.pdf
[13] Barradas, Samuel. (March 20, 2020). Coronavirus Forcing Closure of Some Rest Areas, but Truckers Still Need Them. Retrieved from https://www.thetruckersreport.com/coronavirus-forcing-closure-rest-areas-truckers-still-need/
[14] Knight, Ashley. (March 23, 2020). Truck Drivers Having Difficult Time Getting Meals. Retrieved from https://www.wbtv.com/2020/03/22/truck-drivers-having-difficult-time-getting-meals/

Media compiled the latest updates from federal and state governments on the outbreak on a truck driver-targeted website.[15] Similarly, the American Trucking Associations (ATA) launched an online COVID-19 hub providing detailed information and links for fleets on how to best protect their drivers and other employees.[16]

RESEARCH METHODOLOGY

ATRI and OOIDA jointly developed a trucking industry-targeted survey (Appendix B) that identified a range of operational and financial issues that might be impacted by the COVID pandemic. The survey was designed to obtain the assessments and perspectives of multiple labor categories in trucking, from truck drivers to dispatchers to senior executives. The draft survey was reviewed by multiple researchers within both ATRI and OOIDA Foundation. Once approved, the survey was converted to a web-based format and posted on two different online survey platforms. ATRI and OOIDA Foundation provided identical introductory information for the survey.

On March 25, a joint press release was disseminated by both organizations to highlight the survey (Appendix C). Concurrent with the press release, the survey entitled *Trucking Industry Perspectives: How is the Coronavirus Pandemic Impacting the Industry Survey* was then separately distributed by both ATRI and OOIDA Foundation through their respective databases. Numerous industry media outlets covered the joint survey research.

The OOIDA Foundation emailed the COVID Impacts survey on March 25, 2020 to 78,600 members, generating 2,980 responses as of Wednesday, April 8. ATRI emailed the COVID Impacts survey to its database of 11,000+ industry stakeholders, and requested that the 50 State Trucking Associations also disseminate it.

Across both distributions, the survey generated approximately 5,100 usable responses. Not every question was answered by every respondent, but in most cases the surveys were comprehensively completed. In terms of confounding factors, responses came in over the course of two weeks, and in that time, many local, state and national pandemic-related changes took place. This “moving target” of issues could affect responses, depending on the location and time period the survey was completed.

As noted, the research initiative generated nearly 5,100 survey responses representing a broad cross-section of the industry in terms of geography, sector and fleet size. Both ATRI and OOIDA researchers analyzed the data, and generated the following analyses.

RESPONDENT DEMOGRAPHICS

In total, 5,073 individuals responded to the survey. The majority of respondents (77.1%) were truck drivers (Table 1). Among those drivers, a majority were between the ages of 45 to 64 (66.9%) and 81.4 percent had 11 or more years of experience driving a truck. This large sample of experienced drivers gives weight to the likelihood that their perspectives and responses are both accurate and insightful.

With multiple survey questions relating to policies, operational changes and financial implications from COVID-19, it was also beneficial to have more than 13 percent of the

[15] https://landline.media/covid-19-the-latest-info-brought-to-you-by-ooida-land-line/
[16] https://www.trucking.org/COVID19

respondents representing fleet executives, operations, safety and other personnel. The remaining 9.4 percent of respondents identified as "Other," including:

- Retired driver
- Sales Manager
- Driving Instructor
- General Manager

Table 1. Respondent Role in Trucking

	Percent
Truck Driver	77.1%
Senior Executive	6.1%
Operations	4.1%
Safety Manager	2.4%
Accounting & Finance	0.6%
Maintenance / Engineering	0.3%
Other (please specify)	9.4%

The majority (97.4%) of for-hire motor carriers in the U.S. operate 20 or fewer trucks.[17] Survey respondents appear to be slightly under-representative of small fleets, where approximately 70 percent indicated their fleets operate 50 or fewer trucks (Table 2).

Table 2. Respondent Fleet Size

	Percent
Less than 5	49.3%
6-15	8.8%
16-50	10.5%
51-250	11.6%
251-500	5.0%
501-1000	3.1%
1,000+	8.2%
Don't know	3.6%

The majority of respondents represented for-hire fleets (81.2%), while 14.1 percent of respondents were from private fleets. Among for-hire fleet respondents, the majority were Truckload (65.5%), followed by Specialized (19.5%) and Less-than-Truckload (6.1%).

[17] *Trucking Trends 2019*. American Trucking Associations. Arlington, VA

ANALYSIS RESULTS

The primary objective of this research is to understand the immediate operational impacts that the pandemic had on trucking operations in the U.S.

Trucking Operations: Trip Lengths Decrease

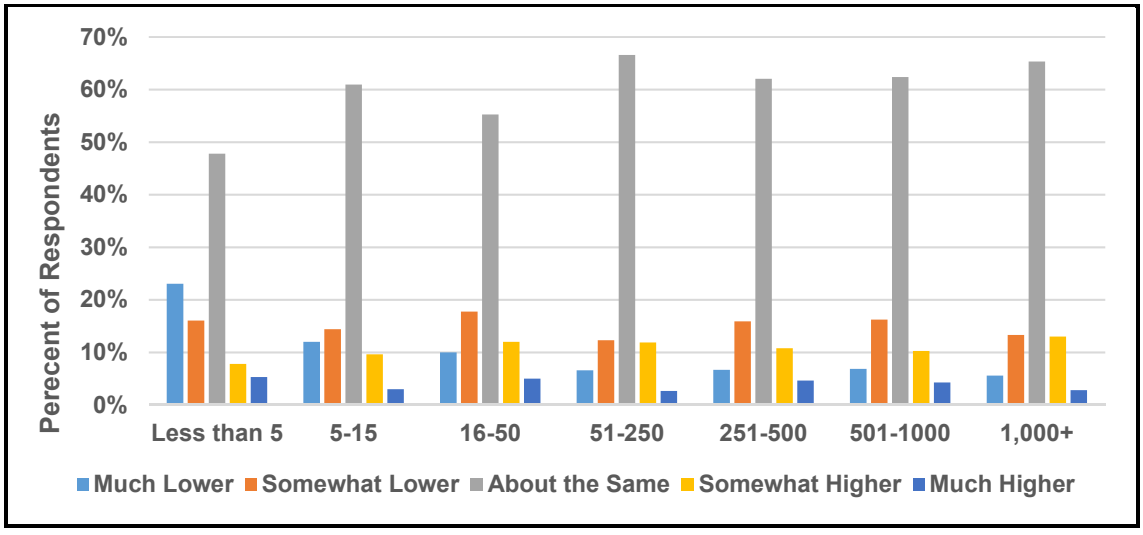
Prior to the pandemic, approximately eight percent of respondents' truck trips were considered "local" at less than 100 miles (Table 3). During the pandemic, this figure more than doubled, while the longest two trip categories decreased by 13.4 percentage points. While the underlying cause cannot be clearly discerned from the survey data, anecdotal evidence is that long-haul movements of international containers decreased at the same time that fleet operations recalibrated to moving essential consumer goods from local and regional warehouses to retail establishments.

Table 3. Average Length of Haul Before and During Pandemic

	Percent Before Pandemic	Percent During Pandemic
Local (less than 100 miles per trip)	7.8%	18.2%
Regional (100-499 miles per trip)	31.0%	33.8%
Inter-regional (500-999 miles per trip)	28.6%	25.2%
Long-Haul (1,000+ miles per trip)	32.7%	22.7%

While the pandemic decreased trip lengths overall, the impact was most pronounced among smaller fleets (Figure 2). For fleets of fewer than five trucks, 40 percent of respondents reported decreased average trip length, with nearly one in four respondents reporting that their average trip length was "much lower."

Figure 2. Average Trip Length Change by Fleet Size

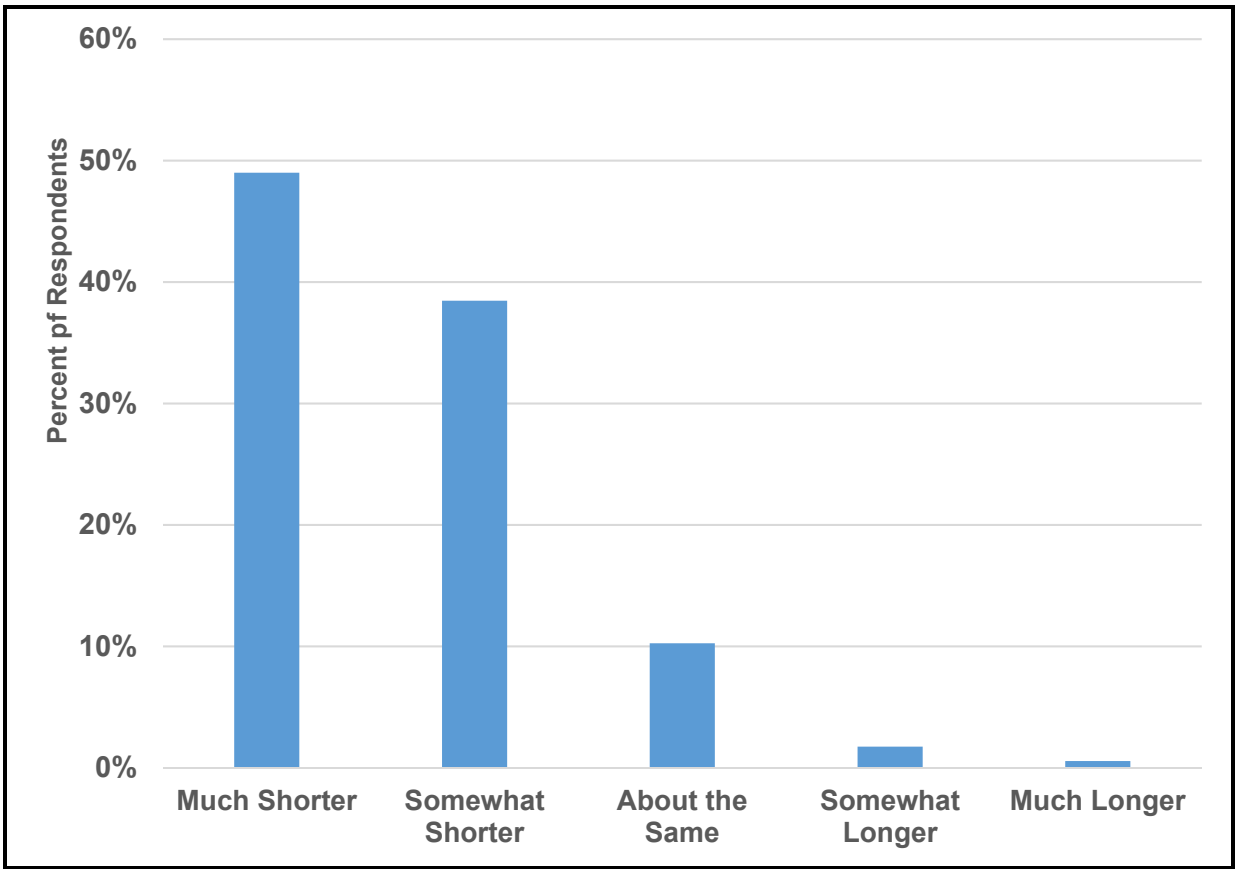


Trucking Operations: Faster Travel Times without Congestion

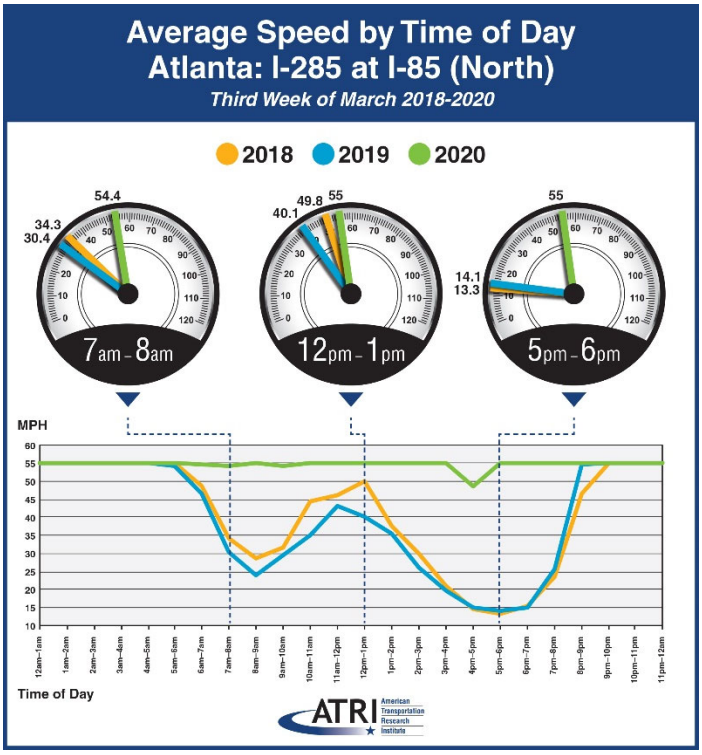
In addition to average trip length, respondents were also asked how their drive time changed as a result of the Coronavirus pandemic.

Respondents who indicated that their average traffic congestion delays were either “much shorter” or “somewhat shorter” represented 87 percent of the sample (Figure 3). Drivers are experiencing less traffic congestion due to state-level stay at home orders. With fewer car drivers on the road, truck drivers are experiencing fewer traffic delays.

Figure 3. Average Traffic Congestion Delay Change due to Coronavirus



Similar findings were documented by ATRI in March 2020 when researchers analyzed truck GPS data for major freight hot spots, and found average truck travel speeds were as much as 25 miles per hour higher during the pandemic-related commuter shutdowns.[18]



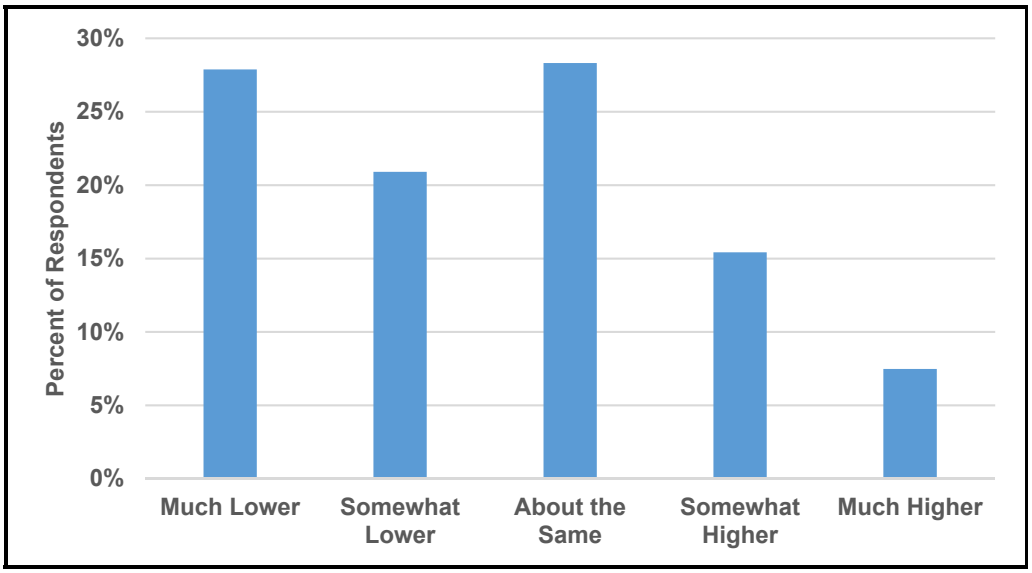
Trucking Operations: Freight is Volatile by Sector and Commodity

It is well understood that the pandemic impacted different sectors and commodities in different ways. With shelter-at-home orders keeping most commuters off the roadways, it follows that petroleum movements would decline substantially. Additionally, the consumer panic-buying increased the movement of essential consumer goods, while medical-related supplies were also in high demand.

Overall, nearly 50 percent of respondents described freight levels as "somewhat lower" to "much lower" than pre-pandemic levels (Figure 4). Surprisingly, 28 percent described freight levels as about the same – hinting that more than one in four operations were generally unaffected by the pandemic. Approximately 22 percent of respondents described operations as being "somewhat higher" to "much higher" than normal. These trucks are likely the trucks moving the essential consumer goods as well as medical supplies.

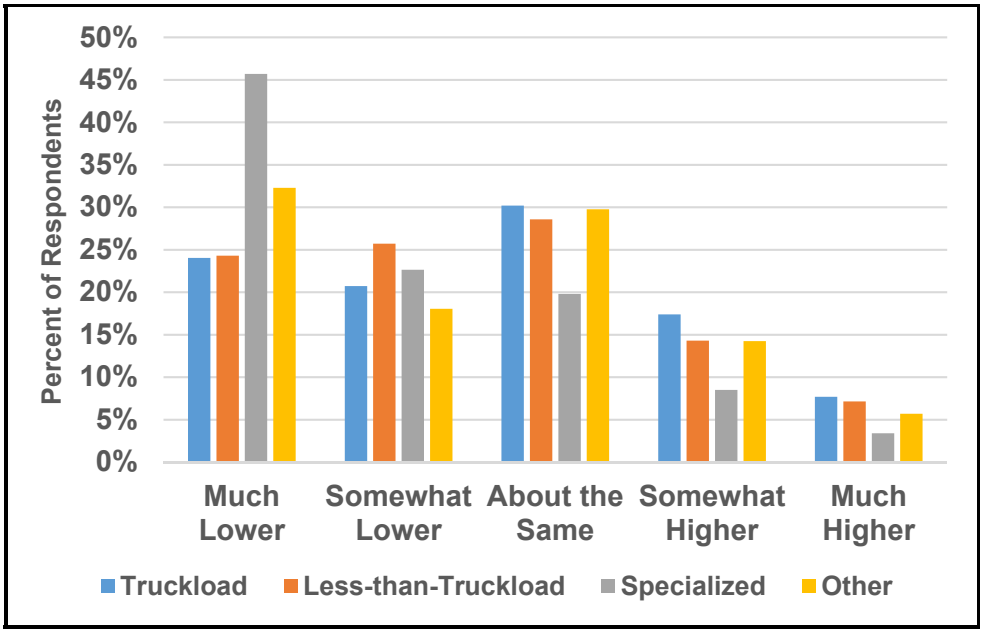
[18] ATRI analyzed its truck GPS data to quantify the impact of lower traffic congestion on average truck speeds by time of day at several key U.S. highway facilities. The facilities selected typically rank high on ATRI's annual truck bottleneck list due to slow speeds that result from congestion. To accomplish this, data including a spot speed value was first selected for each facility for the third week of March in 2018, 2019 and 2020. The speed data was next binned by hour of day, and average speeds by time of day were calculated.

Figure 4. Change in Freight Levels Due to Coronavirus



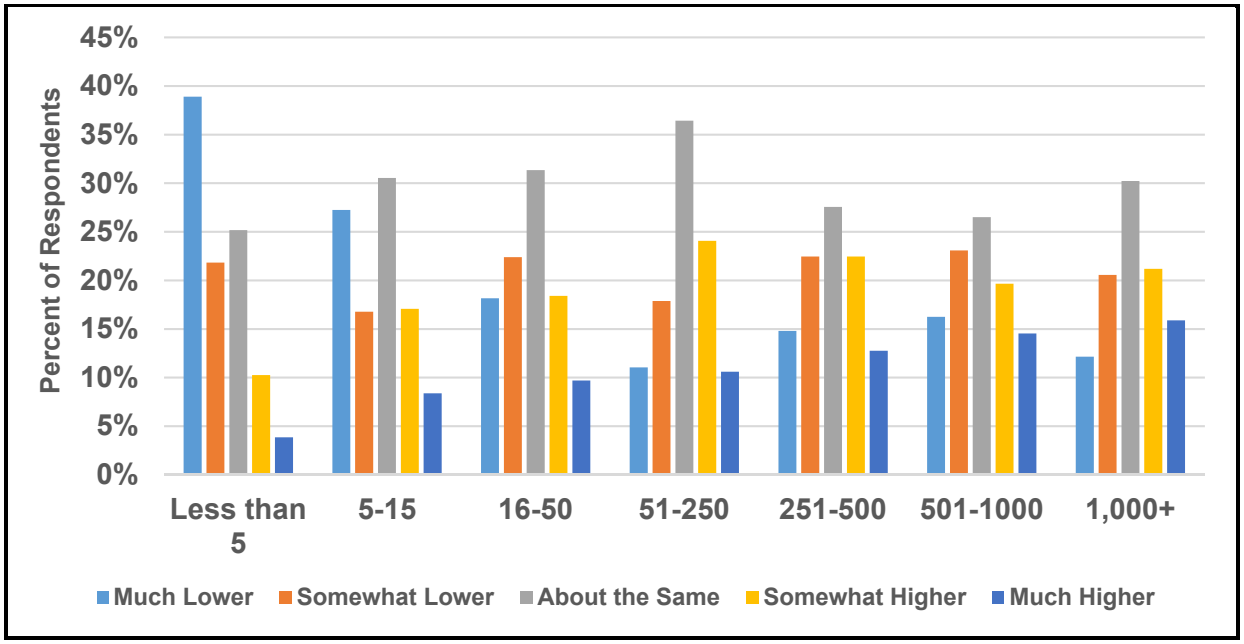
While specific commodity changes cannot be easily culled out in the data, the analysis can break out freight volume changes by industry sectors. Among specialized fleets, 68.3 percent described operations as "somewhat lower" to "much lower;" of these, 45.7 percent were "much lower." The largest industry sector that experienced freight volume increases ("somewhat higher to much higher") was truckload, representing nearly 25 percent of all truckload respondents (Figure 5). This sector clearly is the target for consumer goods and medical supplies.

Figure 5. Change in Freight Levels by Industry Sector



For fleets with fewer than five power units, 39 percent of respondents reported that their freight levels were "much lower" (Figure 6). In contrast, 30 percent of respondents with fleets of over 1,000 power units reported that their freight levels were "about the same." This disparity indicates that, in terms of freight volumes, smaller fleets are more negatively impacted than larger fleets. From a revenue standpoint, owner-operators and small fleets also rely more heavily on the spot market, which declined 38 percent from March to April 2020, according to DAT's spot market load postings.[19]

Figure 6. Change in Freight Levels by Fleet Size

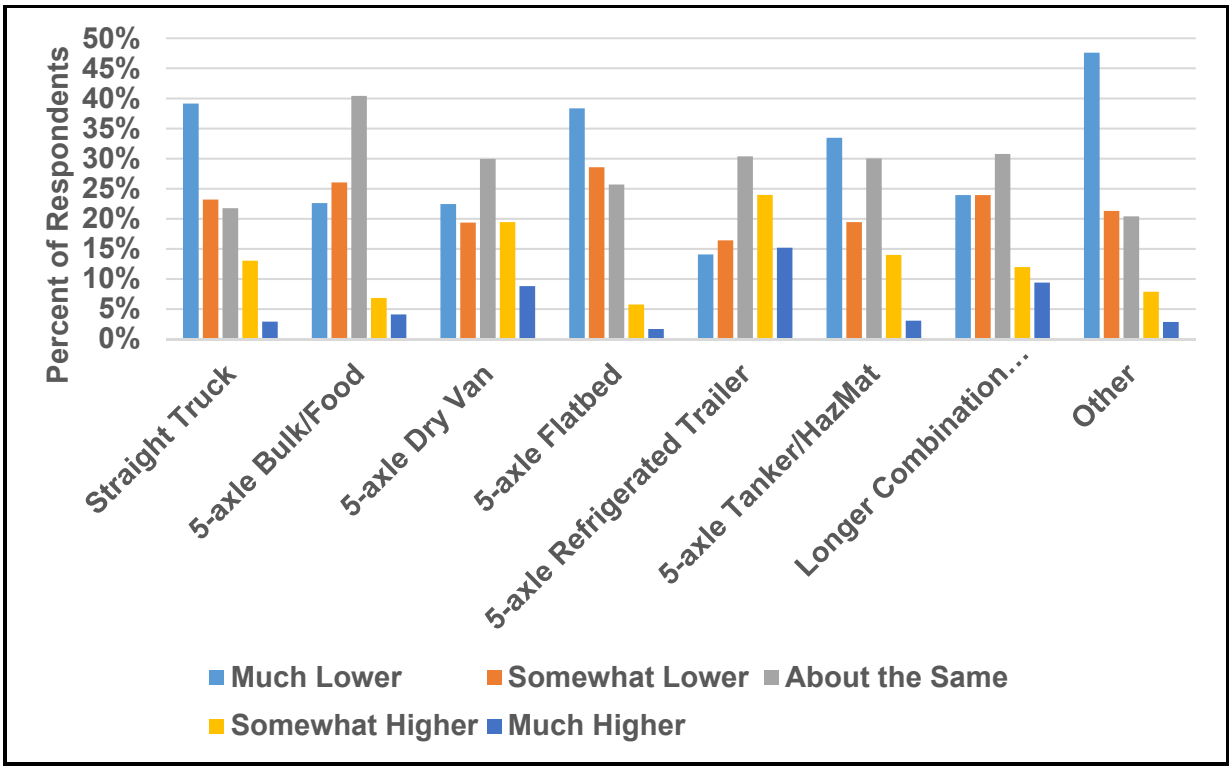


Trucking Operations: Commodities Matter

Using vehicle configuration as a useful surrogate for commodity types, the disparity in freight demand (or lack thereof) becomes readily apparent. Figure 7 documents the substantial demand for refrigerated consumer goods, with respondents operating 5-axle refrigerated trailers indicating that freight volumes were either "somewhat higher" or "much higher" (40%). This is followed by dry vans and longer combination trailers at 28.3 percent and 21.4 percent, respectively.

[19] Berman, Jeff. "Spot market load volumes and rates trend down after an active March, reports DAT." Logistics Management. April 9, 2020.

Figure 7. Change in Freight Levels by Vehicle Configuration

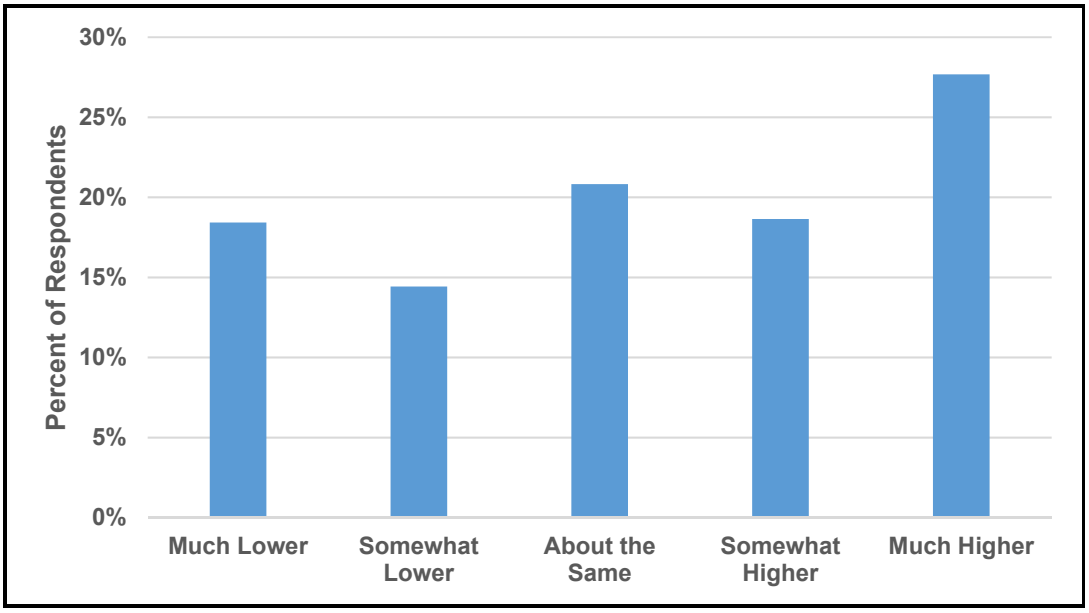


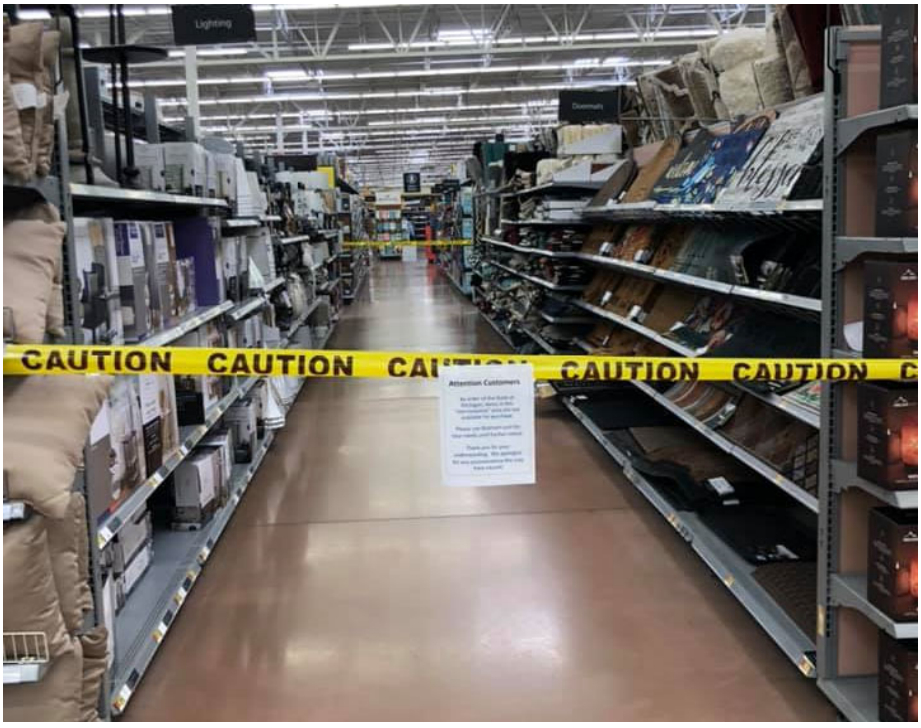
As would be expected during economic shutdowns, 5-axle flatbeds had the highest percentage of respondents indicating that their freight volumes were “much lower” at 38.3 percent, and tanker/hazmat trailers “much lower” at 33.5 percent.

Trucking Operations: Consumers Keep Trucking Afloat

Given all the media attention on consumer panic-buying, respondents were specifically asked about the demand for consumer goods. Figure 8 illustrates the change in demand for consumer goods. Approximately 45 percent of respondents described consumer demand as “somewhat higher” to “much higher” during the pandemic time period. Only 16 percent described it as “much lower,” and these respondents are likely moving the numerous “non-essential” items that, in many stores, are cordoned off from consumer purchasing.

Figure 8. Change in Demand for Consumer Goods

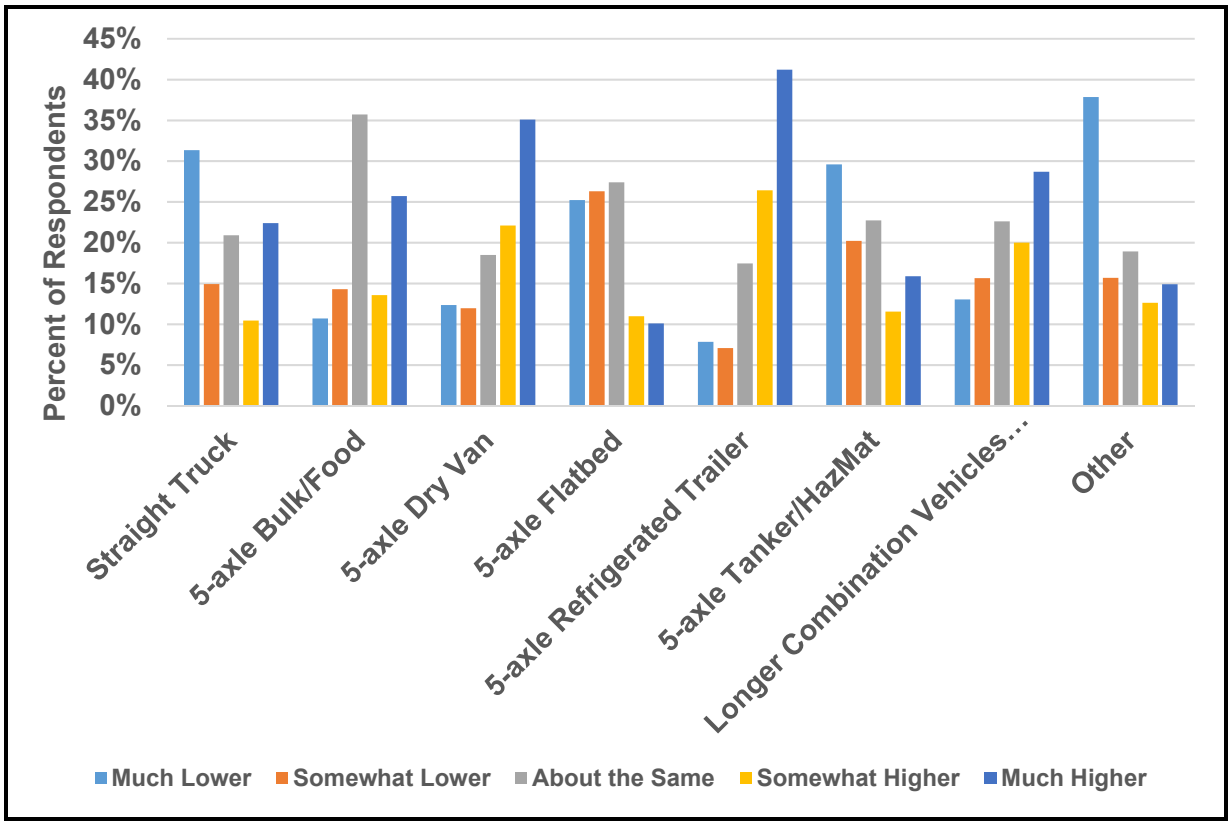




This photo shows an example of a store that has moved numerous "non-essential" items to a cordoned off area from consumer purchasing

The accuracy of the general freight and consumer demand perspectives above can be corroborated by cross-tabulating consumer demand estimations by truck-type responses. For 5-axle refrigerated trucks, 41 percent of respondents indicated that demand for consumer goods was "much higher" (Figure 9). The largest percentage of "much lower" responses (31%) came from drivers of straight trucks. This is a surprising finding since there was an ostensible uptick in March online sales due to the pandemic, and straight trucks are often considered a good surrogate for ecommerce. That said, straight trucks are also a backbone for service companies, and many of these business types were shuttered during the survey time period.

Figure 9. Change in Consumer Demand by Type of Truck

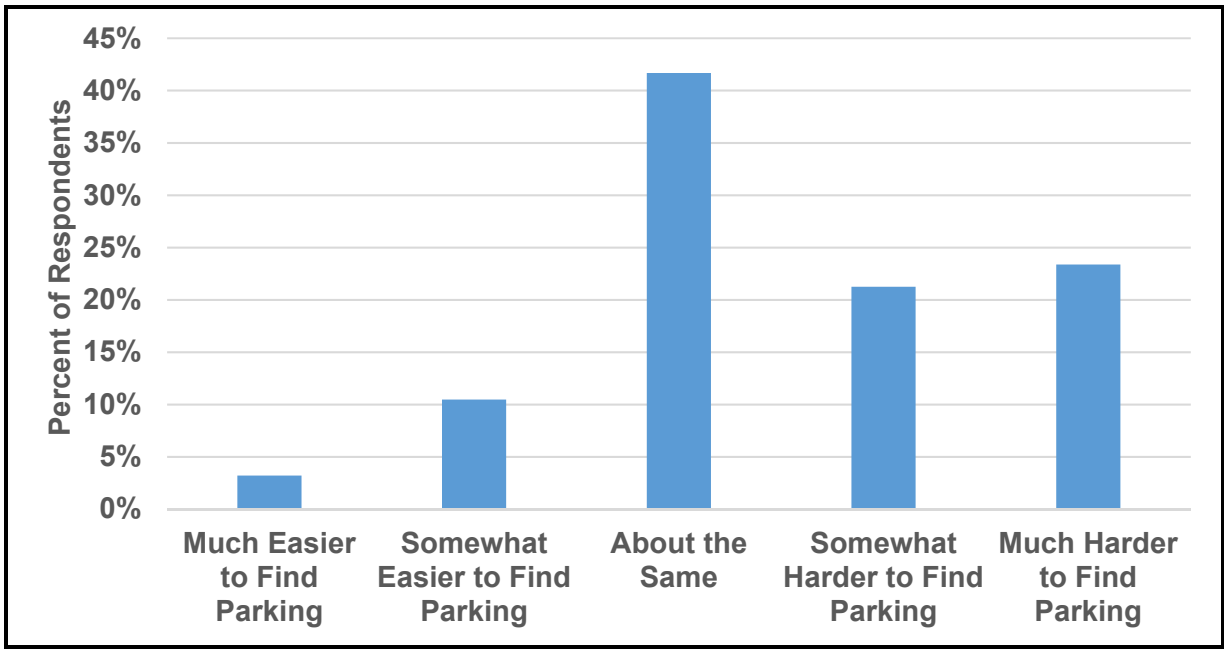


Truck Parking: Tougher for Long-Haul & Consumer-Related Trips

The lack of available truck parking is a perennial top concern in the trucking industry.[20] A plurality of respondents (42%) indicated that finding parking was "about the same" – equating to still difficult but no worse due to the pandemic (Figure 10). That said, approximately 44 percent of respondents indicated that finding parking was "somewhat harder" or "much harder" to find. More respondents indicated that it was more difficult to find parking than less difficult to find parking during this time.

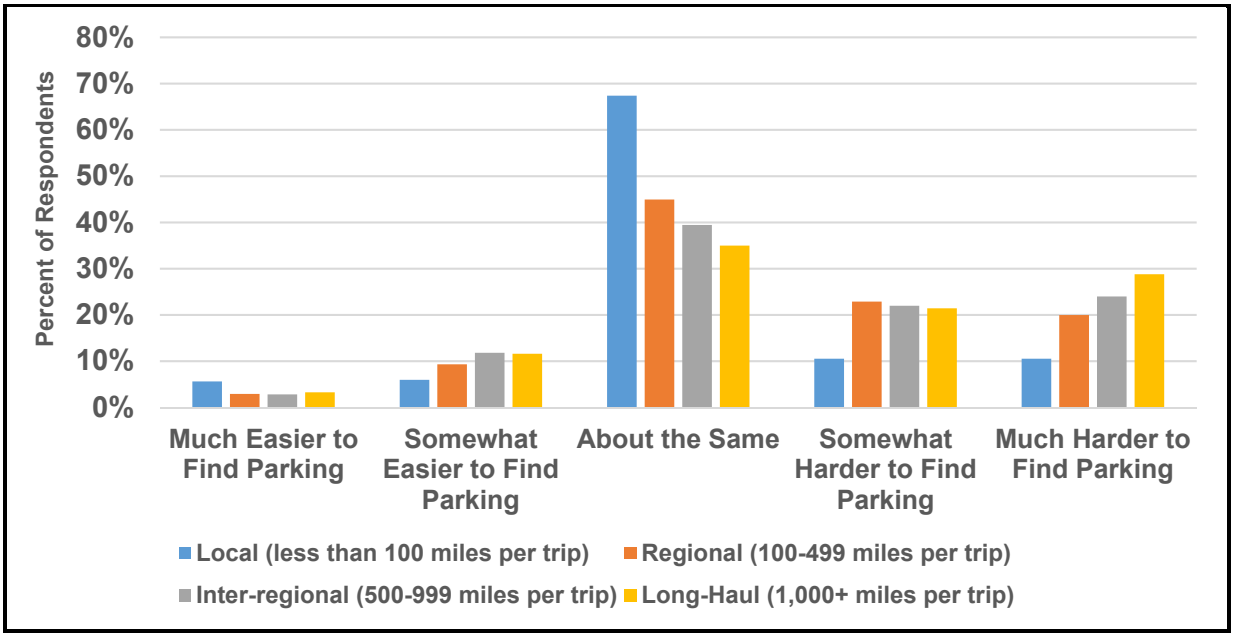
[20] "Critical Issues in the Trucking Industry – 2019." American Transportation Research Institute (ATRI). October 2019. Arlington, VA.

Figure 10. Changes in Parking Availability



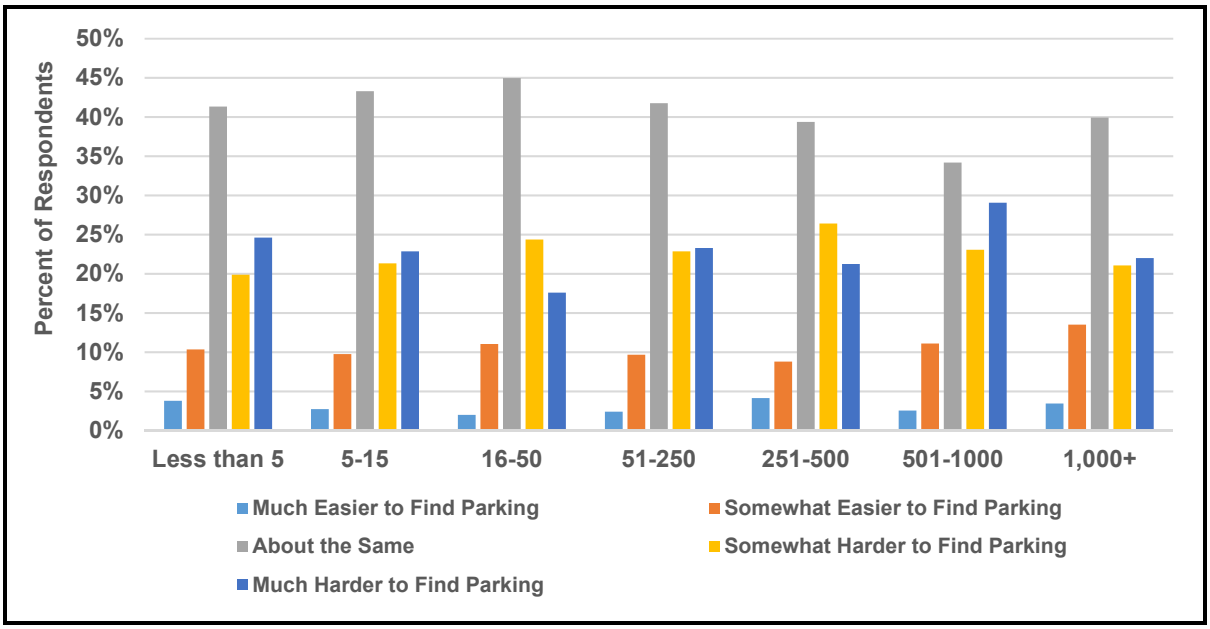
Local drivers had the highest percentage of responses stating parking availability is about the same (67%), whereas inter-regional and long-haul drivers consistently indicate that parking is either “somewhat harder to find” or “much harder to find”, with 46 percent and 50 percent of respondents, respectively (Figure 11).

Figure 11. Changes in Parking Availability by Length of Haul



Respondents with larger fleets, those with 251–500 power units, as well as fleets with between 501 and 1,000 power units, reported the most difficulty finding parking (Figure 12). For fleets between 501 and 1,000 power units, the percentage of respondents who either indicated that it was "somewhat harder to find parking" or "much harder to find parking" was 52.1 percent, the greatest of any fleet size. Finally, among owner-operators and small fleets, 24 percent indicated it was much harder to find truck parking during the pandemic – a much lower figure that might relate to having more creative parking options than larger fleets with private truck stop contracts.

Figure 12. Change in Parking Availability by Size of Fleet



Detention Times: Bad and Getting Worse

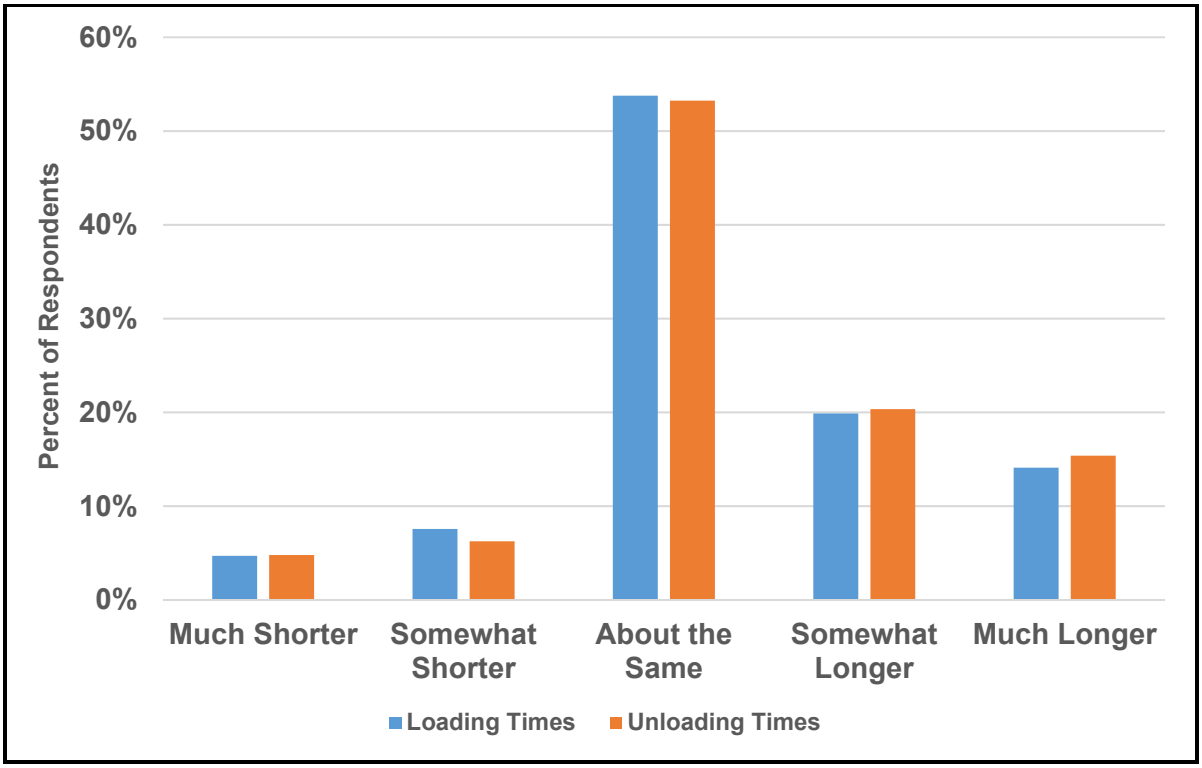
For many years, driver detention has been a serious problem. According to a 2018 survey conducted by the OOIDA Foundation, a large majority of respondents indicated they spend between 11 and 20 hours per week in detention time. These types of situations may ultimately create the incentive for drivers to operate longer, forgo rest breaks, and park in unsafe and or unsecure locations if they run out of available hours.

ATRI's driver detention research from 2019 found similar results, where 70 percent of drivers experienced a delayed delivery in the past 12 months, and a 27.4 percent increase in delays of 6 hours or more between 2014 and 2018.[21]

While the largest respondent group (54%) indicated that their loading/unloading times were "about the same," a comparative trend line can be seen among those who indicated a pandemic-related change: 34 percent of respondents indicated that their loading/unloading times had increased, and only 12 percent indicated their loading/unloading times had decreased (Figure 13).

[21] Speltz, Erin and Dan Murray. "Driver Detention Impacts on Safety and Productivity." American Transportation Research Institute. Arlington, VA. September 2019.

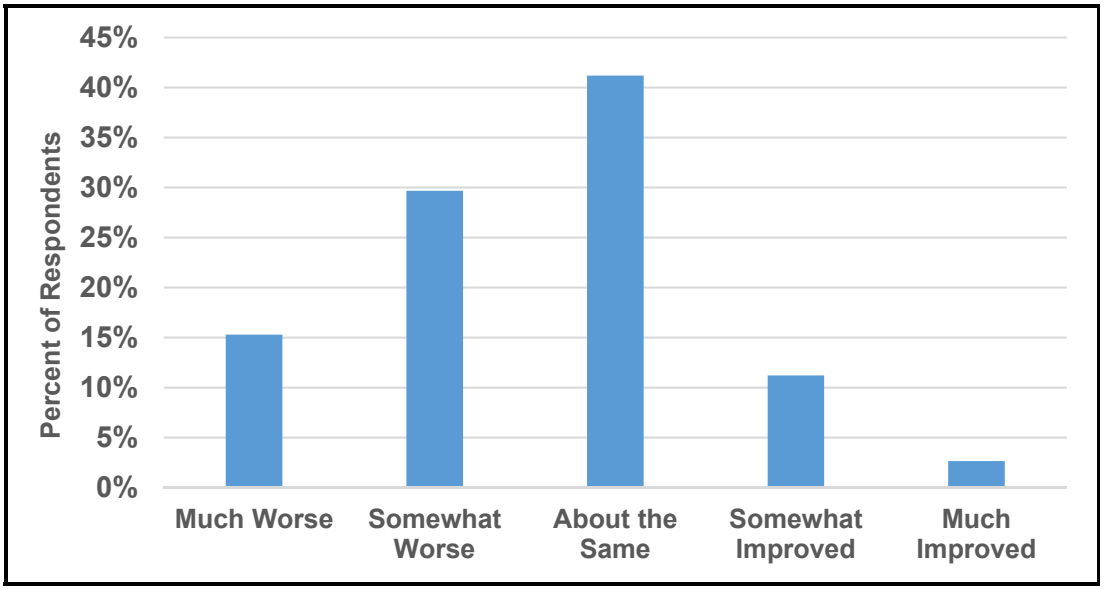
Figure 13. Change in Loading and Unloading Times



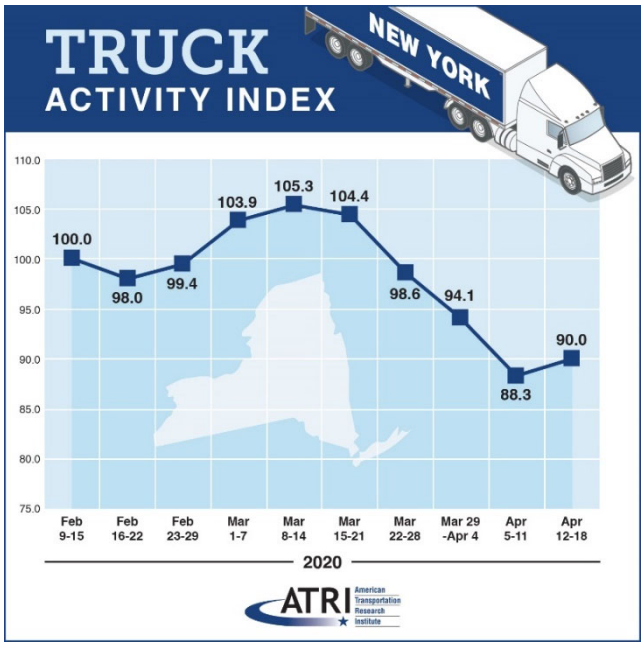
Trucking's Crystal Ball: What Does the Future Hold?

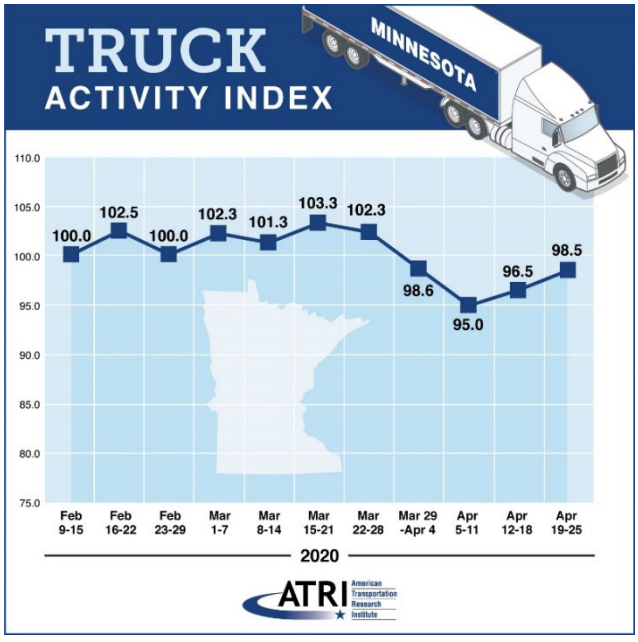
Recognizing that trucking can be a leading indicator, respondents were asked a series of questions about their business expectations for the coming months. Approximately 41 percent of respondents indicated that they expect freight volumes to stay the same over the next two months. Another 45 percent of respondents indicated that they believed that freight volumes would either be "much worse" or "somewhat worse" over the next two months. In contrast, only 14 percent of respondents indicated that they believed freight volumes would be "somewhat improved" or "much improved" over the next two months (Figure 14).

Figure 14. Expected Changes in Freight Volume for the Next Two Months



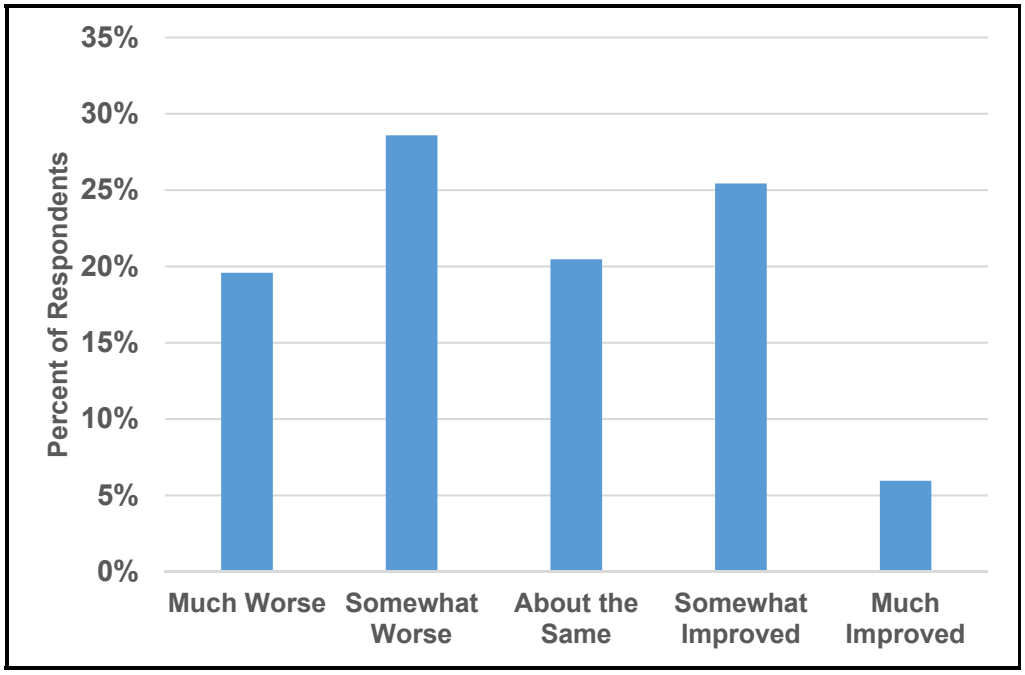
Obviously, the pessimistic trend line stands out for the next several months, although there are some positive indicators. ATRI recently developed a "Truck Activity Index" (TAI) by converting its truck GPS data to a truck activity metric. The goal of the TAI is to track the impact of the pandemic on trucking operations at a state level by monitoring truck GPS levels over weekly time bins from February 9, 2020 through April, 2020. The results for each state analysis generally indicate an increase in truck activity above the baseline in the first weeks of March 2020, reflecting increased demand of consumer goods and medical supplies, followed by truck activity decreases in the last week of March and into April. That said, several states showed small but positive upticks in truck activity in mid-April.





When asked about expected consumer demand over the next two months, respondents indicated both “somewhat worse” and “much worse” in a plurality of the responses, with nearly 50 percent of respondents indicating the situation will become worse (Figure 15).

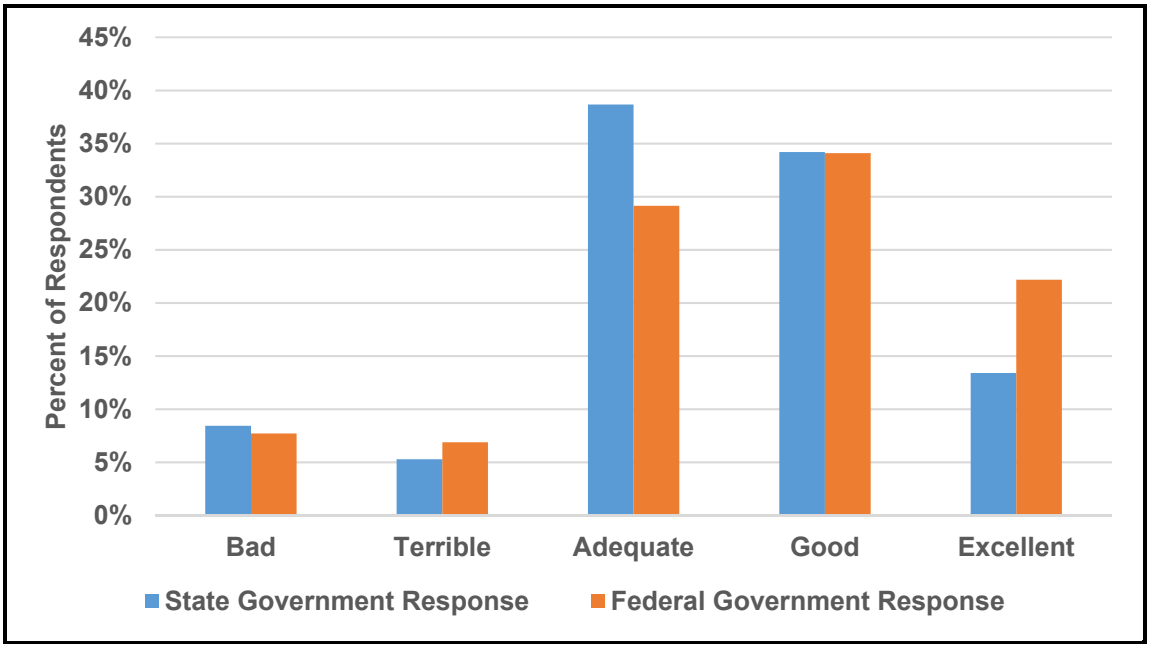
Figure 15. Expected Change in Consumer Goods for the Next Two Months



Role of Government in Pandemic: Generally Pleased

Recognizing that the trucking industry is heavily regulated in general, and that pandemic responses and programs initiated by government would change the regulatory landscape, the survey posed several questions on how well respondents believe the government is doing. In general, the industry feels that both state and federal responses were good to excellent. As shown in Figure 16, the data does indicate that the federal response was viewed more favorably than state pandemic responses (56% vs 48%).

Figure 16. Reactions to Federal and State Government Reponses



When respondents were asked, in an open-ended question format, to identify national disaster strategies that state and federal agencies should consider in the future, myriad suggestions were made. The research team ultimately binned the responses into approximately one dozen groups, which can be found in Appendix D.

Approximately 30 percent of respondents identified relaxing or eliminating hours-of-service (HOS) regulations by the federal government as a top priority, while 15 percent of respondents identified it as a priority for the state government.

The concern identified by nearly 20 percent of respondents for what the top state priority should be is the importance of expanding truck parking availability and ensuring safe parking. Approximately 18 percent of respondents indicated that the states should prioritize keeping truck stops open and clean.

Approximately 12 percent of respondents believe that financial assistance should be a top priority from either the state or federal government. Respondents suggested reducing or eliminating fuel taxes, regulating broker fees, and locking in freight rates from before the pandemic to name a few.

Pandemic Impacts on Trucking: Temporary or Permanent?

There is considerable discussion in the media about personal and business-related “new normal” post-pandemic. Similar to debates on the permanent elimination of handshaking or expanded telecommuting, there is a question over how permanent pandemic-related industry

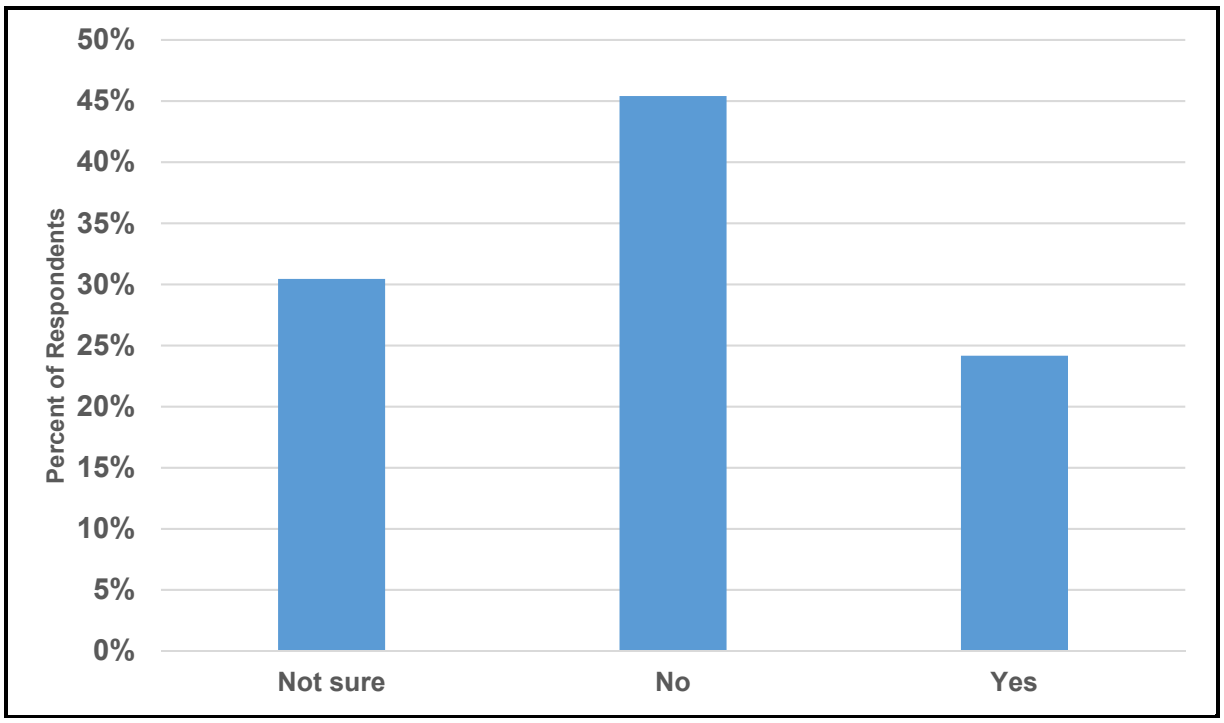
impacts will be. Consequently, respondents were asked about permanent business model changes as a result of COVID-19.

More than 35 percent of respondents believe COVID-19 impacts will be temporary in terms of industry operations. Only 18 percent indicated that they were considering permanent business model changes.

Pandemic Preparedness: Ready or Not?

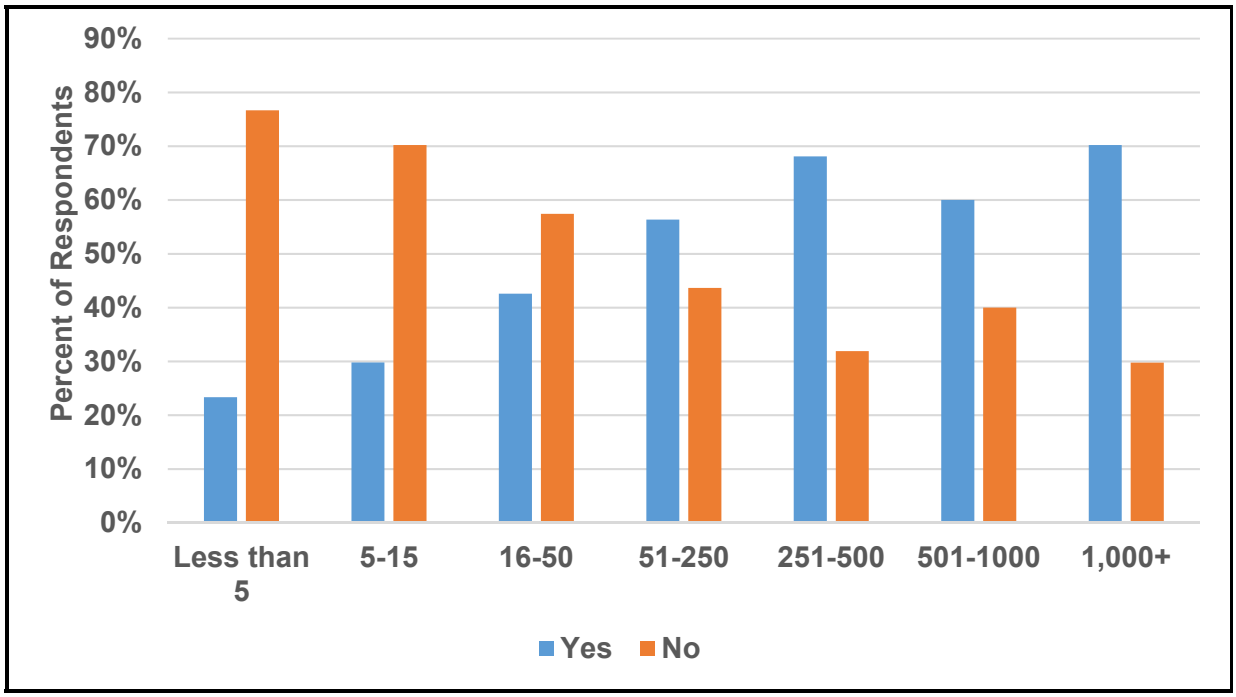
In addition to permanent business changes, respondents were also asked if their company had a disaster response plan in place before the COVID pandemic (Figure 17).

Figure 17. Disaster Response Plan in Place Prior to COVID-19



A plurality of respondents (45%) indicated that they did not have a disaster response plan in place before the COVID pandemic, with only 24 percent of respondents indicated that they had a disaster response plan in place. An analysis of disaster planning by fleet size may tell an important story.

Figure 18. Disaster Response Plan Presence by Number of Power Units



For owner-operators and fleets with fewer than five power units, almost 80 percent of respondents did not have a disaster response plan in place before the COVID pandemic. This is in stark contrast to fleets with over 1,000 trucks, where 70 percent of respondents had a disaster response plan in place. One important role for both government and industry associations is to improve industry preparedness for owner-operators and small to medium fleets.

RESEARCH SUMMARY

Trucking Activity & Operations

- Freight movement is both volatile and depressed. Trucking activity during the COVID pandemic is generally suffering with several exceptions. While many sectors are experiencing considerable to dramatic reductions in loads and trips, trucks moving essential consumer goods and medical supplies were generally at capacity in March, due to the consumer panic-buying.[22]

- Trip velocities are up considerably at hotspots, chokepoints and during rush-hour operations, and only up slightly on the rest of the roadway network. Most of the change is due to dramatically lower traffic congestion levels.

- The industry's expectations over the next few months are that freight levels will decline or stay the same; optimism is not high in the short-term. That said, the large majority of the pessimistic respondents indicate that it will only get "somewhat worse" (vs "much worse"). ATRI's Truck Activity Index may be documenting slight freight improvements in mid-April as compared to late March.

Detention Times

- While the majority of truck drivers indicated that detention, loading and unloading times were about the same during the pandemic, another third indicated that they were worse. Fleets were affected disparately based on size, with the smallest fleets and largest fleets encountering the longest delays at both shipping and receiving facilities. This is problematic as previous research by both OOIDA Foundation and ATRI indicates that detention times were extremely excessive and growing worse prior to COVID-19.

Truck Parking

- Truck parking continues to be a serious issue for truck drivers, but most (42%) say it has not gotten worse during the pandemic.
- State rest area closures were cited multiple times as a big part of the issue by those indicating that truck parking is worse.

Government Response to COVID-19 Pandemic

- The trucking industry has a generally favorable impression of pandemic-related actions taken by both state and federal government agencies, although they viewed the federal response more favorably than state actions.

- Respondents identified a large number of critical strategies that state and/or federal government agencies should have undertaken during this pandemic, but definitely should include in any future national disaster. These include: relaxing hours-of-service

[22] Premack, Rachel. (April 15, 2020). A key metric in a trucking giant's financial statements shows that surging demand amid coronavirus doesn't mean increased profit for truckers. https://www.businessinsider.com/jb-hunt-earnings-reveal-how-coronavirus-panic-buying-slammed-trucking-2020-4

regulations, providing additional safe parking, keeping rest areas open, and providing additional financial assistance.

Disaster Preparedness by Industry

- The majority of owner-operators and trucking firms (45%) do not have any formal disaster plan, and of those who do, less than one-third (31.8%) address pandemics.

- Likely based on available resources, fleet size dictates the development of disaster plans. Nearly 80 percent of owner-operators and small fleets do not have any type of disaster plan in place, whereas 70 percent of large fleets do. Given the large percentage of small fleet registrations in the U.S., industry associations and government agencies should facilitate and/or expand the role of disaster planning among this sector of trucking.

APPENDIX A: ADDITIONAL ACTIONS TAKEN AT THE FEDERAL AND STATE LEVEL

COVID-19 State Declarations[23, 24]

Federal Action	Description
Essential Critical Infrastructure Workforce *March 19, 2020*	• CISA and DHS declare truck drivers essential critical infrastructure workers • Includes truck drivers, bus drivers, dispatchers, maintenance and repair technicians, warehouse workers, truck stop and rest area workers, and workers that maintain and inspect infrastructure
Hours of Service *March 13, 2020*	• Hours-of-service regulatory relief to commercial vehicle drivers transporting emergency relief, including fuel haulers
Expired Commercial Drivers' Licenses and Medical Card Waivers *March 24, 2020*	• FMCSA issued a temporary waiver for some commercial vehicle drivers to address disruptions in licensing when a commercial learners' permit, CDL, or Medical Certificate is expired • Waiver applies to drivers who had current credentials as of March 1, 2020
CDC Guidance on NYC and Other Hot Spot Areas *March 27, 2020*	• In New York City, and other places where quarantine regulations are enforced, truck drivers and critical infrastructure workers are exempt in order to deliver essential supplies
Northern and Southern Border Restrictions *March 21, 2020*	• Customs and Border Protection partially closed U.S. borders with Canada and Mexico to non-essential travel; however, freight and truck traffic is deemed essential.

[23] ATA COVID-19 Federal Declarations. (April 9, 2020). Retrieved from https://www.trucking.org/COVID19/federal-declarations
[24] Current as of April 9, 2020

APPENDIX A (CONTINUED): ADDITIONAL ACTIONS TAKEN AT THE STATE AND FEDERAL LEVEL

STATE ACTIONS TO SUPPORT SUPPLY CHAIN CONTINUITY[25,26]

States	SDLA Closures	CDL Expiration Date Extension	New CLP & CDL Issuance/ Testing Restrictions	CDL Medical Certificate Grace Period	Increased Size & Weight Limits	Rest Stops & Parking
Alabama	Online Only	Yes - 120 days	No Issuance	Granted - 120 days	Yes	No Closures
Alaska	Appointment Only	No Extension	Appointment Only	No Change	No Increase	No Closures
Arizona	Appointment Only	Yes - 6 months	Appointment Only	Granted - 6 months	No Increase	No Closures
Arkansas	No Closures	No Extension	No Restrictions	No Change	No Increase	No Closures
California	Online Only	Yes - 60 days	No Issuance	No Change	No Increase	No Closures
Colorado	Online Only	Yes - 60 days (CDLs w/HME & CLPs only)	No Issuance	No Change	Yes	No Closures
Connecticut	Online Only	Yes - 90 days	No Issuance	No Change	Yes	No Closures
DC	Online Only	Yes- May 15	No Issuance	No Change	Yes	No Closures
Delaware	Appointment Only	No Extension	Appointment Only	No Change	Yes	No Closures
Florida	Online Only	Yes- 30 days	No Issuance	No Change	Yes	No Closures
Georgia	Appointment Only	Yes - 60 Days	Limited Service	Granted - 60 Days	Yes	No Closures
Hawaii	Appointment Only	No Extension	Appointment Only	No Change	No Increase	No Closures
Idaho	No Closures	Yes - Until June 30	No Restrictions	No Change	No Increase	No Closures
Illinois	Online Only	Yes - 30 days	No Issuance	No Change	Yes	Some Closures
Indiana	Online Only	No Extension	No Restrictions	No Change	No Increase	No Closures
Iowa	Appointment Only	Yes - Until Disaster Ends	No Issuance	No Change	Yes	No Closures

[25] ATA COVID-19 Federal Declarations. (April 9, 2020). Retrieved from https://www.trucking.org/COVID19/federal-declarations
[26] Current as of April 3, 2020

States	SDLA Closures	CDL Expiration Date Extension	New CLP & CDL Issuance/ Testing Restrictions	CDL Medical Certificate Grace Period	Increased Size & Weight Limits	Rest Stops & Parking
Kansas	Online Only	Yes-60 Days After Disaster Ends	No Issuance	No Change	Yes	No Closures
Kentucky	Online Only	Yes- 90 Days	No Issuance	No Change	Yes	No Closures
Louisiana	Online Only	No Extension	No Issuance	No Change	Yes	No Closures
Maine	Online Only	No Extension	No Issuance	No Change	No Increase	No Closures
Maryland	Online Only	Yes - Until 30 Days After Disaster	Appointment Only	No Change	Yes	No Closures
Massa-chusetts	Some Closures	Yes - 60 days	No Restrictions	No Change	No Increase	Some Closures
Michigan	Online Only	No Extension	No Issuance	No Change	Yes	No Closures
Minnesota	Online Only	Yes - 30 days	No Issuance	No Change	Yes	No Closures
Mississippi	Some Closures	No Extension	No Restrictions	No Change	Yes	No Closures
Missouri	Some Closures	Yes - June 30th	No Restrictions	No Change	Yes	No Closures
Montana	Some Closures	Yes - 90 days from Date of Expiration	Appointment Only	No Change	Yes	No Closures
Nebraska	Online Only	Yes - 30 Days	No Issuance	No Change	Yes	No Closures
Nevada	Online Only	Yes - 90 days	No Issuance	Granted - 90 days	No Increase	No Closures
New Hampshire	Appointment Only	No Extension	No Issuance	No Change	No Increase	No Closures
New Jersey	Online Only	Yes - May 31st	No Issuance	No Change	No Increase	No Closures
New Mexico	Online Only	Limited (Emergency Related Activities Only)	No Issuance	No Change	No Increase	No Closures
New York	Online Only	Yes - April 19th	No Issuance	No Change	Yes	No Closures
North Carolina	Appointment Only	No Extension	Appointment Only	No Change	Yes	No Closures

States	SDLA Closures	CDL Expiration Date Extension	New CLP & CDL Issuance/ Testing Restrictions	CDL Medical Certificate Grace Period	Increased Size & Weight Limits	Rest Stops & Parking
North Dakota	Online Only	Yes	No Issuance	No Change	Yes	No Closures
Ohio	Some Closures	Yes - 90 Days After Emergency	Limited Service	No Change	Yes	No Closures
Oklahoma	Appointment Only	Yes - 30 Days	No Issuance	No Change	No Increase	No Closures
Oregon	Appointment Only	No Extension	No Issuance	Granted	Yes	No Closures
Penn-sylvania	Online Only	Yes - April 30th	No Issuance	No Change	No Increase	Some Closures
Rhode Island	Appointment Only	Yes - 30 Days	No Issuance	No Change	No Increase	No Closures
South Carolina	No Closures	No Extension	Appointment Only	No Change	Yes	No Closures
South Dakota	Appointment Only	No Extension	No Issuance	No Change	No Increase	No Closures
Tennessee	Some Closures	Yes - 6 Months	No Restrictions	No Change	Yes	No Closures
Texas	Online Only	Yes - 60 Days	Appointment Only	Granted - June 30th	Yes	No Closures
Utah	Some Closures	No Extension	No Restrictions	Granted - June 30th	No Increase	No Closures
Vermont	Online Only	Yes - 90 Days	No Issuance	No Change	No Increase	No Closures
Virginia	Online Only	Yes - 60 Days	No Issuance	No Change	Yes	No Closures
Washington	Some Closures	No Extension	No Issuance	No Change	No Increase	No Closures
West Virginia	Online Only	Yes - 90 Days	No Issuance	No Change	Yes	No Closures
Wisconsin	Some Closures	Yes - 60 Days	Limited Service	No Change	Yes	No Closures
Wyoming	No Closures	No Extension	No Restrictions	No Change	No Increase	No Closures

APPENDIX B: SURVEY TEMPLATE

Trucking Industry Perspectives: How is the Coronavirus Pandemic Impacting the Industry?

The American Transportation Research Institute (ATRI), the trucking industry's not-for-profit research organization is working with OOIDA Foundation (OOFI) to better understand how trucking industry operations in the U.S. are being impacted by the Coronavirus pandemic and related consumer trends and government activities. **Your participation in this survey is critical to the development of trucking industry emergency response planning!**

All responses on this survey will be kept **strictly confidential** and will only be reported in aggregate form. Due to the sensitivity of this research, under NO circumstances will we release any of your personal or organizational information.

The Basics First

1. Please indicate your primary role in trucking:
   - ❑ Truck Driver
   - ❑ Safety Manager
   - ❑ Maintenance / Engineering
   - ❑ Operations
   - ❑ Accounting & Finance
   - ❑ Senior Executive
   - ❑ Other (please specify):

2. What is your age?
   - ❑ Younger than 25
   - ❑ 25 – 44
   - ❑ 45 – 64
   - ❑ 65+

3. How many years have you worked in the trucking industry?
   - ❑ Less than 1 year
   - ❑ 1 – 5 years
   - ❑ 6 – 10 years
   - ❑ 11+ years

4. How many power units are operated by your fleet? (check one)
   - ❑ Less than 5
   - ❑ 6-15
   - ❑ 16-50
   - ❑ 51-250
   - ❑ 251-500
   - ❑ 501-1000
   - ❑ 1,000+
   - ❑ Don't know

5. In which sector of the trucking industry do you operate? (check one)
   - ❑ For-hire
   - ❑ Private
   - ❑ Don't know

6. If you operate in the for-hire sector, what is your primary type of business? (check one)
   - ❑ Truckload
   - ❑ Less-than-Truckload
   - ❑ Specialized
   - ❑ Other (please specify):

7. What is the primary vehicle configuration that you typically drive, or is used in your fleets? (check one)
   - ❑ 5-axle Dry Van
   - ❑ 5-axle Refrigerated Trailer
   - ❑ 5-axle Flatbed
   - ❑ 5-axle Tanker/HazMat
   - ❑ 5-axle Bulk/Food
   - ❑ Straight Truck
   - ❑ Longer Combination Vehicles (Doubles, Triples, etc.)
   - ❑ Other (please specify):

Coronavirus Impacts

8. What was your average trip length BEFORE the Coronavirus Pandemic? (check one)
   - ❑ Local (less than 100 miles per trip)
   - ❑ Regional (100-499 miles per trip)
   - ❑ Inter-regional (500-999 miles per trip)
   - ❑ Long-Haul (1,000+ miles per trip)

9. What is your average trip length now, DURING the Coronavirus pandemic? (check one)

   ❑ Local (less than 100 miles per trip)
   ❑ Regional (100-499 miles per trip)
   ❑ Inter-regional (500-999 miles per trip)
   ❑ Long-Haul (1,000+ miles per trip)

10. Compared to normal operations, please describe freight movement during this Coronavirus pandemic:

	Much Higher	Somewhat Higher	About the Same	Somewhat Lower	Much Lower
Truck Freight Levels	❑	❑	❑	❑	❑
Consumer Demand for Goods	❑	❑	❑	❑	❑

11. How have your operations or trips been affected by the Coronavirus pandemic compared to normal operations?

	Much Longer	Somewhat Longer	About the Same	Somewhat Shorter	Much Shorter
Average trip lengths	❑	❑	❑	❑	❑
Average trip driving times	❑	❑	❑	❑	❑
Traffic congestion delay	❑	❑	❑	❑	❑
Loading at shippers facilities	❑	❑	❑	❑	❑
Unloading at receiver facilities	❑	❑	❑	❑	❑

12. Please describe your experience in finding truck parking specifically related to the Coronavirus time period:

Much Harder to Find Parking	Somewhat Harder to Find Parking	About the Same	Somewhat Easier to Find Parking	Much Easier to Find Parking
❑	❑	❑	❑	❑

13. Looking ahead, how do you expect things to change over the next 2 months?

	Much Improved	Somewhat Improved	About the Same	Somewhat Worse	Much Worse
Loading delays at shipper facilities	❑	❑	❑	❑	❑
Unloading delays at receiver facilities	❑	❑	❑	❑	❑
Traffic congestion	❑	❑	❑	❑	❑
Product supplies on store shelves	❑	❑	❑	❑	❑

14. From a trucking industry perspective, please indicate your perspectives on government responses to the Coronavirus pandemic:

	Excellent	Good	Adequate	Bad	Terrible
State Government Response to Coronavirus	❑	❑	❑	❑	❑
Federal Government Response to Coronavirus	❑	❑	❑	❑	❑

15. In response to the Coronavirus pandemic, is your company examining possible permanent changes to its business model, driver compensation models, leave policies, or similar?

❑ Yes
❑ No
❑ Not sure

16. Do you or your company have a disaster response plan established?

❑ Yes
❑ No
❑ Not sure

17. If Yes, does your disaster response plan address pandemic responses like the Coronavirus pandemic?

❑ Yes
❑ No
❑ Not sure

18. If you answered Yes to question 16, in which of the following ways:

❑ We have a plan for re-routing away from affected/closed areas.
❑ We have a plan for safe delivery of essential goods intended for quarantined areas.
❑ We have a plan for drivers who may have been exposed to persons with active infections.
❑ We have a plan for reducing the financial impact of the changes.

19. What new policies, regulations, exemptions, etc should the state and federal government implement to address supply chain disruptions during national disasters (e.g. Coronavirus pandemic)?

State Government

Federal Government

Thank you! We greatly appreciate your participation. If you would to receive a copy of the survey analysis, please provide your name and email below.

Name	Email Address

APPENDIX C: ATRI OOIDA JOINT PRESS RELEASE HIGHLIGHTING THE SURVEY

OOIDA Foundation RESEARCH • SAFETY • EDUCATION

ATRI American Transportation Research Institute

FOR IMMEDIATE RELEASE

Contact: Dan Murray
(651) 641-6162
March 24, 2020

Trucking Industry is Researching Corona Virus Impacts

Industry Survey Seeks Operating Impacts from drivers, fleets

Atlanta, Georgia – The American Transportation Research Institute (ATRI) and the Owner-Operator Independent Driver Association Foundation (OOIDA Foundation) are conducting a joint research effort to understand the numerous impacts that the coronavirus pandemic is having on trucking operations. The research focuses on a survey that solicits critical input from truck drivers and motor carrier staff who are encountering "Covid-19" impacts such as limited shipper access and traffic-related changes.

"This survey will help us confirm what we know anecdotally", said Tom Weakley, Director of the OOIDA Foundation, "that the trucking industry is leading the charge in responding to food and medicine shortages among other critical supplies. We need everyone's input on this effort."

The survey link can be found at:

Anyone involved in trucking operations is urged to respond.

"Our goal is to analyze the survey data as quickly as possible, as it can provide important guidance to public and private decision-makers. The Covid-19 pandemic is a moving target, and we can't afford to design policies and supply chains around guesswork," said Dan Murray, Senior Vice President at ATRI.

ATRI is the trucking industry's 501(c)(3) not-for-profit research organization. It is engaged in critical research relating to freight transportation's essential role in maintaining a safe, secure and efficient transportation system.

OOFI is a 501(c)(3) not-for-profit organization. OOFI was established to provide research and education for all truckers focusing on the small carriers and owner-operators. OOFI is an affiliate of the Owner-Operators Independent Driver Association (OOIDA) and its 160,000 members from all 50 states.

APPENDIX D: OPEN-ENDED RESPONSE SUMMARY TO QUESTION 19

Category	State: Percent	Federal: Percent	Response Types
Relax HOS	15%	30%	• Relax or Eliminate hours of service regulations
Provide Financial Assistance / Monetary Support	11%	12%	• Provide funding for small trucking companies • Financial assistance by means of loans and grants • Drop the fuel tax • Regulate brokers / ensure broker rates don't drop • Maintain or increase rates • Lower taxes
Expand Parking / Provide Safe Parking	19%	11%	• Increase parking availability • Provide safe parking • Open up scales for parking
Eliminate ELDs	7%	10%	• Eliminate ELDs
Keep Rest Areas Open	18%	9%	• Keep rest areas open / re-open
Address Detention Related Issues	10%	9%	• Incorporate social distancing practices at customer facilities • Mandate detention fees, detention pay • Force customers to provide restroom facilities and parking
Access to Food	11%	7%	• Ensure access to food
Deregulation	8%	7%	• Eliminate DOT Inspections • Reduce regulations • "Let us do our job" and "Stay out of the way"
Communication, Planning, & Preparedness	7%	7%	• Reduce panic and confusion • Provide honest and transparent communication • Central location for updates • Respond quicker • Be more prepared • Consult with a specific leader / expert
Enforce Lock Down	6%	5%	• Essential workers only allowed in public • Enforce lock down regulations
Increase Weight Limits / Eliminate Weight Restrictions	6%	4%	• Close scales • Eliminate weight restrictions • Increase weight restrictions
Access to Medical Supplies	4%	3%	• Provide drivers with PPE • Provide drivers with hand sanitizer • Ensure drivers have access to cleaning supplies
Increase Driver Pay	2%	3%	• Increase driver pay • Provide hazard pay

Category	State: Percent	Federal: Percent	Response Types
No Change / Same	1%	3%	• Government is responding fine so far • Keep doing what they're doing
Ration / Limit Supplies	7%	2%	• Impose purchasing limits on products (for everyone)
Provide COVID-19 Testing	2%	2%	• Provide testing sites for truckers • Add testing stations at customer facilities
Speed Limits / Lanes	2%	1%	• Eliminate speed limits • Allow trucks to use any lane of traffic
Eliminate Tolls	2%	1%	• Eliminate or reduce toll fees