CONVOY

SUSTAINABILITY IN TRUCKING: SNAPSHOT REPORT

MARCH 2022

KEY INFLUENCES IMPACTING TRUCKING

The real reason America doesn't have enough truck drivers

A 1,000-mile journey through the middle of America reveals the fundamental reason for truck driver shortages: It is a job full of stress, physical deprivation, and loneliness. Last year, trucking companies in the United States suffered a record deficit of 80,000 drivers according to the American Trucking Associations. Given that trucks move 72% of American freight, a lack of drivers means substantial disruption. Some experts counter that the very notion of too few drivers is bogus — a reach by the industry for federal subsidies to train recruits as compensation for its poor rates of retention. The average trucking company has a turnover rate of roughly 95%, meaning that it must replace nearly all of its workforce in the course of a year. More recruits boost the supply of drivers, which keeps a cap on wages. Until the 1980s, truck driving was a lucrative pursuit in which one union — the Teamsters — wielded enough power to ensure favorable working conditions. But the Carter administration deregulated the industry in the name of fostering competition, clearing the way for an influx of new trucking companies that diminished pay and increased demands on truckers. Considering that 35% of all miles driven by truck drivers are driven empty, there is an underutilization of the truck. If we can work to reduce the amount of empty miles driven, this will put more money in truck drivers' pockets, helping to improve their livelihood and making the job more lucrative.
Read more here.

Making sense of the payroll dip

Beyond the obvious weather and Omicron-related distortions, the annual benchmark revisions and the once-in-a-decade updated population controls for the household survey clearly had a huge effect on payroll. The headline increase in private payrolls was entirely (and more) attributable to these methodological changes; absent those, there was a 272,000 decline. This inevitably raises sticky questions about what exactly we should take from the report. Optimists will look past the revisions and see a strong forecast bolstering the case for a decisive upward move in interest rates, while pessimists will view this report as a statistical sleight-of-hand and urge caution.

Freight industries all added jobs at a fast clip — though caution is necessary here too. There was a level shift in December 2021's "Truck Transportation" payroll number to the order of 18,400. That magnitude of revision is well beyond the scope of what we normally see in the lagged-month revisions, and is clearly the result of the new benchmarking and population weighting.

Beyond the January data, there are perhaps some worrisome trends for the trucking industry. Over the two year period from Q4 of 2019 to Q4 of 2021, trucking companies added management and operations headcount much, much faster than they added driver headcount. For all the industry chatter about driver productivity, there's probably quite a bit of scope for improving back-office productivity too. Read more here.

Reducing empty miles is still a top priority for carriers

Inefficient truck routing and loading and unloading practices also contribute to wasteful fuel consumption. Convoy research shows that **35% of truck miles may be empty miles**. In this survey, the regional distance (100–400 miles) represents the largest share of loads for both the owner operator and the dispatcher and driver groups. It is also this distance that drivers drive empty the most often. A carrier that optimizes its freight logistics can save fuel and time and improve productivity, generating fuel cost savings and additional revenue.

Some amounts of these emissions are unavoidable, especially as reliance on fossil fuels continues. Even without the mass adoption of electric vehicles or alternative fuel vehicles, there are many strategies to improve transportation efficiency.

Innovations such as **Green Appointment Windows** allow trucks to optimize their schedules, travel at off-peak times, and avoid traffic congestion. With more flexibility to deliver and pick up loads, trucking companies can decrease idling, minimize time spent loading and unloading, and use their hours and equipment to haul more freight and generate revenue.

Trimming just 1% of empty miles from one long-haul truck can save over 100 gallons of fuel. In this survey, 69% of respondents indicated that empty miles are very important to their business.

How important is reducing empty miles to your business?

692 RESPONSES

69.2%	Very important
12.6%	Important
10.8%	Moderately important
3.9%	Less important
3.5%	Not important

Furthermore, compared to the responses in our previous survey, a higher percentage of carriers believe reducing empty miles is even more important today.

August 2021

593 RESPONSES

62.7%	Very important
16.0%	Important
14.2%	Moderately important
3.7%	Less important
3.4%	Not important

March 2022

692 RESPONSES

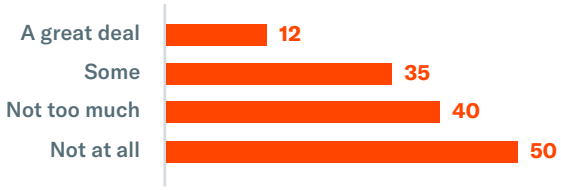
69.2%	Very important
12.6%	Important
10.8%	Moderately important
3.9%	Less important
3.5%	Not important

Climate change disproportionately impacts minority groups

According to a **recent study from the Environmental Protection Agency**, racial minorities in the United States will bear a disproportionate burden of the negative health and environmental impacts from a warming planet, including deaths from extreme heat and property loss from flooding in the wake of sea-level rise. Our carrier survey reflected similar trends. When asked to what degree global climate change was affecting their communities, the majority of white Americans responded “Not at all” or “Not too much.”

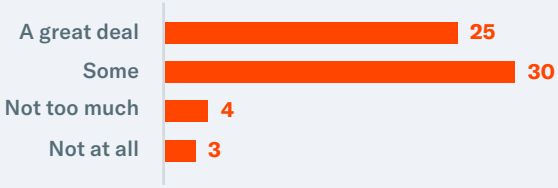
To what degree is global climate change affecting your community?

White American

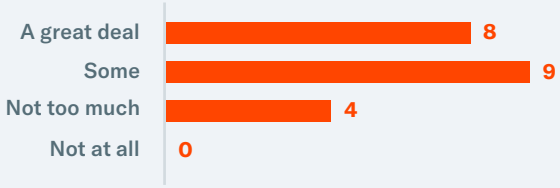


This is a stark difference in response compared to how other ethnicities responded, who mostly replied with “a great deal” or “some."

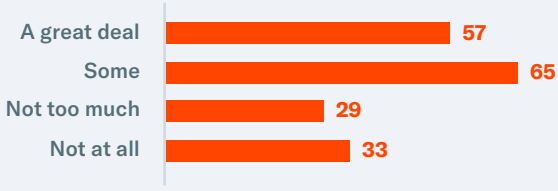
Indian American



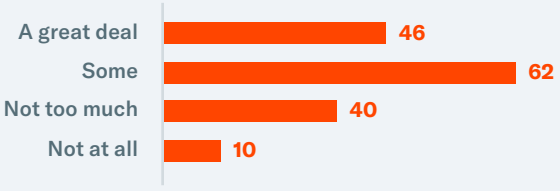
Asian Pacific American



Hispanic American



African American



*All ethnicities were self reported.

This study represents an important milestone in understanding the future impacts of climate change on different American - and carrier - populations.

RESPONDENT SUMMARY

In March 2022, Convoy surveyed nearly 700 small- and mid-sized trucking companies across the US to collect a snapshot of sustainability in trucking. Survey participants include dispatchers, drivers, and owner operators. All the results are self-reported by the participants.

SURVEY HIGHLIGHTS

Respondent breakdown

56%	Owner-operator (“I dispatch myself and also drive my own loads.”)
15%	Dispatcher
20%	Dispatcher and driver (“I dispatch other drivers and also drive my own loads.”)
16%	Driver
7%	Various other

Compared to the overall average of 17% female and 82% male respondents, there are significant gender differences when examining role type: **60% of dispatchers are women, 7% are dispatchers and drivers, and 6% are owner operators.**

There is increased pressure to reduce carbon emissions. 38% of respondents said they felt pressure to reduce carbon emissions, whereas in our previous survey, this was 35%

Do you feel pressure to reduce carbon emissions in your business?

August 2021		March 2022	
65.1%	No	62.0%	No
34.9%	Yes	38.0%	Yes

Compared to the previous survey, the top reason given for reducing carbon emissions was government regulation, whereas previously, it was more awareness of the environmental impact of carbon emissions.

What is your top reason for reducing carbon emissions?

August 2021		March 2022
9.1%	To reduce operating costs	9.4%
24.3%	More awareness of the environmental impact	17.8%
8.9%	Personal motivation	8.8%
19.2%	Government regulation	25.3%
28.8%	No pressure felt to reduce carbon emissions	28.9%

In examining the desire to drive an electric truck by how many years the respondent had been in the business, a clear trend can be seen: the longer an individual has been in the business, the less likely they are to want to drive an electric/hydrogen truck.

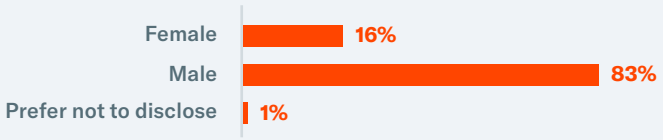
Respondents believe that higher Class 8 fuel economy standards now will significantly increase operating costs.

What would higher Class 8 fuel economy standards do to your operating costs?

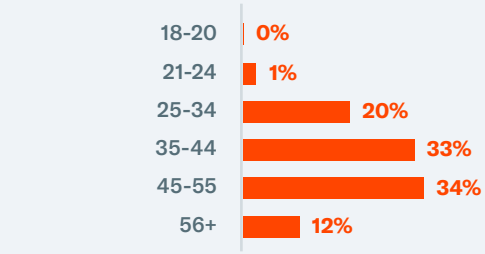
August 2021		March 2022
24.8%	Substantially increase	35.3%
31.9%	Moderately increase	27.3%
32.5%	No effect	26.3%
8.4%	Moderately decrease	7.8%
1.4%	Substantially decrease	3.3%

RESPONDENT DEMOGRAPHICS

Gender

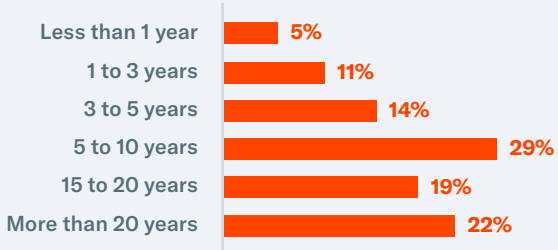


Age

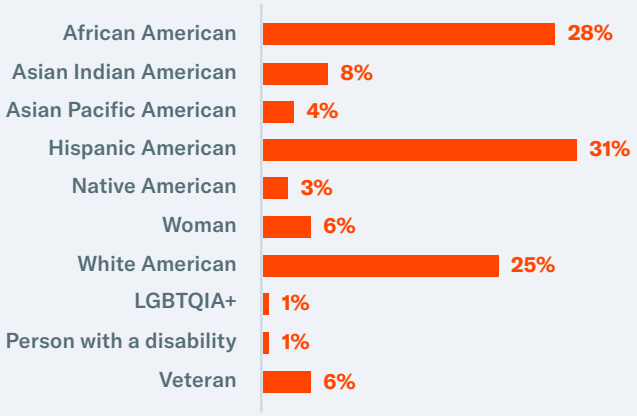


An aging fleet of drivers is one of the main reasons for driver shortages. The Bureau of Labor Statistics estimates that the average age of a commercial truck driver in the US is 55 years old. In our survey, 45% of survey respondents were over 45 years old, with the majority of respondents aged 45-55 years old.

Years in trucking

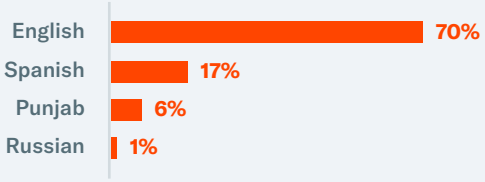


Identity



*Respondents could select more than one group

Primary language



BUSINESS OVERVIEW

Role

56% Owner-operator (“I dispatch myself and also drive my own loads.”)

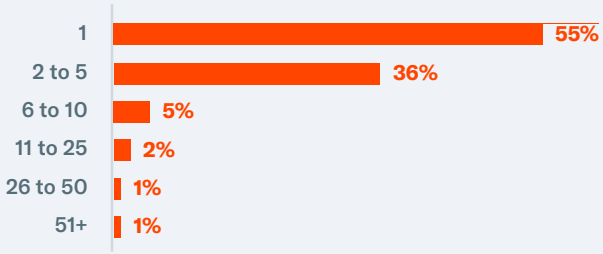
15% Dispatcher

20% Dispatcher and driver (“I dispatch other drivers and also drive my own loads.”)

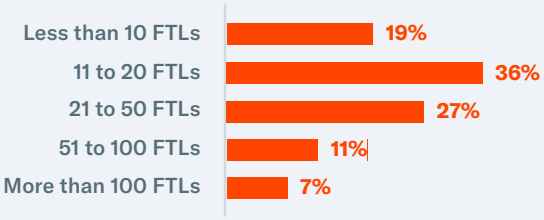
16% Driver

7% Various other

Number of trucks in the fleet

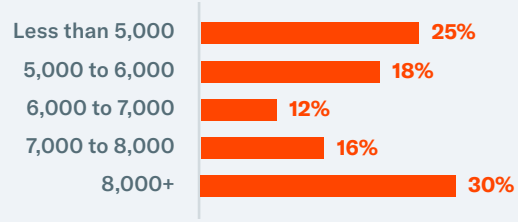


Total truck loads hauled in the previous month



Length of typical loads

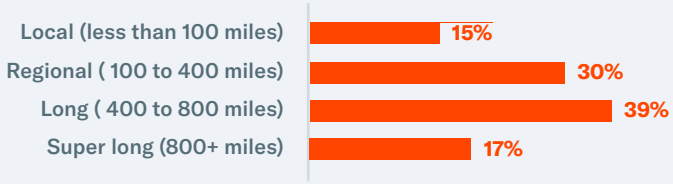
Average number of total miles per truck in the previous month



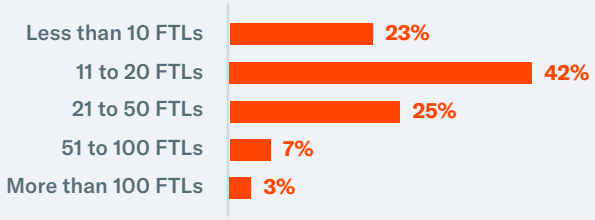
SNAPSHOT METRICS

Owner Operator

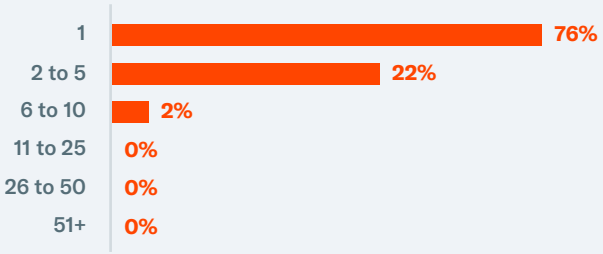
Typical run, one way



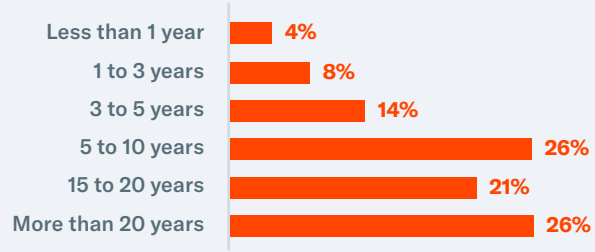
Number of truckloads driven last month



Number of trucks in the fleet



Number of years trucking



Gender

41% plan to purchase a truck within the next year.

82% believe fuel economy is important when buying a truck.

37% feel pressure to reduce carbon emissions in their business.

19% have completed eco-driving training.

71% believe that reducing empty miles is very important.

Owners operators that believe global climate change is affecting their community

24% a great deal.

35% some.

Top reasons for reducing emissions

1st	Government regulation
2nd	More awareness of the environmental impact of carbon emissions
3rd	Reduction of operating costs
4th	Personal motivation

Top barriers to purchasing an electric truck

1st	Too expensive
2nd	No barriers
3rd	Charging infrastructure

Top self identified groups

1st	Hispanic American	3rd	White American
2nd	African American	4th	Asian-Indian American

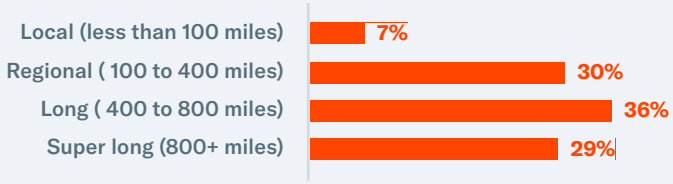
Alternative fuel truck brand drivers were most excited for

1 | Freightliner 2 | Tesla 3 | Volvo 4 | Peterbilt 5 | Kenworth

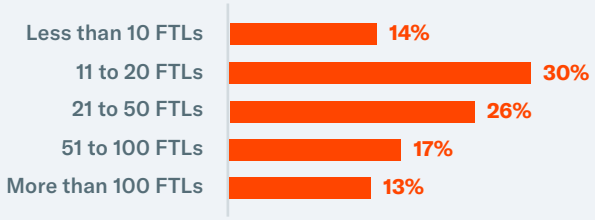
SNAPSHOT METRICS

Dispatcher

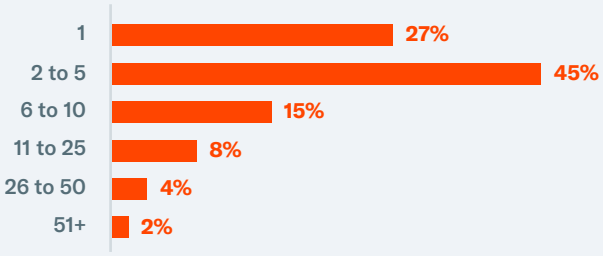
Typical run, one way



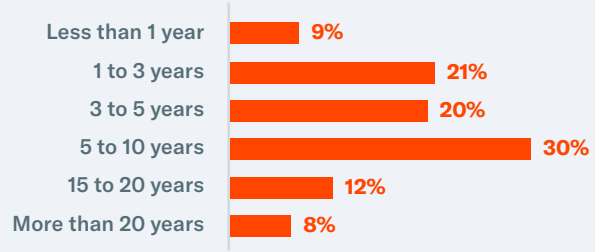
Number of truckloads driven last month



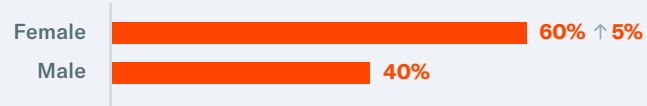
Number of trucks in the fleet



Number of years trucking



Gender



55% plan to purchase a truck within the next year.

78% believe fuel economy is important when buying a truck.

40% feel pressure to reduce carbon emissions in their business. ↑5%

17% have completed eco-driving training.

63% believe that reducing empty miles is very important. ↑5%

Owners operators that believe global climate change is affecting their community

23% a great deal. ↑

43% some. ↑

Top reasons for reducing emissions

1st Government regulation

2nd More awareness of the environmental impact of carbon emissions

3rd Customers
Customers are now a top 5 reason for reducing emissions. This is in line with motivations we hear from shippers.

4th Personal motivation

Top barriers to purchasing an electric truck

1st Too expensive

2nd No barriers

3rd Charging infrastructure

Top self identified groups

1st Hispanic American

2nd White American

3rd African American

4th Asian-Indian American

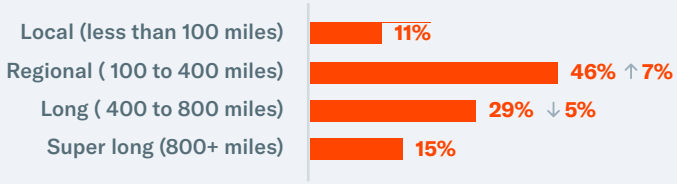
Alternative fuel truck brand drivers were most excited for

1 | VOLVO 2 | FREIGHTLINER 3 | TESLA 4 | Peterbilt 5 | KENWORTH

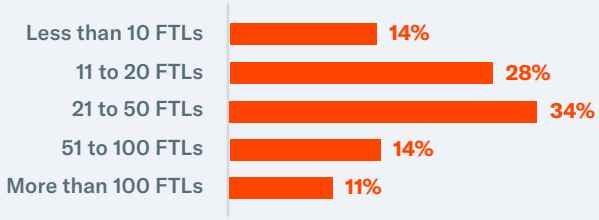
SNAPSHOT METRICS

Dispatcher and driver

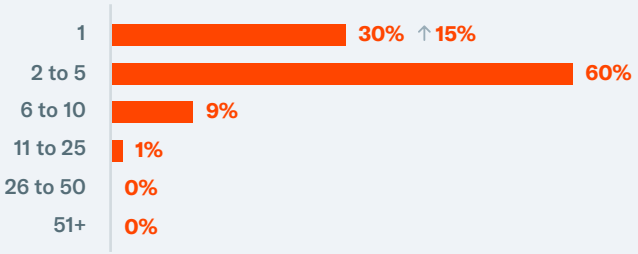
Typical run, one way



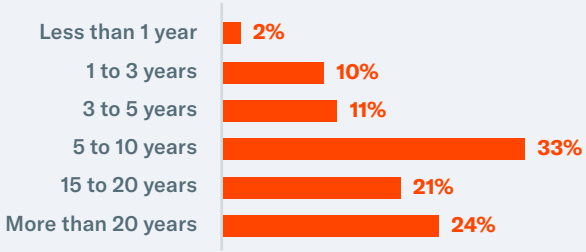
Number of truckloads driven last month



Number of trucks in the fleet



Number of years trucking



Gender

60% plan to purchase a truck within the next year.

86% believe fuel economy is important when buying a truck. ↑7%

41% feel pressure to reduce carbon emissions in their business. ↑10%

23% have completed eco-driving training.

69% believe that reducing empty miles is very important. ↑3%

Owners operators that believe global climate change is affecting their community

30% a great deal.

33% some.

Top reasons for reducing emissions

1st	Government regulation
2nd	More awareness of the environmental impact of carbon emissions
3rd	Personal motivation
4th	Reduction of operating costs

Top barriers to purchasing an electric truck

1st	Too expensive
2nd	No barriers
3rd	Distance limits

Top self identified groups

1st	Hispanic American	3rd	Asian-Indian American
2nd	African American	4th	White American

Alternative fuel truck brand drivers were most excited for

1 | Freightliner 2 | Tesla 3 | Volvo 4 | Kenworth 5 | Peterbilt

CLIMATE CHANGE IMPACT ON THE TRUCKING INDUSTRY

Since 1990, transportation has seen the highest absolute growth in emissions when compared with any other cause, and that trend looks primed to continue: freight transport is expected to double by 2040, with **freight emissions easily overtaking those from passenger transportation by 2050**.

At the same time, truckers face increasing challenges to their livelihoods and health from the impacts of **climate change**. The most obvious of these before the COVID-19 pandemic was a bump in fuel prices immediately after catastrophic natural weather events (such as hurricanes and tornadoes), which scientists believe are occurring more frequently as a result of climate change.

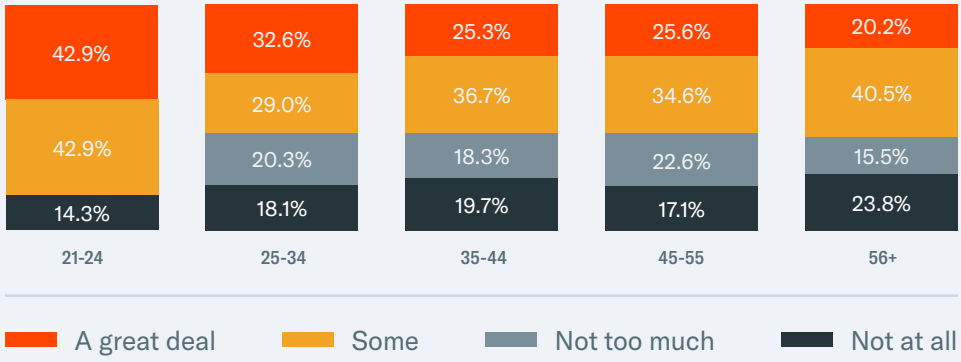
Drivers are also navigating worsening roads damaged by recent increased incidences of prolonged high temperatures and flood erosion, also attributed to climate change. When asphalt heats up, it softens and expands, causing cracking and holes; flooding can wash out entire roads, bridges, and tunnels along essential truck routes. The dangers of driving over compromised infrastructure are often further compounded by poor weather and related traffic accidents – delaying truckers and causing late pickup or delivery of loads, which usually means a dock in pay for the driver.

About 61% of respondents said that climate change was an issue of some or a great deal of importance. About 39% of respondents indicated that they thought climate change was not too much of an issue or not an issue at all.

Respondent age had an influence on their view of climate change. The youngest age cohort (aged 21 to 24) showed more concern about climate change, with 43% of respondents saying it was greatly important and 43% saying it was somewhat important. Only 14% of individuals aged 21 to 24 said that climate change was not an issue at all. In contrast, in the oldest cohort (aged 56 and over), one in four thought climate change was not an issue at all, and another 15% believed that climate change was not too much of an issue.

Is climate change an issue? If so, to what degree?

by age



Independent of their views of the impact of climate change, there was an overall increase of pressure to reduce carbon emissions compared to the results from our previous survey.

Do you feel pressure to reduce carbon emissions in your business?

August 2021		March 2022	
65.1%	No	62.0%	No
34.9%	Yes	38.0%	Yes

The top reason for reducing carbon emissions is now government regulation, whereas previously, it was more awareness of the environmental impact of carbon emissions.

August 2021

Top reasons for reducing carbon emissions

28%	No feeling of pressure to reduce carbon emissions
24%	More awareness of the environmental impact of carbon emissions
19%	Government regulation
9%	Reduction of operating costs
9%	Personal motivation

March 2022

Top reasons for reducing carbon emissions

29%	No feeling of pressure to reduce carbon emissions
25%	Government regulation
18%	More awareness of the environmental impact of carbon emissions
9%	Reduction of operating costs
9%	Personal motivation

Companies that felt pressure to reduce their carbon emissions were more likely to place higher importance on reducing miles. (76.4% compared to 64.8% for companies that felt no pressure to reduce their carbon emissions).

How important is reducing miles to your business?

by whether a company feels pressure to reduce carbon emissions

	No	Yes
5 - Very important	**64.8%**	**76.4%**
4	**14.5%**	**9.5%**
3	**11.9%**	**9.1%**
2	**4.7%**	**2.7%**
1 - Not important	**4.2%**	**2.3%**

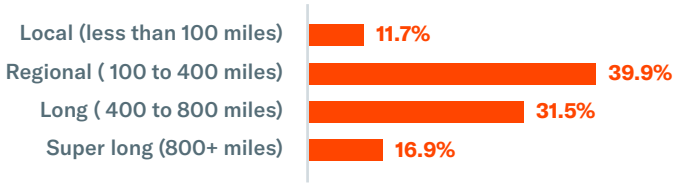
We might expect that longer haulers would feel more pressure to reduce their carbon emissions. Interestingly, that's not the case. The mid-range long-haulers were much more likely to indicate that they felt pressure to reduce their carbon emissions compared to short-range haulers and the super long-haulers.

Do you feel pressure to reduce carbon emissions?

by load type

	Local (less than 100 miles)	Regional 100-400 miles)	Long (400-800 miles)	Super Long (800+ miles)
No	**11.4%**	**42.0%**	**31.0%**	**15.6%**
Yes	**12.2%**	**36.5%**	**32.3%**	**19.0%**

This may be related to the fact that the most common reported load types were regional and long loads.



THE ROAD TO SUSTAINABLE TRANSPORTATION

Inefficiencies in network operations can cause trucks to travel empty, use longer or more congested routes, and idle unnecessarily. These inefficiencies increase fuel consumption and fuel costs.

When considering their truck purchases, 83% of respondents rated fuel economy as very important.

How important is fuel economy to you when buying a truck?

82.5% Very important

13.0% Somewhat important

Almost half of all respondents said they planned on buying a new truck within the next year (48%). Another 31% said they would be buying a new truck in the next one to three years, meaning that nearly 80% of respondents planned to buy a new truck within three years. Only 14% of respondents said they had no plans to buy a new truck.

When do you plan on buying a new truck?

48.4% Within the next year

30.8% In the next 1-3 years

6.6% More than 3 years from now

14.2% I do not plan on buying a new truck in the future

The sooner the respondent planned to buy a truck, the more important fuel economy became. For respondents who planned on buying a truck within the next year, 86% said fuel economy was very important and 10% said it was somewhat important. Of respondents who planned on buying a new truck more than three years from now, only 77% said fuel economy was very important and 14% said it was somewhat important.

How important is fuel economy?

by plans to buy a new truck

When do you plan on buying a new truck?	Very important	Somewhat important	Neutral	Not important
Within the next year	86.0%	10.4%	3.3%	0.3%
In the next 1-3 years	81.2%	15.0%	2.8%	0.9%
More than 3 years from now	76.1%	19.6%	2.2%	2.2%
I do not plan on buying a new truck in the future	76.5%	14.3%	5.1%	4.1%

When respondents were asked about the electric/hydrogen trucks they were most excited to drive, the Freightliner eCascadia came out on top at 23%. This was followed by Tesla and Volvo, both at 18%.

What electric/hydrogen truck are you most excited to drive?

22.8%	Freightliner eCascadia
18.1%	Volvo
18.1%	Tesla
11.6%	Kenworth
11.4%	Peterbilt

Variations in favorite brands according to role type

	1	2	3	4	5
Owner operators	Freightliner	Tesla	Volvo	Peterbilt	Kenworth
Dispatchers	Volvo	Freightliner	Tesla	Peterbilt	Kenworth
Dispatch drivers	Freightliner	Tesla	Volvo	Kenworth	Peterbilt

Our survey showed a clear trend: the longer an individual had been in the business, the less likely they were to want to drive an electric/hydrogen truck.

Rspondents with no interest in driving an electric /hydrogen truck

by years in business

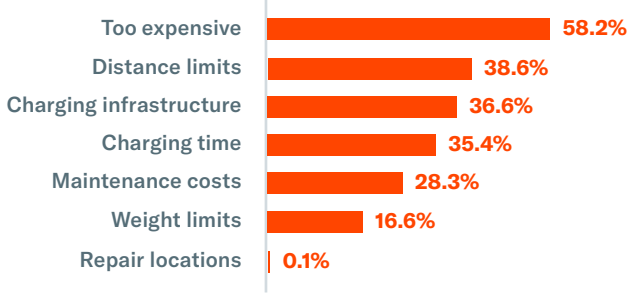
0.0%	1 to 3 years
10.2%	3 to 5 years
11.9%	5 to 10 years
17.7%	15 to 20 years
19.3%	More than 20 years

What electric/hydrogen truck are you most excited to drive?

by years in business

	1st	2nd	3rd	4th	5th	6th
1-3 years	Freightliner	Tesla	Volvo	Not sure/not interested	Kenworth	Peterbilt
3-5 years	Freightliner	Volvo	Tesla	Kenworth	Peterbilt	Not sure/not interested
5-10 years	Freightliner	Volvo	Tesla	Not sure/not interested	Kenworth	Peterbilt
15-20 years	Freightliner	Tesla	Not sure/not interested	Volvo	Peterbilt	Kenworth
20+ years	Not sure/not interested	Freightliner	Volvo	Peterbilt	Tesla	Kenworth

The most commonly reported barrier to entry into the electric/hydrogen truck market was “too expensive.” More than half of respondents (58.2%) said the trucks were too expensive to purchase. No other response reached the 50% threshold.



PROGRESS IN IMPROVING THE ENVIRONMENTAL IMPACT OF TRUCKING

The good news is that both the public and private sectors are working to make freight transport more sustainable. Many vehicle manufacturers are pursuing partially or fully electric power units that will comply with the US Environmental Protection Agency's Cleaner Trucks Initiative, which requires lower emissions from heavy-duty trucks to reduce the global footprint. These restrictions are projected to reduce emissions by 270 million metric tons for vehicles built between 2012 and 2025, which would save **530 million barrels of oil**. Several states have introduced independent legislation to encourage reduced emissions, and California's Advanced Clean Trucks Rule requires that all truck manufacturers produce some sort of emission-free truck alternative by **2024 – just two years from now**.

Only about 19% of respondents (strongly agree and agree) felt that stricter environmental laws and regulations were worth the cost, whereas a whopping 41.4% of respondents either disagreed or strongly disagreed. About 4 in 10 respondents were neutral.

Do you agree or disagree that stricter environmental laws are worth the cost?

4.9%	Strongly agree
14.0%	Agree
39.6%	Neutral
17.6%	Disagree
23.8%	Strongly disagree

42% of respondents said they either agreed or strongly agreed that stricter environmental laws and regulations cost jobs and hurt the economy. About 40% of respondents were neutral. Less than 1 in 5 respondents disagreed or strongly disagreed with the statement.

Do you agree or disagree that stricter environmental laws and regulations cost jobs and hurt the economy?

19.2%	Strongly agree
22.8%	Agree
40.5%	Neutral
9.1%	Disagree
8.4%	Strongly disagree

ABOUT CONVOY

Convoy is the nation's most efficient digital freight network. We move thousands of truckloads around the country each day through our optimized, connected network of carriers, saving money for shippers, increasing earnings for drivers, and eliminating carbon waste for the planet. We use technology and data to solve problems of waste and inefficiency in the $800 billion trucking industry, which generates over 87 million metric tons of wasted CO2 emissions from empty trucks. Fortune 500 shippers, such as Ardagh, Anheuser-Busch, P&G, and Unilever, trust Convoy to lower costs, increase logistics efficiency, and achieve environmental sustainability targets.

Learn more at **www.convoy.com**

HOW WE SURVEYED

Convoy invited carriers to participate in a survey to capture a snapshot of their operations and perceptions. In March 2022, we received responses from almost 700 trucking companies, including dispatchers, owner operators, and drivers.

Submit research inquiries to **sustainability@convoy.com**.