

CONVOY

# ANNUAL FREIGHT INSIGHTS REPORT

An analysis of 2020 based on data  
from Convoy's digital freight network



## They say that hindsight is 2020...

The COVID-19 pandemic disrupted virtually every aspect of every industry, and transportation was no exception. As we navigated a turbulent environment, it was difficult to make sense of the overarching trends shaping the transportation landscape.

We get a much clearer picture by looking back at the year and analyzing the data.

In Convoy's inaugural Annual Freight Insights Report, we analyze the data from our digital freight network gathered throughout 2020. This includes:



**Millions of pickups and deliveries**



**More than 1,000 unique data points collected on each shipment\***



**More than 50 terabytes of freight data**

Convoy's industry-leading data science and insights teams reviewed our proprietary freight data along with the best transportation and economic data that's publicly available. The combination of data from our network with market-wide data paints a unique picture of North American freight in 2020.

**Read on to see the trends and insights from 2020 that our analysis uncovered.**

*\*See Appendix A on page 16 for a sample list of data points and visualizations that Convoy collects and shares with customers*

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# FREIGHT TRENDS IN 2020

## COVID-19 defined the year

When analyzing last year's freight data, the effects of the COVID-19 are plain to see. The pandemic was a once-in-a-lifetime event that changed how people live. With over 20 million cases, nearly 350,000 deaths, and millions of jobs lost in the United States over the course of 2020, it's difficult to overstate the devastation COVID-19 has inflicted on society.

However, COVID-19's economic impacts on the freight industry may be as much a story of continuity as it was a story of disruption.

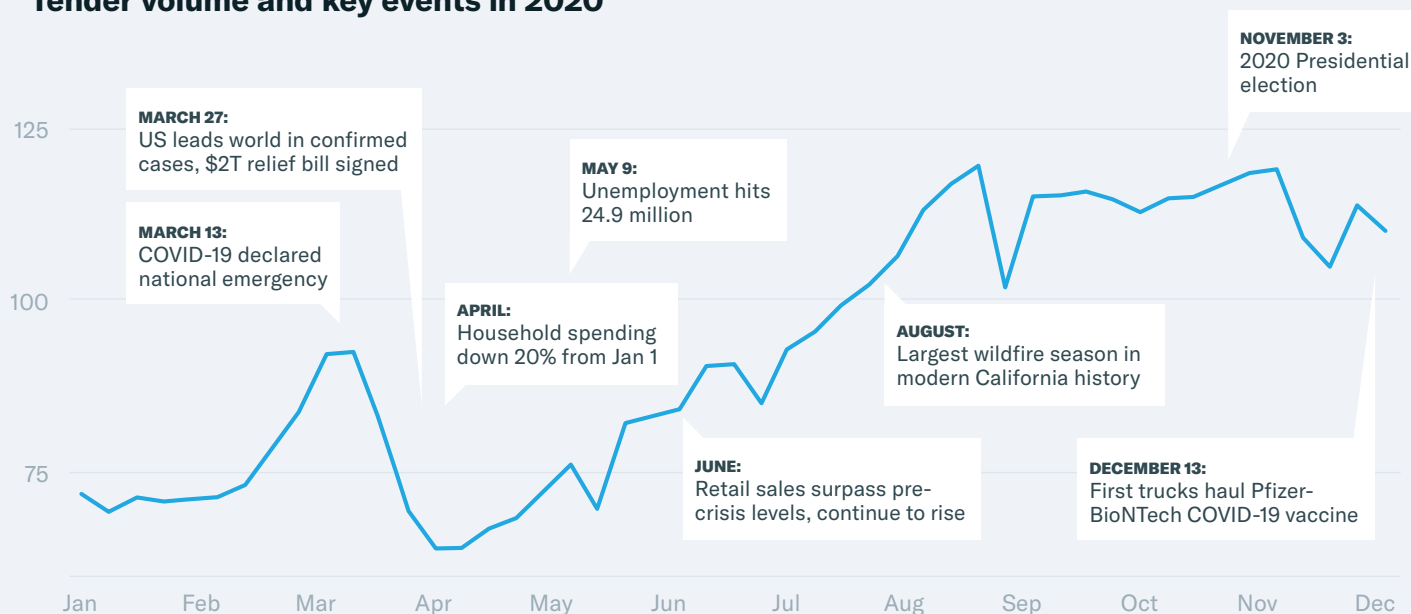
Despite some operational challenges early on in the crisis, manufacturers, transportation managers, facility operators and truckload carriers adapted quickly and kept America stocked as the pandemic wore on.

## Record-breaking volumes

COVID-19 sparked a consumer demand shock in March of 2020, setting off a wave of panic buying. April and May saw demand fall off a cliff as states locked down and citizens sheltered in place. Despite this chaos, the demand disruptions ultimately proved short-lived.

Demand rebounded in May and capacity tightened through the end of the year. 2020 closed with carrier supply and truckload demand dynamics consistent with a freight cycle forecast. These dynamics only tell part of the story. When we dig a level deeper we see that there's an uneven landscape between sectors and business types.

## Tender volume and key events in 2020



This chart depicts the biggest headlines of 2020 and freight volume based on FreightWaves Outbound Tender Volume Index (OTVI). The spike in March and the drop in April indicates the panic buying and lockdown phases of the pandemic. The peak in March set a record for index, but volumes broke this record by mid-July and continued to rise through November.

## Consumer demand soars for goods, but plummets for services

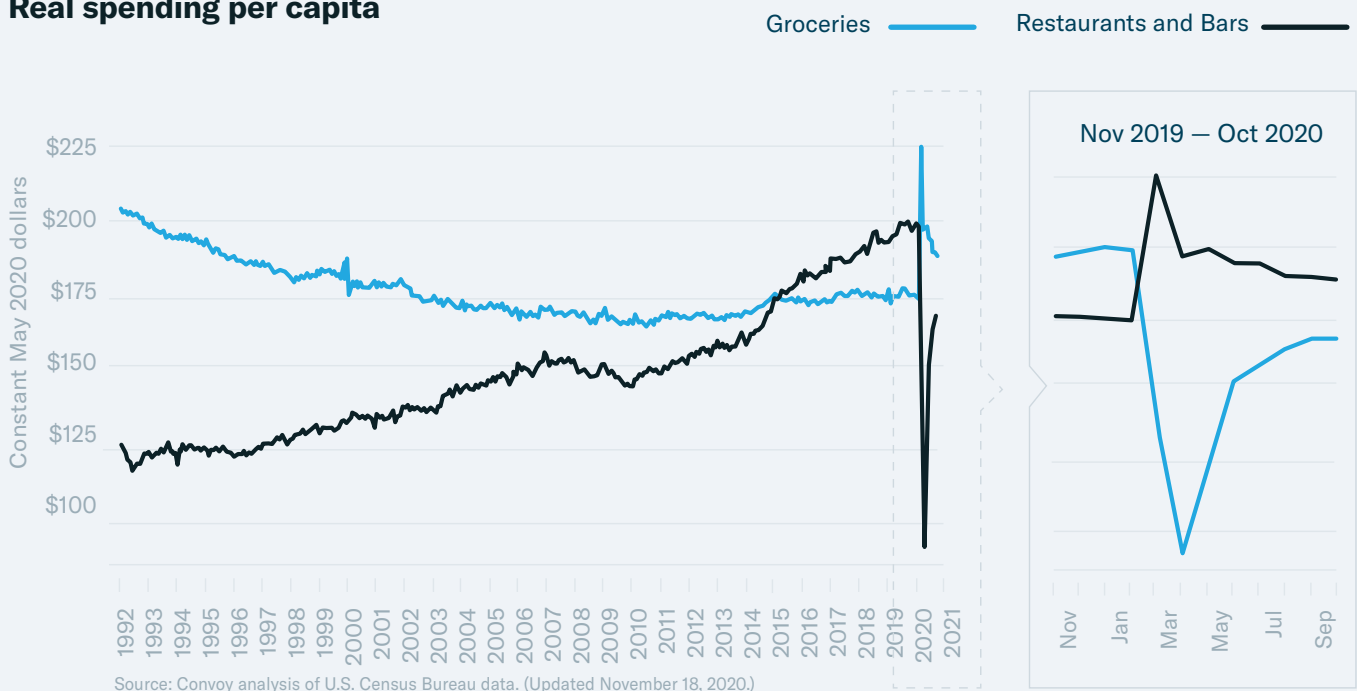
COVID-19 drove to a disconnect between the goods economy and the services economy. A striking example is spending on food. Spending at restaurants and bars declined, reversing a decades-long upward trend.

Meanwhile, grocery spending shot up, after years of stagnation. Restaurants and bars never fully recovered, even as parts of the country reopened through the year.

The goods economy, on the other hand, sharply rose from March onward. With people taking fewer vacations and eating out less, household savings rates soared and people shifted their spending to things instead of experiences.

The trend towards spending less on services and more on goods has been a boon for the transportation and logistics industry.

### Real spending per capita



COVID-19 reversed a decades-long trend of rising food spending at restaurants and bars. People shifted their buying behavior towards spending on groceries rather than out-of-home dining. This change is representative of a broader shift in consumers spending more on goods and less on services due to the pandemic.

## People spent more on retail and CPG, especially online

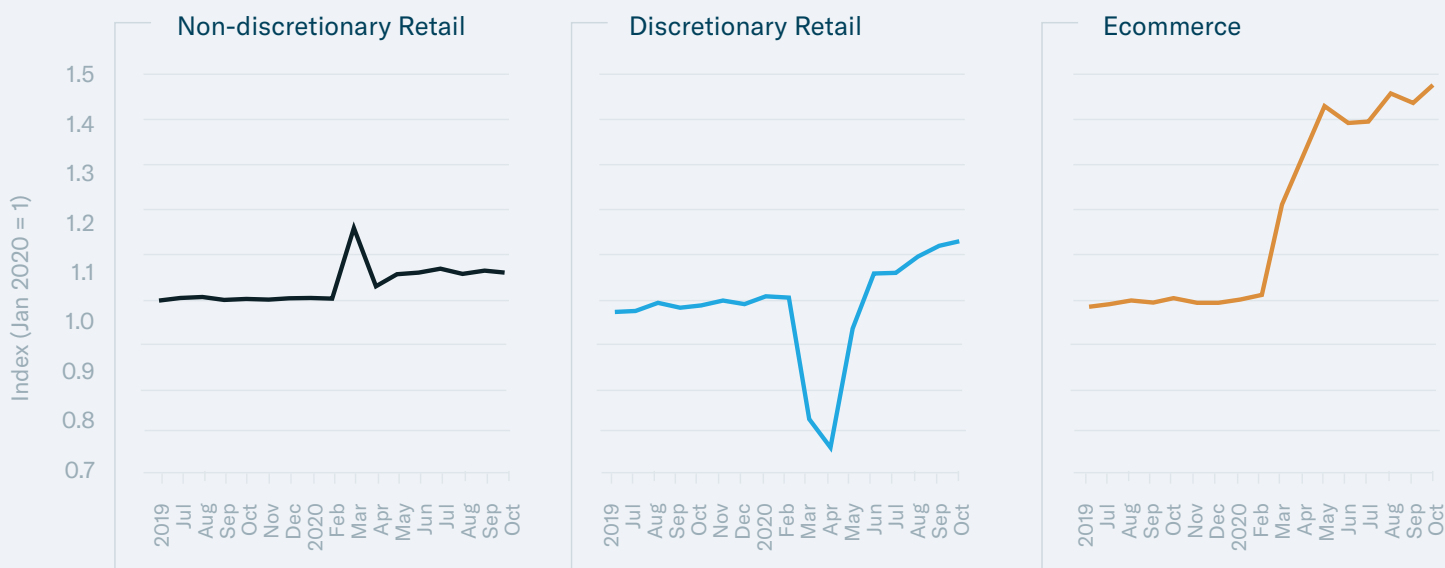
Non-discretionary spending—the purchases made on groceries, utilities, and other essentials—spiked in March, then returned near its pre-pandemic trajectory.

Discretionary spending, which includes lifestyle purchases like hobbies and home improvements, ground to a halt in March and April, then jumped above pre-pandemic levels as people received relief checks and reduced spending in other areas.

Ecommerce rose more quickly and dramatically than anyone expected as people adopted remote methods of shopping. By the end of the year, it was up roughly 30% from a year earlier. *This represents a stunning decade’s worth of consumer behavior shifts in a single year.*

This change in where consumers spent their dollars had rippling effects on the freight industry. We can measure the extent of these effects by analyzing data on facilities, dwell times, and incidentals.

### Ecommerce and discretionary retail driving growth



Notes: Restaurant spending and gas stations excluded. Non-discretionary retail includes grocery and household supplies  
 Source: Convoy analysis of U.S. Census Bureau data. (Updated November 18, 2020.)

# THE YEAR IN FACILITY PERFORMANCE DATA

Convoy collects more than 1,000 data points per shipment. Through our app, we've gathered approximately 1.5 million facility ratings to date. We track carrier dwell times, incidental costs, on-time pickup and delivery, and much more.

We share reports of this data with our customers to help them spot trends and identify opportunities. This data has helped companies make more informed decisions to save on transportation costs. For the first time, we're aggregating this data and making it publicly available. Here's what we found:

## 2020 average facility ratings

Average facility rating	<b>4.33/5</b>
Average facility rating for pickups	<b>4.36/5</b>
Average facility rating for deliveries	<b>4.30/5</b>

### Facility ratings dropped slightly in 2020.

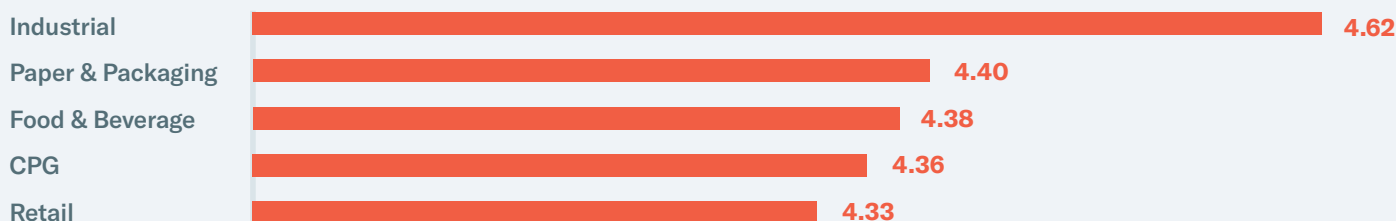
2019's average facility rating was 4.38, only slightly ahead 2020's average. Given the many challenges of 2020, it's no surprise that carriers reviewed facilities more favorably in 2019.

**Ratings were higher prior to COVID-19 fallout.** With an average score of 4.39, January earned the most favorable facility ratings of any month. Ratings trended downward after the start of the COVID-19 crisis, falling further as shipment volumes rose.

**As volumes rose, ratings declined.** Average ratings hit lows of 4.29 between August and November. These were the months when shipment volumes set record highs. These months also saw longer dwell times than average, which correlates closely with lower ratings.

**This trend was most apparent in retail and CPG.** With a rise in consumer spending, CPG and retail shippers experienced unexpectedly high demand in the second half of 2020. The data shows that high volumes correlate with longer dwell times and lower facility ratings. Conversely, the industrial sector had lower volumes and higher ratings on average in 2020.

## 2020 average rating by vertical



## Dwell time stats for 2020

Average dwell times for pickups and deliveries (live loads only)

Average dwell time **2 hrs 10 min**

Average dwell time for pickups **2 hrs 4 min**

Average dwell for deliveries **2 hrs 14 min**

### Dwell times rose for CPG and Retail compared to 2019

Shipments carrying CPG and retail goods tended to have the longest dwell times, for 20 more minutes on average in 2020 compared with 2019.

### Dwell times are inversely correlated with facility ratings

As you might suspect, when dwell times rise, facility ratings tend to go down. For example, retail and CPG shippers who had the lowest facility ratings in 2020 also had on average the longest dwell times.

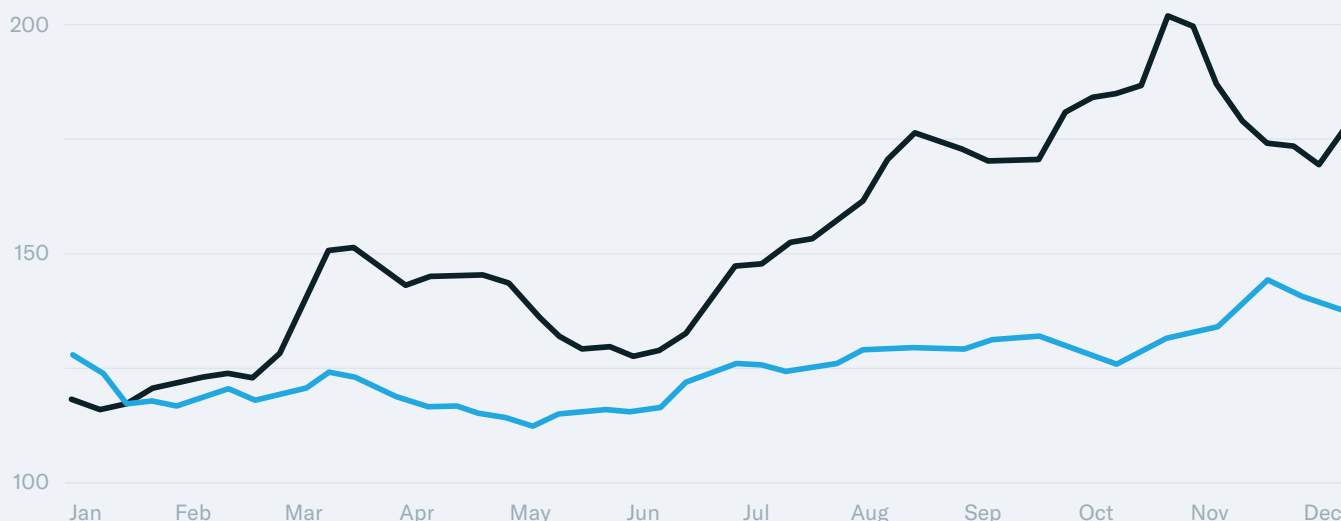
### Dwell times peaked in November

Dwell times lengthened as overall truckload volume rose. They reached their longest averages in November, the month with the highest shipment volumes and the lowest facility ratings.

## 2020 average dwell times

Retail & CPG compared to all other industries

Retail & CPG — All other industries —



Retail and CPG companies saw an unexpected demand spike in March, then a strong increase in volume from June onward. These sectors saw a corresponding rise in average dwell times, while other sectors were relatively flat throughout 2020.



# Drop-and-hook shipments earned higher ratings, shorter wait times

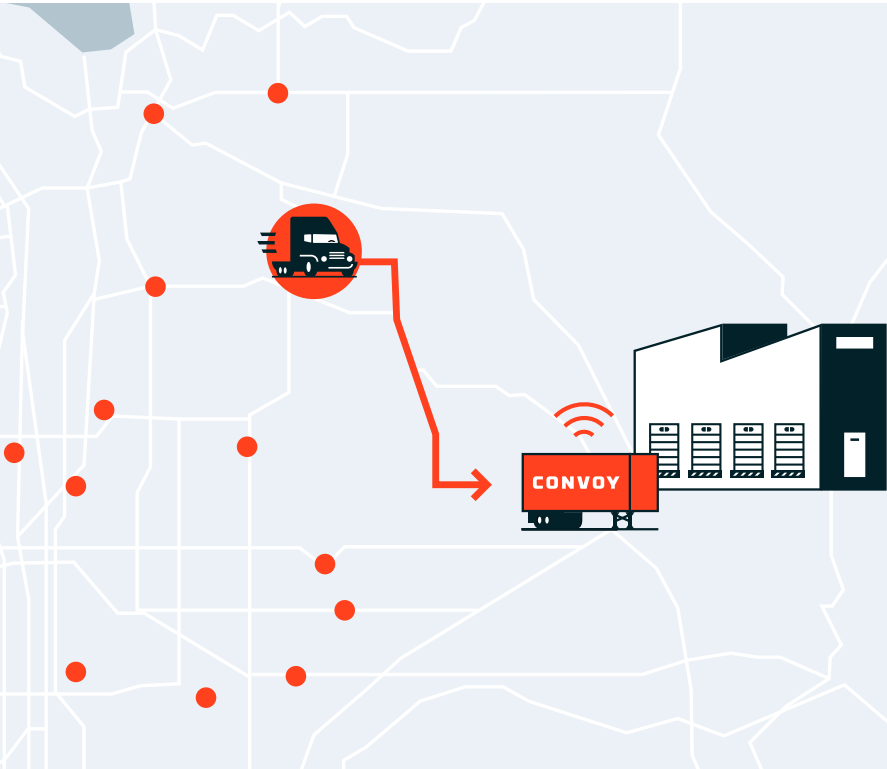
The dwell times cited on the previous page look solely at live shipments, excluding the pre-loaded trailers used for drop-and-hook freight. If your company has yet to embrace drop-and-hook, this data may convince you to give it consideration.

Drop-and-hook shipments outperformed live shipments by a wide margin, earning higher average facility ratings and cutting dwell times in half. In a year of tight capacity, drop-and-hook programs can help provide reliable coverage while minimizing disruption to facility operations.

### Live shipments vs. Drop-and-hook:

2020 Numbers	Live shipments	Drop-and-hook	Delta
Average Rating	4.3	4.55	Drop +0.25
Average Dwell	130 Minutes	91 Minutes	Drop -41 Minutes

Convoy provides these performance benefits with **Convoy Go**, our modern drop-and-hook service. We use machine learning and automation to provide customers with reliable, nationwide drop capacity that flexes to meet surges in demand. If you're interested in these benefits for your business, **learn more at [Convoy.com/drop-and-hook](https://convoy.com/drop-and-hook)**.



# INCIDENTALS BY THE NUMBERS

## Incidentals contribute to operational costs for shippers

According to McKinsey & Company, “up to half the cost of many supply chains lurks ignored and unmanaged in outbound logistics and behind the closed doors of distribution centers.” Incidental costs associated with freight can add up to significant figures in transportation budgets. The first step to cutting these costs is identifying them.

Convoy tracks incidental data on each shipment and provides a detailed breakdown to our customers on a monthly basis. This includes detention, TONU, lumper fees, and more. We highlight what shipments contributed to higher costs, and propose opportunities to reduce costs in the future.

For this report, we anonymized the incidental data from our digital freight network and grouped it by industry. The data reveals a unique view of the financial impacts of 2020’s freight market dynamics.

## COVID-19’s impact on detention trends

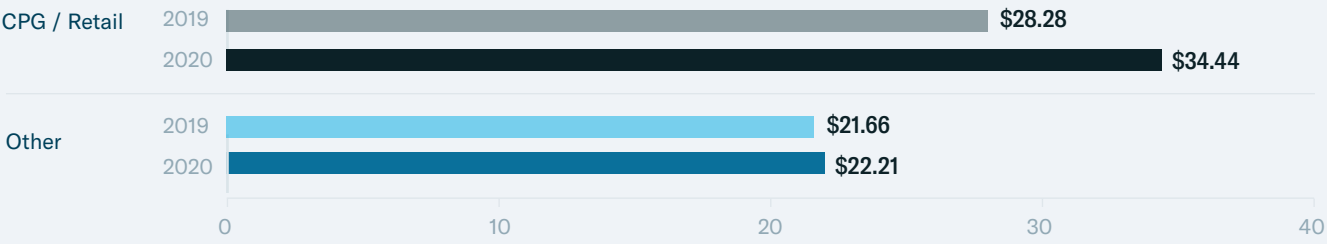
Detention costs per shipment rose overall in 2020 compared to 2019. This corresponds to the increased dwell times we saw year over year.

As we look at this data, we again see the impacts of COVID-19 on the freight industry. For example, retail and CPG sectors had the highest increase, rising from \$28.28 in 2019 to \$34.44 in 2020. All other industries remained near 2019 levels, rising only slightly.

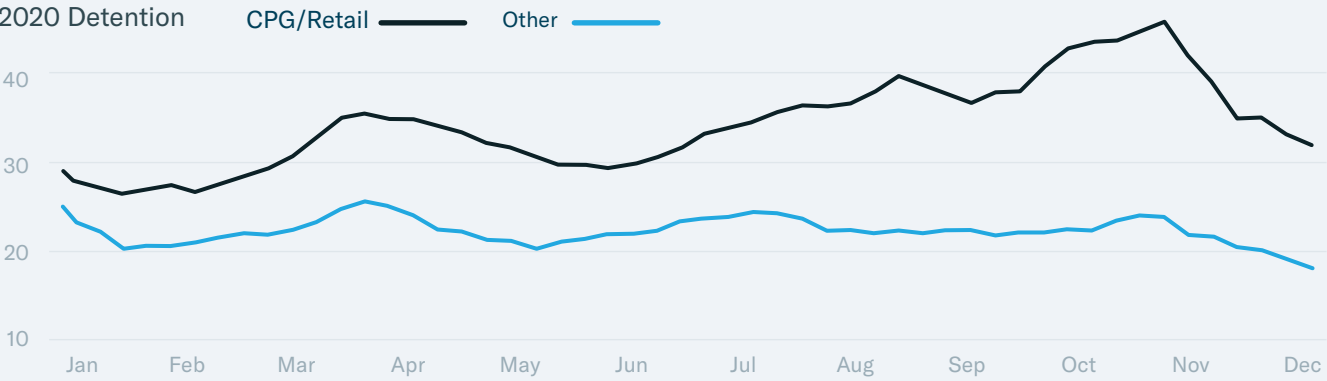
This increase corresponds to the higher historic truckload volumes. With people spending more on goods and ecommerce, the retail and CPG sectors saw an increase in unexpected shipment volumes. This tracked to longer shipment dwell times for shippers in this category, ultimately leading to higher detention costs per shipment.

### Detention

Annual change



### 2020 Detention

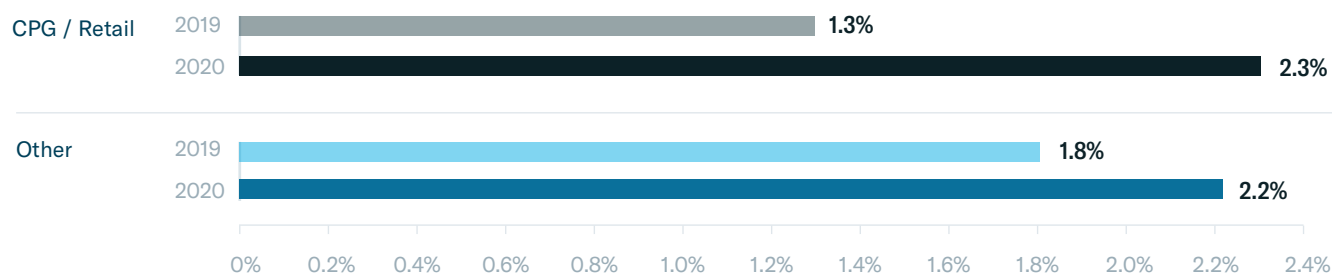


## COVID-19's rippling effects on TONU

TONU (truck ordered, not used) is a charge for ordering a truck then canceling the order. This tends to occur most often during times of surging demand. Companies may order more trucks than they require in anticipation of higher consumer need for a product.

Again, we see the impact of COVID-19 on changes in TONU trends. With surging consumer demand for CPG and retail products, shippers in these categories saw the highest hikes in TONU. For CPG and retail shippers, TONU rose from 1.3% of shipments in 2019 up to 2.3% in 2020. For all industries, TONU percentages rose 1.8% to 2.2%.

### TONU Annual Change



## The monthly trend in TONU for CPG and Retail in 2020

The average TONU cost per shipment for CPG and retail tracked with truckload volume levels. They rose in March, fell during the lockdown period, and rose again between July and December.

These spikes in TONU are a reflection of supply chain forecasting challenges. Shippers erred on the side of caution, ordering more trucks than needed during periods of unexpected demand.

### TONU Retail/CPG



# THE STATE OF SUPPLY CHAIN SUSTAINABILITY

## Eliminating waste in transportation

Sustainability is core to Convoy’s mission of transporting the world with endless capacity and zero waste. Many of the companies we serve share our commitment to sustainability.

We surveyed more than 120 of the shippers we work with to learn how they view sustainability and their supply chain. More than 80% of the companies we surveyed said that sustainability was important or very important to their business.

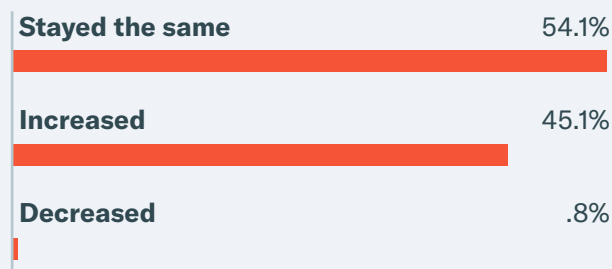
Nearly half of the companies that were surveyed increased their investment in sustainability initiatives over the last 12 months. The other half indicated that they had kept their level of investment constant, with only one respondent reporting a decrease in their sustainability investment.

This survey data indicates that even in an uncertain year with numerous disruptions, companies remain committed to sustainability in their supply chain.

### How important is sustainability to your business?



### Investment in sustainability over the last 12 months

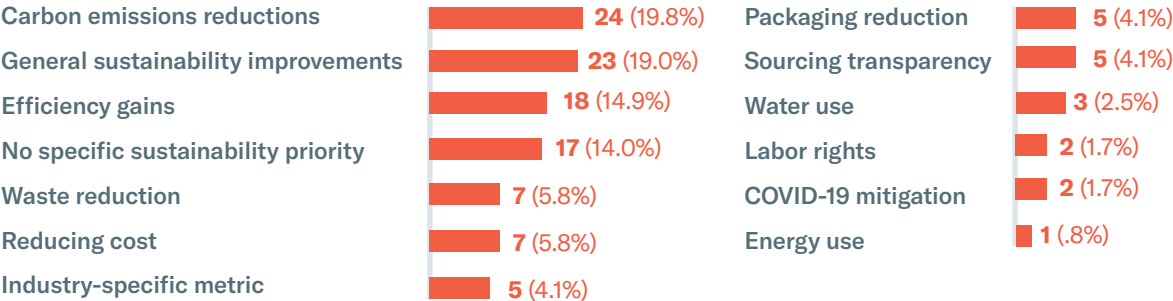


## Reducing carbon emissions is the top priority in sustainability

Reducing carbon emissions was the most common sustainability priority for companies surveyed. Two of the next most popular responses, “efficiency gains” and “waste reduction,” are both efforts that contribute to reducing carbon emissions.

The transportation industry is responsible for 28% of the carbon emissions in the United States. While some of these emissions are unavoidable, supply chain leaders within companies have an opportunity to decrease their carbon footprint by adopting transportation practices that reduce waste.

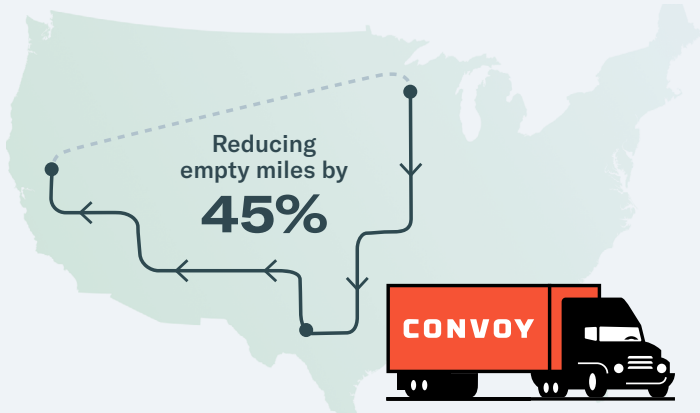
### What is your main sustainability priority right now?



## The opportunity in empty miles

Reducing empty miles is the trucking industry’s biggest opportunity to lower carbon emissions over the next 5 years. Convoy’s digital freight network uses technology to improve efficiency and reduce the number of empty miles in freight.

Since Convoy's founding, **we've reduced more than 3 million pounds of carbon emissions.**



## Conclusion:

# THE VALUE IN FREIGHT DATA

2020's freight data paints a picture of how the transportation industry is tied to the economy, society, and consumer behavior. The data affirms some of the year's broad narratives, like the shift from spending on services toward purchasing goods. It provides nuance on others, such as how the rise in unexpected demand led to a measurable increase in TONU expense for certain industries.

The data shows the remarkable domino effect of COVID-19. An infectious virus spread across America and around the world. Therefore people stayed home and ordered more things online. This meant retail warehouses and distribution facilities had more shipments to fulfill. This led to more trucks picking up and dropping off, which caused longer wait times, which culminated in a 22% increase in detention payouts and a decrease in facility ratings.

This data can be a powerful tool for individual companies. Supply chain leaders with better data are equipped to make decisions that drive higher carrier loyalty, reduce waste, and lower their overall transportation costs.

## Turning data into insights

As Convoy collects data on shipments we arrange, we make this data available to our customers, contextualizing the numbers into insights that can help drive better supply chain performance.

Through automatically generated reports, we share trends and anomalies in logistics operations that may warrant further investigation. Through an online dashboard, we let customers visualize data based on specific timeframes, geographies, shipment types, and more. And in partnership with Convoy's data scientists and account management teams, we provide customized consulting services that help supply chain leaders analyze shipment data and uncover hidden inefficiencies at facilities.

We believe you should have a right to take control of their freight data, so that they can make informed supply chain decisions, faster. Empowering shippers with data-backed insights is fundamental to Convoy's mission of transporting the world with endless capacity and zero waste.

## How you can get access to data and insights about your freight

**Companies who ship with Convoy receive access to the types of insights included in this report, but with much greater detail, real-time information, and data that's customized for their company's logistics performance.**

Our annual freight insights report is just one of the ways Convoy is using data and technology to help our customers.

If you are a shipper interested in improved supply chain visibility, contact Convoy today.

With just a ten minute meeting, we can provide you with a network analysis that can help you discover opportunities to save on freight.

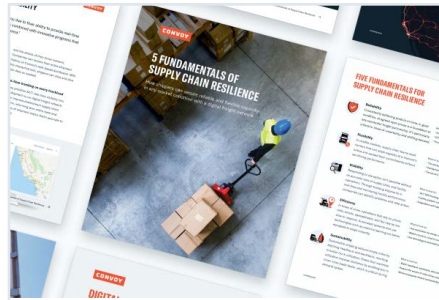
Get started today.

**Visit [convoy.com/shippers](https://convoy.com/shippers)**

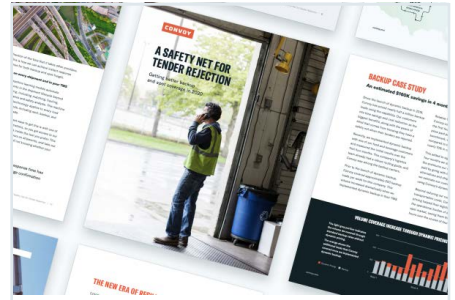
## Further reading: Insights reports from Convoy



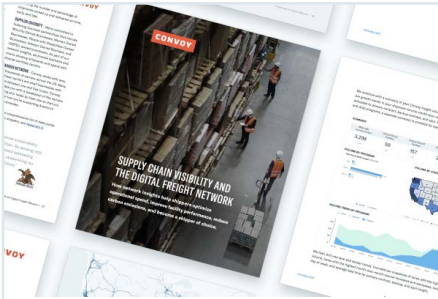
**A New Approach to Primary Freight**



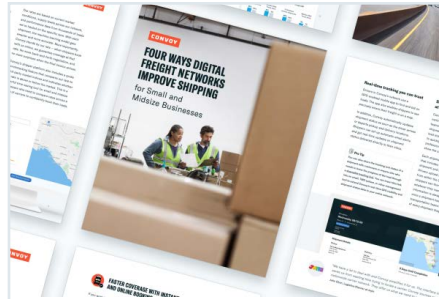
**Five Fundamentals of Supply Chain Resilience**



**A Safety Net for Tender Rejection**



**Supply Chain Visibility and the Digital Freight Network**



**Four Ways Digital Freight Networks Improve Shipping**



**How Every Shipper Can Benefit From Modern Drop-And-Hook**

Click above or visit [convoy.com/shipper-resource-center](https://convoy.com/shipper-resource-center) to read more.

## 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 our planet. We use technology and data to solve problems of waste and inefficiency in the \$800B trucking industry, which generates over 72 million metric tons of wasted CO2 emissions from empty trucks. Fortune 500 shippers like Anheuser-Busch, P&G, Niagara, and Unilever trust Convoy to lower costs, increase logistics efficiency, and achieve environmental sustainability targets.



# APPENDIX A

## Sample Data Points and Visualizations That Convoy Shares with Customers

### Shipment Volume

- Loads this month
- Loads by type
  - Primary this month vs. last month
  - Backup this month vs. last month
  - Spot this month vs. last month
  - Other this month vs. last month
- Month-over-month load % growth
- Year-over-year % growth
- Trailing 12-month line graph:
  - Total loads
- Trailing 6-month stacked line graph:
  - Volume trends by shipment type
- Total miles with Convoy carriers
- Number of unique pickup facilities
- Number of unique drop-off facilities
- Number of unique lanes
- Average miles per shipment
- Top 5 lanes this month

### Performance

- Primary tender acceptance %
- Primary tender acceptance MoM %
- Primary tender acceptance YoY %
- Total # of pickups (Live)
- Total # of pickups (Drop)
- OTP % (Live)
- OTP % (Drop)
- OTP MoM %
- OTP YoY %
- Total # of drop-offs (Live)
- Total # of drop-offs (Drop)
- OTD % (Live)
- OTD % (Drop)
- OTD MoM %
- OTD YoY%
- Trailing 6-month OTP % (Live)
- Trailing 6-month OTP % (Drop)
- Trailing 6-month OTD % (Live)
- Trailing 6-month OTD % (Drop)
- Driver Performance Breakout (Live)
  - # and % of pickups that were early
  - # and % of on-time pickups
  - # and % of pickups that were late
  - # and % of drop-offs that were early
  - # and % of on-time drop-offs
  - # and % of drop-offs that were late

- Driver Performance Breakout (Drop)
  - # and % of pickups that were early
  - # and % of on-time pickups
  - # and % of pickups that were late
  - # and % of drop-offs that were early
  - # and % of on-time drop-offs
  - # and % of drop-offs that were late

### Incidentals

- Total incidental spend this month
- Total incidental spend last month
- Spend by type
  - Detention this month vs. last month
  - TONU this month vs. last month
  - Layover this month vs. last month
  - Redelivery this month vs. last month
- Total monthly shipments with incidentals
- # of incidentals by type
  - Detention
  - TONU
  - Layover
  - Redelivery
- Trailing 6-month incidental rate (%) trend
- Trailing 6-month incidental average cost
- Incidental total cost and # of shipments
- YTD incidental total spend by month
- YTD percent of shipments with incidentals
- YTD average incidental costs by month
- Benchmark: Incidental cost per shipment
- Benchmark: Incidental % of costs
- Benchmark: % shipments with incidentals
- Incidentals by day of week
  - # of shipments
  - Cost
- Incidentals by hour of day
  - # of shipments
  - Cost
- Detention Deep Dive
  - 5 highest detention for pickup
    - Location
    - Detention spend
    - # of shipments impacted

- 5 highest detention for drop-off
  - Location
  - Detention spend
  - # of shipments impacted
- Trailing 6-month pickup detention
- Trailing 6-month drop-off detention
- Benchmark: % loads with detention
- Benchmark: Average detention cost
- Layover deep dive
  - 5 lanes with the highest layover cost
    - Pickup location
    - Drop-off location
    - Total layover spend
    - # of shipments impacted
  - Trailing 6-month average layover cost
- TONU deep dive
  - 5 lanes with highest TONUs
    - Pickup location
    - Drop-off location
    - Total \$ TONU spend
    - # of shipments impacted
  - Trailing 6-month average TONU cost
- Redelivery deep dive
  - 5 lanes with highest redelivery cost
    - Pickup location
    - Drop-off location
    - Total \$ redelivery spend
    - # of shipments impacted
  - Trailing 6-month avg redelivery cost

### Wait Times

- Pick Up
  - % of detained on-time loads MoM
  - Median wait times MoM
- Drop Off
  - % of detained on-time loads MoM
  - Median wait times MoM
- 5 pickup facilities with highest wait (Live)
  - Pickup location
  - # of on-time pickups vs. total pickups
  - # of on-time pickups with extra wait
  - Median extra wait time



- 5 pickup facilities with highest wait (Drop)
  - Pickup location
  - # of on-time pickups vs. total pickups
  - # of on-time pickups with extra wait
  - Median extra wait time
- 5 drop-off facilities with highest wait
- Drop-off location
  - # of on-time drop-offs vs. total
  - # of on-time drop-offs with extra wait
  - Median extra wait time
- Trailing
  - 6-month pickup wait time (Live)
  - 6-month pickup wait time (Drop)
  - 6-month drop-off wait (Live)
  - 6-month drop-off wait (Drop)
- Benchmark: % wait time above threshold
- Benchmark: median wait vs. threshold
- Trailing 6-month dwell time trend
- Dwell time correlation to driver rating

## Facility Overview

For Each Facility

- # of shipments
- Spend up %
- \$ Linehaul + fuel
- % Incidentals
- \$ Final incidental
- \$ Average incidental
- % Detention
- \$ Final detention
- \$ Average detention
- % Layover
- \$ Final layover
- \$ Average layover
- % TONU
- \$ Final TONU
- \$ Average TONU
- % Dwell time > threshold
- Median dwell time
- # of ratings
- Average rating
- % Ratings > threshold

## Facility Ratings

- Average facility rating across all facilities
- Average facility rating MoM change

- # of facilities reviewed
- Percentage of facilities rated 1-5 stars
- Top-rated facility
  - Rating
  - # of reviews
- Bottom-rated facility
  - Rating
  - # of reviews
- 5 highest-volume pickup facilities
  - # of pickups
  - Total driver ratings
  - % of 5-star ratings
  - Average driver rating
  - Average driver rating (Metro)
- 5 highest-volume drop-off facilities
  - # of pickups
  - Total driver ratings
  - % of 5-star ratings
  - Average driver rating
  - Average driver rating - (Metro)
- Overall star rating per facility (1-5 stars)
- Actual wait time
- Yard space quality
- Wait time perception
- Service and communication
- Verbatim carrier reviews
- Reasons for facility ratings
  - Good service or communication
  - Poor service or communication
  - Easy trailer access
  - Good trailer condition
  - Poor trailer condition
  - Trailer loaded properly
  - Trailer not loaded properly
  - Quick loading
  - Slow loading
  - Slow unloading
  - Quick unloading
  - Short wait time
  - Long wait time
  - No parking
  - Parking available
  - Long wait at gate
  - Short wait at gate
  - Good facility amenities
  - Poor facility amenities
  - Difficult trailer access
  - Convenient trailer pool location
  - Limited yard space
  - Accessible yard
- Benchmark: % of ratings above threshold
- Benchmark: Average Ratings

## Sustainability

- Pounds of CO2 saved this month
- Pounds of CO2 saved YTD
- Trailing 12-month pounds of CO2 saved
- Automated reloads breakdown
  - Monthly automated reloads (Live/Live, Drop/Drop, Drop/Live)
  - YTD automated reloads (Live/Live, Drop/Drop, Drop/Live)
- Map: Automated reload volume by state
- % of Live/Live automated reloads
- Gallons of diesel saved this month
- Trailing 6-month automated reload history
  - # of qualified shipments
  - # of automated reloads
  - Gallons of fuel saved
  - Total CO2 emissions (lb)
  - Total CO2 emissions saved (lb)

## Tender Trends

- Average tenders per day
- Average pickups per day
- Average lead time by volume type

## Carrier Network

% of loads by carrier size

## Automated Brokering

- Automated brokering rate this month
- Chart: Trailing 6-month automation rate
- 5 most automated lanes
  - Pickup location
  - Drop-off location
  - Automation rate
  - # of shipments
- Automation on 5 busiest lanes
  - Pickup location
  - Drop-off location
  - Automation rate
  - # of shipments

## Supplier Diversity

- Trailing 6-month diverse carrier loads
- # of shipments
- # shipments hauled by diverse carriers
- Freight spend with diverse carriers

## Driver Safety

- Table: Trailing 6-month driver incidentals
- # of shipments
- # of shipments with driver incidentals
- % of shipments with driver incidentals