



Art: Vilma Alvarez/Getty Images

TRUCKING BY THE NUMBERS

This year, the trucking industry has proven to be particularly vital to the American economy and way of life. In March, the familiarity of daily life in the U.S. was upended when the COVID-19 pandemic struck. But fleet owners and operators, dispatchers, back-office staff, and, of course, drivers persevered and kept freight moving.

As Karl Moor, deputy assistant administrator for the U.S. Environmental Protection Agency's Office of Air and Radiation, pointed out during this year's SmartWay Excellence Awards, there is not a family in America or business that doesn't rely on the freight industry in some way. On average, he said, each day, the transportation system in the U.S. moves about 49 tons of freight valued at more than \$53 billion per day.

According to Bob Costello, chief economist for the American Trucking Associations (ATA), trucks move roughly 72.5% of the nation's freight by weight. Trucking also moves \$791.7 billion in gross freight revenues, which represented 80.4% of the nation's freight bill in 2019, according to ATA data. In addition, trucks moved 11.84 billion tons of freight in 2019, representing more than 72% of

total domestic tonnage shipped.

And, for the better part of 2020, trucking companies and their drivers worked around the clock and braved the unknown to make sure essential supplies got to where they needed to be. Throughout the year, refrigerated trailer units were also used as mobile morgues for hospitals overwhelmed by COVID-19 deaths.

According to the U.S. Department of Transportation, as of April 2020, the number of for-hire carriers on file with the Federal Motor Carrier Safety Administration totaled 928,647, private carriers totaled 799,342, and other interstate motor carriers totaled 84,763. Other motor carriers are those that did not specify their segment or checked multiple segments.

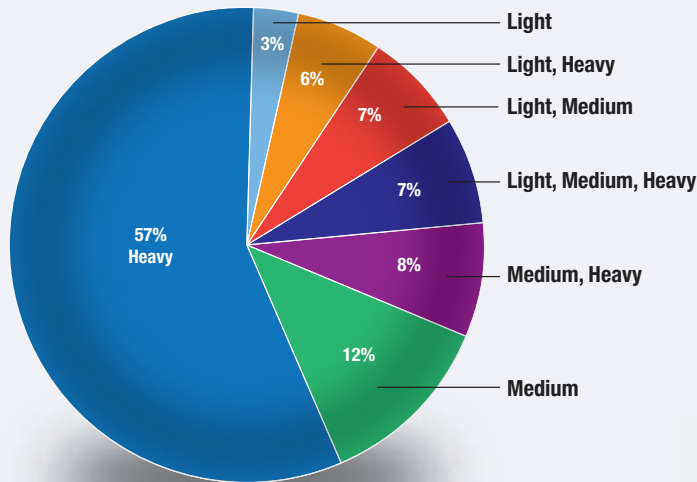
Overall, roughly 8 million people were employed in trucking-related jobs as of 2019, with 3.6 million of those being truck drivers. But the industry still faces an ongoing and worsening labor shortage. For the fourth consecutive year, the driver shortage was the top industry issue overall on the American Transportation Research Institute's Top Industry Issues list. And this year, the driver shortage is expected to be even worse due to a pandemic-induced closure of driver training schools and commercial driver license testing sites.

The driver shortage problem has also been compounded by stricter drug and alcohol testing mandates, an older demographic of drivers retiring from the industry, and the fact that women and minorities still represent a small fraction of the driving force.

Another challenge for fleets and drivers is that nearly three-quarters of the nation's total domestic tonnage is hauled on deteriorating roads and inadequate infrastructure, which costs drivers and fleets time and money. When it comes to highway taxes, commercial trucks paid \$45.7 billion in federal and state highway-user taxes in 2018. Even though commercial trucks make up 13.7% of all registered vehicles, they paid \$18 billion in federal highway-user taxes and \$27.7 billion in state highway-user taxes in 2018.

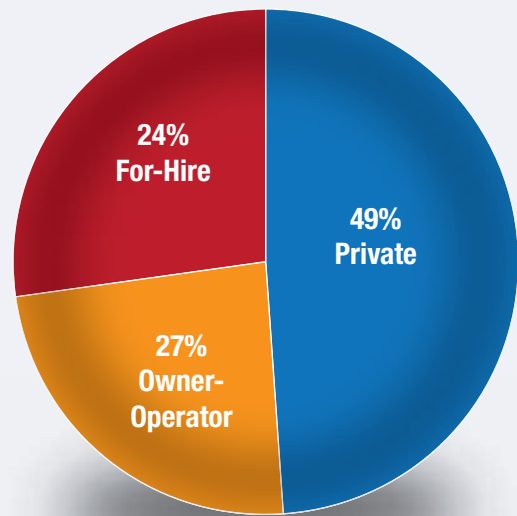
This year's Trucking by the Numbers feature provides a snapshot of just how vital the trucking business remains for the U.S. economy. Over the following pages, sections are broken up by overview, which includes industry segments, global and domestic trends, and freight forecasts, among others; COVID-19, which provides a glimpse as to how the pandemic has impacted the freight industry; drivers; safety; traffic; equipment; and emissions and efficiency. ■

GVW CATEGORIES



Source: FleetSeek

FLEET TYPE



Source: FleetSeek

REGULATED CARRIERS BY DOMICILE, 2019

Trucking contributed the largest amount of all the freight modes at

\$354.6B

For-hire transportation services contributed

\$163.7B

while in-house trucking operations contributed

\$190.9B

Source: U.S. DOT

Country	Active Carriers with a USDOT Number	Power Units	CDL Drivers	Total Drivers
United States	582,155	4,644,403	3,504,552	5,000,756
Canada	14,736	111,258	107,227	121,054
Mexico	5,301	29,823	22,969	28,065
Certificate Carriers	201	654	539	643
Commercial Zone Carriers	4,944	27,803	21,168	26,017
Enterprise Carriers	1,003	6,435	5,831	6,406
Long Haul Carriers	64	935	899	934
Other Countries	350	2,855	241	1,255
All Domiciles	602,542	4,788,339	3,634,989	5,151,130

Source: FMCSA

ACTIVE MOTOR CARRIERS BY TYPE

Type	2015	2016	2017	2018	2019
Interstate Freight	521,248	497,349	515,772	541,234	555,567
Interstate Passenger	13,274	12,667	12,771	12,398	11,900
Intrastate Hazardous Materials	16,628	28,033	30,450	33,091	35,075
TOTAL	551,150	538,049	558,993	586,720	602,542

Source: FMCSA

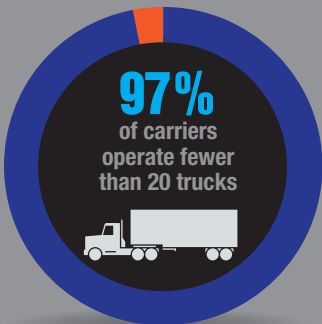
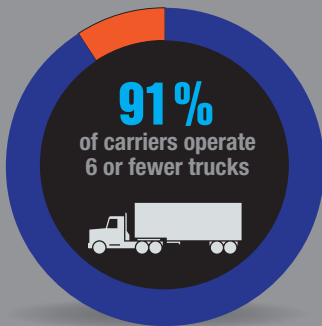


QUICK LOOK

NUMBER OF COMPANIES

According to the U.S. DOT, as of April 2020, registered carriers on file with the FMCSA totaled more than 1.8M.

For-hire carriers totaled	928,647
Private carriers totaled	799,342
Other interstate motor carriers totaled	84,763



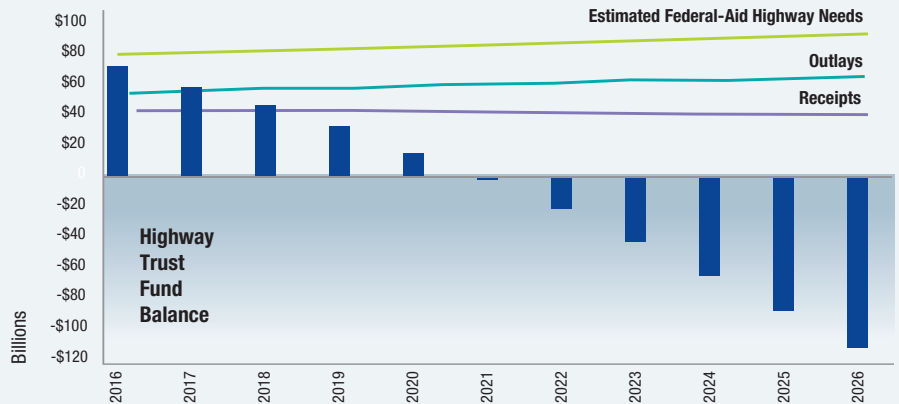
Source: ATA

3.6 million truck drivers employed in 2019, up 1.7% from 2018



Source: ATA

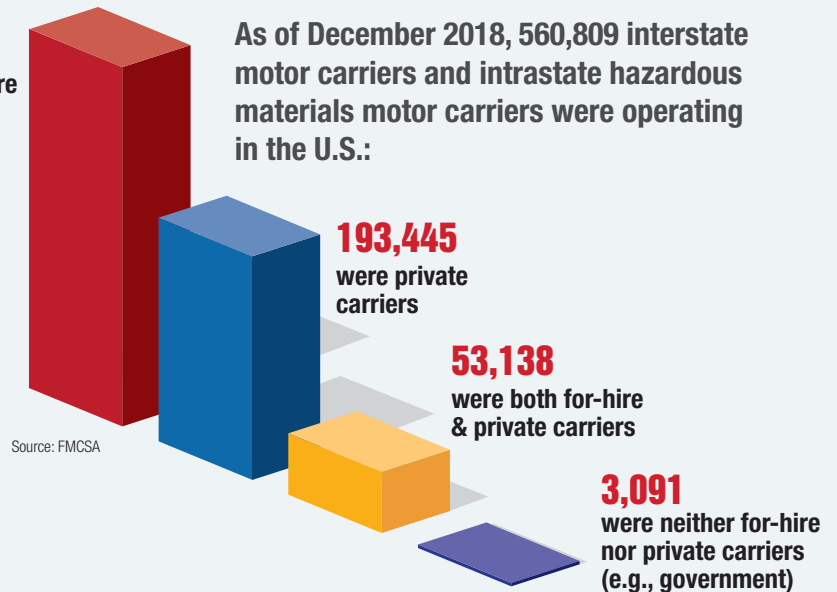
PROJECTED HIGHWAY TRUST FUND BALANCE



Source: U.S. DOT

311,135 were for-hire carriers

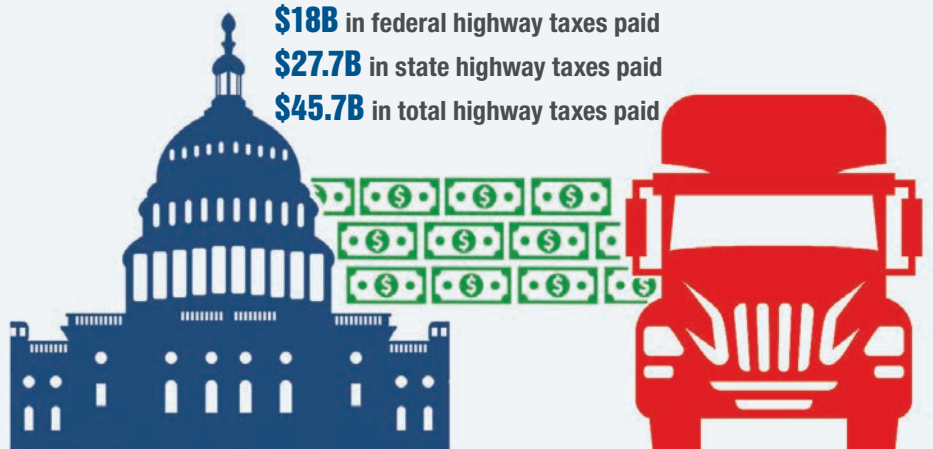
As of December 2018, 560,809 interstate motor carriers and intrastate hazardous materials motor carriers were operating in the U.S.:



Source: FMCSA

TAXES

Commercial trucks make up 13.7% of all registered vehicles.



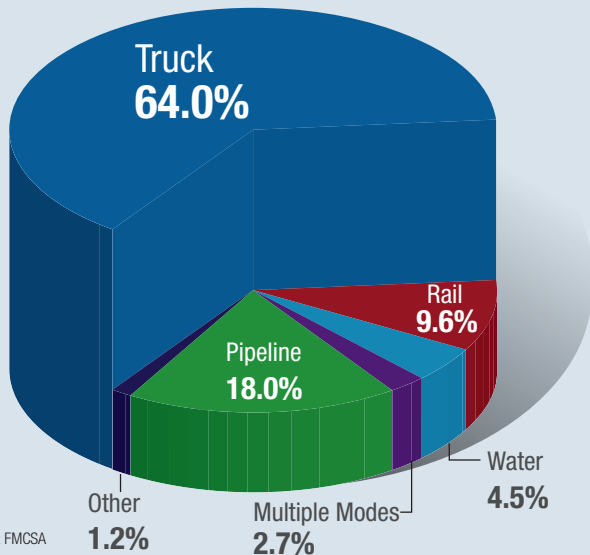
Source: ATA

AVERAGE MARGINAL COST PER HOUR

Motor Carrier Costs	2010	2011	2012	2013	2014	2015	2016	2017	2018
<i>Vehicle-based</i>									
Fuel Costs	\$19.41	\$23.58	\$25.63	\$25.78	\$23.29	\$16.13	\$13.45	\$14.50	\$17.07
Truck/Trailer Lease or Purchase Payments	\$7.37	\$7.55	\$6.94	\$6.52	\$8.59	\$9.20	\$10.20	\$10.39	\$10.45
Repair & Maintenance	\$4.97	\$6.07	\$5.52	\$5.92	\$6.31	\$6.23	\$6.65	\$6.58	\$6.72
Truck Insurance Premiums	\$2.35	\$2.67	\$2.51	\$2.57	\$2.89	\$2.98	\$3.00	\$2.95	\$3.32
Permits and Licenses	\$1.60	\$1.53	\$0.88	\$1.04	\$0.76	\$0.78	\$0.88	\$0.92	\$0.95
Tires	\$1.42	\$1.67	\$1.76	\$1.65	\$1.76	\$1.72	\$1.41	\$1.50	\$1.50
Tolls	\$0.49	\$0.69	\$0.74	\$0.77	\$0.90	\$0.79	\$0.97	\$1.05	\$1.17
<i>Driver-based</i>									
Driver Wages	\$17.83	\$18.39	\$16.67	\$17.60	\$18.46	\$19.95	\$20.91	\$21.97	\$23.50
Driver Benefits	\$6.47	\$6.05	\$4.64	\$5.16	\$5.15	\$5.22	\$6.18	\$6.78	\$7.10
TOTAL	\$61.90	\$68.21	\$65.29	\$67.00	\$68.09	\$62.98	\$63.66	\$66.65	\$71.78

Source: ATRI

TRUCKING MOVES THE BULK OF FREIGHT IN THE U.S., 2019

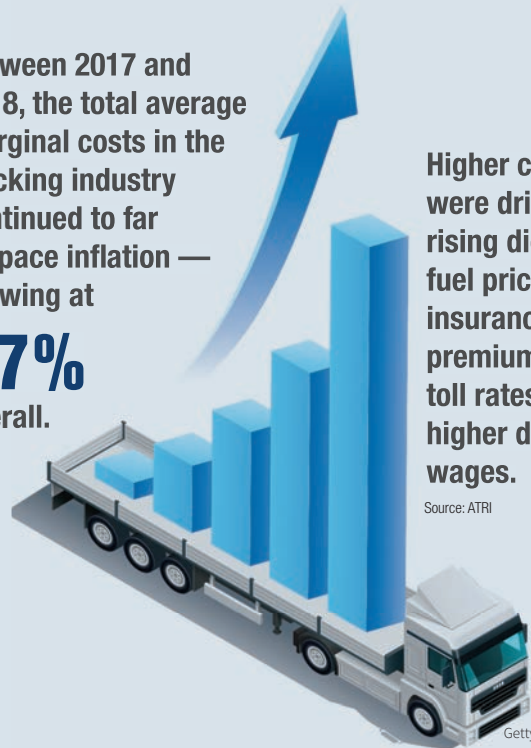


Source: FMCSA

Between 2017 and 2018, the total average marginal costs in the trucking industry continued to far outpace inflation — growing at **7.7%** overall.

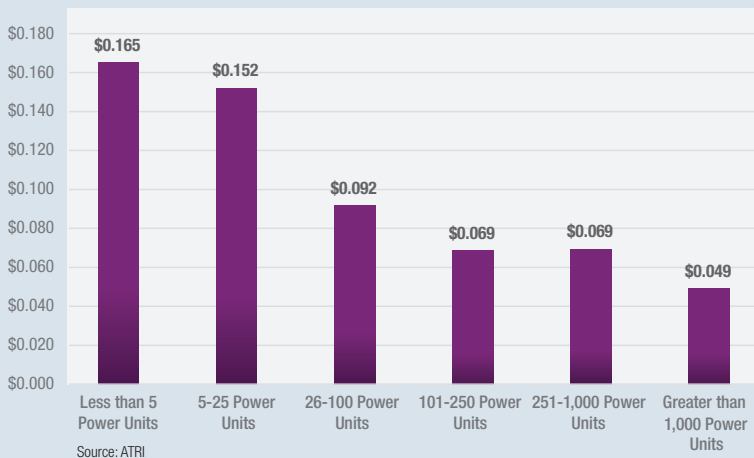
Higher costs were driven by rising diesel fuel prices, insurance premiums, toll rates, and higher driver wages.

Source: ATRI



Getty Images

TRUCK INSURANCE PREMIUM COSTS PER MILE BY FLEET SIZE, 2019



Source: ATRI

FORECAST OF TRUCKING INDUSTRY SHARE OF TOTAL TONNAGE



Source: ATA

NHTSA FATALITY ANALYSIS REPORTING SYSTEM

Total traffic volume decreased more than 16% in the first six months of 2020.

An estimated 8,870 people died in motor vehicle traffic crashes in the second quarter of 2020, a decrease of 3.3%, or 302 fewer fatalities, compared to the second quarter of 2019.

Because traffic volumes decreased more significantly than did the number of fatal crashes, the traffic fatality rate per 100 million vehicle miles traveled is projected to increase to 1.25 in the first half of 2020. That is up from 1.06 in the same period in 2019.

Source: NHTSA



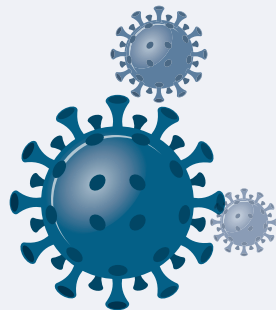
Owner-operators and small fleets rely more heavily on the spot market, which declined 38% from March to April 2020.

Source: DAT

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%

Source: ATRI

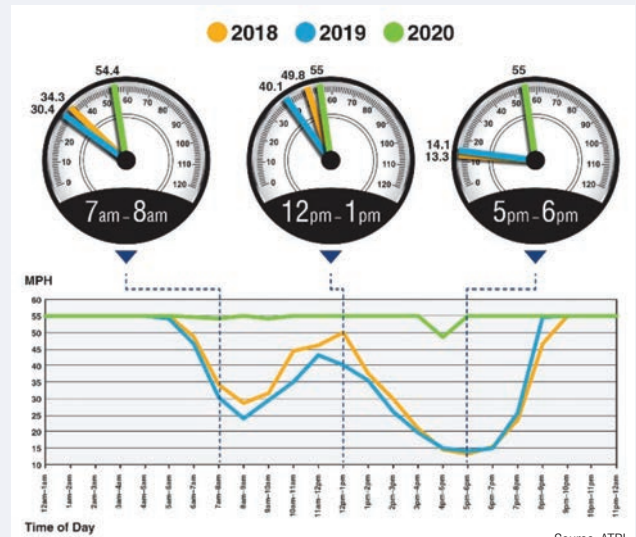


An ATRI survey found 35% of respondents believe COVID-19 impacts will be temporary in terms of industry operations; 18% indicated they were considering permanent business model changes.

Source: ATRI

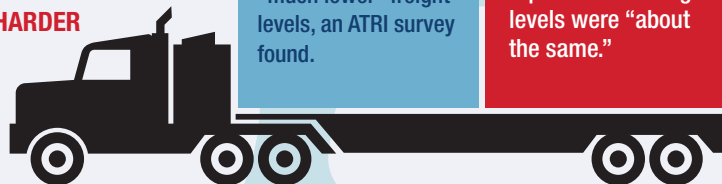
AVERAGE SPEED BY TIME OF DAY ATLANTA: I-285 AT I-85 (NORTH)

Third week of March, 2018-2020



Source: ATRI

THE PANDEMIC HIT SMALLER FLEETS AND OWNER-OPERATORS HARDER



39% of fleets with fewer than five power units reported "much lower" freight levels, an ATRI survey found.

30% of fleets with over 1,000 power units reported their freight levels were "about the same."

80% of smaller fleets and owner-operators were less likely to have a disaster plan.

70% of fleets with more than 1,000 assets had a disaster plan in place.

Source: ATRI



The trucking industry distributed nearly **1,000 gallons** of hand sanitizer, 250,000 KN-95 masks, and helped FMCSA distribute over **1 million masks**.

Source: ATA President and CEO Chris Spear

TOP 10 TRUCK BOTTLENECKS, 2020

CONGESTION RANKING	LOCATION DESCRIPTION	STATE	AVERAGE SPEED	PEAK AVERAGE SPEED	NON-PEAK AVERAGE SPEED	SPEED PERCENT CHANGE Y-0-Y
1	Fort Lee, NJ: I-95 at SR 4	NJ	29.7	22.4	32.4	5.1%
2	Atlanta, GA: I-285 at I-85 (North)	GA	34.0	22.4	40.2	-0.6%
3	Nashville, TN: I-24/I-40 at I-440 (East)	TN	36.3	24.0	42.5	-12.0%
4	Houston, TX: I-45 at I-69/US 59	TX	30.9	20.5	36.1	-8.6%
5	Atlanta, GA: I-75 at I-285 (North)	GA	40.5	29.2	46.4	5.0%
6	Chicago, IL: I-290 at I-90/I-94	IL	21.7	16.1	23.8	-2.6%
7	Atlanta, GA: I-20 at I-285 (West)	GA	42.6	36.4	45.2	-0.8%
8	Cincinnati, OH: I-71 at I-75	OH	43.9	36.0	47.0	-5.1%
9	Los Angeles, CA: SR 60 at SR 57	CA	40.2	33.1	43.3	-1.9%
10	Los Angeles, CA: I-710 at I-105	CA	35.4	25.2	40.9	-4.1%

Source: ATRI

CONGESTION COSTS THE ECONOMY

- \$74.5B** Annual cost to the trucking industry as a result of congestion on the nation's highways
- 1.2B** Lost hours of trucking industry productivity due to congestion
- 425,533** Equivalent number of truck drivers sitting idle for an entire year

Source: ATRI

SYSTEM PERFORMANCE AND COST OF CONGESTION

By 2040, nearly 30,000 miles of the busiest highways will be clogged on a daily basis.

Truck congestion wastes **\$28B** in time and fuel annually

Source: ATRI

TRANSPORTATION INVESTMENT

Improving the condition and performance of the surface transportation system will cost **\$120B** annually between 2015 and 2020.

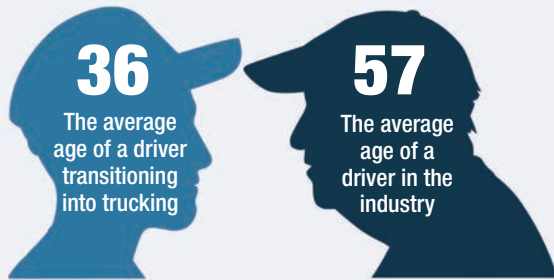
Source: ATRI



On highways carrying more than 8,500 trucks per day, recurring congestion slows traffic on 4,516 miles and creates stop-and-go conditions on another 5,013 miles of the National Highway System.

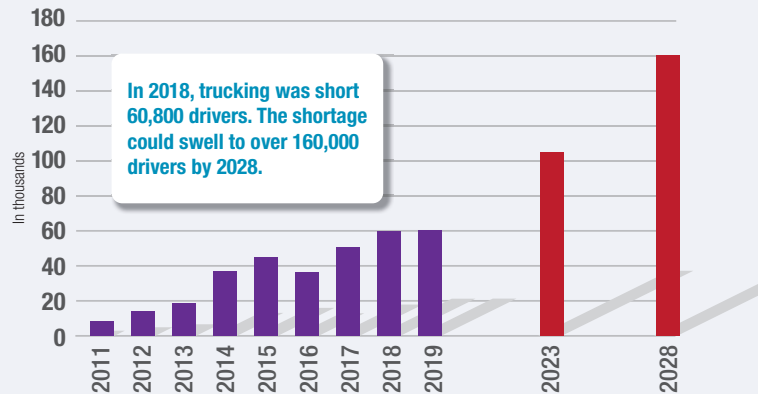
Source: Bureau of Transportation Statistics

AVERAGE DRIVER AGE



Source: FMCSA's Deputy Administrator Wiley Deck

TRUCK DRIVER SHORTAGE



Source: ATA's Truck Driver Shortage Analysis 2019

PROFILE BY OCCUPATION

Segments with the highest levels of employment:

INDUSTRY	EMPLOYMENT	% OF INDUSTRY EMPLOYMENT	HOURLY MEAN WAGE	ANNUAL MEAN WAGE
Truck transportation	895,670	58.86	\$22.79	\$47,400
Merchant wholesalers, nondurable goods	86,470	8.76	\$23.71	\$49,320
Nonmetallic mineral product manufacturing	66,710	15.91	\$21.53	\$44,790
Warehouse and storage	58,640	4.83	\$23.57	\$49,030
Merchant wholesalers, durable goods	56,150	3.93	\$21.16	\$44,020

Source: Bureau of Labor Statistics



Source: Bureau of Labor Statistics



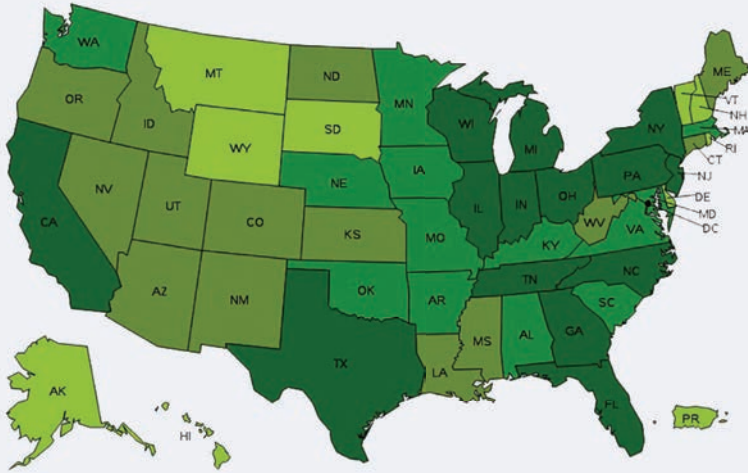
Source: ATA / U.S. DOT



Source: Bureau of Labor Statistics

Getty Images

COMMERCIAL DRIVERS BY STATE, MAY 2019

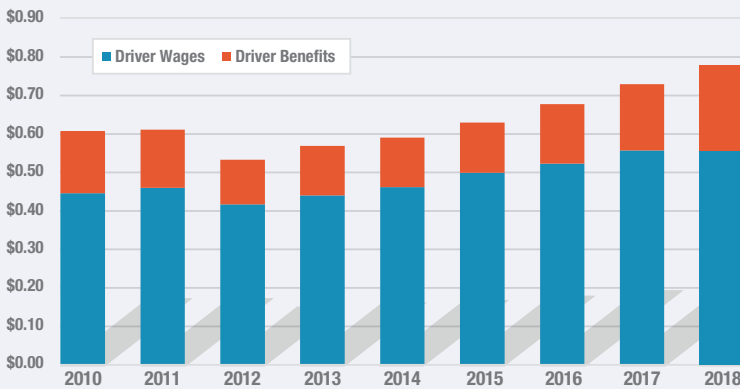


EMPLOYMENT



Source: Bureau of Labor Statistics

DRIVER WAGES AND BENEFITS PER MILE

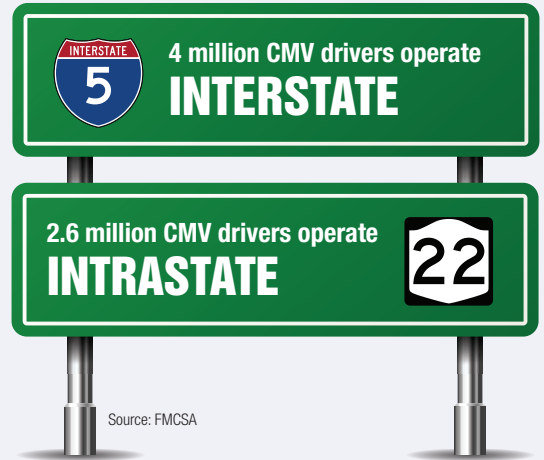


Source: ATRI

States with most CDL drivers:
TX, CA, FL, PA, OH

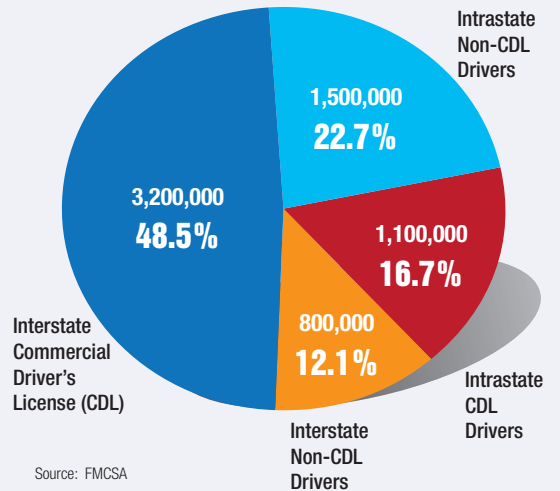


Source: Bureau of Labor Statistics



Source: FMCSA

CMV DRIVERS OPERATING IN U.S., 2018



Source: FMCSA

Approximately **6.6M** CMV drivers operate in the U.S.



Source: FMCSA



9.4%
of all vehicles
in fatal crashes
in the U.S. involved
large trucks

Source: NHTSA

From 1990-2017,
the overall rate of
highway fatalities per
vehicle miles traveled
(VMT) declined by
nearly
43.8%
Fatalities per VMT for
large truck occupants
decreased by 41.7%
over the same period.

Source: U.S. DOT / Bureau of Transportation Statistics

From 2017-18, over
1 million
more trucks were
registered, which could
explain an uptick in
fatal crashes.

Source: FMCSA



ESTIMATED COSTS OF LARGE TRUCK AND BUS CRASHES

Year	Fatal Crashes	Injury Crashes	Property-Damages-Only (POD) Crashes	All Large Truck and Bus Crashes
2015	\$44B	\$46B	\$28B	\$119B
2016	\$51B	\$53B	\$29B	\$132B
2017	\$53B	\$55B	\$29B	\$137B
2018	\$53B	\$57B	\$33B	\$143B

Source: FMCSA

FATAL LARGE TRUCK CRASHES

Year	Fatal Crashes Involving Large Trucks	Large Truck Occupant Fatalities	Total Fatalities in Large Truck Crashes	Million VMT by Large Trucks	Rate per 100 Million VMT		Large Trucks Registered
					Fatal Crashes Involving Large Trucks	Fatalities in Large Truck Crashes	
1975	3,722	961	4,483	81,330	4.58	5.51	5,362,369
1980	5,042	1,262	5,971	108,491	4.65	5.50	5,790,653
1985	4,841	977	5,734	123,504	3.92	4.64	5,996,337
1990	4,518	705	5,272	146,242	3.09	3.60	6,195,876
1995	4,194	648	4,918	178,156	2.35	2.76	6,719,421
2000	4,573	754	5,282	205,520	2.23	2.57	8,022,649
2005	4,551	804	5,240	222,523	2.05	2.35	8,481,999
2010	3,271	530	3,686	286,527	1.14	1.29	10,770,054
2012	3,486	697	3,944	269,207	1.29	1.47	10,659,380
2013	3,554	695	3,981	275,017	1.29	1.45	10,597,356
2014	3,429	656	3,908	279,132	1.23	1.40	10,905,956
2015	3,622	665	4,094	279,844	1.29	1.46	11,203,184
2016	4,177	815	4,678	287,895	1.45	1.62	11,498,561
2017	4,366	878	4,905	297,593	1.47	1.65	12,229,216
2018	4,415	885	4,951	304,864	1.45	1.62	13,233,910

Source: FMCSA

Fatalities involving at least one Class 8 truck showed relatively no change: 5,006 in 2018 compared to 5,005 in 2019.

Source: NHTSA



TOP 5 MOST FREQUENT VEHICLE INSPECTION VIOLATIONS

2019



LIGHTING
 457,721



PROOF OF INSPECTION
 184,938



BRAKES
 168,766



EMERGENCY EQUIPMENT
 140,320



NEEDED PARTS REPAIR
 134,764

NUMBER OF VIOLATIONS
 Source: FMCSA



5% of driver inspections
 and
4.4% of hazardous materials inspections

resulted in out-of-service (OOS) orders in 2019. One-fifth of all roadside inspections resulted in a CMV being placed OOS for a serious violation.

Source: U.S. DOT / Bureau of Transportation Statistics

TOP 5 MOST FREQUENT DRIVER INSPECTION VIOLATIONS

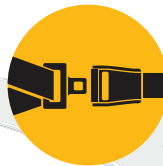
2019



SPEEDING
 71,484



FAILURE TO OBEY TRAFFIC SIGNS
 62,131



FAILING TO USE SEATBELT
 58,749



RECORD OF DUTY STATUS VIOLATION
 57,139



INVALID MEDICAL CERTIFICATE
 54,241

NUMBER OF VIOLATIONS
 Source: FMCSA

INSPECTION OUT-OF-SERVICE VIOLATION RATES

Type of Inspection	2015	2016	2017	2018	2019
Driver Inspections	3,264,016	3,283,556	3,344,956	3,402,588	3,338,428
With OOS Violation	158,814	161,111	170,843	161,245	170,955
Driver OOS Rate	4.9%	4.9%	5.1%	4.7%	5.1%
Vehicle Inspections	2,321,376	2,337,164	2,382,217	2,410,620	2,377,415
With OOS Violation	471,393	466,839	493,581	501,713	491,283
Vehicle OOS Rate	20.3%	20.0%	20.7%	20.8%	20.7%
Hazmat Inspections	191,730	201,309	200,067	202,054	202,263
With OOS Violation	7,373	7,930	7,935	8,437	9,135
Hazmat OOS Rate	3.9%	3.9%	4.0%	4.2%	4.5%

Source: FMCSA

Total number of driver inspections in 2019:
3,338,428

Total number of driver violations in 2019:
950,677

Total number of driver OOS violations in 2019:
199,426

Source: FMCSA



California's Advanced Clean Trucks Act will mandate that 15% of Class 7-8 trucks sold be zero-emission by 2030. The goal is to reduce greenhouse gas emissions by 40% and drop petroleum usage by 50% by 2030.

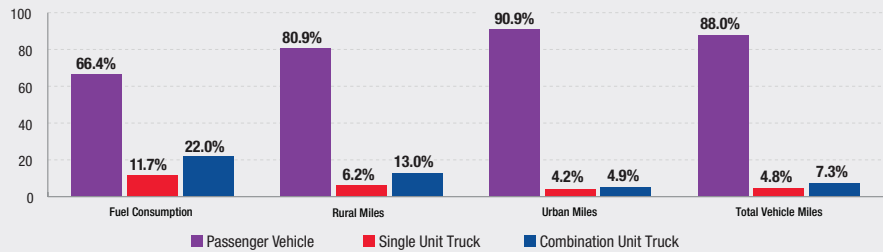
Source: California Air Resources Board

97%
of Class 8 commercial trucks are diesel-powered

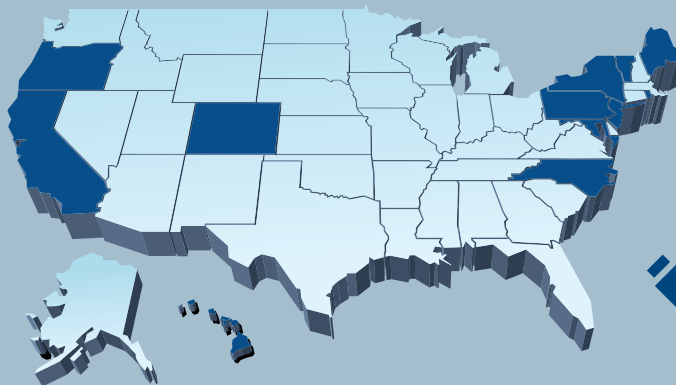
44%
of diesel trucks are powered by the newest generation of diesel technology introduced in MY2010 trucks, a 7.3% increase since last year

Source: Diesel Technology Forum

VEHICLE MILES AND FUEL CONSUMPTION, 2018



Source: Highway Statistics, 2018, Federal Highway Administration, U.S. DOT



15 states and Washington, D.C., signed a memorandum of understanding to make zero-emission trucks and buses comprise 30% of total sales in 2030 and 100% by 2050.

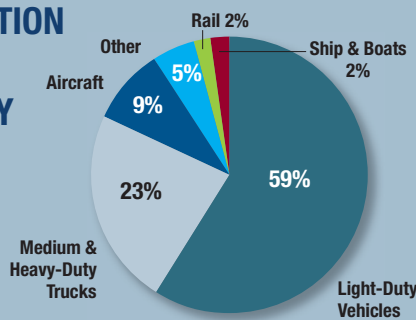
Source: U.S. EPA

In 2018, 13% of carriers reported using alternative-fuel vehicles (fuels other than diesel or biodiesel). Three-quarters of alt-fuel usage is from compressed natural gas.



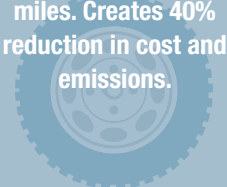
Source: ATRI

2018 U.S. TRANSPORTATION SECTOR GHG EMISSIONS BY SOURCE



Source: U.S. EPA

Aerodynamic tractors: 10 mpg fully loaded versus 6 mpg for non-aero. This equals 6,667 fewer gallons consumed over 100,000 miles. Creates 40% reduction in cost and emissions.



Source: NACFE

Fuel accounts for **24%** of a fleet's total operating cost

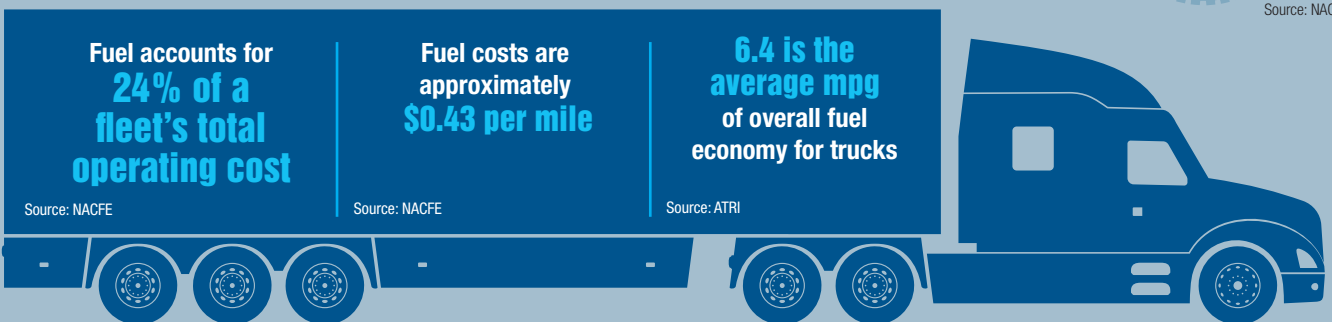
Source: NACFE

Fuel costs are approximately **\$0.43 per mile**

Source: NACFE

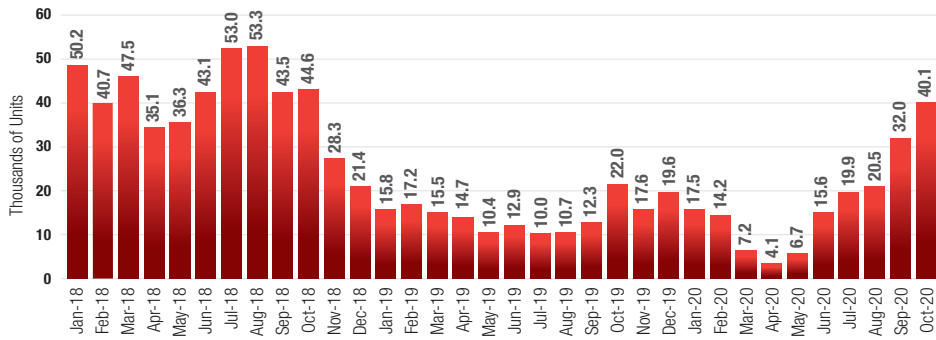
6.4 is the average mpg of overall fuel economy for trucks

Source: ATRI



NEW HEAVY TRUCK ORDER ACTIVITY

North America Class 8 Net Orders



Source: FTR

REGULATED CARRIERS BY NUMBER OF POWER UNITS

Power Units	2015	2016	2017	2018	2019
1 Power Unit	257,650	249,972	261,116	278,448	289,408
2 Power Units	95,997	93,596	95,979	99,221	101,044
3-10 Power Units	141,952	139,549	143,248	147,710	149,225
11-100 Power Units	47,099	47,117	48,515	50,075	51,211
>100 Power Units	4,182	4,176	4,282	4,396	4,572
No Power Units/Unreported	3,952	3,639	5,853	6,870	7,082
Total	550,832	538,049	558,993	586,720	602,542

Source: FMCSA

U.S. TRAILER PRODUCTION FORECAST

2019:
327,700 units

2020 estimate:
191,000 units

2021 estimate:
270,000 units

Source: FTR

Class 8 build levels:
Aug. 2019-July 2020

233,600

Class 8
factory shipments:
2020 estimate

192,000

Class 8
factory shipments:
2021 estimate

222,000

Class 8
factory shipments:
2022 estimate

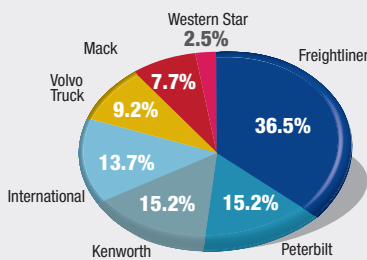
295,000



Source: FTR

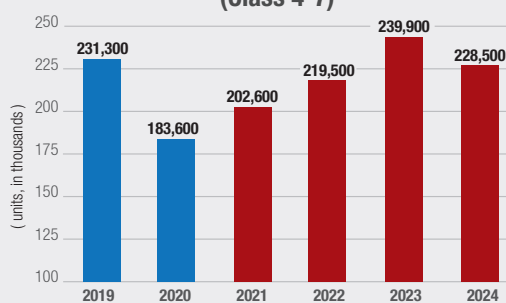
MARKET SHARE OF HEAVY-DUTY TRUCK MANUFACTURERS

2019

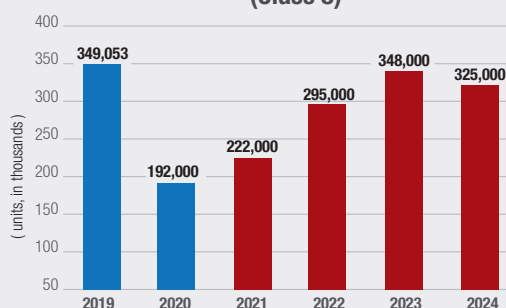


Source: Wards Intelligence

MEDIUM-DUTY FACTORY SHIPMENT FORECAST (Class 4-7)



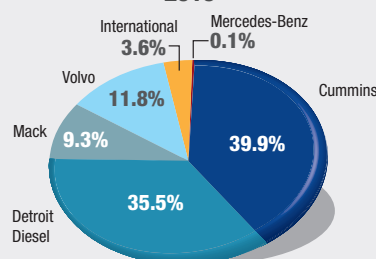
HEAVY-DUTY FACTORY SHIPMENT FORECAST (Class 8)



Source: FTR

MARKET SHARE OF DIESEL ENGINE MANUFACTURERS

2019



Source: Wards Intelligence



Source: FTR