

# motive



## Fuel ROI.

Increase fleet fuel efficiency,  
save money, and reduce  
your carbon footprint.

## Abstract

Fleets that use Motive's Fuel Hub can implement programs that significantly reduce their fuel consumption.

We analyzed 820 active fleets between January 2020 and December 2021 to find out what they did to improve their fuel efficiency and measured their impact. Of the 820 fleets, we identified the top 15%. The top-performing fleets improved their miles per gallon by 13% (6.5% annual average improvement) from 2020 to 2021.

At the endpoint of our analysis, these fleets also showed improvement in driving behaviors, reducing idling time by 20% and improving driving quality with 79% fewer hard accelerations. Additionally, they have increased focus on vehicle maintenance, with 80% more inspections per vehicle compared to the other fleets in the study.

Due to improved efficiency versus their performance in 2020, our top-performing fleets saved an estimated 3 million gallons of fuel in 2021. This is equivalent to 31,000 tons of CO<sub>2</sub> that were not released into the atmosphere or to planting 1.6 million trees. Motive fleets paid an average price of \$3.29/gallon<sup>1</sup> during this time, leading to estimated savings of \$9.9 million in 2021.

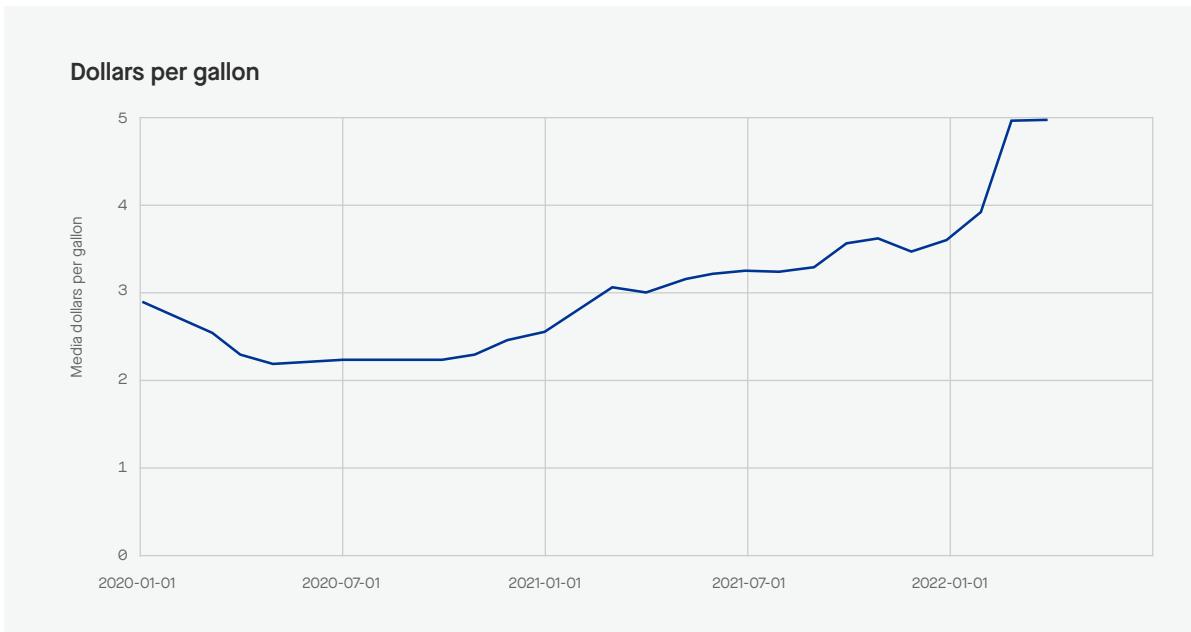
## Table of contents

2	Introduction
3	Fuel at Motive
4	Methodology
5	What is the impact of top-performing fleets?
7	Characteristics of top fuel fleets
9	Conclusion

## Introduction

Fuel is one of the main costs for transportation fleets, with an estimated 40% of the annual costs of a fleet coming from fuel expenses.

Continuous increases in the cost of fuel highlights a greater need for fuel efficiency. The fuel prices reported by our fleets have been increasing over time and are currently sitting at a two-year high, at a 68% increase since January 2020.



In this report, we'll review the tools Motive provides customers to gain visibility into and decrease their fuel consumption. While fuel consumption can fluctuate based on numerous factors, some are outside a fleet's control, such as the weather, the weight of the load that the vehicle carries, road conditions, and more. There are several variables that fleets can control to improve their fuel efficiency.

The main areas that are within your control are:

- **Idling time.** The time that the vehicles spend with their engines on without moving. These events consume fuel and while some of them are unavoidable, limiting idling time is one of the easiest ways to reduce fuel consumption.
- **Driving behaviors.** According to the U.S. Department of Energy, driving efficiency can have a huge impact on fuel economy, with improvements of up to 30% at highway speeds and up to 40% in traffic.<sup>2</sup>
- **Fleet health.** Units with low maintenance standards can potentially consume more fuel per gallon.

We'll analyze a subset of fleets using Motive that have been especially successful in improving their fuel efficiency.

## Fuel at Motive

Motive delivers a fully integrated suite of products to connect and automate physical operations. Over 120,000 companies use Motive to transform the safety, productivity, and profitability of their operations. Motive's IoT platform connects vehicles, equipment, and facilities to the cloud, bringing physical operations online and providing fleet managers with the tools and data they need to proactively optimize their fleets. Motive Vehicle Gateway is connected to a vehicle's computer collects telematics data, including vehicle activity, driver behavior, and engine diagnostics in real time. This data is analyzed, organized, and displayed to Motive customers, who can leverage it to manage their operations.

Fuel spend is one of a fleet's largest operational costs and a main concern for our fleets. Motive provides tools and intelligent reporting to help our clients optimize their fuel consumption. Motive Fuel Hub, which includes dashboards, reporting, and coaching as part of the Motive Sustainability application, leverages AI to provide a comprehensive view of a fleet's fuel profile and improvement opportunities. When fleet managers log in to the Fleet Dashboard, they can see their fuel consumed in the past week, the list of active vehicles and drivers, and their fuel consumption and efficiency. They're also able to see trends and benchmark fleet and driver performance against Motive's large network of 700,000 vehicles.

Customers can also see detailed reports such as idling time by driver and by vehicle, fuel usage per driver and per vehicle, and detailed driving reports surfacing which wasteful driving behaviors (idling, speed, RPM) drivers are exhibiting and how often. Fleets can now pinpoint which driving behaviors and vehicles are gas guzzlers, and implement programs to reduce fuel consumption.

## Methodology

Our objective was to identify fleets using Motive that had the best fuel performance, measure their gains, and understand what actions they are taking to realize those gains. We used these learnings to inform other fleets on how to improve their fuel consumption.

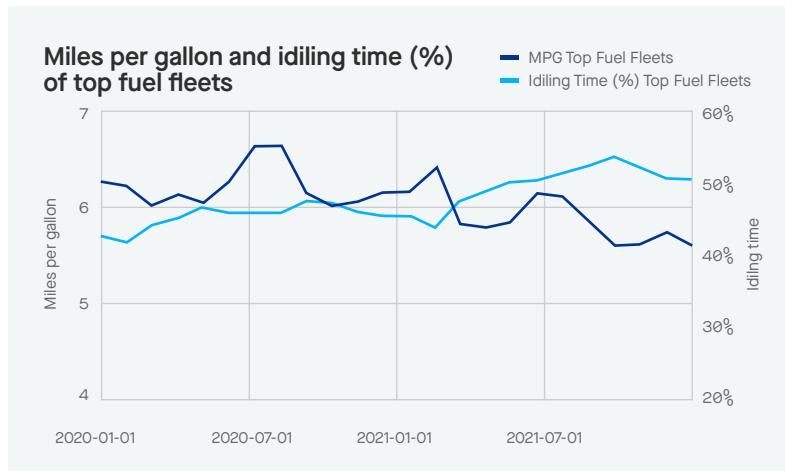
To compare fleets and measure fuel improvement, we needed to find a way to isolate the impact of fleet driving quality and policies. Using customer data we built a set of mid-large fleets (50+ vehicles) using Motive that were active in 2020 and 2021 taking into account the following factors:

- **Vehicle type.** Fuel consumption varies significantly depending on the weight and type of vehicle. Some fleets can improve their fuel efficiency by changing their composition to lighter vehicles. In this analysis, our goal was to isolate the impact of driving quality and idling time so we only analyzed class-8 vehicles to reduce variability due to vehicle type.
- **Data sufficiency.** Given that we were looking into class-8 vehicles, we needed a minimum number of three heavy-duty vehicles per fleet.
- **Active customers.** We only looked at current active customers to remove noise from low activity accounts.
- **Interstate fleets.** We filtered out local fleets that have different driving behaviors.

After applying the filters, we ranked them and analyzed the behaviors of the top 15% of the sample.

## What is the impact of top-performing fleets?

We saw top fuel fleets had an improvement of 13% in their MPG from January 2020 to December 2021. The fleets analyzed during this study drove 529 million miles from 2020 to 2021, consuming 80 million gallons of fuel.



We compared the fleets' fuel efficiency in 2020 with their fuel efficiency in 2021 in the table below. If they drove in 2021 with their 2020 MPG, they would have consumed an additional 3 million gallons in 2021.

Year	2020	2021	2021 Calculations based on 2020 MPG
	Baseline - actual	Actual	
MPG	6.03	6.40	6.03
Idling Time	48%	44%	-
Fuel Used	37,843,527 gal	46,747,210 gal	49,592,973 gal

# Fuel saved by top fleets

based on MPG improvement

---

**3,047,102**

gallons

---

**30,000**

gallons of fuel saved per fleet on average

---

**769**

gallons per vehicle on average

---

2021 calculations based on 2020 MPG - 2021 actual

On average each fleet saved 30,000 gallons of fuel in 2021 and 769 gallons per vehicle. According to the EPA, a gallon of diesel corresponds to  $10.180 \times 10^{-3}$  metric tons CO<sub>2</sub>.<sup>3</sup> This implies that top fuel fleets saved 31,019 tons of CO<sub>2</sub> or the equivalent of 1.6 million trees.

In the current economic environment, fuel is more expensive than ever. With the average fuel prices exploding to \$5.55 dollars per gallon, fleets could have saved an aggregate of up to \$16.9 million.

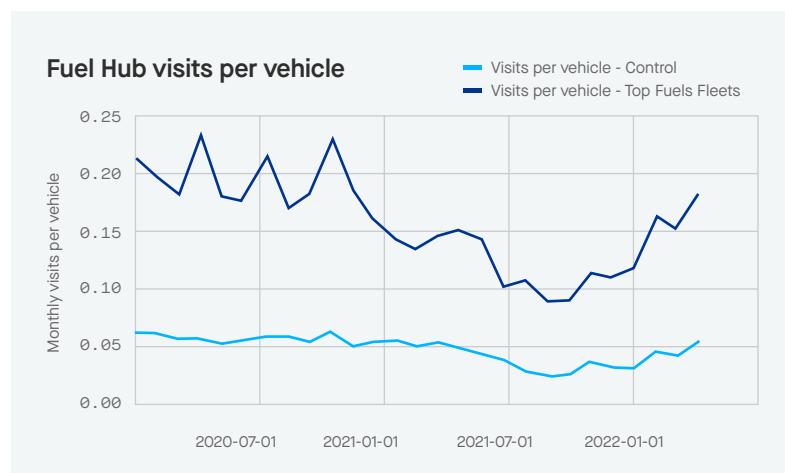
---

## Characteristics of top fuel fleets

We investigated the behaviors of the most fuel-efficient fleets to confirm that they were using the previously mentioned levers to improve their fuel efficiency. We analyzed the same time period (2020-2021) and calculated the average value for different characteristics that the top fuel fleets had.

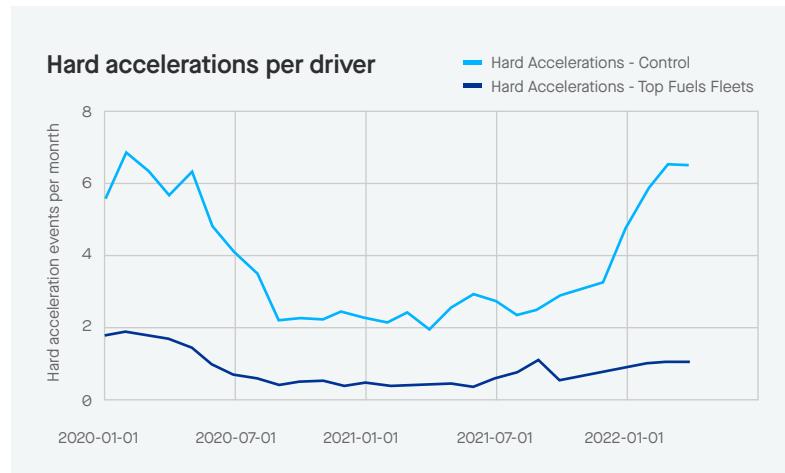
### 1. They're using Motive reports significantly more

On average, the top fuel fleets have 3x more visits to detailed reporting in Motive Fuel Hub, even after normalizing by the size of the fleet from 2020 to 2022. As the father of management thinking, Peter Drucker once said, "You can't improve what you don't measure." The successful fleets are paying more attention to their fuel economy.



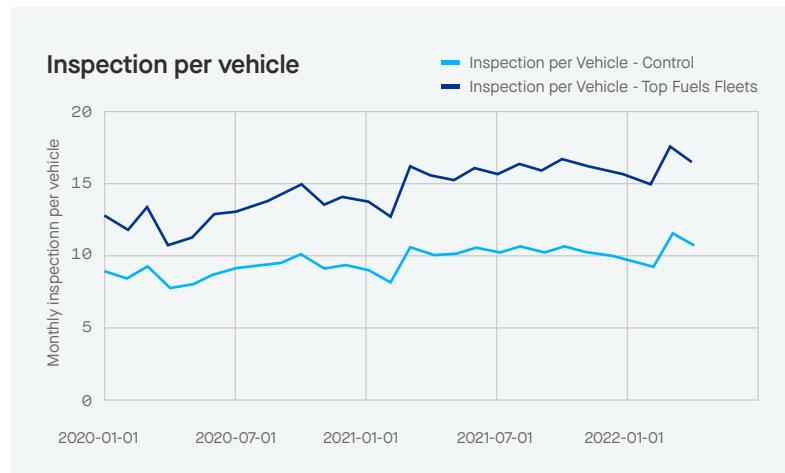
## 2. Their drivers drive better

We see that top performing fleets had, on average, better driving quality from 2020 to 2022, with 40% less hard braking and 79% less hard acceleration events when compared to the rest of large fleets.



## 3. They focused more on vehicle maintenance

We see that these fleets have on average undergone 80% more inspections per vehicle from 2020 to 2022 than the rest of Motive's fleets.



## Conclusion

Motive Fuel Hub has successfully helped fleets improve their fuel performance. With Motive's IoT data and AI insights, we found that the top fleets in our analysis were able to optimize their operations, save significant costs, and operate in a more environmentally sustainable manner.

We show that having visibility into and identifying areas of improvement around idling time, driving quality, and vehicle maintenance are key components to improving fuel efficiency and driving significant bottom line improvements for fleet businesses. Save money and be more sustainable with Motive.

## References

- [1] "Gas Prices." <https://gasprices.aaa.com/> AAA.
- [2] "Efficient Driving to Conserve Fuel."  
[https://afdc.energy.gov/conserve/driving\\_behavior.html](https://afdc.energy.gov/conserve/driving_behavior.html)  
U.S. Department of Energy.
- [3] "Greenhouse Gases Equivalencies Calculator."  
<https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references> EPA.

# Unlock Potential

**motive**



gomotive.com



855-434-3564



sales@gomotive.com

## About Motive

Motive builds technology to improve the safety, productivity, and profitability of businesses that power the physical economy. The Motive Automated Operations Platform combines IoT hardware with AI-powered applications to automate vehicle and equipment tracking, driver safety, compliance, maintenance, spend management, and more. Motive serves more than 120,000 businesses, across a wide range of industries including trucking and logistics, construction, oil and gas, food and beverages, field services, agriculture, passenger transit, and delivery. Visit [gomotive.com](http://gomotive.com) to learn more.