

An aerial photograph of a two-lane asphalt road winding through a dense forest. The trees are in various stages of autumn, with some showing bright yellow and orange foliage, while others remain dark green. The road has white lane markings and a shoulder on the left side.

Holman

FLEET BY THE NUMBERS | 2023

Insights and initiatives to position your
fleet for success.



ABOUT HOLMAN

Holman is a global automotive leader that serves both commercial and consumer clients The Holman Way by always doing the right thing for our people, our customers, and the community since 1924. The Holman story began nearly a century ago as a single Ford dealership in New Jersey. Today, Holman, headquartered in Mount Laurel, New Jersey, is one of the largest family-owned automotive service organizations in North America with more than 6,500 employees across North America, the UK, and Germany.

Holman delivers a unique range of automotive-centric services including industry-leading fleet management and leasing; vehicle fabrication and upfitting; component manufacturing and productivity solutions; powertrain distribution and logistics services; commercial and personal insurance and risk management; and retail automotive sales as one of the largest privately owned dealership groups in the United States. Guided by its deeply rooted core values and principles, Holman is continuously Driving What's Right. For additional information, please visit [Holman.com](https://www.holman.com) and connect with Holman on [LinkedIn](#), [Instagram](#), and [Facebook](#).

EXECUTIVE FOREWORD

If there's one thing I've learned throughout the 25 years I've worked for Holman's fleet business, it's that every fleet is unique. Each one has its own method of decision making and operating based on its vehicle makeup, the jobs the vehicles support, and the organization's goals, strategies, and finances.

I've also seen the impressive accuracy of Holman's business and consulting teams. Using both their natural acumen and our data analysis technology, they can pinpoint new fleet directions and cost drivers from miles away. Their goal is to foresee the kinds of specific support each fleet needs to navigate these turns and challenges.

Right now, we're in a time of significant changes in the automotive industry. Emphasis is heightened on supply chains, technology, regulations, innovation, and more. This is where Holman's consulting services thrive. Our teams have been listening, watching, and developing best practices for fleet operators to sustain secure momentum regardless.

Stemming from this timely insight, this Fleet by the Numbers publication is a collection of our industry perspectives and advice regarding the most pertinent trends and obstacles affecting all areas of the fleet industry.

Fleet by the Numbers presents statistics that show the vast differences in fleet operating conditions over the past few years. It also depicts how the recent outcomes we're seeing across our broad spectrum of fleets are now becoming predictable. In those cases, our teams know where the opportunities exist for fleets like yours to apply the newest solutions and control measures in ways that best suit your organization.

This guide will walk you through the entire fleet vehicle lifecycle of buy, drive, service and sell. At each stage, you will find ways to enhance the fleet experience for yourself, stakeholders, OEM partners, and those driving your vehicles. Recurring segments called "Your Action Plan" provide immediate actionable tips for creating improvements. There is also a section dedicated to electric and alternative fuel vehicles. Even if now is not the time for your fleet to embark on this level of transition, giving yourself maximum lead-time for planning is ideal.

I hope you find confidence here that you're not alone in the difficulties you've been facing while operating your fleet. I also hope you find it reassuring that everyone at Holman is here to collaborate with you, help you find the unique solutions your business needs for success, and make your job easier. That's how we're **Driving What's Right**.



Anthony Foursha
Executive Vice President
Sales & Service Excellence

TABLE OF CONTENTS

BUY 4

Gain insight on funding and supply chain projections, and learn how to successfully prepare your fleet to navigate current and coming financial conditions.

DRIVE 11

From driver safety to telematics, learn more about the measures you can take to reduce accident rates and insurance costs while increasing your fleet's overall efficiency.

SERVICE 21

Discover how to keep your vehicles in optimal operating condition to account for extended lifecycles, all while keeping maintenance costs to a minimum.

SELL 26

Understand the current state of the market and uncover the right strategy to help you buy and sell your assets at the right time for maximum return.

EV & ALT FUELS 31

Dive into the factors you should consider before migrating your fleet to a new fuel source and learn best practices for buying, maintaining, and selling electric vehicles.

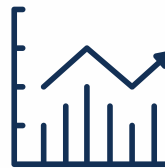
BUY

FUNDING

As interest rates and inflation rise, fleets find themselves also coping with the rise in acquisition costs. The economic pressures of today are pushing everyday expenses to even higher capacities.



Interest costs are up **109%** over 2020



Vehicle pricing is up **9-14%** over 2020



OEM discounts have been reduced by **more than 50%** from 2020 discount levels

Source: Holman Internal Data Team

Interest rates and inflation go hand-in-hand. The height at which interest rates rise will depend on how inflation reacts. Experts suggest a slowdown in spending is inevitable as rates continue to increase across all lenders.

DOES INFLATION CHANGE OUTLOOK ON THE SUPPLY CHAIN?

Regardless of inflation or interest rate hikes, the supply chain constraints felt throughout the pandemic and post-pandemic will continue throughout 2023. However, if the economy falls into a recession, banks may start to constrict lending, and the domino effect of a recession will likely increase lending costs as well. Nevertheless, Holman is well-positioned to support our customers' funding needs as these changes transpire.

OPTIONS TO IMPROVE CASH FLOW AND INCREASE FLEET EQUITY

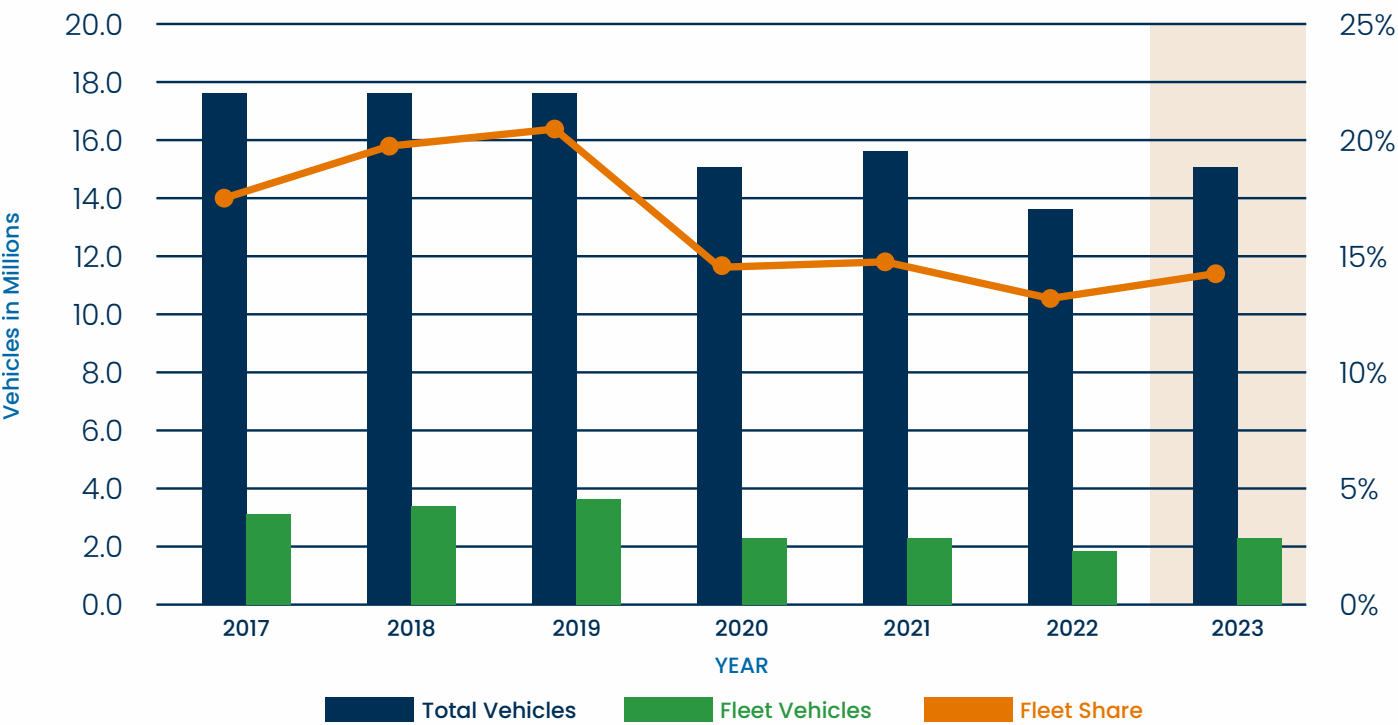
Despite the prolonged constraints that are expected on the supply chain, the resale market is expected to remain strong in 2023. For many businesses, sales leaseback programs may provide an avenue to infuse cash into the business.

Supply chain issues have forced businesses to hold their assets longer. Holman can support proactive evaluations of your fleet to identify equity or other cash flow opportunities that may exist. For example, sales leasebacks create additional ways to get equity out of assets. For companies and fleet managers needing additional capital, this may be a road worth traveling.



SUPPLY CHAIN OUTLOOK

The status of the supply chain is a key concern across the entire automotive industry. 2023's projections show marginal improvement over 2022. However, the number of vehicles produced for fleet purchase is still projected to be down 19% compared to pre-pandemic production levels as OEMs continue to pipeline inventory to retail.



VEHICLE AVAILABILITY



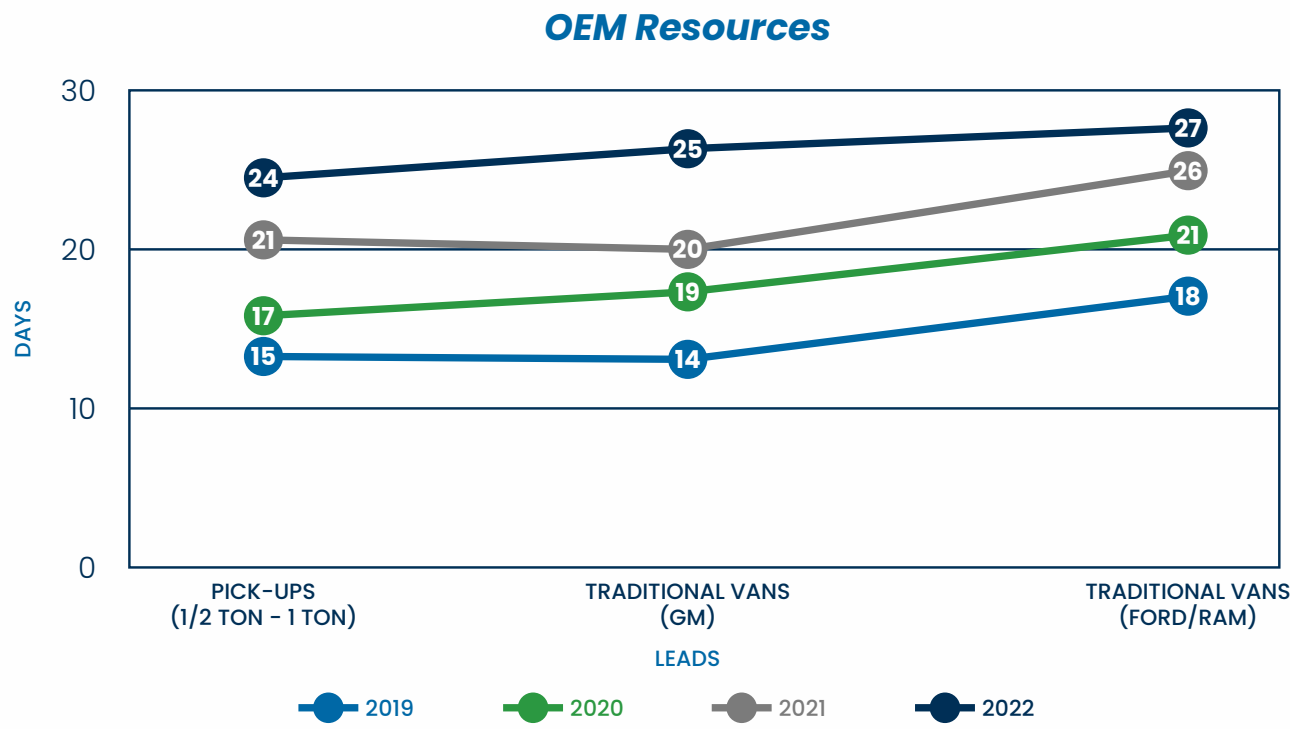
Although production levels are improving, there are still about 8 million fleet vehicles that were never produced due to disruptions in 2020.

Highly coveted fleet vehicles, like pickup trucks and vans, will likely continue to be allocated, limiting the amount customers can order at one time.

To mitigate the impact of restricted availability, you can take measures to extend the life of your current fleet vehicles. For example, try repowering an existing vehicle with an OEM remanufactured engine.

SHIPPING DELAYS

In 2023, lead times are expected to remain more than **50% longer than pre-pandemic levels.**



Supply of components and labor are also impacting upfitting, with manufacturing locations facing a record backlog of work, resulting in increased lead times.

INSTANCES OF PAST DUE AND MISSED SHIPMENTS ARE UP 110% FROM PRE-PANDEMIC NUMBERS



Inbound freight costs and delivery are beginning to level out



Railroad strikes and capacity restrictions slow the upfitting and delivery process



Lack of skilled laborers adds to shipping hurdles

IMPACT OF THE WAR IN UKRAINE

The ongoing war in Ukraine has impacted the availability of neon and palladium – both materials used to manufacture semiconductors. With supply disrupted, costs increase, and the ability to produce chips decreases. Moreover, palladium is also used to produce catalytic converters, which means that multiple aspects of vehicle production are being affected.

10

Ne

[He]2s²2p⁶

neon

Neon

70–80%

of the world’s supply

is produced by Ukraine

46

Pd

[Kr]4d¹⁰

palladium

Palladium

35–45%

of the world’s supply

is produced by Russia

US semiconductor fabrication plants are underway; however, because it generally takes a minimum of two years to complete their construction, these facilities will not be operational in 2023. The first plant, located in Phoenix, Arizona, is expected to begin producing 4 nanometer chips by 2024.

US Chip Facility Projections	
Location	Operational Year
Arizona	2024
Ohio	2025
New York	2026 – 2030

Source: [CNN](#)

IMPACT OF INFLATION

Higher acquisition costs can be expected in 2023, especially concerning chassis, parts, and labor. Likewise, the average price for a new vehicle will reach about \$13,000 above than the average price in 2020.

AVERAGE PRICE FOR A NEW VEHICLE



- 2022 Price - **\$47,000**

- 2023 Price - **\$50,050**

Inflation has increased the cost of labor and raw material by 31.3% since September 2021.

Overall, an inflationary environment will persist, but rather than experiencing significant spikes every quarter, you can expect to see gradual increases as the year progresses.

Source: Holman Internal Data Team





YOUR ACTION PLAN:

- Keep flexibility at the forefront of your fleet plans.
- Consider incorporating [remanufactured OEM parts](#) and other methods to extend vehicle lifespan.
- Involve all stakeholders to get a holistic picture of your business, budget, and fleet needs.
- Keep your [OEM partners engaged](#).
- Leverage Holman to explore your needs vs. options and make a plan.
- Minimize the number of vendors in your chain to avoid [decentralized management](#).

DRIVER SAFETY CONSIDERATIONS

Since 2020, traffic accident rates have been on the rise. Speeding, distracted driving, and other poor behavior behind the wheel are the primary causes.

- **5M+** – Number of traffic accidents that occur every year
- **4,000** – Approximate number of deaths associated with traffic accidents involving trucks

Source: National Highway Traffic Administration

While some accidents are unavoidable, many can be prevented by taking action to improve your fleet's driver safety efforts. Doing so could protect your drivers from harm and keep you from incurring unnecessary costs.

AVERAGE COST OF A CRASH FOR U.S. EMPLOYERS



- **\$16,000** – if there are no injuries
- **\$74,000** – if there are injuries
- **Upwards of \$500,000** – if there are fatalities

Source: National Highway and Traffic Safety Administration (NHTSA)

Lost revenue, repair costs, rental expenses, new vehicle acquisition costs, labor costs (if your driver is injured), deductibles, future insurance premiums, and brand reputation are all at stake.

Moreover, if your drivers have a record of risky behavior behind the wheel, yet have not been required to undergo any formal safety training, you could face significant repercussions if they cause an accident and injure another party.



Negligent entrustment:

permitting an inexperienced or reckless driver to operate a dangerous article (vehicle)

Principally, every fleet should have a safety program to protect their drivers and others on the road. However, implementing these programs and even monitoring driver behavior through telematics and scorecards can also present additional benefits, including lower insurance premiums and insight into other hidden costs.

ACCIDENTS INVOLVING VEHICLES WITHOUT INTEGRATED SAFETY TECH INCUR:

- **13% higher** average claims
- **15% higher** rate of severe injury or death

On average, Holman customers see a 50% reduction in collision events in the first year after implementing a safety program.

Source: Holman Internal Data Team

By way of example, working with Holman, an HVAC fleet was able to determine the impact poor drivers had on their fleet's operating costs. They found that 5% of drivers with the worst safety scorecards experienced a 15% lower fuel economy and generated a 30% increase in non-collision maintenance expense. Access to this type of performance data can help you pinpoint where to take action.

RISK

While having a sound insurance strategy is vital to controlling costs and minimizing corporate risk, fleets face many challenges navigating the expenses tied to coverage.

- Fleet insurance costs are increasing annually
- No change in premium costs despite investing in monitoring and safety training tools
- Many insurance policies require a 25% down payment
- To qualify for coverage, many insurers require that fleets pay for more policies than they actually need

HOW DOES THE IMPACT OF INFLATION AFFECT YOUR FLEET COVERAGE?

Lingering supply chain issues and price increases in food and materials continue to impact every corner of the economy. The commercial insurance industry is no different. With inflation above historic averages, coverage rates for all insurance types are expected to increase as we progress through 2023.



Cost of Food Increase: 6.4% from Jan. 2022 to Jan. 2023, expected to increase another **7.9%** in 2023



Cost of Auto Insurance Increase: 9% in 2022, expected to increase another **7%** in 2023



Cost of Living Increase: 5.9% for 2022, expected to reach **8.7%** in 2023

Sources: [Social Security Administration](#), Holman Internal Data Team, [USDA Economic Research Service](#)

FINDING THE RIGHT COMMERCIAL FLEET INSURANCE

Obtaining proper insurance coverage for your fleet while avoiding hidden costs can be difficult, but it is not impossible. When you acquire commercial fleet insurance through Holman's in-house programs, you can leverage centralized data to develop a comprehensive solution tailored to your organization's needs.

15% - Average savings customers experience after switching to Holman Fleet Insurance



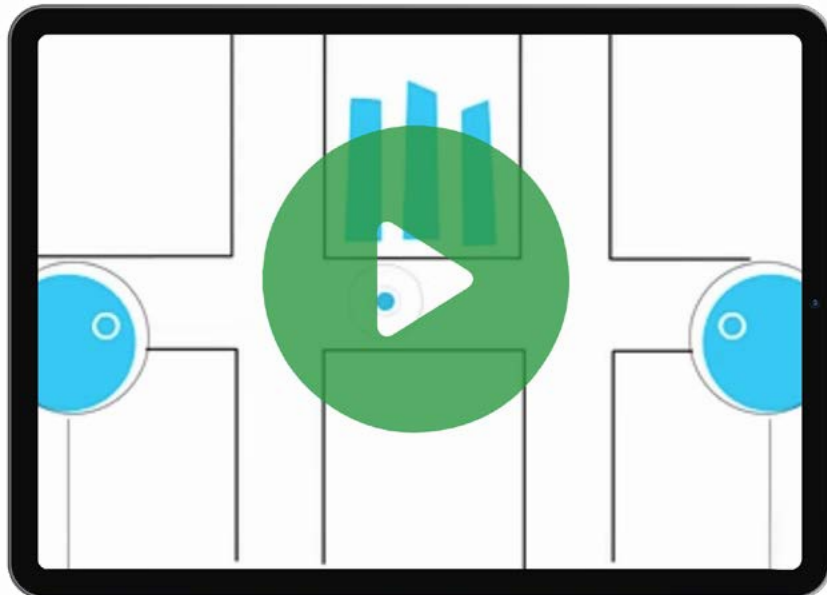
"Most insurance companies do not offer a discount on premiums and do not have visibility into what fleets are doing from a safety standpoint through their FMC. Holman, on the other hand, can provide upfront discounts for telematics and safety programs and utilize data to reduce the frequency and severity of accidents – the two main components driving insurance premiums."

Tracy Decker
Director, Holman Fleet Insurance



CONNECTIVITY

Connectivity is the key to increased productivity. From driver behavior to vehicle performance, your fleet offers critical measuring points that can be analyzed to help you identify risks and address hidden cost drivers.



Annually, a fleet of **300 vehicles** generates an average of **1,254** maintenance data points, **30,000** fuel data points, and **15 million** telematics data points.

Source: Holman Internal Data Team

Telematics and connected devices enable you to:

- Monitor driver behavior in real-time to improve safety and avoid costly accidents
- Track vehicle performance to address maintenance needs before they progress
- Gain insight into route optimizations to cut down on gas and mileage
- Automate deployment of driver training based on gathered data

TRENDS

Many fleets have significantly increased their efficiency by investing in tools that provide performance and productivity metrics.

Through telematics, Holman was able to help one fleet identify over 168,000 hours of unproductive idling each year. Strategic coaching, communication, and an incentive program then helped the company address the issue and eliminate \$336,456 in excessive fuel costs due to excessive idling.

In particular, the advancement in camera technology is creating an uptick among fleet managers. Inward-facing cameras and third-party AI technology provide valuable information regarding driver safety while delivering real-time alerts the moment distracted or risky driving behaviors are detected. Fleets are also investing in cameras to help support accident claims, preserve driver/business reputation and reduce exposure to litigation.

Incorporating video programs can reduce incidents on the road by 50%.

Source: Surfsight



DRIVING THE INDUSTRY FORWARD

You need access to the right tools and technology to achieve your fleet's goals within the connectivity space. However, determining which investments will be valuable for your business can prove challenging – that's where expertise is needed. As a fleet management partner, Holman strives to understand customer goals and offer solutions accordingly, including:



Powerful analytics tools combined with the most comprehensive data enabling fleet managers to consume dashboards and visualizations that provide actionable insight into vehicles and drivers.



Streamlined communications and notifications delivering critical information in real-time



Mobile application customized to the individual fleet manager with a personal feed providing the most relevant information



DRIVER EFFICIENCY

Operating with greater efficiency remains a central goal for nearly every fleet, regardless of industry. However, administrative and other non-value add tasks can create hurdles, quickly consuming a significant portion of your day. Tools that empower your drivers to seamlessly and efficiently handle routine vehicle-related tasks on their own allow you more time to be strategic and keep your vehicles on the road generating revenue and your drivers arriving safely at the end of the day.

SERVICES IN ACTION

Across the industry, fleets are steadily improving their efficiency levels through the increased use of:

- **Dashcams** – to reduce risk by monitoring driver behavior and on-the-road activity
- **Fuel Cards** – to track spending and consumption habits
- **Driver Training** – to equip drivers for success and minimize costs and risk due to identified poor behavior
- **Mobile Apps/Databases** – to store important documents in one place, locate essential services and track mileage



KEY FEATURES TO LOOK FOR IN DRIVER EFFICIENCY TOOLS, SUCH AS THE HOLMAN DRIVER INSIGHTS MOBILE APP:

- Easy access to vehicle information and documents
- Ability to start processes for vehicle-related activities, such as replacing fuel and registration cards and reporting accidents
- Integrations for information for fuel stations, repair shops, and maintenance vendors
- Mileage and trip log entry
- Proper measures of control and security

FUEL

Electrification remains a trending topic, but your fleet may not be in a position to convert to electric or alternative fuels just yet. If that is the case, ensuring your fleet of internal combustion engine (ICE) vehicles is as **fuel efficient** as possible is essential to your environmental impact and bottom line. Many fleets are taking action by implementing fuel cards to track spending more closely and identify opportunities where costs can be minimized.

In 2022, through data analysis, Holman identified an opportunity for a fleet of **465** vehicles to save **\$212K** a year by addressing speeding events above 80mph. Not only was this an opportunity to encourage safer driving habits, but it also identified how much higher speed rates impact fuel spend.

Source: Holman Internal Data Team

2023 FUEL PRICING OUTLOOK (SOURCE: EIA)

OVERVIEW	2020	2021	2022	2023
Bent Crude Oil (dollars per barrel)	41.69	70.89	102.13	95.33
Gasoline Retail Price (dollars per gallon)	2.18	3.02	4.02	3.61
U.S. Crude Oil Production (million barrels per day)	11.32	11.25	11.83	12.31
Natural Gas Spot Price (dollars per million BTU)	2.03	3.91	6.49	5.46





YOUR ACTION PLAN:

- Ensure you are comprehensively [tracking and managing driver behavior](#) and fuel transactions
- Establish a [safety training program](#) within your organization that protects your drivers and reduces exposure to litigation
- Reevaluate your [fleet insurance](#) plan to identify hidden costs and ensure you have the proper coverage and ROI on safety investments.
- Access critical performance data and empower your drivers through [telematics](#)

SERVICE

MAINTENANCE OUTLOOK

In 2023, new vehicle inventory levels are expected to remain below pre-pandemic levels. Consequently, you may need to keep vehicles in service longer than anticipated, meaning preventative maintenance is paramount, as it can help you avoid issues that result in lengthy downtimes.

12.2 YEARS – Average Vehicle Age in 2022

Up two months over the prior year, marking the fifth consecutive year the average vehicle age has risen in the U.S.

Source: S&P Global Mobility, 2022

Monitoring driver habits and [vehicle utilization](#) more closely can prevent unnecessary time in the shop. Excessive idling, for instance, can easily drive up maintenance costs and lead to increased downtime.

- Holman uncovered that 25% of one customer's maintenance spend was attributable to idling (spend of \$110,000).
- Analysis of another customer's vehicles past their recommended service life showed 42% less utilization and 4.4x higher average maintenance spend, meaning the vehicles were less productive and cost significantly more when they did require service.

Source: Holman Internal Data Team



VENDOR STRATEGY

Adhering to a solid vendor strategy is a core component in controlling maintenance expenses. To garner the fastest and most impactful results, consider implementing the following:

- Use full-service National Accounts for menu-based pricing on preventative maintenance, tires, and brakes
- Eliminate quick lube vendors to lower average preventative maintenance costs while using vendors that will do tire rotations and quality vehicle inspections
- Work with Holman Parts vendors that provide discounted parts and labor rates

LABOR SHORTAGE IMPACT

Despite reports of low unemployment rates, employers face great difficulty obtaining skilled laborers. The uptick in maintenance, inflation, and labor shortages place intense pressure on the service industry. Vendors are now operating at maximum capacity and have to limit the amount and nature of work they accept into their shops.

WHAT'S CAUSING THE LABOR SHORTAGE?



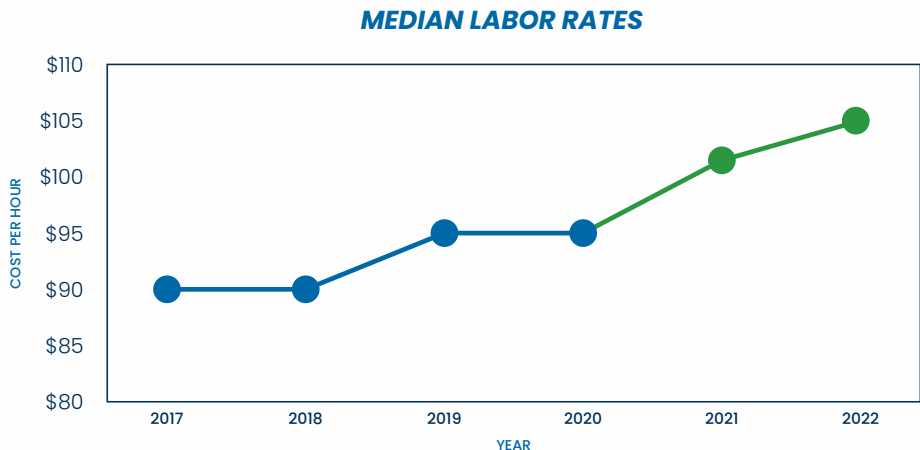
- Fewer technicians available overall
- Various companies seeking technicians and competing for the same talent pool
- High work volumes make it difficult to train entry-level hires how to perform more complex repairs

IMPACT OF INFLATION

While vehicle lifecycles are extending, operating costs and the cost of parts are increasing. Likewise, labor rates are rising due to the labor shortage and competitive job market.

- Price of average PO has increased by about 20%
- Availability of parts fluctuates depending on supply and demand

Part	Price Increase Since 2020
Air Filter	13%
Alternator	10%
Brake Pads	17%



Due to parts shortages, parts are shipping from warehouses further away which in turn is driving up costs.

Despite these challenges, however, there are actions that can be taken to mitigate their impact. For instance, to help fleets minimize downtime and support maintenance vendors, Holman has begun:

- Recruiting technicians nationally to maintain higher service levels
- Partnering with digital platforms to streamline the service timeline
- Partnering with companies who travel to clients to provide on-site repairs
- Supplying powertrain parts and assisting those with in-house garage needs
- Taking advantage of telematics solutions that:
 - Enable vendors to track the moment a vehicle enters/finishes service
 - Focus on diagnostic codes to get vehicles serviced sooner, avoiding major failures
 - Offer more accurate mileage tracking through odometer downloads



YOUR ACTION PLAN:

- Create and enforce a strategic maintenance plan that accounts for extended replacement cycles and their associated costs.
- Consider the level of access your fleet provider has to vehicle parts and supplies.
- Work with your fleet provider to determine if adjusting your acquisition strategy could be a better alternative for you.



CHALLENGES INFLUENCING RESALE VALUE

Remarketing automotive and equipment assets has become increasingly complex in recent years. A multitude of factors continues to impact resale value, including:

- Volatile price swings
- More advanced and highly connected assets (including EVs)
- Compliance, safety, and regulatory factors
- Regional market price sensitivity
- In-lane vs. digital vs. hybrid considerations
- Certification vs. non-certification
- Proper sale channel selection

Many businesses still rely on trial and error to navigate these variables, which severely limits their ability to maximize total return. In the current age of technology and data, strategic thinking and systematic analysis should drive your fleet resale decisions.



“Successfully selling and maximizing your return requires strategy, expertise, and leveraging multiple sales channels.”

Chris Clarke
Holman Remarketing Solutions

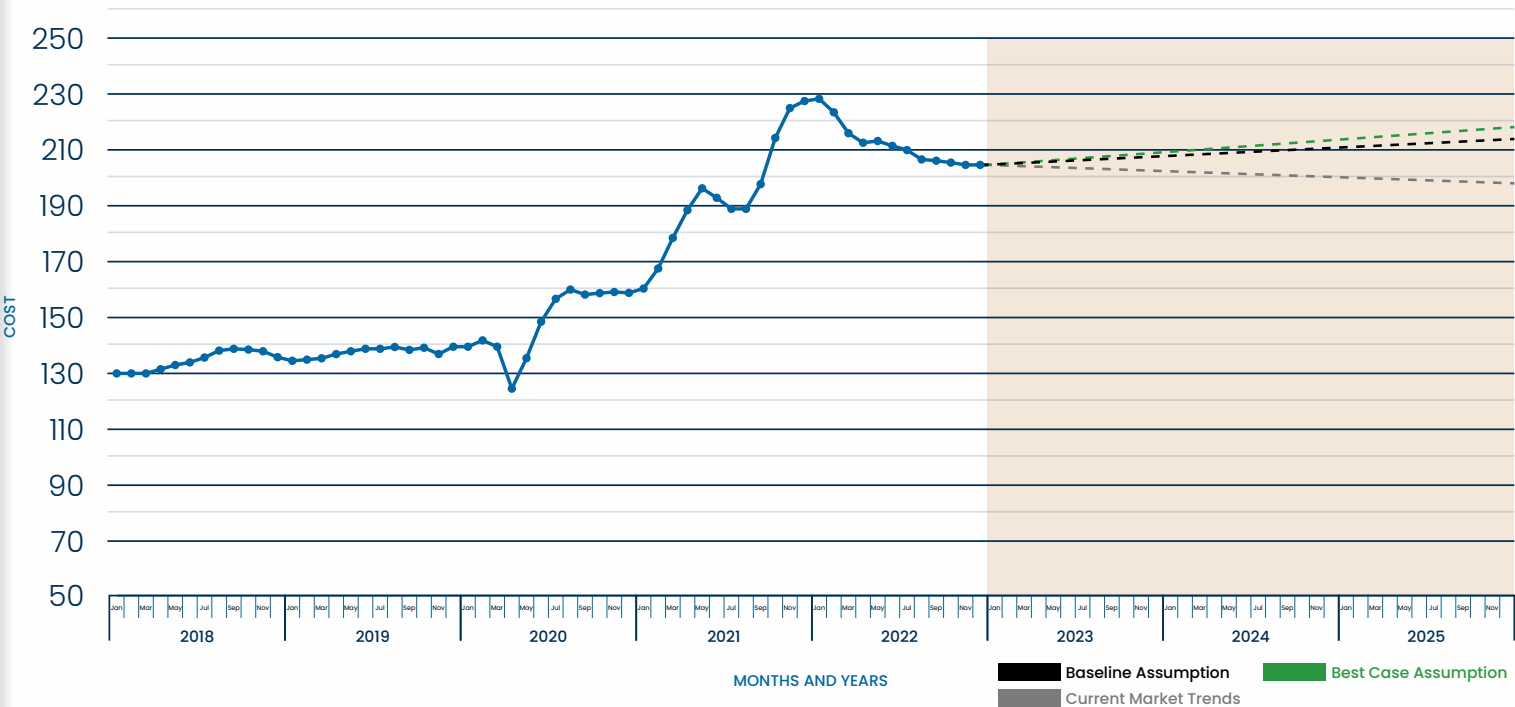
MARKET STATUS AND PROJECTIONS

While the used vehicle market has gradually declined since its record peak in November 2021, market values remain significantly above historic averages. As time progresses, however, the market will continue to level out, thus fulfilling its natural cycle of spiking, correcting, then repeating.

2022 brought historic price and value increases to the used vehicle market as inventory shortages created massive demand for used assets. This demand generated a tremendous opportunity to infuse quick cash into businesses for old equipment at a rate unlikely to occur again anytime soon.

In fact, you can expect to see about a 4.3% year-over-year decrease in the Manheim Used Vehicle Value Index for 2023. The coming decline presents all the more reason to work with a remarketing partner that knows the market well and can get your vehicles in front of the right buyers for the highest possible return.

Manheim Used Vehicle Index 2018-2025



Source: Cox Automotive

CHOOSING THE RIGHT REMARKETING PARTNER

The impending market decline only emphasizes the importance of partnering with a remarketing expert like Holman - one that can offer critical insight through proprietary data.

A valuable remarketing partner will:

- First, invest in understanding your primary business goals
- Determine the best time and outlets to buy and sell
- Offer exposure to various outlet types, including retail dealers, auction houses, and more
- Provide you with unique tools to execute the process efficiently
- Cover the logistics of vehicle pick-up, clean-up, de-identification, transportation, and paperwork

With the proper support and strategic approach, you can secure the best net-sale price for your assets in any market condition.





YOUR ACTION PLAN:

- Work with an [experienced partner](#) that offers customized, turnkey solutions that will maximize your return
- Utilize virtual platforms such as [BuyDirect](#) and [EquipmentDirect](#), which quickly infuse cash back into your business for unused assets.
- Take advantage of employee sale programs that allow your drivers to purchase their work vehicle at fair market value.



EV & ALT FUEL

BUY

When transitioning from internal combustion engines (ICE) to alternative fuels or electric vehicles (EVs), it is vital to keep your fleet's specific needs and goals at the forefront. Be sure to understand your options and how each could impact your business.

5 QUESTIONS TO CONSIDER BEFORE SWITCHING TO EV:

- How much space do your vehicles require for storage or towing?
- Where would you install charging infrastructure?
- How far do your vehicles travel to complete a job?
- How much cargo do your vehicles carry?
- Is your power source strong enough to support a fleet of EVs?

IS SIZE A QUALIFYING FACTOR?

Contrary to popular belief, neither vehicle nor fleet size precludes electrification or alternative fuel potential. Consider the following collaborations, for example:

- Tops Friendly Markets, a supermarket chain in upstate NY, partnered with Holman to help design and lease new semi-trucks (tractors) for their fleet of 48 compressed natural gas (CNG) vehicles.
- Ferguson, North America's leading distributor of plumbing and HVAC supplies, partnered with Holman and Electrada, an electric fuel solutions company, to generate a turnkey fleet management and electrification solution enabling Ferguson to deploy medium- and heavy-duty all-electric vehicles.

CHOOSE YOUR PILOT PROGRAM CAREFULLY

The natural first step in a generic EV pilot program is to buy a few vehicles and charging stations. Unfortunately, each element is a separate purchase, requiring you to manage multiple vendor relationships and making it difficult to scale. You're then left with a disjointed network of components and assets to piece together. Additionally, a pilot typically focuses on only a few isolated metrics—such as range, charging time, and driver satisfaction. As a result, you never look for the deeper issues of hidden costs and miss the interplay between various options. By working with a partner who not only formulates your electrification strategy but also assists you in executing it, you can transition seamlessly without impacting business continuity.

TAX CREDIT AND GOVERNMENT INCENTIVES

There are several legislative initiatives in place to further the adoption of battery electric vehicles (BEV) over the next several years, including the following:

- **Inflation Reduction Act**

Only EVs assembled in North America qualify for this \$7,500 tax credit (see the list of [qualified vehicles here](#)). The credit is broken into two equal (\$3,750) parts, each with a separate hurdle:



More than 40% of the materials must be mined or processed in the U.S. or a country with which we have a Free Trade Agreement (FTA) – or no \$3,750 credit.



More than 50% of the components in the battery must be manufactured and assembled in North America or an FTA country – or no \$3,750 credit (both the material and component percentages increase by 10% a year).

- **Investing in the Future**

The Federal Government proposed a bi-partisan proposal for a \$5B investment to build an EV charging network over the next five years. The goal:



To accelerate the use of DC fast public charging and reduce reliance on home charging alone.



To allow for further driving ranges without the “range anxiety.”



RANGE ANXIETY: Fear of having insufficient battery capacity to reach your destination.

OEMS MAKE COMMITMENTS TO ELECTRIFICATION

Manufacturers are working towards three primary goals for EV production:

- Assembly plants
- Battery factories
- New EV models

For fleet managers, this means greater availability and selection of vehicles.

EV UPFITTING

Your vehicles need to fit the job—and EVs bring an entirely different set of considerations than an ICE fleet does. For example, your vehicle design should factor in how often your drivers need to stop to recharge, where they gain access to charging, and the tools they need to perform their jobs. Therefore, choosing an adequately trained vendor to handle EV upfitting is imperative. Holman's upfitting experts, in particular, are highly experienced in locating and working around no-drill zones, such as the battery and surrounding electrical work.

FACTORS TO CONSIDER

- Range
- Impact of charging power tools from the vehicle
- Weather patterns on battery life
- Availability of adequate grid and charging infrastructures





YOUR ACTION PLAN:

- Evaluate your fleet's duties and logistics to determine whether EVs would fit well.
- Avoid a 'one size fits all' approach to electrification and work to uncover the commercial blind spots you can't see in a 'pilot program.'
- Partner with a vendor who knows that upfitting will differ based on your vehicle's specific application, driver behavior, and available charging infrastructure.

DRIVE

CHARGING

Choosing the proper charging solution for your fleet requires careful consideration. The voltage, amperage, charging load and charging time differ depending on the level of the [charger](#), so it's essential to know the difference between your options.

Three Types of Chargers

	Level 1	Level 2	Level 3 or DC Fast Charge
<i>Voltage</i>	120V 1-Phase AC	208V or 240V 1-Phase AC	208V or 480V 3-Phase AC
<i>Amps</i>	12-16 Amps	12-80 Amps (typically 32 Amps)	100+ Amps
<i>Charging Load</i>	1.4-1.9 kW	2.5-19.3 kW (typically 6.6 kW)	50-350 kW
<i>Charging Time</i>	3-5 miles per hour	12-60 miles per hour	60-80 miles in 20 minutes

AVAILABLE SOLUTIONS

Home

- [At-home charging](#) is the most cost-effective solution for fleets, even with incorporating driver reimbursement.

Depot

- [Depot charging](#) is a great solution for fleet vehicles that return to a central location at the end of the work day.
 - Requires collaboration with a customer's operations team for location assessment and charger load planning.
 - Uses a combination of Level 2 and Level 3 charging depending on the needs of the vehicle. Level-2 charging is often a viable offering for longer downtime cycles. Level 3 – also called DC fast chargers – can charge EV batteries to 80% in about half an hour.

Public

- [Public stations](#) should not be relied on as a single charging solution. Because there are no cost regulations, this option can prove to be even more costly than gasoline in some cases.

BATTERY HEALTH BEST PRACTICES

Range anxiety has become a genuine issue for many EV drivers. However, there are resources available to restore peace of mind. For example, when choosing a vehicle for your fleet, Holman can help you identify which EVs have the best range capacity to support your specific driving patterns. The consulting team also provides home and depot charging infrastructure support to ensure your EVs are fully charged each night and ready for the next work day.

Below are measures you can take to maximize range and ensure your battery remains in optimal condition:



Precondition Battery: Schedule preconditioning to begin 30 minutes before departure to warm the battery to an optimal temperature, improve range, and take advantage of regenerative braking even sooner. You should precondition while the vehicle is still plugged in.



Utilize Regenerative Braking: Use full regenerative braking to increase battery range. It recovers some of the EV's kinetic energy to charge the battery while you drive. Regeneration occurs in an EV when the brake pedal is applied or when the accelerator is released.



Charging: To prolong battery life, refrain from completely charging or discharging your EV, maintaining a 20% to 90% charge.



Temperature: With an automated temperature control system installed, EVs are consistently working to regulate temperatures. Therefore, avoiding exposure of extreme heat or chill will lessen battery depletion. Parking your car in a garage when you are able can help with this.



Reduce Drag: Raise the windows to reduce drag on the vehicle, especially at speeds above 40mph. Also, avoid putting cargo on the roof if possible. The more drag, the more energy consumption and the less battery range.



ECO Mode: This setting restricts power to more energy-consuming features in the vehicle. It may affect your acceleration, but it will improve your battery range.

DATA INTEGRATION

Merging charger and vehicle data can help you perform the analytics needed to gain better insights into your EV fleet and remove any silos that stand in the way.

Gathering data around other EV fleets can also help you benchmark against your peers, and that's exactly what we do for our clients at Holman. With this improved asset visibility, you can reduce fraud, modify driver behavior, and manage risks more effectively.





YOUR ACTION PLAN:

- Determine which [charging infrastructure](#) will be most feasible and effective for your fleet. Consider your funding, drivers, vehicles, and the installation process.
- Plan your routes in advance using public charger apps or Google Maps to prevent stops at chargers that are not applicable to your vehicle/time requirements.
- Implement best practices to improve the lifespan and performance of your battery.
- Utilize the data generated by EVs to [gain insight](#) and make strategic decisions that will increase the efficiency of your drivers, vehicles, and overall operation.

SERVICE

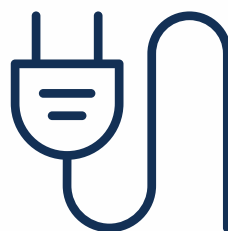
Due to EVs having fewer moving parts than ICE vehicles, they generally require less maintenance overall. However, routine maintenance for components like tires, brake pads, and cooling systems is still necessary and, at times, even required more frequently because of increased vehicle weight.

BATTERY MAINTENANCE CONSIDERATIONS

EV batteries must be conditioned if you want to keep your vehicle operating at its best:



Avoid extreme temperatures when possible



Don't fully charge or deplete the battery

WARRANTIES

Federal law requires EVs to be covered by warranty for at least 8 years or 100,000 miles.

Factors to Keep in Mind:

- Returning to a dealer for warranty work increases downtime
- Dealer availability is currently limited

REPAIR COSTS

While EV maintenance costs are generally lower, accident repair can be more costly, given that more complex processes usually have to be performed.

EVs Contain:

- More sensors located in areas likely to be damaged in a collision
- More expensive materials - used to try and offset battery weight
- A battery pack that must be removed before painting, which can increase repair time

AVERAGE COST OF MAINTENANCE PROJECTED FOR 2025

- 7 cents/mile – Conventional Vehicles
- 3.6 cents/mile – Battery Electric Vehicles

Source: Burnham et al. (2021), [The International Council on Clean Transportation](#)

MORE EXPENSIVE MATERIALS



IMPACT OF LABOR SHORTAGE

Labor shortages have impacted downtime across the board for all asset types, including EVs. However, most OEMs and independents are ramping up their training efforts. At Holman, for instance, our nationwide partnership with vendors allows us to help your drivers quickly find a shop that can service your EVs and minimize downtime.



YOUR ACTION PLAN:

- Establish and adhere to a healthy preventative maintenance and battery care routine
- Account for the potential of elevated accident repair costs
- Choose a vendor that can provide easy access to EV-trained [service and repair technicians](#)

SELL

Managing your fleet is more than just controlling costs; it's managing your investment. That simple change in perspective goes a long way in preserving the value of your vehicles. Knowing the right time to sell and maximize your investment is a critical step in the Buy, Drive, Service, Sell methodology. As with ICE vehicles, considering how and when to cycle EVs out of your fleet should be done before acquiring them.

BATTERY HEALTH BRINGS VALUE

With EVs, batteries rather than odometers are more significant indicators of vehicle value and remaining useful life. Therefore, prioritizing proper battery care throughout your vehicle's lifecycle can greatly impact its desirability in the market. When you're ready to sell, having a partner like Holman, who can help you implement optimal charging practices for your fleet, will maximize your resale values.

MARKET OUTLOOK

The prices for used EVs have continued to fall closer to their pre-pandemic levels due in part to the expanded growth in the used EV market.

Tracking of popular EV models from 2017–2021 shows a 17% drop from their July 2022 peak.

This price decline speaks more toward a price correction in the marketplace than a decline in value.

Source: [Recurrent, 2023](#)

The vehicle's battery health, more so than the odometer, is an essential factor that buyers will consider. Therefore, tracking battery usage is critical to providing buyers with the information they seek when purchasing EVs.



YOUR ACTION PLAN:

- Partner with [remarketing experts](#) that are [well-versed in the EV space](#) to get your vehicles in front of the right buyers
- Incorporate battery health best practices into your daily routine to ensure your EVs remain in desirable condition.
- Keep a record of your battery history to give buyers the information needed to decide on your vehicle.



Holman
Driving What's Right