Fleet vehicle maintenance: A comprehensive guide

Fleet vehicle maintenance is essential for keeping your fleet on the road, maximizing profits, and avoiding unexpected operating costs. The best fleet vehicle maintenance programs combine real-time telematics with preventative maintenance to deliver maximum efficiency. Keep reading to learn how to create an effective fleet vehicle maintenance program—including how to build a fleet vehicle maintenance checklist and tips for choosing a fleet management software that best fits your organization.

## What is fleet vehicle maintenance?

Fleet vehicle maintenance is the practice of keeping your organization’s vehicles in optimal driving condition. Through a combination of planning, diagnostic work, and real-time service and repair scheduling, good fleet vehicle maintenance ensures reliable and efficient performance. It not only preserves the short-term health of fleet vehicles, but also saves thousands of dollars in long-term repair and maintenance costs while preventing costly downtime.

## 3 ways fleet management software can help you improve fleet maintenance

Establishing an effective fleet maintenance management program is essential for a fleet operator’s long-term sustainability and financial health. Fleet management software like [Samsara](https://www.samsara.com/fleet) can help you maximize your existing resources. From engine diagnostic alerts to preventive maintenance scheduling tools, fleet management systems can help you predict maintenance needs, reduce downtime, improve fleet performance, reduce fuel costs, minimize vehicle breakdowns, and extend the lifespan of your fleet. Here are a few ways that fleet management software can help you improve fleet maintenance:

1. Anticipate regular maintenance needs, reducing downtime and repair costs

When it comes to fleet vehicle maintenance, it’s best to address issues before they become problems that could seriously impact your bottom line. Last-minute emergencies can lead to costly repairs and lead to unexpected downtime that’s worth as much as [$50 billion](https://www.forbes.com/councils/forbestechcouncil/2022/02/22/unplanned-downtime-costs-more-than-you-think/), so it pays to invest in a telematics solution that can alert you to maintenance issues in real time.

By providing [remote visibility](https://www.samsara.com/products/telematics/fuel-and-maintenance) and real-time alerts for engine fault codes, fuel usage, idling, and more, fleet management software can help you anticipate regular maintenance issues and prevent catastrophic failures from happening. By consistently monitoring vehicle wear and tear, you can plan a preventative maintenance program to anticipate when unavoidable major repair work will be needed. This can help you create a manageable maintenance plan, minimize unexpected vehicle downtime, and reduce repair costs.

2. Make informed decisions based on real-time DVIRs and fault code alerts

One of the biggest challenges in fleet management is keeping tabs on dozens, hundreds, or thousands of vehicles across different locations. Many fleet managers rely on paper-based driver vehicle inspection reports (DVIRs) to make essential decisions about maintenance services. However, paper DVIRs are inefficient. Once drivers fill them out, they have to make their way back to your office. This can take hours or even days, causing an unnecessary lag in critical fleet vehicle data.

Fleet management software can help you make more informed maintenance decisions based on real-time data. With [electronic DVIRs (or eDVIRs)](https://www.samsara.com/fleet/connected-driver/dvir) and real-time fault code alerts, you can be immediately notified of any vehicle maintenance issues—including issues with a fuel system, exhaust system, fluid leaks, transmission fluid, engine oil, and more. This way, you don’t need to rely on driver updates to make essential maintenance decisions. Instead, you can make informed, efficient decisions with real-time fleet vehicle data, increasing safety and avoiding more serious repairs in the future.

3. Optimize for the long term

An additional benefit of real-time telematics is access to utilization data and reports. Utilization data can be used to schedule preventive maintenance, know when to bring vehicles in for tune-ups, measure downtime, and even rightsize your fleet. Executives can use [fleet management software](https://www.samsara.com/products/telematics) like Samsara to gain valuable insight into things like when to decommission vehicles, schedule new vehicle purchases, and reallocate equipment within your company or geographic area. Predictive data can also help your company measure progress toward long-term goals and assist in strategic operations planning for both the short-term and long-term.

3-step checklist for improving fleet vehicle maintenance

How can you ensure your vehicle maintenance program delivers the benefits listed above? Follow this three-step checklist to ensure you’re maximizing your investment in your fleet vehicles:

1. Assess and record data on current fleet vehicles

Before implementing a fleet maintenance program, getting a clear picture of your entire fleet’s health is essential. Make sure you have data on the following for all your fleet vehicles:

* Ownership and transaction history (this may include all previous owners, dealers, and the initial manufacturer)
* Repair and maintenance history
* Accident history
* Current mileage on odometer
* Fluid levels
* Maintenance records
* Condition of tires, braking system, cooling system, suspension system, etc.
* Condition of smaller components, like windshield wipers and seatbelts
* History of oil changes
* Most recent DVIR
* Any current maintenance work orders
* Warranties

2. Establish a consistent maintenance schedule

One of the most important aspects of a successful fleet vehicle maintenance program is a structured maintenance schedule. An effective maintenance process should consider:

* The type of vehicle
* Frequency of use
* Operating conditions
* Accumulation of normal wear and tear

You may want to schedule routine inspections based on:

* Mileage
* Engine hours
* Time since last service check
* Hours in operation

With Samsara, you can track the status of all vehicles in your fleet, enabling you to create preventive maintenance schedules based on your own criteria, and provide real-time notifications to your maintenance team so service intervals are maintained. As more fleets modernize their maintenance programs, [preventative maintenance](https://www.samsara.com/blog/introducing-samsara-s-preventive-maintenance) solutions like Samsara make it possible to take a proactive approach to vehicle maintenance, automating tedious maintenance tasks, streamlining maintenance management, and significantly improving efficiency.

3. Develop and use a fleet vehicle maintenance checklist for drivers

After establishing a baseline schedule for maintenance needs, it’s also helpful to create a fleet vehicle maintenance checklist for drivers. This ensures inspections are thorough and cover all key areas of a vehicle’s performance. Help drivers maintain uptime by identifying maintenance issues as they arise. With Samsara, you can create a [mandatory checklist for DVIRs](https://kb.samsara.com/hc/en-us/articles/360043624952-Mandatory-Checklist-for-DVIR) that reminds drivers to always check:

* Exterior of the vehicle
* Windshield and glass
* Engine
* Transmission
* Brakes
* Wheels and tires
* Cab and interior
* Any other inspection points you specify

The [Samsara Driver App](https://www.samsara.com/fleet/connected-driver/dvir) allows drivers to submit DVIRs from their mobile device. They can even include mobile photos of any visible maintenance issues. This can help streamline communication between your drivers and back office. Plus, with Samsara, you can customize your DVIR using different fields, like required/non-required or vehicle type—so you can create DVIRs custom to your industry or different vehicle needs.

Three factors to consider when investing in vehicle maintenance software

Vehicle maintenance software can make fleet maintenance easier for drivers and managers. But how can you choose the right vehicle maintenance software for your specific needs? Here are a few key areas to consider when choosing the right platform for your fleet:

1. Scalability

Client demand, regulatory requirements, and other factors can lead to fleet sizes changing fluidly from year to year (or even month to month). This means that choosing a fleet maintenance solution that offers scalability for fleets of all sizes is essential. For example, some fleet maintenance software solutions have an [open API](https://www.samsara.com/marketplace/) so you can connect to your most used existing systems. Furthermore, look for a solution that offers a mobile app that can be used on any device, so you don’t have to buy expensive proprietary hardware for each new vehicle. The [Samsara Driver App](https://www.samsara.com/fleet/connected-driver/dvir), for example, can be used on your existing tablets or mobile phones.

2. Real-time alerts

Fleet maintenance software has a lot of benefits. One of its main benefits is that it can help streamline information and communications. An ideal fleet maintenance solution offers real-time, customizable alerts—including notifications for unsafe DVIRs and engine fault codes, like overheated oil. For example, [Samsara’s customizable maintenance alerts](https://www.samsara.com/fleet/fuel-and-maintenance) make it possible to instantly respond to maintenance issues before they become more expensive problems.

3. Compliance features

For fleets subject to [FMCSA regulations](https://samsara.com/guides/fmcsa-regulations), navigating compliance can be time-consuming. A complete fleet management solution that includes both maintenance and compliance features can make it easier for you to ensure vehicles are on track to meet any inspection standards. By allowing you to monitor any fleet vehicle issues centrally, you can avoid costly fines or safety rating penalties. Look for a unified fleet management platform, like [Samsara](https://www.samsara.com/fleet), to consolidate your maintenance and compliance data in one place.

Streamline fleet vehicle maintenance with Samsara

Without a fleet maintenance software solution, it can be difficult to manage fleet vehicle maintenance at scale. Regardless of your fleet size, real-time vehicle diagnostics and preventative maintenance scheduling can help you decrease vehicle downtime and operating costs.

With [Samsara’s fleet maintenance solution](https://www.samsara.com/products/telematics/fuel-and-maintenance), fleet operations can maximize uptime with real-time vehicle diagnostics, reduce fuel costs with better fuel management, improve uptime with paperless [DVIRs](https://www.samsara.com/products/apps-and-workflows/dvir), and more. Here are three ways Samsara can help you streamline your fleet vehicle maintenance:

1. **Get real-time visibility into vehicle diagnostics:**Proactively spot issues such as failing batteries and engine fault codes through over-the-air vehicle diagnostics. Avoid road breakdowns and quickly identify vehicles in need of service to protect vehicle health and extend vehicle lifetime.
2. **Maximize uptime with paperless DVIRs:** Streamline your maintenance workflows, perform pre- and post-trip vehicle inspections or walkarounds, and upload photos or eSignatures on any mobile device using the Samsara Driver App.
3. **Instantly respond to maintenance issues:** Customizable alerts ensure that mechanics are informed as soon as vehicle faults are detected or DVIRs are submitted. Samsara's real-time GPS tracking enables quick dispatch to minimize vehicle downtime.

[Certarus](https://www.samsara.com/customers/certarus), the leader in low carbon energy solutions in Canada and the United States, leveraged Samsara to streamline their vehicle maintenance processes. Instead of manually passing off DVIRs to the maintenance team, work orders are now automatically triggered in their maintenance software when drivers log defects in digital DVIRs using the[Driver App](https://www.samsara.com/products/apps-and-workflows/), as well as when vehicles reach utilization thresholds instead of time-based thresholds. Now, Certarus has a more intelligent approach to preventative maintenance, saving $500,000 in maintenance costs in just one year by integrating Samsara with their existing software.