A health check for fleet management

Trakm8
Data driven insights

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Every day a car or light commercial vehicle (LCV) spends off the road is lost revenue to a business. In this white paper, Trakm8 helps you to examine whether you are doing enough to prevent vehicle breakdowns and non-starts.

One of the golden rules of fleet management is that planned, preventative maintenance saves money. Research recently published by van hire specialist Northgate helps to put a number on exactly how much unplanned downtime can cost. Its study found that every light commercial vehicle (LCV) spends on average four days a year in the workshop or garage, at an average cost of £800 per van, per day. This would mean that a business with 100 LCVs would lose on average £320,000 each year in downtime alone. That is a huge impact on profit margins.

Furthermore, customers increasingly place penalty clauses in contracts and service level agreements, meaning that fleets are fined for failing to deliver the goods within specified time windows. This was reflected in the Northgate survey, where 47% of respondents said that they incur fines or penalties when their vans are out of action for a week.

Diagnostic trouble codes

Modern cars and LCVs can contain as many as 70 electronic control units (ECUs), with the main one being the engine control unit. Other common examples include ECUs for airbags, braking and ABS, cruise control, and power steering. All ECUs are interlinked by the CAN bus system.

Diagnostic trouble codes, known as DTCs, are alphanumeric codes that are communicated by the on-board diagnostics (OBD) system when it detects a malfunction from one of the ECUs. Often a DTC is displayed as an illuminated dashboard warning light. This indicates the type of fault; and a mechanic can access the specific DTCs by plugging their diagnostic hardware into a vehicle's OBDII port.

However, for organisations operating company cars and vans, the challenge is that drivers very often forget to communicate dashboard warning lights to the fleet or transport manager. This means that small issues which could be quickly fixed, at a relatively low cost, become vehicle breakdowns and costly repairs. Unscheduled downtime creates a real operational and financial headache for fleet management professionals.

Telematics as a solution

In recent years, telematics devices have gained the capability to connect to OBD systems, with vehicle tracking units either hardwired to the CAN bus, or plugged into the OBDII port. This technology has the potential to transform fleet management for the better.

An extensive, year-long telematics trial by the AA, encompassing 10,000 member vehicles found that telematics prevented more than a third of vehicle issues becoming roadside breakdowns. A key finding was that, if fault codes on certain vehicles are not addressed, they will lead to a breakdown within a short period of time.

In around 38% of cases, the AA could see there was a fault code directly related to the breakdown. The top three faults in cars it identified were with the ignition coil, exhaust gas recirculation (EGR) valve and mass airflow sensors. Another commonly-identified cause was the degradation of batteries – in fact, battery-related issues make up around 16% of The AA's breakdown workload.

Vehicle health alerts

The most innovative telematics companies now offer deep connectivity with a vehicle's CAN bus system, enabling them to read DTCs and report them to a fleet manager via a real-time alert. These alerts can be push notifications to a smartphone app, or telematics web portal. The best systems also record each subsequent time the vehicle is started yet the fault is still present.

Battery status reports are also increasingly popular, where the telematics device regularly runs a series of checks and provides feedback on the health of the battery. In this way, a fleet manager can see when a vehicle's battery is suffering a fault or requires replacing due to degradation.

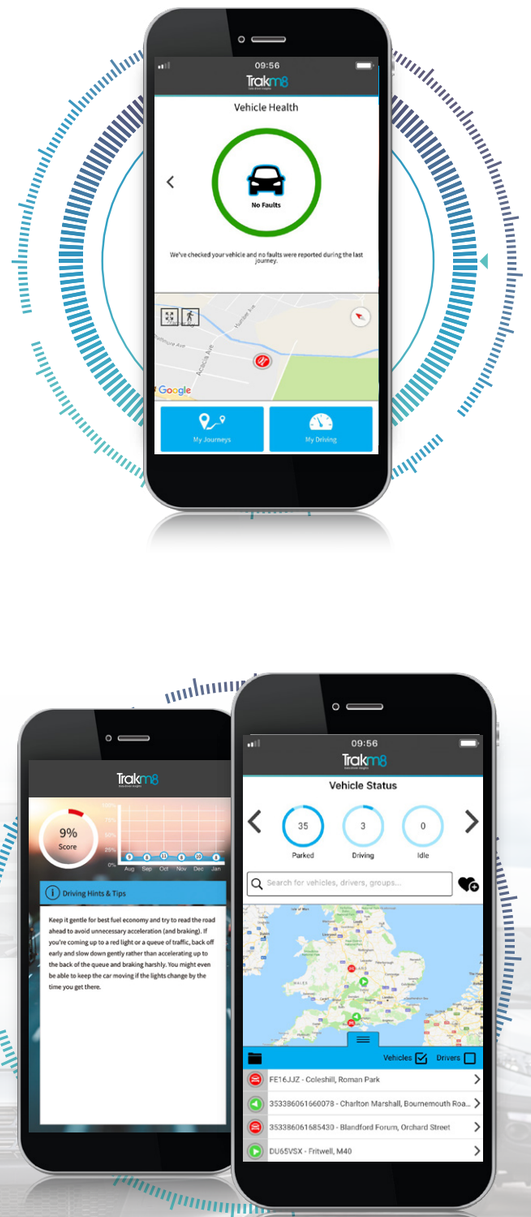
How Trakm8 can help

Trakm8 Connnectedcare is a unique fleet management tool which enables vehicle operators to address minor issues before they become major problems.

It gives fleet managers remote, 24/7 access to diagnostic trouble codes (DTCs) and dashboard warning lights from cars, light commercial vehicles and even plant equipment, via user-friendly web portals and mobile apps.

Trakm8 is the UK's largest manufacturer of telematics devices and is proud to hold the Made in Britain marque. We pioneered vehicle battery health monitoring systems and already hold a patent for this technology, with another pending.

Furthermore, Connectedcare can help fight fuel fraud by providing highly accurate data on fuel levels, and real MPG, as well as provide alerts when fuel tanks are drained. You can also benefit from true ODO readings to ensure more accurate service schedules; and alerts when diesel particulate filters need cleaning or AdBlue levels are too low.



Tyre pressure alerts

The most common cause of a tyre blowout is under-inflation, which occurs when a tyre is not sufficiently filled with air. Reduced pressure causes more tyre surface area to touch the road, resulting in more friction and therefore more heat. A combination of the low pressure and consequential increased heat can cause premature wearing and blowouts.

In addition, under-inflating leads to a rise in fuel consumption. This is because a tyre's rolling resistance is a key factor in affecting MPG. Under-inflated tyres therefore increase road resistance – a reduction in air pressure by one bar causes a 30% increase in rolling resistance, and a rise in fuel consumption of 3%. That might not sound like much, but across a fleet it can result in a substantial hike in fuel bills.

Tyres also wear more quickly when under-inflated. A tyre that is 20 per cent under-inflated will wear out 25% faster than a tyre kept at the correct pressure. On the other hand, over-inflating reduces the tyre's contact with the road surface, which negatively impacts braking and handling, while increasing the risk of aquaplaning in wet weather.

AdBlue alerts

Air quality issues are leading to the establishment of Clean Air Zones in many towns and cities, with most introducing road charging for vehicles below Euro 6 operating in the zones. This is pushing the wider adoption of Euro 6 vans, which are often reliant on AdBlue as part of the selective catalytic reduction (SCR) system. Drivers who allow the supply of AdBlue to run out will find that their vehicles go into limp mode or shut down altogether. Trakm8 Connectedcare monitors AdBlue levels, alerting transport operators if the AdBlue level falls below a predetermined point.

True ODO readings

Unlike most telematics systems, which provide GPS-based odometer estimates, Connectedcare provides a true ODO reading, which is far more accurate. It can therefore send service reminders to the fleet manager based both on service intervals and on mileage.

The accuracy of GPS-based mileage is reliant on a constant GPS signal, which is highly unlikely. With true ODO readings, you can give the workshop manager a heads-up when a service is due, helping them to plan in vehicle downtime.

Other handy features of Connectedcare include VIN number identification and fuel levels, including fuel theft alerts if a tank is rapidly drained.

30%
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Connectedcare features summary

Trakm8 Connectedcare can provide data on the following:

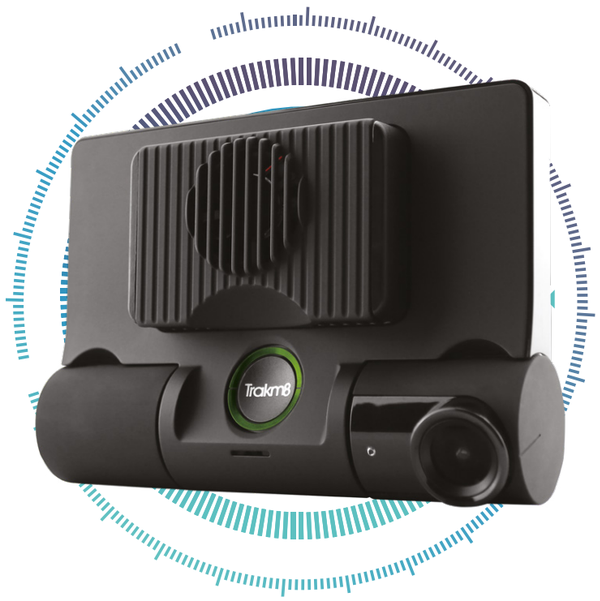
1. VIN number
2. True odometer
3. Diagnostic trouble codes
4. Battery health
5. Fuel level
6. Dashboard warning lights
7. Condition-based service
8. Washer fluid
9. ABS
10. Traction control
11. DPF
12. AdBlue levels
13. Tyre pressure monitoring system (TPMS)

Integrated solution

Trakm8 offers Connectedcare as a stand-alone product, or incorporated into a wider telematics package. It is also available as a feature of the award-winning RH600 telematics camera.

Having all vehicle tracking, telematics and vehicle health information available through one integrated fleet management system makes life easier for fleet managers, while helping them to improve safety, enhance customer service and reduce costs.

If you would like more information on Trakm8 Connectedcare, contact us today on +44 (0) 330 311 5157 or email us at info@trakm8.com



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