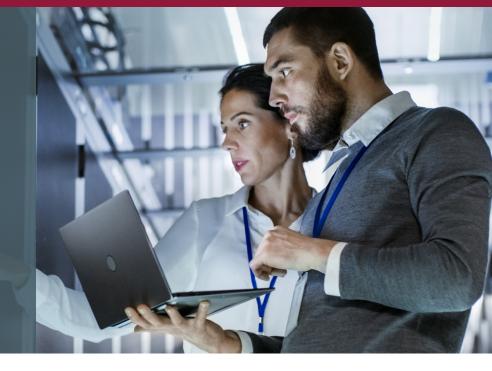# Vehicle Intelligence

Keep track of your vehicles' health and performance in real-time

"Smart infrastructure" technology is revolutionizing transit maintenance. Sensors embedded in your buses continuously transmit data on vehicle systems and components, enabling your maintenance department to monitor vital signs in real time, and act on any issues quickly - even while your vehicles are on the road.

The Trapeze Vehicle intelligence solution allows you to conduct real-time monitoring on bus assets and components and configure predictive alerts so you can proactively address vehicle issues and faults before they worsen. Constant visibility into vehicle conditions lowers your maintenance costs per mile, minimizing failures in route, and increasing repair efficiencies back in the yard.

Overview

Collect Real-time Vehicle Data

- Monitors fuel efficiency, vehicle idling, oil/tire pressure and more; sends data to the cloud
- Reviews associated data to make informed decisions (e.g., whether vehicle state of good repair should be addressed immediately)
- Removes burden from the driver to interpret and report faults
- Knows that an active fault occurred even if driver resets system by cycling ignition

Analyze Past and Future Vehicle Issues

- Builds deep learning fault prediction algorithms to predict vehicle issues days or weeks in advance
- Dashboard displays high-level view to provide quick vehicle status
- Forecasts component use life
- Presents a Predictive Faults report that lists all predicted faults by asset for the entire fleet
- Analyzes patterns of past failures to forecast future failures

Integrate with Asset Management and CAD/AVL Systems

- Automatically creates service requests in Trapeze Enterprise Asset Management (EAM) upon detection of real-time fault
- Enables maintenance to schedule work for upcoming Preventative Maintenance
- Integrates with TransitMaster Intelligent Decision Support (IDS) system to provide high-level incident alerts

Create Real-time and Proactive Alerts

- Identifies vehicle symptoms early, alerting maintenance to imminent issues for assessment and maintenance scheduling
- Enables proactive and informed decisions to swap, service, or tow vehicle before driver is aware of the problem or a tow is required
- Automatically creates notifications for scheduled preventative maintenance

Agency Benefits

Minimized Fleet Down Time

Your maintenance switches from a reactive to a preventative model that optimizes capabilities while reducing breakdowns that disrupt service. Telematics leverages the power of data – actual vehicle mileage, engine hours, voltage and pressure readings, etc. – to predict what's going to happen next and proactively address issues before they become more problematic. Access historical data to analyze failure patterns, adopting a fleet-level maintenance outlook, instead of concentrating on fixing one vehicle at a time.

Reduced Maintenance Costs Per Mile

Keep road calls, monthly tows, and emergency repairs down. A proactive maintenance program informed by real-time vehicle data lowers maintenance costs per mile by keeping your vehicles in top shape. It also creates efficiencies such as labor-time savings (e.g., reduced troubleshooting time or in retrieving broken assets) and improved parts availability.

Vehicle Longevity

With comprehensive vehicle data, you better understand how to extend your vehicles' useful life and maximize return on investment for each asset by optimizing your maintenance intervals. You can correlate your vehicle data with driver behavior data to inform which behaviors need to be addressed (e.g., harsh braking) to increase your vehicles' operational efficiency.

Passenger Benefits

Safer Vehicles

- Provides operators on the road with guidance from maintenance to prevent imminent vehicle failure
- Reviews incident data (e.g., sticking thermostat, corroded voltage regulator) to identify symptoms in other vehicles to promote fleet-wide safety campaigns
- Supports driver improvement opportunities with relevant vehicle data to improve safety outcomes

On-time Schedules

- Preventative maintenance using real-time vehicle data helps ensure vehicles arrive on time, keeping passengers happy
- For electric fleets, vehicle data on battery life reduces gaps in service that can frustrate riders

Increased Customer Satisfaction

- Maximizes vehicle reliability, minimizing breakdowns, to provide consistent service passengers expect
- Optimized maintenance enables the strategic vehicle component procurement needed to improve service

Connect with our Experts

Trapeze™