

How Troiano Waste Services Pioneered AI-Driven Predictive Maintenance

41% fewer exhaust failures and **\$1,600** savings per truck annually, with seamless AI adoption from Tensor Planet



Customer Background

Troiano Waste Services, a family-owned hauler in Portland, Maine, operates **55 heavy-duty collection vehicles** and has been serving Southern Maine since 1976. Known for efficiency and innovation, Troiano uses telematics and CMMS systems to streamline fleet operations.

The Challenge

Even with preventive maintenance in place, exhaust systems were a persistent pain point:

- ➔ **Soot buildup** from inadequate passive regenerations led to recurring DPF clogging.
- ➔ **150+ exhaust incidents** occurred annually, costing over 10% of maintenance spend.
- ➔ Peak months saw **~30 exhaust issues**, straining both drivers and technicians.

Beyond costs, clogged filters risked **EPA compliance** and worsened the impact of the industry's **technician shortage**.



Tensor Planet's system connected directly with the data we already had, without requiring any manual prep work or new hardware.

- Abel Cota,
Director of Information Systems, Troiano Waste Services

For the shop, the biggest win was how simple this was for the technicians. They didn't need to learn a new tool or change their routine.

- Scott Lane,
Fleet Manager, Troiano Waste Services

This initiative fits perfectly with our focus on innovation and efficiency. The financial results speak for themselves.

- TJ Troiano,
COO, Troiano Waste Services



The Approach

Troiano partnered with Tensor Planet to roll out predictive maintenance for exhaust systems:

- ➔ **Data Integration**
Directly ingested telematics, repair history and contextual data with no manual data preparation.
- ➔ **Physics-Based AI Modeling**
AI algorithms modeled filter regen activity and soot buildup by vehicle type and load, while incorporating diagnostic trouble codes (DTCs) to prevent **false alerts**.
- ➔ **Actionable Alerts**
Daily risk alerts aligned with PM schedules enabled technicians to bundle corrective actions with planned shop work up to a week in advance.



Results

In just 10 weeks, the predictive maintenance program delivered:

- ➔ **41%** reduction in exhaust repairs, saving **\$6,984** in direct repair costs.
- ➔ **4+** service disruptions prevented per week, avoiding **\$11,200** in lost revenue.
- ➔ Total pilot savings of **\$18,184**, translating to an annualized potential impact of over **\$87,000** or about **\$1,600** per vehicle per year.

