



**UPTAKE™**

**HELPING PUBLIC TRANSIT  
ACHIEVE PREDICTIVE  
MAINTENANCE EXCELLENCE**

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JANUARY 2018

# HELPING A TRANSPORTATION COMPANY WITH PREDICTIVE MAINTENANCE

Within just 3 weeks of receiving telematics and work order data from the transportation company, Uptake was able to begin delivering predictive maintenance insights.

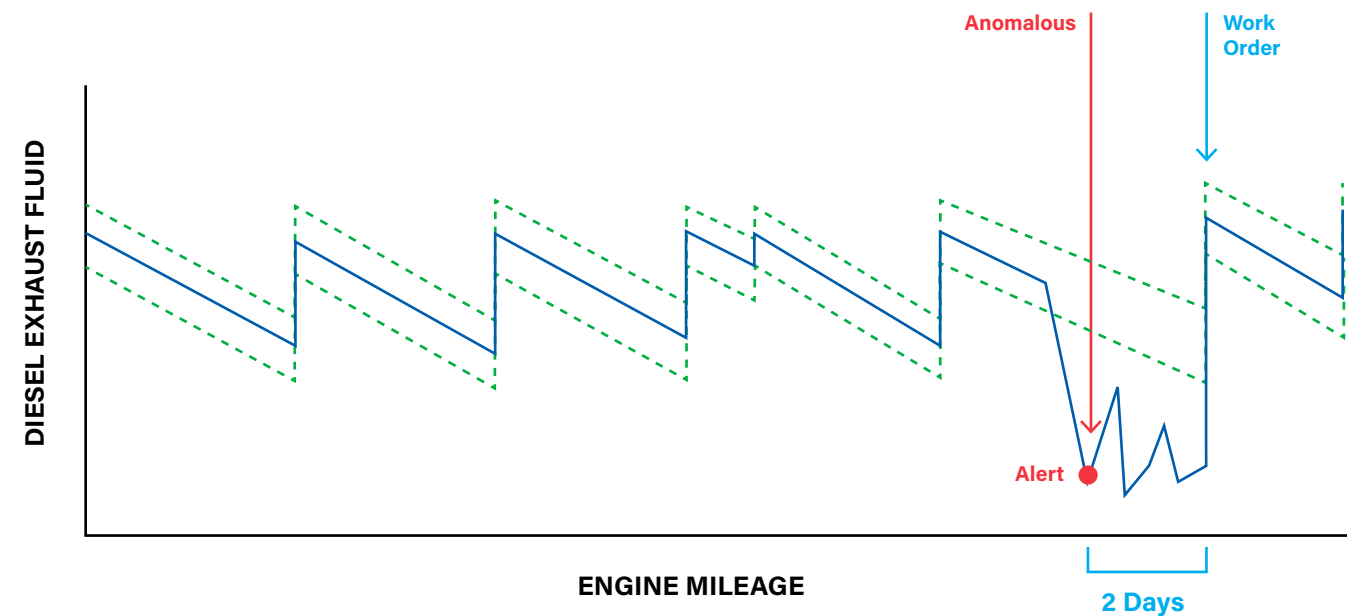
Using just two of our many predictive analytics engines, Failure Engine and Anomaly Detection Engine, Uptake was able to flag data abnormalities for two of the transportation company's assets across multiple asset subsystems.

— Data  
 - - - Uptake Failure Model Bands

## CATCH 1 DIESEL EXHAUST FLUID LEAK

Working with experts, Uptake data scientists implemented a failure model to determine acceptable ranges for diesel exhaust fluid (DEF). Like fuel, DEF typically decreases while driving at a semi-static rate, and is often refilled.

Uptake's failure model was able to catch a sudden decrease in DEF linked to a leak. The asset drove its route while leaking DEF for 2 days before its "check engine" light came on. It went into the maintenance shop, and the DEF sending unit was replaced. An alert from Uptake could have allowed for this repair 2 days sooner.

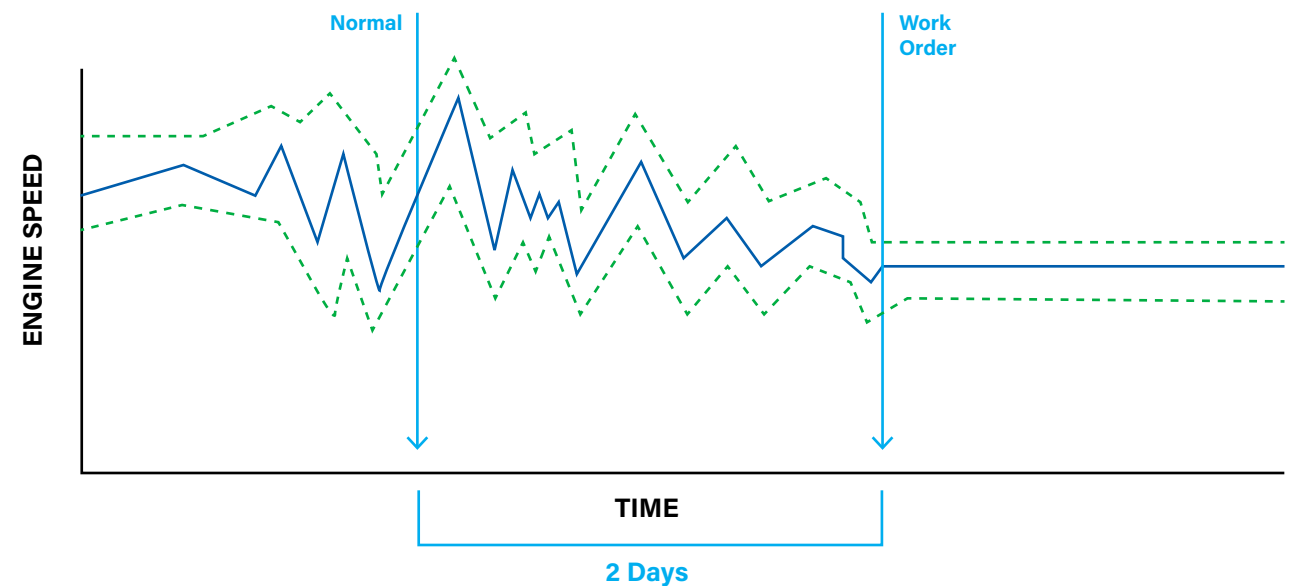
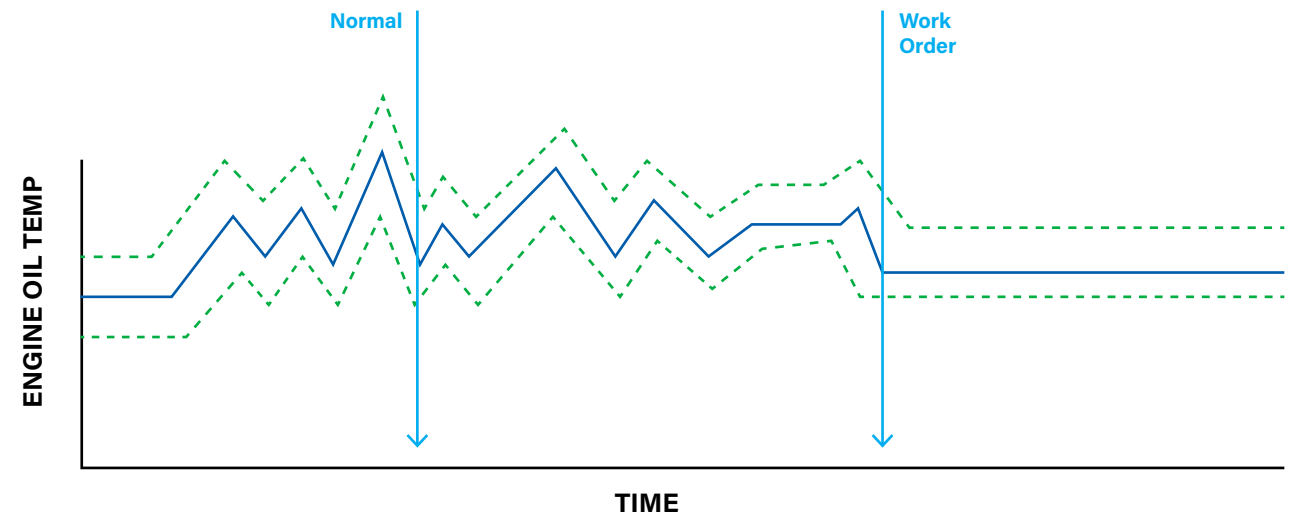
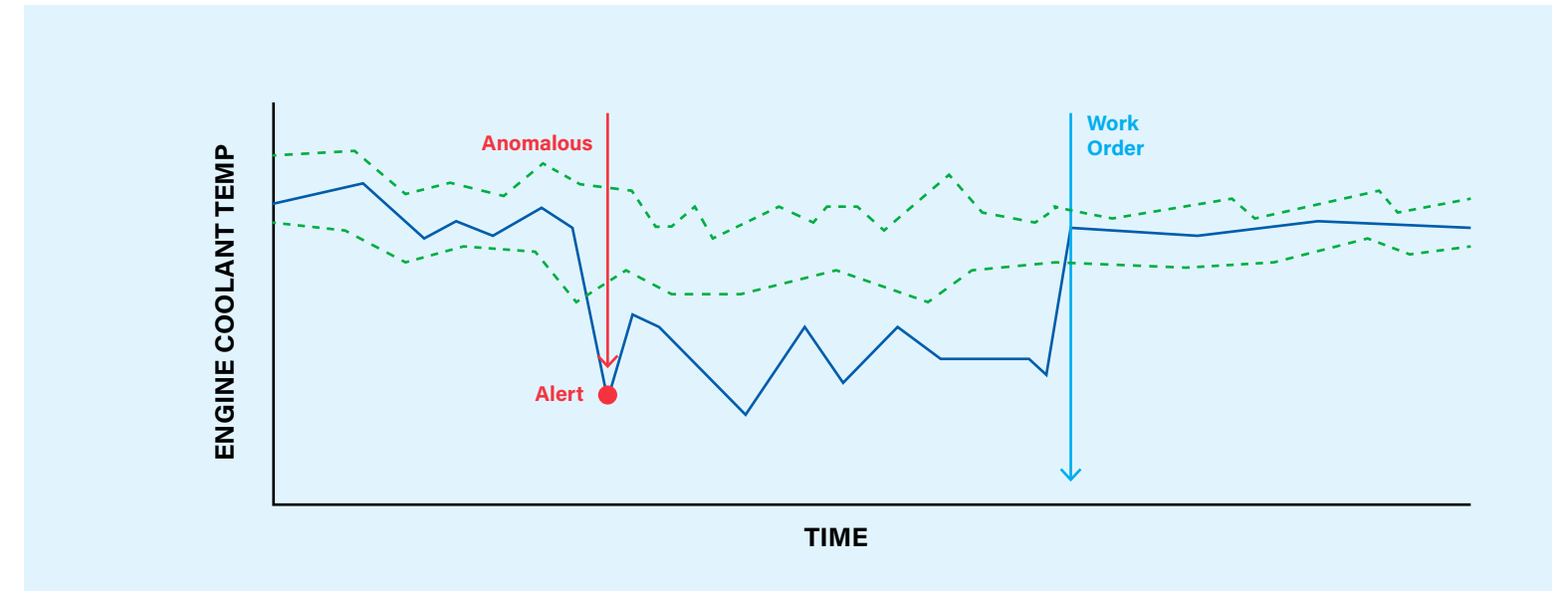


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## CATCH 2 COOLANT PROBLEM

Uptake's Anomaly Detection Engine goes beyond the capabilities of standard anomaly detection tools - it uses the values of other related signals (i.e., engine oil temp and engine speed) to predict the value of a given signal. If real-time data falls outside these prediction bounds, Uptake flags the signal as anomalous.

Uptake's Anomaly Detection Engine found a persistent deviation of an asset's engine coolant temperature outside the range expected from other related signals. A work order was created two days later, where it was found the asset had been driving with low coolant. An alert from Uptake would have surfaced this issue with 2 days of advance notice.



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