

## Beyond exceptions: fleets reaching new levels of business intelligence



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As chief information officer of Trans-System, Cory Staheli noticed employees spending a “tremendous amount of time” consuming and processing information.

Fleet managers and customer service reps (CSRs) were inundated by automated email reports and alerts. Many of the emails came with attached spreadsheets they had to open and find information.

The volume of emails and spreadsheets created a lot of “noise,” he says. Critical information was being missed, ignored or not dealt with in a timely manner.

Cheney, Wash.-based Trans-System is the parent company of carriers System Transport, TW Transport and James J. Williams. The combined fleet has 1,000 power units in flatbed, refrigerated, dry and liquid bulk operations, respectively, with a coverage area in the 11 Mountain States, Canada and Mexico.

Like many fleets, the company’s management systems were capturing and reporting exceptions, but the flow of information was not a picture of efficiency.

This article details a four-step process for going beyond management by exception to reach higher levels of business intelligence that empower workers to be more proactive and less reactive.

### Step 1: Consolidation

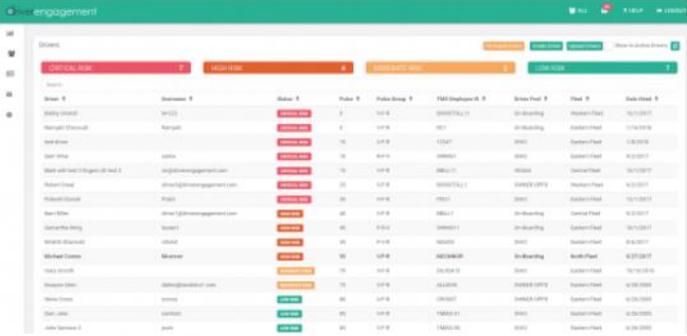
Transportation companies can easily be overwhelmed by data coming from multiple business systems. As a first step of business intelligence, fleets typically consolidate information into a single screen, or dashboard, for each user role.



Navajo Express is using the BlueTree telematics platform to manage its tractor and trailer assets from a single database.

Trans-System wanted to eliminate “FYI” messages and reports that fleet managers and CSRs were getting. The only information they now receive is that which they need to act on, Staheli explains.

To accomplish this, the company developed a custom application that consolidates alerts from multiple databases; gives employees a workflow to respond to each alert; and documents their actions.



The screenshot shows a web application interface for 'DriverEngagement'. It features a table with columns for 'Driver #', 'Carrier #', 'Driver 1', 'Driver 2', 'Driver Group #', 'FMI (Days/Week #)', 'Driver 1 #', 'Driver 2 #', and 'Date'. The table contains several rows of data, with some cells highlighted in red or orange, indicating sentiment levels. The interface also includes navigation buttons like 'Home', 'Alerts', and 'Reports' at the top.

DriverEngagement tracks the sentiment of drivers towards their carriers to identify those at risk of leaving.

Trans-System brings information from its [TMWSuite transportation management software](#) and from various third-party applications into a single screen. This screen is embedded in TMWSuite for users to have “one pane of glass to manage everything,” Staheli says.

Consolidation like this is also happening among [fleet management technologies](#) and applications that share a common database.

Orbcomm offers a portfolio of fleet tracking, monitoring and management systems. Recently the company acquired inthinc and Bluetree to add trucking vehicle telematics and ELD applications to its portfolio of trailer tracking and monitoring products for all types of equipment — dry van, refrigerated, tanker and intermodal chassis.

“Part of what we are bringing to the market is the ability to provide numerous customers with total capability under one umbrella and under a single platform,” says Christian Allred, senior vice president and general manager of global solutions sales for Orbcomm.

By bringing the different systems together, fleets with multiple equipment types across geographies can have all of their data “represented in single dashboard and platform,” he says.

Navajo Express, a Denver, Co.-based truckload carrier, uses BlueTree hardware and software for 1,000 tractors and for its newer trailers. It had previously installed Orbcomm trailer tracking products in its trailer fleet.

“We are benefiting from the acquisition of BlueTree by Orbcomm due to all of our units and data being housed in the same database now,” says Kyle Wallace, Navajo’s senior director of terminal networks.

Navajo uses the Orbcomm data to drive its business decisions for equipment performance, reefer trailer monitoring, customer selection and driver retention, he says.

Instead of relying on reports and being reactionary to key performance indicators (KPIs), users now have customized, easy-to-digest dashboards that give constant visibility of KPI's that drive their job functions, he says.

Customer selection comes into play when the data shows customers are keeping Navajo trailers for too long or using them for storage, Wallace says. Other KPIs let “our driver leaders know if a truck is coming due for service, if the driver has any safety issues that need to be addressed, or if follow-up training is needed.”

To help with driver retention, Navajo tracks drivers’ progress towards monthly incentives based on hitting certain KPI’s.

“By providing our end users with constant month-to-date data on these KPI’s we have found that driver happiness improves, retention improves and the number of drivers that attain their bonus monthly goes up,” Wallace explains. “By having visibility to our drivers on this level we can see if an individual driver is on track for a below-average performing pay period, analyze why that is and correct it before the driver is frustrated and quits to go to another carrier.”

## Step 2: Closing the loop

Besides presenting information in a consolidated view, transportation companies are using business intelligence to close the loop on exceptions.

Among the many exceptions Trans-System manages effectively are details missing from customer orders, detention events and mismatched reefer temperature settings. For these and other alerts, a “message broker” ensures that users see and act on timely information.

If a driver is detained at a customer, for example, the message broker sends a CSR a “pop-up message” to ask if the customer is going to be billed; and if so, for what amount? If the CSR is offline, the message broker alerts a designated manager, so action is not delayed.

VEHICLE IDENTIFICATION	HEALTH SCORE	SAFETY SCORE	
U018258 - EAGLE	28	25	⚠
UA003125 - VACTOR GUZZ...	0	50	⚠
CU7045 U002981	3	50	
UA003236 - HXX TANDEM	3	50	
U015913 HXX PD HV100 ...	53	50	⊖
UA018212 2100 CU352 U...	23	100	⚠
HX6072 UA018645,	23	100	
LV7091 UA020240	23	100	⚠
U021603 2100PD	23	100	⚠
U017138 2100PD CC DAN...	27	100	⚠
UB018183 HXX PD	28	100	
HX5051 U017495 VACTOR...	28	100	⚠
U017497 HXX PD 955140 ...	28	100	
U019607 HXX PD R81 PGC...	28	100	🚚
HX6092 UA018168	28	100	

« 1 2 3 4 5 6 7 ... 22 »

0 Critical Issue 10 Severe Issue 40 Maintenance Needed 75 No Repair Needed 100

TripVision, from Noregon, uses telematics data to identify vehicle health and safety risks with color-coded scores.

The application notifies management if alerts are not resolved quickly, such as time-sensitive temperature alerts when reefer settings do not match with customer orders.

The cost savings from the automated alerting system keep rolling in. The company's refrigerated carrier, TW Transport, has seen a reduction of cargo claims by 75 percent by proactively responding to exceptions, Staheli explains.

Driver satisfaction is another area where transportation companies are using new technology to create a better workflow.

DriverEngagement is an online platform focused on driver retention. Its functions are similar to those of customer relationship management (CRM) applications like Salesforce.com, explains Colin Ruskin, chief executive of the Toronto-based company.

The cloud-based platform tracks information about drivers to gauge their sentiment towards their carriers. It identifies drivers with high turnover risk, he explains.

DriverEngagement uses a mobile app for sharing news from the carrier and to provide drivers an open line of communication and feedback. If a driver uses the app to message a fleet about a detention event at a shipper, for instance, the software tracks the complaint and the response actions by management.

Fleets can use the software to establish processes for exceptions, or friction points, and track the actions taken such as contacting a shipper to improve turnaround times, he says.

The platform can also integrate with various third-party systems like onboard computing devices to automatically capture driver feedback from email and text messages.

DriverEngagement includes a rewards program. Fleets can simply upload a spreadsheet with points for drivers in various categories. The rewards program "is not automated yet but it definitely could be," he says, using third-party software integrations.



Spireon, a truck and trailer telematics provider, now has more than 200,000 assets in its network. With a critical mass of data the company is developing advanced analytics to predict events that are important to fleet maintenance and asset utilization.

### Step 3: Getting predictive

With most fleets using various Internet of Things devices in their vehicles to capture data and transmit it to servers in the cloud, business intelligence is transforming into machine learning and artificial intelligence.

Beyond reporting exceptions and visualizing data, new developments make it possible to predicting future events in time to positively change the outcome.

Fleet maintenance is on area where predictive intelligence has gained a foothold.

Noregon offers a stand-alone in-shop diagnostic and repair system, JPRO, and a real-time asset management system, TripVision. The latter applies predictive intelligence to vehicle and engine data captured by third-party telematics systems.

TripVision utilizes a color-coded system to illustrate the severity of collective faults on a vehicle. Users can examine which of their vehicles are in the orange or yellow zones and prevent those vehicles from entering a red zone (the most severe).

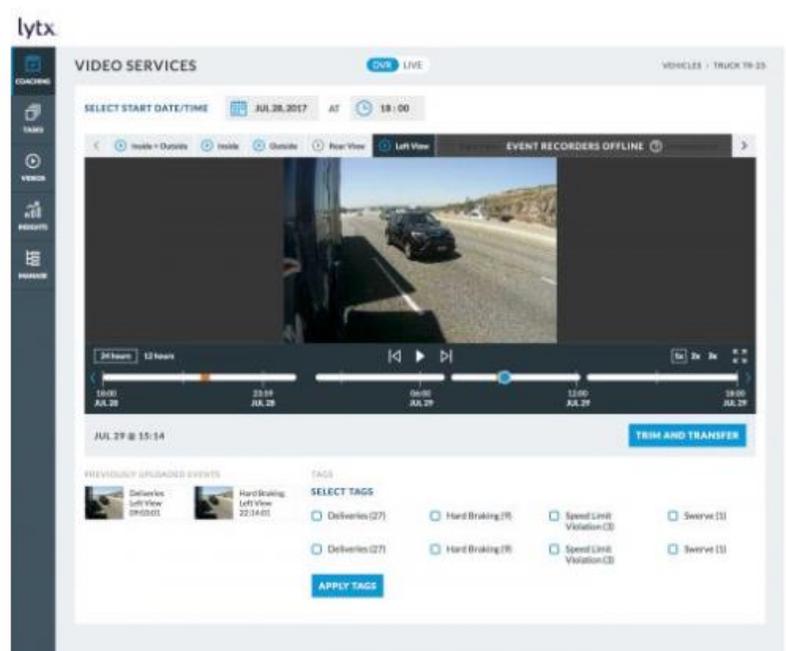
If a vehicle registers an SPN 111 code, for instance, TripVision would recommend the driver immediately stop and add coolant. Assuming other faults are not present, following the advice could upgrade the vehicle's severity level to green (least severe), says Dave Covington, chief technology officer of Noregon.

Predictive intelligence is also helping carriers find extra capacity in their networks and maximize asset utilization.

Spireon, a truck and trailer telematics provider, has more than 200,000 assets in its network. Having a critical mass of data is a precursor for using advanced analytics.

“There is a vast amount of data and history that we can dive into and look at what has happened in the past and what kind of trends we can find,” says Reza Hemmati, senior director of product management.

A cargo sensor on a trailer, for instance, detects empty and loaded status. Over time, fleets can use this and other data to predict when a trailer at a certain location will be empty or loaded and ready for pickup. Seasonal patterns, weather conditions and other variables can be included in the calculation, he says.



Video-based safety and telematics systems, such as the DriveCam program from Lytx, can find the behavioral root cause of safety events.

Spireon is working on new developments for predictive and condition-based asset maintenance, he says, by analyzing telematics data about equipment usage. Hemmati believes fleets will be using predictive insights to proactively replace any number of items such as brakes and light bulbs.

#### **Step 4: Attacking the root cause**

Video-based safety platforms continue to push the boundaries of fleet management beyond exception-based reporting.

Besides limiting the liability exposure fleets, the technology has gained broad acceptance for proactive, intervention-style coaching of drivers, says Dave Riordan, executive vice president and chief client officer of Lytx.

Without video event records and analytics, motor carriers are limited to using reports from telematics systems to stack-rank drivers for performance in areas like fuel economy and safety triggers such as speeding and hard braking, he explains.

Video-based safety and telematics systems, such as the DriveCam program from Lytx, can find the behavioral root cause of safety events such as the percentage of hard brakes caused by a distraction due to cell phone use or short following distances.

As part of the DriveCam program, Lytx calculates the collision probability for each type of risky behavior using its collective data. Overall, the stats show that 20 percent of drivers cause 80 percent of the collisions, he says.

Fleets can apply this Pareto ratio and take a proactive approach to lowering risk by targeting certain behaviors through mass communications, training and safety announcements, he says.

Video-based safety and analytics provider SmartDrive has a suite of decision-ready analytics and KPIs in its SmartIQ web interface. SmartIQ helps fleets proactively manage the performance of drivers and tailor coaching sessions to specific needs, says Slaven Slijivar, vice president of analytics.

The platform includes a SmartDrive Safety Score as a leading indicator for fleets to “objectively assess safe driving



SmartDrive's video-based safety platform uses a SmartDrive Safety Score as a leading indicator for fleets to assess safe driving performance.

Photo courtesy of SmartDrive.

performance and quickly pinpoint risky drivers,” he says.

“They can also drill into SmartIQ Driver Scorecards to see detailed data, highlighting which sites and/or drivers need help and with which specific behaviors such as distracted driving, speeding, following too close, hard braking, etc.,” he adds.

Fleet and safety managers can prioritize and customize coaching sessions for individual sites or drivers based on need, while also creating site-specific or fleet wide training based upon which behaviors are affecting a site or the fleet’s overall safety performance, he explains.

The advancement of business intelligence with predictive analytics, [machine learning](#) and [artificial intelligence](#) is paving the way for transportation companies to uproot problems before they develop.

[https://www.ccidigital.com/beyond-exceptions-fleets-reaching-new-levels-of-business-intelligence/?utm\\_source=daily&utm\\_medium=email&utm\\_content=06-13-2018&utm\\_campaign=Commercial%20Carrier%20Journal&ust\\_id=2e2aa47486a806a0fb21139160c9e553](https://www.ccidigital.com/beyond-exceptions-fleets-reaching-new-levels-of-business-intelligence/?utm_source=daily&utm_medium=email&utm_content=06-13-2018&utm_campaign=Commercial%20Carrier%20Journal&ust_id=2e2aa47486a806a0fb21139160c9e553)