Fleet Telematics Helps Virginia DOT Promote Social Distancing

An inventive use of geofencing means drivers check in automatically.

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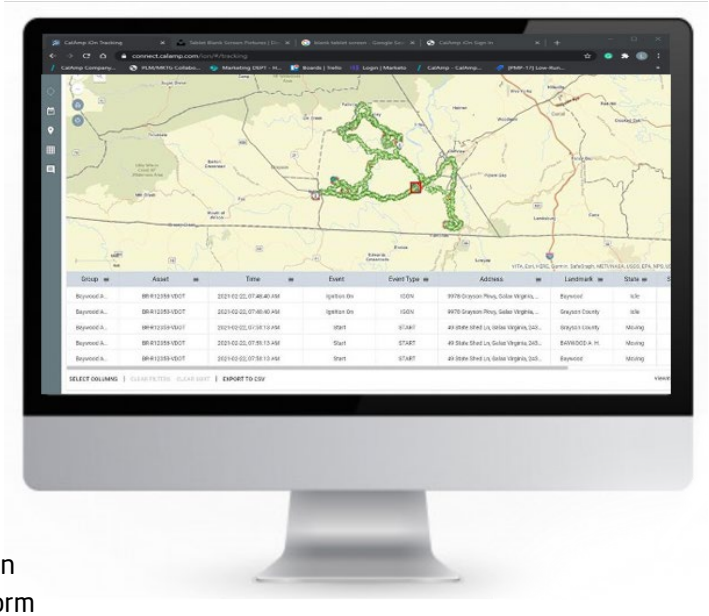

Picture a bone-chilling acre of paved lot in an area of Virginia prone to snow and ice. A storm is expected to hit in the next 18 to 24 hours. Trucks equipped with plows and graders converge from around the region, ready to begin anti-icing treatments or plow snow. Some are part of the Virginia Department of Transportation's owned fleet of approximately 4,000 vehicles. Most are among the nearly 8,000 contractor vehicles used to supplement the owned fleet.

Once upon a time, before COVID-19, VDOT staffers would wait in the parking lot with a list of the expected vehicles on a clipboard. As each truck arrived, a staffer would check it off against the list. The same check-in procedure would unfold across each of VDOT's nine districts as maintenance units were called in.

With the pandemic, VDOT Maintenance Department's Severe Weather Team knew the process needed to change. The team devised an inventive way to use CalAmp iOn's geofencing feature so drivers could stay snug in their vehicles and supervisors could remain tucked away in the office.

While geofencing is commonly used to make sure drivers don't spend time outside of their designated routes or areas, in this case, geofences were set up around each district's headquarters. VDOT staff can now monitor the geofence events page from their computer and "see" vehicles arriving. The events page refreshes in real time.

"In iOn, it's easy for us to see that a contractor entered the lot at 9:55 a.m. Supervisors then have the confirmed information they need to continue that check-in process in our own internal systems and get the contractor on the road," said A.J. Younes, emergency operations coordinator for the Commonwealth of Virginia.

"In the pandemic era, standards for safety are higher than ever," said Jeff Clark, senior vice president of product management at CalAmp. "The VDOT Severe Weather Team's innovative use of geofencing to support the safety of its personnel is an inspiring example of the role technology can play in departmental operations."

The contactless check-in process will continue to provide value even after social distancing restrictions are lifted. It's faster and more efficient, and staffers don't have to brave icy winds or risks slips and falls to do their jobs.

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Accountability for taxpayer resources

Monitoring contractors and ensuring they're paid accurately for work performed helps VDOT ensure that taxpayer dollars are spent responsibly. Touchless timecards enabled by geofencing assist in these efforts.

"Once you enter the geofence, you're on the clock and working," said Brandy Borja, emergency operations analyst on the Severe Weather Team.

CalAmp's track-and-trace solution also helps the team keep tabs on trucks when they're on the road by providing complete visibility into every vehicle.

"We want to make sure the people we pay to push snow for us are actually doing what they're supposed to be doing and are paid properly," Borja said.

Even before the storm hits, VDOT will pull device communication reports from CalAmp for each contractor vehicle to ensure the telematics devices are reporting. If during the storm the device shows a truck isn't moving, VDOT officials may choose to investigate. A manager can reach out to find out if the truck is stuck in traffic or having a mechanical issue or if the driver is taking a break.

Using an API (Application Programming Interface) that allows VDOT's internal application to communicate with iOn, managers can also pull reports on individual trucks and see what percentage of time the truck was moving while the operator was working his route. The minimum percentage stipulated by contract is 65%. In the past, the team had no way of knowing whether drivers hit that mark.

Now, explained Borja, "If we say, you need to go push from 10:00 to 2:00, we put that in our system. That API calls iOn and says, 'Was this truck moving, and what percent of time was it moving from 10:00 to 2:00?" If the contractor was not moving 65% of the time, said Borja, "we have to do some research."

There's a sense among the contractors that they're being held to a higher level of accountability, Borja noted. "It makes them a little more mindful of their Ps and Qs."

In the past, VDOT tracked vehicles only during the winter. Now, thanks to the ease of use of CalAmp's solution, the department tracks contractor vehicles year-round.

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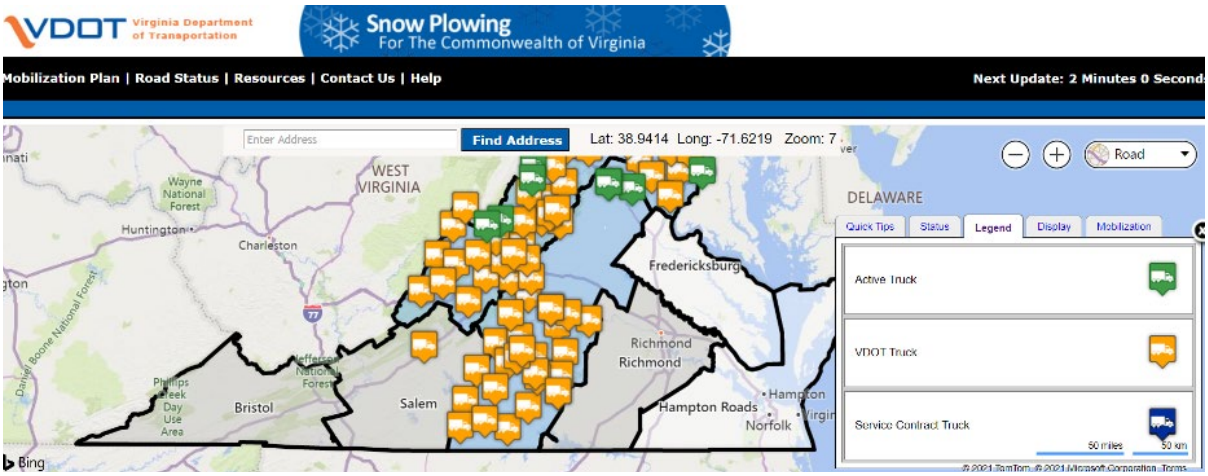

More efficient inspections

Vendors vehicles must be inspected by VDOT in addition to state inspections. Four of VDOT's districts now use CalAmp iOn to speed these inspections.

The old way: Administrators printed out a paper form to take along when they inspected vehicles and then manually input the information into the Severe Weather Application System back in the office. With the iOn app, said Borja, "Administrators go out to the site, or the contractor comes to them, and they just click through the forms in the app. They can put pictures in the form, too. Once they hit submit, they're done."

Inspectors don't need to be connected to the internet to use the app. "A lot of our areas lack internet," Borja said. "That was a huge issue with other systems we've used."

Because the information is stored in the cloud, the Severe Weather Team can pull data at any time. They can verify for districts that inspections have been completed and use the data for audits.

A public view of plows

During a larger snowstorm, it's inevitable that some of Virginia's 8.5 million residents will want to know when their street will be cleared of snow. In 2018, VDOT launched an online snow plow map. When a snowstorm hits, the map is activated. The Severe Weather Application System pulls data from CalAmp iOn to provide a view of every deployed vehicle. Residents can type in their address to see whether a plow has been assigned to their area and track its progress. The map is updated every five minutes.

"Our trucks will show up on the map, and the public can see where our forces are and where they're moving," said Borja.

Whether it's by supplying data to feed a public-facing snow plow website or enabling internal visibility into the whereabouts and actions of contractor vehicles, telematics technology is the key that unlocks countless use cases and efficiencies.

"Municipalities know they must continually earn the public's trust," said Clark. "The data provided by CalAmp's comprehensive track-and-trace solution helps customers such as VDOT give residents the information they crave and know that they're using precious taxpayer resources wisely."

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