



Industry
Municipal government

Location
Dubuque, Iowa, United States

Focus
Public safety
Data collection
Camera integration

Solution
• CTM-ONE device
• Cypress VUE

Category
Fleet management

Dubuque County enhances community safety with public portal for fleet management

Dubuque County is located in Northeastern Iowa and is home to a population of 99,266 citizens. The County needed a complete automatic vehicle location (AVL) solution to collect data, improve efficiency and support citizens in monitoring local road conditions. After a successful pilot program during the summer of 2020, the County selected a system from Cypress Solutions. Now, Dubuque County is leveraging fleet telematics technology to understand vehicle data in real-time and increase public safety through a resident public portal for tracking road conditions online.

The Challenge: Seeking a reliable, affordable solution provider

Having a competent, reliable, and scalable solution that meets the needs of Dubuque County and its entire fleet can be a challenging assignment for a county of its size. However, this was one of the major goals that the Board of Supervisors, the Department of Information Technology (IT), and the County Engineers aimed to achieve. In prior years, the County worked with a previous contractor. However, the results did not live up to expectations. Much of the fleet data was either not available in real-time or incomplete. Without accurate real-time telematics data, the County struggled to draw meaningful information to make better decisions for public use.



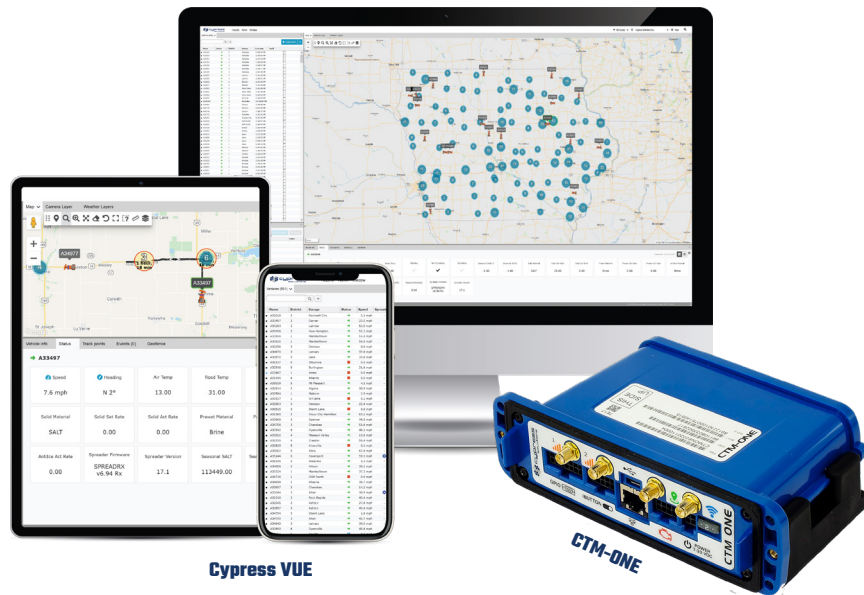
"We got approved for the pilot project in January 2020. The system was installed on four County vehicles – two snowplows, a motor grader, and a pickup truck. One of our main objectives is accountability to our residents for snow removal – we needed to track the County vehicles to monitor the snow route completion and share that information publicly with our residents. However, our solution does not purely focus on winter operations. It is a year-round data-gathering system to help our engineers make better decisions. We needed a system built on modern, advanced technology," comments Nathan Gilmore, IT Director of Dubuque County.

The pilot program solution included the CTM-ONE wireless gateway, and Cypress VUE fleet telematics platform. "Our top criteria were the ease of installation, how easy it is for our truck mechanics to troubleshoot and provide resolutions in-house without having to rely on our vendor. Equally important, the solution should help relieve the operational burden for our department. We were looking for a rugged, reliable, and robust device. For the software, we needed it to be web-based, fully hosted, no flash, and has simple licensing." Nathan Gilmore shared his objectives.

Nathan says he selected Cypress Solutions because it checked off all criteria in the boxes, including the fact that the complete solution is financially affordable.

The Solution: Leveraging the CTM-ONE device and Cypress VUE telematics

The answer to this complex challenge is an integrated hardware and software solution from Cypress Solutions. Once the device is installed in the vehicle, the data is transmitted via the CTM-ONE wireless gateway. Consequently, Cypress VUE processes the data quickly for display on a single dashboard. Information on the different types of County vehicles is available for access and analysis from a desktop, tablet, or smartphone. For example, snowplows data such as whether the blade is up or down, or when and where the salt spreader is turned on, is available in real-time in Cypress VUE.



Dubuque County is also looking forward to utilizing additional Cypress VUE features:

- Geofences – setting up event rules to create customized alerts
- Advanced reporting – take advantage of various report types including diagnostics, fleet operations within geofences, and winter operations (plow down, spreader on).

In-truck camera application for public portal

A unique component of the solution is the CTM-ONE in-truck camera application. The majority of the County vehicles are equipped with a camera mounted to the dash or top of the cab. Videos are recorded locally and are stored in the SD card of the camera.

“At each minute interval, photos are also captured and they are sent to our local servers. Cypress VUE will consequently retrieve the photos there. The photos will then be available to our residents for access via the County public portal. Now, our residents have a good idea of how the road conditions look like before they travel. Similarly, in the winter time, if we hear about a road not being plowed, we can check that scenario and see where the operator is.” said Nathan Gilmore.



Image: camera mounted in-cab of a Dubuque County snowplow

The Result: Increased accuracy in operations

Because the pilot program was a huge success, Dubuque County debuted the public portal in Fall 2021, where 38 county vehicles are now equipped with the fleet telematics solution.

“The software and hardware work seamlessly together. Over the course of the pilot program, the device, the platform and the data works. Our mechanic crews were able to handle arising issues without too much hassle. Once it was up

and running, we were good. " comments Nathan Gilmore.

Throughout the pilot program, the Cypress Solutions team was available to assist with the installations and provided on-site training. When it came to the actual execution of the solution, Nathan and his team implemented the installs themselves without a single problem.

Nathan also mentioned that "the solution is easy to use. Most importantly, we are able to provide responsive and accurate feedback to our residents as events happen in real-time. It really is a win-win situation for everyone."

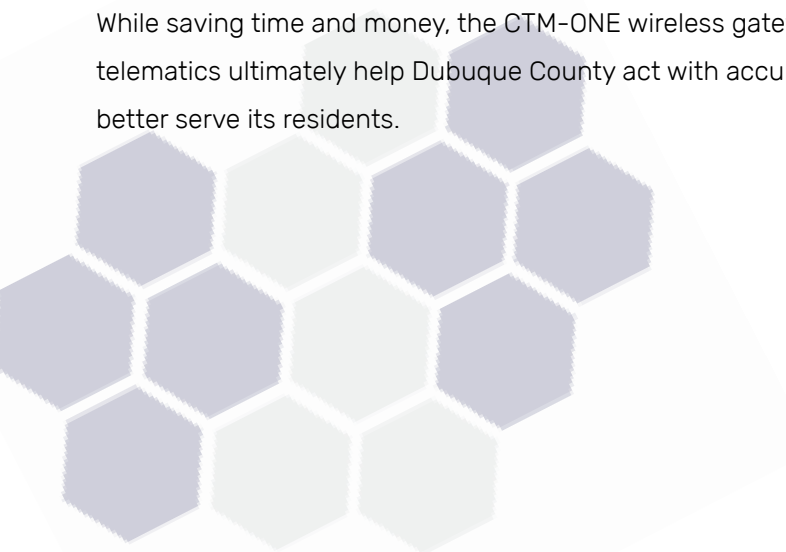
What's next

Dubuque County is looking forward to begin phase two of the project, where the objective is to have the installed in-truck cameras offload the recorded videos automatically over the County's robust Wi-Fi network.

"Our next task would be process optimization. How do we get your solution to communicate to our Wi-Fi when it comes in range? This would eliminate our need to go to the trucks every time an incident happens. This project would fall into our video management system in 2022."

In addition, as the solution is scalable, it may be time for other County departments to take AVL into further consideration. "I am extremely happy that the system works all the time. In the County, we have the conservation, maintenance, and sheriff departments as well. Therefore, it is only a matter of time that we can do all of the training in-house and have this rolled out across other departments if they were to have a need for it!"

While saving time and money, the CTM-ONE wireless gateway and Cypress VUE telematics ultimately help Dubuque County act with accurate, meaningful data to better serve its residents.



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