Source: Arapahoe County, CO, Road and Bridge Dept.

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🏆 WINNER: MOBILE APP TRACKS POTHOLES AND PATCHES

Potholes, cracks, bumps, and icy roads…all complaints that used to inundate the Arapahoe County, CO, Road and Bridge Department. "In winter months, we get as many as 30 calls a day from residents," said Paving Supervisor Keith Runyan. "It was difficult to track." Staying organized and on top of the reports is essential since the county requires workers to respond and take action within 72 hours.

When Runyan joined the Road and Bridge Department 6 years ago, there was limited coordination with the GIS Mapping Department. That changed once Runyan realized the asset that could be created if the two departments worked together. "I just started exploring other departments and started seeing what technologies they had available," he said. Runyan's curiosity paid off with the creation of the Pavement Repair Tracking Software App that offers access to crucial job information in real time.

"Before this solution, we just had a running list of names and addresses. Now I can see everything on a map. It's so much easier to manage the workloads and put together daily, weekly, and even monthly work plans when you can look at it in a visual way rather than just in a spreadsheet. This powerful tracking system gives me the ability to identify work with status-indicating icons and details about the work. We can even attach photos. I used ASTM D6433 (a standard for assessing pavement defects) and created icons to match up with the type of pavement defect. For example, small alligators

represent alligator cracks. This made it easier. I didn't want to look at a dot on the map and wonder 'what is this?'" said Runyan.

Crews can now monitor upcoming and completed pothole and major patch work on desktop computers and mobile devices. The app provides real-time map data viewing and collection anywhere in the county, while in the office or in the field. Multiple people can edit the system at the same time and data are exportable, so the information can be viewed in a map or a spreadsheet format.

The app gives supervisors the ability to go out in the field, get information for the team, and then easily prioritize projects. That way, crews know what they are going to see before they get there. They can determine the best repair method ahead of time and arrive prepared.

Because the app uses GIS data, there are more than 20 layers that track each category of information and can be turned on or off to simplify viewing or give multiple perspectives. In fact, the app is so beneficial, its use has spread to other departments.

How can another agency create a similar app? "The average GIS person can do whatever you want, but they don't know what you want," said Runyan. "You've got to be able to communicate that to them." Runyan is happy to speak with any transportation personnel who would like to learn from his experience.
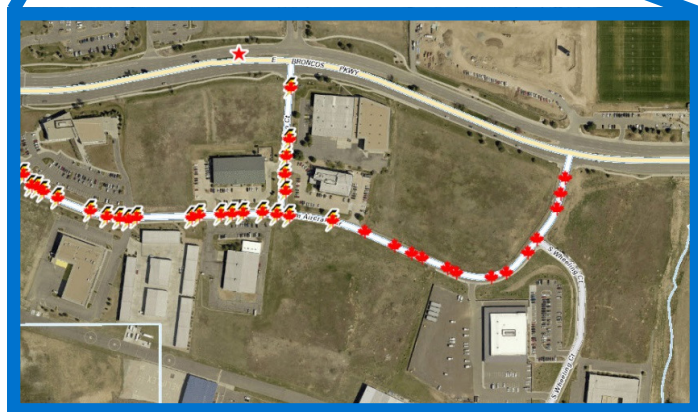
"Don't be afraid to try new things," he said. "It helps us stay ahead of the curve."
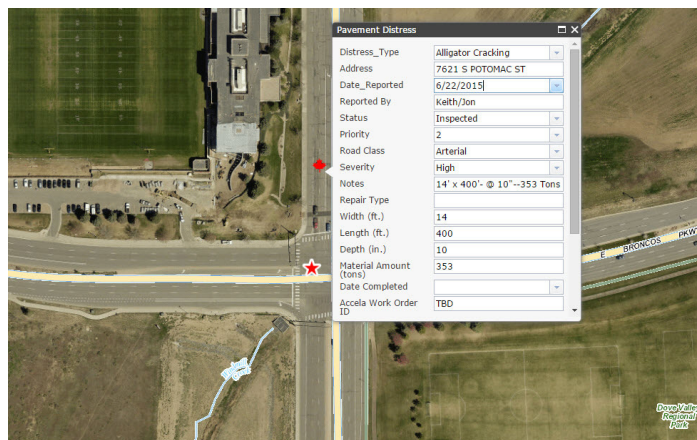
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For more information contact:

State: Colorado
Local Agency: Arapahoe County-Road and Bridge Department
Name: Keith Runyan
Position: Paving Supervisor
Telephone: 720-874-6821
Email: krunyan@arapahoegov.com