E-Ticketing:

Replacing the Paper Ticket

By Richard Willis, Ph.D.

Technology. I'm not sure any word in the English language brings more hope and simultaneously more dread than this one word. It brings hope because people think it will make things easier, relieve burdens, and open opportunities. On the other hand, changes in technology also bring implementation struggles and uncertainty in security.

I remember the first time that I opened my Sam's Club app and I thought, "What is scan and go?" But as a father of three kids, it became the most glorious thing because I could (1) know exactly how I was spending as I added huge quantities of paper towels and coffee to my cart, (2) never have to stand in line at a check-out again, and (3) make what used to be a grueling hour of a Saturday afternoon now a 20-minute dash trip to a store. On the other hand, I have seen people frozen in fear when they realize that the self-checkout is the only option at the local grocery store.

As my daughter calls it, "the virus" has changed a lot of things about the way we do business, and some of the changes I am sure most people will be happy to let go by the wayside one day if possible. However, this unique set of circumstances has also given industry an opportunity to collaborate with agencies to implement something that has the potential to revolutionize the way we do business: e-ticketing. For years, some states have been doing pilot projects and experiments on how to start implementing this technology, but with the onset of "the virus," handing paper tickets through the windows of truck cabs was no longer a palatable option. Numerous states began trying to figure out how to move forward.

This is a time when industry and agencies should work together to figure out first and foremost the answer to the question, "How do I replace the paper ticket?" I'm not talking about fleet management or GPS tracking of trucks. I just want to replace the paper ticket. When we ask that simple question, e-ticketing is that solution. No longer will you have to worry about someone losing a paper ticket on the way to a jobsite. Ink washouts will be a thing of the past, and you can start saving money and space by no longer having to store paper tickets for years upon years in case of an audit. Oh, and you no longer need someone on the job next to trucks collecting tickets.

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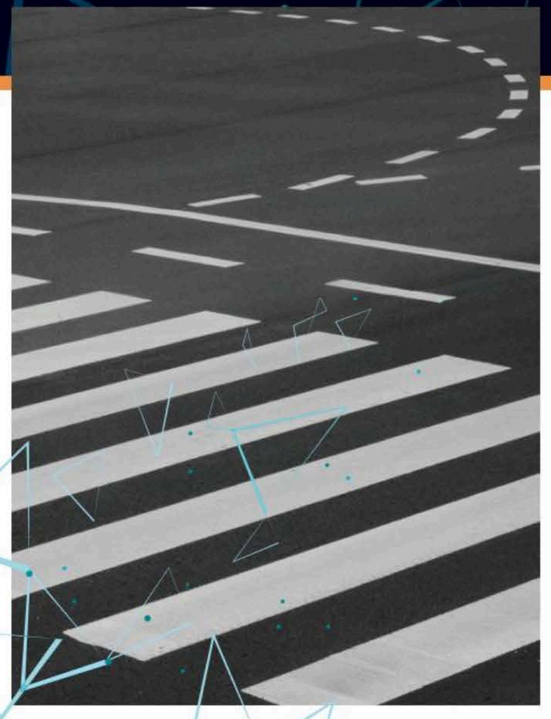
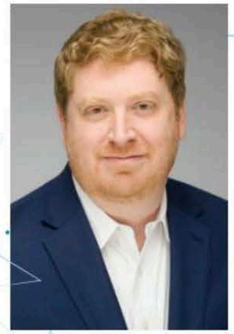
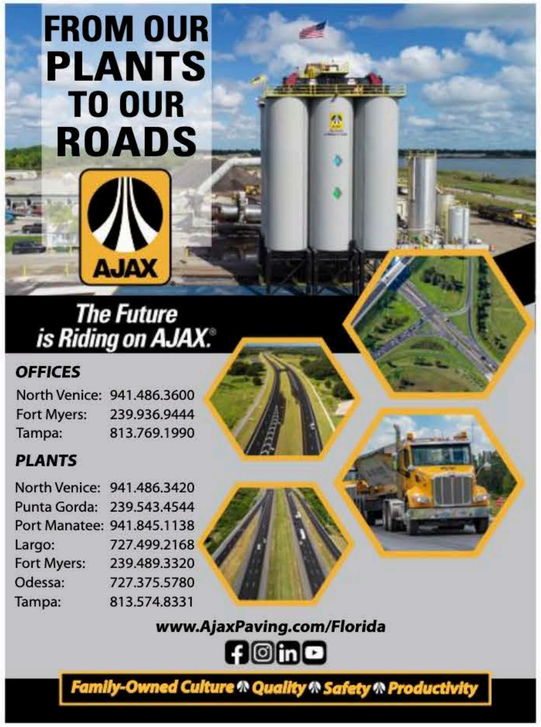
E-ticketing is not without its implementation challenges though. Contractors need to look at vendor options or decide if they want to build out their own system. There are concerns about data safety due to ransomware and other cyberthreats. Just like most technology, there are growing pains, but as we move through those pains and eventually overcome them, the benefits can be incredible.

The Code of Federal Regulations (CFR) requires that tickets be used to validate payment for material quantities (23 CFR635.123) and to ensure project quality (23 CFR 637). There is nothing in the CFR that would prevent states and other agencies from using this technology on federally funded projects. In fact, the Federal Highway Administration will begin launching Every Day Counts 6 later this year. As part of that effort, one of the focus areas is "Digital As-builts," which includes a specific focus on e-ticketing. This will aid states and industry on the implementation and deployment of this type of technology and provide us with a unique opportunity to work with states and develop standards that make sense.



Together, we can answer questions such as, "What should be on the ticket?," "What are the potential ramifications if bread crumbing (GPS tracking of trucks) is required?," and "How do we ensure this implementation is as simple as possible for both the contractor AND the agency?"

Change can be scary, but the past few months have shown us that change doesn't have to be bad. The key to removing fear from change and technology is to integrate yourself into the process. Be at the table when decisions are being made so you can lend your voice and learn. E-ticketing is coming, so as an industry, let's prepare to reap the safety, recordkeeping, and efficiency benefits that come with it.



As Vice President for Engineering, Research, & Technology, Richard Willis, Ph.D., serves as the NAPA expert on mix design, recycled materials, life-cycle cost analysis, and pavement design. He serves as the staff liaison for NAPA's Committee for Asphalt Research and Technology and Council for Engineering, Research, and Sustainability as well as being a co-host of NAPA's "Pave it Black" podcast.