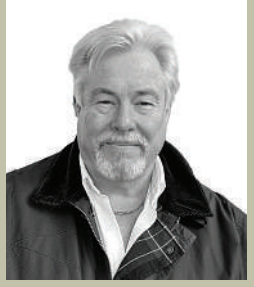

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Mobile mapping (or moving 'Trainers off Tarmac')

Andy Beckerson explores the potential perils for those employed on our highways, and at the opportunities technology offers for both safer and more rewarding working

There is a term employed in the rail industry that describes one of the best ways of safeguarding a mobile workforce - 'Getting Boots off Ballast'. As the term implies, it's about keeping workers from the hostile and potentially dangerous environment of the railway track. If you have ever worked in the industry you will understand exactly why we should be persevering with this goal. However, at least you know that 99% of the time a train will stay on the track so you know exactly where it's going!

Risky business

Vehicles travelling on our roads are a somewhat different proposition. Generally there are more people involved in geospatial work on our roads than on our rail network and, without tracks, a moments loss of concentration by a driver could easily result in serious injury or worse to those working on the edge of the carriageway. I am not, for one moment, saying that the road is more dangerous than rail to work on: they are both dangerous and rightly regulated, but as roads are generally easier to access than rail, sometimes more risks are taken.

So while the rail industry is working towards 'Boots off Ballast', maybe in the geospatial industry we should be doing our bit to remove 'Trainers off Tarmac'.

This is one area where mobile mapping, or mobile data collection, has not had the press it deserves. Mobile data collection has been around for many years as a means of measuring carriageway condition, cracking and rutting. Today, technological development means that mobile mapping is also used for carriageway surveying, underground utility mapping, asset mapping and even measuring the reflectivity of white lines.

When most of us think of mobile data collection we think of speed, productivity, ease of collection, accuracy, capturing of video, point clouds and images, but do we consider that we are removing the geospatial worker from what is a potentially dangerous environment? It's not only dangerous, but working on, or near the carriageway is not particularly pleasant either. If you were selling our industry to the young people of today you might talk of green fields, open air, maybe even a healthy outdoor lifestyle. The reality is somewhat different; diesel fumes, inattentive drivers, road spray in bad weather and the ever inquisitive public are just some of the day-to-day challenges of working on or in the vicinity of the highway.

Opportunities

I would also comment that, with the lower cost and increased usability of the systems that are now becoming available, for example Trimble's MX7, mobile mapping surveys are no longer restricted to specialist service providers. Opportunities for mobile asset management are becoming more widespread, simply because the cost to collect each point has been significantly lowered.

These developments also open up the possibility for geospatial experts to be involved in the potentially more rewarding role of deciding what the data tells us, which in turn leads to becoming more consultative with the customer so that, rather than being seen as just a company that collects and processes survey data, you become much more a part of your customers' business. This 'partnership' effectively means you are harder to replace and secures the relationship with your customer, something I have written about in an earlier column, 'Getting Closer to your Customer's Customer'.

Trimble's vehicle-mounted MX series spatial imaging systems (top left and right) combine high resolution laser scanning and precise positioning to collect geo-referenced point clouds for a wide range of requirements. Lower picture: Health and safety was a key factor in the London Borough of Merton's use of Trimble's MX2 mobile mapping system to acquire data relating to 380km of roads. Once captured, the data was checked and transferred into the Council's existing asset management system.

So mobile data collection, or mobile mapping if you prefer, should perhaps be viewed in a different light. If the geospatial workflow is described as Collect, Process, Model and Analyse then, by automating the data collection and processing segments, geospatial experts can use their skill sets in the Model and Analyse phases. In this way, we can not only make part of our industry a safer place to work but also provide a more pleasant work environment. It means that, rather than concentrating on data collection, we can remove 'Trainers from the Tarmac' and make our industry more rewarding, interesting and profitable.