

CUSTOMER Derbyshire County Council **PROJECT** County wide asset data collection

SOLUTION Trimble MX7 Mobile Mapping System and KOREC Portal

CASE STUDY

Establishing a 'single source of truth'



How Derbyshire County Council is successfully implementing a mobile mapping strategy allowing it to take full control of all its asset data capture and analysis.

Asset management is all about understanding a range of assets - from roads and pavements to drains and road signs - and then using this information to prioritise how they can be looked after in the most efficient and cost-effective way.

Derbyshire County Council is responsible for the maintenance of the county's approximate 5,000km of highway network. Its Transport Data and Analysis Team monitors the vehicular, pedestrian, cycling and equestrian movements across this network. This team forms part of the Highway's Strategy Team which are also responsible for analysing this data to provide intelligence for the design of new schemes and the assessment of maintenance and safety levels etc across the network.

However, data relating to some highway infrastructure assets had not been maintained and it was inevitable that this lack of up to date and accurate information across the county would impact future plans. It was therefore imperative for the council to address immediately the need for a full current asset inventory.

Taking Control

Supporting the Transport and Data Analysis Team's data led approach is Dean Findlay, the team's Project Engineer and GIS specialist. Under Dean and his colleague's guidance, it was decided that the best way of managing assets and creating a resource that could be used across departments time and time again would be by taking complete control of the collection of asset information. They therefore researched the different methods available to them including LiDAR and mobile mapping.

LiDAR's centimetre accuracy was dismissed as providing more than the sub-metre required for asset positioning and therefore a tender was put together for a mobile mapping system that would meet the team's criteria for accuracy, ease of use and reliability.

Trimble MX7/KOREC Portal benefits

1. Total control over data capture and the flexibility to carry out a mobile mapping survey, as and when required, based on the council's road hierarchy

2. No need for costly traffic management or delays to road users

3. Datasets can be captured once and used many times over for multiple applications

4. Avoidance of clashing works – everyone is working from the 'single source of truth' rather than disparate datasets

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Taking control



Scoring highly in these areas was a Trimble MX7 Mobile Mapping system supplied by Trimble's UK distributor KOREC. This was consequently purchased along with KOREC's cloud-based portal for the management, sharing and analysis of the collected data. Using a secure cloud-based portal would also have minimal impact on the council's IT department with no additional software/hardware outlays required.

Overall, it was felt that ownership of a system, rather than collecting data through a contractor, would provide the full control that Dean and his team believed would work best for the council. This would allow them to survey chosen routes as and when they wished.

The Trimble MX7

The Trimble MX7 is a mobile imaging rover that has been designed to provide a fast and cost-effective way to manage assets with geo-referenced images. It can be mounted onto a vehicle in a matter of minutes and equipped with six 5 megapixel cameras, GNSS and inertial geo-referencing modules, the MX7 can be deployed on vehicles of all sizes letting Derbyshire County Council capture 30 MP geo-referenced images at highway speeds. Providing better than half-metre accuracy and with straight forward operation, it's extremely easy to use by a single operator which allowed asset data collection to continue under COVID restrictions.

Project planning and workflows

As project engineer, Dean defined the workflow for the project and prioritised the routes for the MX7's driver based

on a pre-defined road hierarchy according to usage. Each survey route would usually include two to three larger roads, or ten smaller ones which



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> Dean Findlay Project Engineer and GIS specialist

5. Ability to create rich deliverables and respond quickly to requests from other departments for datasets, cutting down waiting times from weeks to days or hours.

6. KOREC Portal ensures easy viewing and sharing of data

7. Potential for extensive future development

would then be driven in both directions during the day and according to weather conditions, for example, avoiding heavy rain and flooding. Back at the office, the collected data is downloaded and processed ready for analysis and sharing immediately within the KOREC portal. Repeat surveys will also be undertaken for change analysis where new assets have been added or removed and for other purposes such a flood mapping, collecting data on new estates and recording before and after city regeneration data.

Portal brings flexibility

Initially, the KOREC cloud-based portal was regarded as just a useful tool with which to view and share the MX7 video footage. Access to the portal could be granted to any number of approved users who could then benefit from viewing accurate and current asset information. However, Dean was quick to realise that the portal's functionality could be exploited in many different ways. In particular, the portal allows for the digitisation of data from anywhere using the web browser rather than pre-installed TMX software installed on two office-based laptops (especially useful during COVID restrictions). This has vastly speeded up the digitisation process.

Additionally, the portal can be used to present information in a clear informative way using pie charts and graphs etc as well as for viewing the collected stills and video footage. Basic measurement can also be undertaken in the portal.

Using the data

With 1000km of road already surveyed, the MX7 and portal are starting to bring noticeable benefits across the council's departments. Video footage has been trialled by team members within the traffic safety team who find that it has reduced the number of site visits they need to undertake knowing that the MX7 information they have is accurate and current.

Dean reports that it's also become far easier to supply other departments with requested data sets that previously would have required a field survey. Now, depending on the type of request, information can be supplied in hours or days rather than weeks.

Dean concludes, "Having easy access to 'a single source of truth' dataset opens up many opportunities across the council. Information is current and reliable and that increases efficiency as well as opening up many more potential applications to use the same data over and over again. KOREC has been extremely receptive to our needs and are proactively working with us to further develop the portal."

CONTACT US

Please do get in touch for further information on any of the products or services mentioned in this case study, a demonstration, support or just a chat about your requirements.

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The Trimble MX7 system can be easily mounted on to the Derbyshire County Council van