

Case Study

Customer:

Academy Geomatics

Project:

Capturing survey grade data on a busy A road

Solution:

KOREC Professional Services using the Trimble MX9



MX9 - Addressing critical health & safety implications for a complex road survey

For Gateshead based Academy Geomatics, the mobile mapping service provided by KOREC Professional Services has transformed the methods and speeds with which it can capture survey grade data on busy road networks.

Learn Lane is an 'A' class road running at National Speed Limit (70mph) and a part of a major route between Durham and the Tyne Tunnel on the east coast. It's recently been the site of a major highways improvement scheme that was delivered on schedule and on budget. Further improvements are ongoing and consequently the multi-disciplinary survey practice, Academy Geomatics, was recently contracted to undertake a topographical survey of a 3.5km stretch of the carriageway.

For Academy Geomatics Director, Anthony Lawton, the project presented a number of concerns common to many road schemes. These included:

- Health and Safety - Anthony's main concern was for the safety of his surveyors and finding a solution that would keep them remote from moving traffic was a priority.
- Complexity of the job - the survey involved flyovers, slip roads, footbridges and multiple junctions.

- Limited site access - due to the splitting of the carriageways etc.
- High traffic levels - the route was rarely quiet
- Cost to the client - a survey of this nature, using GNSS or optical instruments, would take around 20 days.
- Disruption to road users - if traditional techniques were used, the job would require lane closures and traffic management delaying road users.

As a long-standing user of Trimble technology, Anthony was aware of both the new Trimble MX9 Mobile Mapping system and KOREC Professional Services which specialises in collecting and processing high quality mobile mapping data using the MX9. The vehicle mounted system collects dense point cloud data along with 360° immersive georeferenced imagery using an industry-leading spherical camera, GNSS/INS technology and

dual-head laser scanning sensors. The dual headed lasers are capable of capturing 2,000,000 points per second in a single pass providing optimum coverage and detail with a regular scan pattern both of which are fundamental to the MX9's ability to generate the highly detailed point cloud required for Academy's topographic survey.

Carrying out the survey

To achieve the highest absolute accuracy, KOREC recommended the use of Ground Control Points (GCP) at every 200m for this

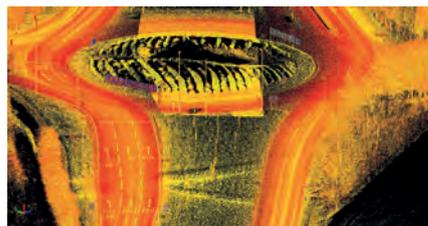
"KOREC has proved to be a reliable partner throughout the project.."

Anthony Lawton,
Academy Geomatics

job. These GCP were established by Anthony and his team in advance of the survey using a Trimble R10 GNSS with Trimble's VRS Now real-time correction service.

On the day of the job, KOREC initiated the MX9 system in an area of good GPS signal and

checked the pre-defined route for optimum coverage. The survey was undertaken in less than half a day by a 2-person KOREC team with one driving the vehicle and the other monitoring all sensor performance and positional quality during



▲ The survey included complex junctions

Mobile Mapping: Top 4 benefits for Anthony Lawton

1. Surveyor safety – boots off the road
2. Time saved (20x faster)
3. Quality and density of data captured
4. Cost savings – no traffic management required

data collection via the tablet used to manage the data acquisition process.

The survey included the full carriageway width with data captured in both directions. Back at the office, KOREC processed the data using Trimble Business Center, generated the point clouds and registered the data to the GCP before delivering the data to Academy Geomatics as a colourised, georeferenced point cloud and imagery, all within their required timeframe.

Academy then digitised the data to produce their client's requested 3D AutoCAD plans.

Anthony Lawton concludes, "By using the MX9 we were able to complete this survey twenty times faster than if we'd used traditional methods. However, for me, by far the most important benefit is the health and safety aspects of this system keeping surveyors away from the carriageway. We were able to complete the job on time, using the most cost-effective survey method and achieve a quality and density of the data that was way beyond anything we would have been able to achieve on the ground. KOREC has proved to be a reliable partner throughout the project."

Our thanks to Academy Geomatics Director, Anthony Lawton, for supplying the information for this case study.

www.academyg.com

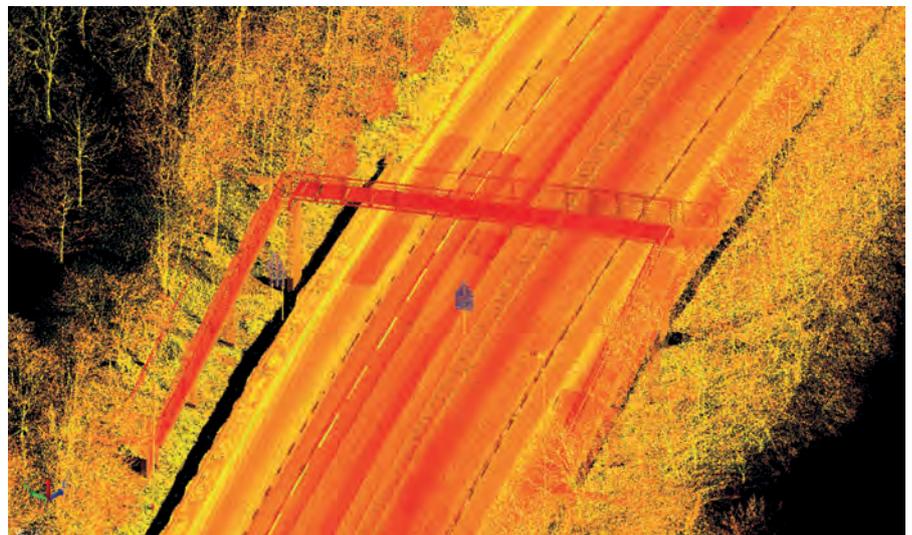
Trimble MX9: Overview

The MX9 is mounted on top of a vehicle and rapidly captures dense point clouds and images—both panoramic and multi-angle. Rich corridor data can be collected at highway speeds, significantly improving data collection on busy highways and avoiding costly lane closures.

The MX9 system is available for purchase or mobile mapping as a service through KOREC Professional Services, Tel: 0151 931 6701.



▲ Access was too restricted to undertake a traditional survey safely



▲ Additional features included overhead walkways



▲ KOREC Professional Service's Trimble MX9 Mobile Mapping vehicle

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.

T: **0345 603 1214 / IRE: 01 456 4702**
E: **info@korecgroup.com**
www.korecgroup.com