



**CASE STUDY 63: Laing O'Rourke Mobile Works Management System**

***Winner of the NJUG 2012 Quality Award***

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The 39 utility companies and 17 contractors<sup>1</sup> we represent work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc.

NJUG members need to continue to drive forward further improvements. We have therefore developed the NJUG Vision for Street Works, which revolves around six main principles:

1. Safety is the number one priority
2. Utilities deliver consistent high quality
3. Utilities work together and in partnership with local authorities and contractors to minimise disruption
4. Utilities keep the public informed on all aspects of works
5. Utilities maximise the use of sustainable methods and materials
6. Damage to the underground assets is avoided

This case study is an example of NJUG delivering on these principles and turning the vision into reality.

**Overview**

**Laing O'Rourke (LOR)** mobile works management system uses photo driven hand held devices. This allows real time transparency of site activities giving greater visibility of site progress, quality and HSE issues. The result is improved record keeping, increased 2-way communication with site and web portal access to client, customer and highways providing one version of the truth.

**Case Study**

**LOR Mobile Works Management System**

With the permit system and the need to minimise disruption from essential street works, ensuring compliance and the "right first time" mentality within front-line workers is of utmost importance.

On the Severn Trent Water Framework, LOR have in excess of 250 operatives spread over 80 operational teams. Managing the workforce over the vast area of Nottinghamshire, Derbyshire, Leicestershire and parts of Warwickshire needs a logistical system to ensure quality, compliance, safety and communication from the office direct to the operatives.

Corona – Core Functions



All works are managed from design conception through construction and re-instatement phases to the final as-built package submitted to the client upon completion of the works. The system is currently split into five core functions these are Timekeeper and Training records, Mobile Audits, Jeopardy and Management Reporting, Site Data Capture

<sup>1</sup> NJUG's current members are Energy Networks Association (representing electricity and gas), Water UK (representing all water and wastewater companies), National Grid, BT Openreach, and Virgin Media. Our associate members are Clancy Docwra, Skanska, Balfour Beatty, Carillion, First Intervention, Laing O'Rourke, Compass, AMEC, Enterprise, Morrison Utility Services, Fastflow Pipeline Services, May Gurney, CLC Ltd, PJ Keary and Murphy Ltd. Including members through trade associations, NJUG represents thirty eight utility companies, seventeen utility contractors.

and Scheduling and Dispatching. The picture on page one shows a screen shot of the five core functions and the hand held site PDA.

**Mobile Timekeeper & Training Records:** This function allows operatives to clock in and out direct from site, the information is three way linked by photo, times and GPS location ensuring productivity on site is maximised. With strict time-scales imposed under permits and TMA its essential both from a highway requirement but also from a company perspective that target dates are achieved. Over the last six months LOR has seen a tangible increase in productivity equating to 15% assisting in reduction of Section 74 fines for work over-runs.

**Mobile Audits:** Ensures quality and consistency across the entire working area, by allowing management to check and review compliance of work on site from the office. Audits are still undertaken by the management team and client representatives, but the focus is on the site working teams. Any issues raised on site are immediately transferred back to the office and dealt with by the relevant team member, saving time and money. Currently over 320 audits are carried out monthly on the teams, which equates to one per team per week and has seen LOR rise from 8<sup>th</sup> to 1<sup>st</sup> place on the client KPI league table.

**Jeopardy & Management Reporting:** Accurate data capture from site has enabled a suite of reports across all aspects of the utility work on site. A TMA perspective daily report of on-going work activities with notice expiry dates has proved essential in reducing the project over-runs and subsequent fines. Data provided from site now produces accurate reports on material usage, audit compliance, delays on site and the reasoning and productivity per team, all of which provides the management team with tools to make informed decisions.

**Site Data Capture:** Site Data Capture is the main core function of the system. Easy to follow scripts have been developed with prompts for photographs to be taken at key intervals, arrival and departure or other mandated key stages like permit boards, temporary work installation and when backfill & re-instatement have been completed. The information then allows further job packs to be issued to other operational teams to assist or complete the scheme. Currently, over 1 million pictures assigned to unique schemes have been taken over the last 18 month period.

**Scheduling and Dispatch:** Web portal access is available to the client and highway agencies in the region to access live locations of work; simply clicking on the “men at work” icon will provide information, such as street / scheme name including USRN, permit notice reference, duration of works and a pictorial history of all works undertaken associated with this scheme. A truly open and honest approach with clients and peers working together to ensure quality and the ‘right first time’ mentality is driven across the project. Jobs dispatched remotely have reduced LOR’s monthly mileage, saving money, reducing the carbon footprint and helping the environment.

## Conclusion

In conclusion, the works management system has seen a 15% increase in on-site productivity, helped achieve a major leap from 8<sup>th</sup> to 1<sup>st</sup> on the Severn Trent Water KPI league table and increased LOR’s real time incident management and audit coverage. In addition LOR has seen a 70% reduction in section 74 overstay charges and 85% reduction in Fixed Penalty Notices (pro-rata) from 2011/12 to present.

Constant modifications and enhancements are required to keep the system market leading and a true differentiator from LOR and its competitors. Currently, an integrated stock management system allowing greater accuracy of pipe and materials with automated re-order function is on trial and valve management function to ensure customers water supplies are restored correctly and within warning times.



LOR showcasing the works management system at the recent West Midlands HAUC road-show in September this year.