

Doncaster MBC - Case Study

Network Management

The Symology logo features the word "Symology" in a white serif font, with a registered trademark symbol. To the left of the text is a circular graphic composed of numerous small white dots arranged in a spiral pattern.

One of the most significant changes introduced by the Traffic Management Act 2004 was the requirement for Local Authorities to establish the position of 'Traffic Manager'. At the same time, new requirements were introduced for Local Authorities to register their own works on the Street Works Register in accordance with all the same rules as those which Utilities have to abide by.

Doncaster Metropolitan Borough Council (DMBC) has taken these new duties in the spirit they were designed for and has developed a true network management capability based on a sophisticated integrated Insight solution which assists the Traffic Manager in ensuring the smooth flow of traffic.

At the heart of DMBC's network management system sits an integrated Symology Insight solution with a number of applications; Pavement Management (UKPMS), Street Works, Highway Maintenance, Highway Licensing (skips, scaffolding etc.) and Street Lighting Maintenance. Integrated ESRI Mapping software is also used, as well as mobiles for inspections and works ordering. Insight receives all works from Utilities and the Council's own works department and the solution provides sophisticated GIS based coordination facilities to assist the Traffic Manager in his work.

Paul Evans is a Senior Engineer at DMBC and he explains the background, *"Insight is one of – if not THE – industry leading software solution when it comes to Street Works. One of the advantages we have found is that Symology as a company is very switched on when it comes to the requirements NRSWA and TMA places on Utility Companies and Highways Authorities and the company routinely deliver well tested efficient updates as new legislation goes live. This has allowed us to capture nearly all of the highways work throughout Doncaster on one single system - although we do have some additional software systems for technical drawings, bridge management and traffic signals."*

Doncaster has a long history of working with Symology as the Council started their collaboration with the company more than 20 years ago. It has been an interesting journey to progress the system as time and new legislation has demanded constant changes and updates. Because of the long term relationship DMBC has confidence in the end product and it also gives the Council continuity of information in respect of having all historic highway related data in one database. But the most positive aspect of using Insight for so long is the relationships that have developed over time with Symology, which helps in overcoming problems and allows for the contribution to new developments.

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One Overall Picture

The embedded GIS facilities play a huge role in coordination. Paul says, *"The embedded GIS provides us with an overall view of what's happening on our network. DMBC plots, Street Works, Road Works, Skips, Scaffolds, Road Closures, Lane Closures, Temporary Traffic Control, Defective Utility Apparatus and diversion routes, which allows the Street Works coordination team to assess the impact of Utility and Highway Authority works, as well as other non-works activities. When new works are received from Utilities or recorded by our own Works Promoters they are automatically plotted on the embedded GIS. Insight then automatically performs a range of coordination checks, including spatial checks to flag up any potential conflicts with other on-going activities within a user-defined distance. A dedicated Street Works Coordination layer is maintained by the system to highlight all potential conflicts; this enables the coordination team to assess each issue in turn. Once the potential conflict has been resolved the user can then delete the conflict marker on the map."*

When the new legislation was introduced in 2008 a number of changes were required. Paul continues. *"The changes that were introduced required a minimum of retraining staff, but for bigger issues like Permits and FPNs, strategic policy was required. System wise with Symology playing a lead role in the EToN Developers Group we were confident that any system changes would comply with the legislation. This means that Symology have all of the changes covered in system updates, so it is only a case of installing the upgrade and then making Doncaster specific amendments. With the legislation not being clear as to what constituted an FPN offence, Symology provided the facility for customers to decide this for themselves. There are literally hundreds of possible scenarios in which an FPN offence can occur, and this made it tricky to set-up. However, the fine grain controls provided within Insight allowed DMBC to implement its own specific interpretation/policy for FPNs. The definition of these policies then enabled us to do reporting and produce KPIs. The next set is to streamline the process to track the FPNs in terms of the financial recovery and linking it into our corporate financial system. Currently we have to track any FPN payments manually so we are working towards fully automating this process."*



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Key Points

- 20 year relationship not only means Symology understands DMBCs requirements, but also that DMBC have continuity of information in respect of having all historic highway works records
- Integrated solution means DMBC can capture nearly all of the highways works throughout Doncaster in one system. All data held in one database – no double entry of data anywhere
- GIS module gives a good picture of what is happening on the network covering Street Works, Road Works, Skips, Scaffolds, Road closures, Lane closures, Temporary Traffic Control, Defective Utility apparatus and diversion routes
- The integrated DMBC solution allows for remote and mobile access 24/7
- The GUI is very easy to work with, which means it's easy to train new staff
- Symology routinely deliver on time, with well tested efficient updates as new legislation is introduced
- Insight is EToN 5 compliant, complete with Permits functionality - which was provided without additional charges
- With the introduction of the Yorkshire Common Permit Scheme, Symology will have a key role to play in the electronic delivery of permit applications and associated data
- Symology provides an excellent system for a fair price. Their business is Highways, and their primary goal is development of the software to remain leaders in the industry
- User groups, working groups and regular stakeholder meetings enable two-way conversations and allow for input into to the development process

Updating the System

When EToN4 and EToN5 were introduced the timescale for software companies to produce the relevant changes were extremely tight. Despite this Symology delivered a fully comprehensive solution for EToN4 two months before the “go-live” date. They also laid on EToN4 training courses to cover all of the changes. When it came to EToN5, Symology delivered the update (with Permit capabilities provided free of charge) 6 months in advance of the national “Go-live” date.

“We’re running an in-house system where we’re hosting our own servers which allows us full access to our data when required. As for other system upgrades i.e. those not necessarily tied to Street Works or legislative requirements – Symology tend to issue a major release approximately every 9 months, with small service

releases approximately every 2-3 months. Upgrading is a fairly smooth process where major updates generally take a day or two to implement, and a day or so tailoring the system to perform as we require. We’re currently working with one server which holds all the data. However, it can be accessed through virtual machines and also links to a web service for EToN transfer. Further, all of our inspectors and myself have remote access to the system and there is the possibility of rolling out remote access to out- of-hours Highways staff in the future.”

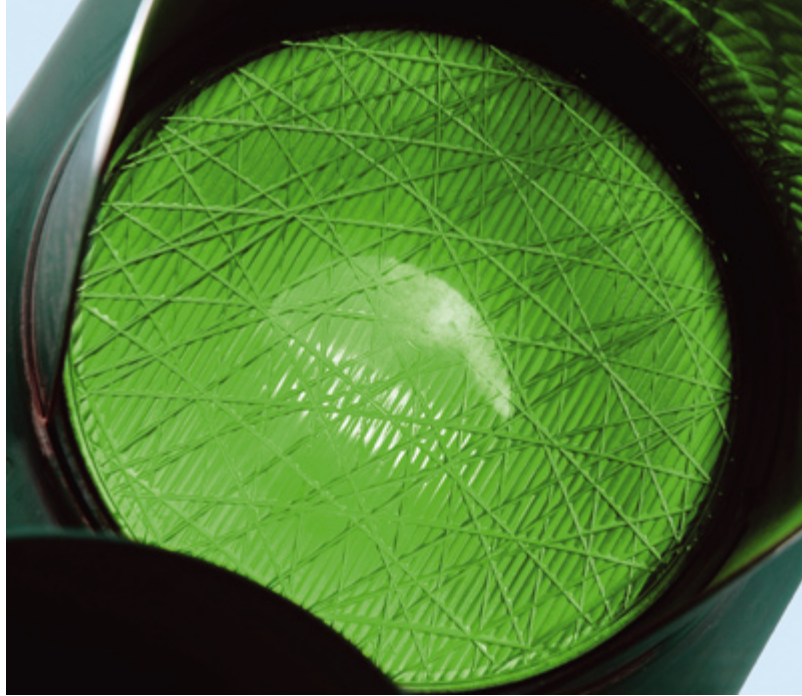
DMBC has used Symology’s Insight Mobile solution for many years, for the purposes of Highway Safety Inspections, Works Ordering, UKPMS Surveys and Street Works Inspections.

Paul says, *“Insight Mobile provides a straight forward and easy to use menu system that allows the inspectors to capture information and then easily and accurately upload that information whilst out on site or at the end of the day. We also have some users accessing the main Insight system via laptops whilst out-in-the-field. Having real time access to the full system has enabled us to manage the network while on the go. Works that should have been - or are due to be – closed can be reported to the Utility Companies immediately, saving them overstay charges and saving road users unnecessary delay as well.”*

Future - Further - Integration

DMBC have only over the last 9 to 12 months started to issue FPNs regularly. Information on shadow FPNs before this time were generally erroneous and weren’t as vigorously checked as live FPNs. The system provides a traffic light warning notification system which gives an alert when projects are getting close to ‘deadline’ and require attention. DMBC expects that this facility over time will result in a reduction of FPNs or shadow FPNs.

“One of the other advantages is that the DLO now use the traffic light task summary list to manage their noticing responsibilities, so far this has worked well and is a great fit for purpose tool” Paul says.



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The road ahead is Intelligent

Looking to the future, DMBC is looking to develop an interface with a UTMC system in order to take traffic light signals and other traffic related signals into account. The project is called SITS, Strategic Intelligent Transportation System.

SITS is funded through the South Yorkshire LTP2 funding stream and is intended to act as a tool to reduce delay on the network by:

- Providing a secure Link to the SITS ANPR data for Doncaster
- Improving traffic coordination through a greater awareness of conflicting works and network attributes through Events and Diversion Route Coordination
- Providing improved Events and Diversion Route Coordination
- Utilising ANPR data to indicate historical trends to trigger warnings of junction over capacity



Yorkshire Permit Scheme

Paul explains, *"Through the Yorkshire Permit Scheme we aim to achieve a reduction in the amount of delay on our network caused by road and street works by improving the level and access of street data so Utility Companies and Council Highway Maintenance can be pre-planned and pre-approved before works start on site. As a County it make sense to pool our resources for the planning of the scheme and providing a standard approach to permits that all Utility Companies operating within Yorkshire could follow rather than a separate scheme for each town. With the introduction of a Yorkshire Common Permit Scheme, Symology will have a key role to play in the electronic delivery of permit applications and associated data."*

"By improving the level of information, and setting working conditions to streets before permits are applied for, Doncaster fully expects that the level of works coordination will improve and the subsequent reduction in delay will increase the expeditious movement of traffic throughout our networks to the benefit of all road users in and around Doncaster."

Keeping Staff Up to Speed

Doncaster have found that it is very easy to train new staff on the system mostly because, Insight is easy to follow with an intuitive GUI.

Paul continues, *"We currently have 60+ users working on a concurrent licence for around 30 users. As the system is developed, especially with all Highway Schemes being noticed, there is scope for the number of users to increase. The GUI is very easy to work with and is consistent throughout the system, which means users who work in the highway maintenance module quickly get to grips with the street works module."*

"Doncaster uses a 'train a trainer' approach so together with the Symology training documentation and a few easy to follow DMBC created user guides, training is carried out on a job basis reducing the amount of formal hours / days training."

"We are currently looking into performance levels for noticing and performance compliance through Insight generated reports that are then exported to Excel for fine tuning. What we have noted is that we are carrying out more inspections with more consistency but we mostly attribute this to structural changes to the section rather than monitoring" Paul concludes.