



Street Works Register Solutions

## Street Works Register

Insight Street Works Register is a multi-purpose system, designed for both highway authority and service utility operations. For both types of organisation, it provides a means of progressing works through all the stages from initial notification through to completion and acceptance. It is designed to operate either with a single shared database, or with bi-directional electronic communication between separate databases within each organisation.

For the works promoter, scheduling and monitoring facilities are provided, with full potential for Works Management system integration. Highly specialised map-based facilities are provided for the street controller to aid in the co-ordination of all works, together with functions for control and inspection of operations.

### Life-Cycle Notification

At each stage of the life-cycle, from initial notification or permit application, through to reinstatement and completion, an electronic notification system enables the works promoter to distribute the required information. Depending on the location of the works, the appropriate noticing/permit rules are selected, and used for automatic prompting to ensure compliance with regulations. Works promoters using Insight Works Management options can produce the notices automatically as a by-product of the normal workflow operations.

If each organisation has its own database, notices and applications are sent electronically via the internet, and are automatically directed to the correct recipients. A full audit trail of the notifications is provided, including "proof of arrival" acknowledgements. The system for responding to the works promoters' notices operates in the same way.

The Register accommodates storage of information regarding all activities which could potentially cause disruption. In addition to service utility works, this includes highway authority maintenance works, obstructions on the highway, and special events including those which invoke road closures. A supplementary linked module is available for dealing with licensing of skips, scaffolding, etc. Web publication facilities, with or without map-based access, may be used to provide a public information service.



### Inspections

A key benefit of Insight Street Works Register for highway authorities is to automate the inspection processes. These are then prompted and monitored in line with the precise inspection policy required, including statutory random sampling. Additional multiple inspection types may be defined, each with its own judgement criteria, life-cycle timing, and rules for selection. The facilities may also be used for internal quality inspection regimes by the works promoters. Where Insight Work Management modules are being used, optimisation facilities evaluate all inspection requirements, both cyclic and ad-hoc, and minimise the overall workload.

Inspection results can be recorded using sophisticated mobile device software, with guaranteed central system compatibility. Satellite-based positioning, mapping display and plot functions, and digital photography may be employed. Web access is used to communicate with base whilst out in the field, at work or at home.



## Monitoring and Control

Instances where correct notification is not given will be highlighted immediately. Street/Permit authorities are provided with facilities to review all proposed works, and respond with requests for changes in timing or procedures, if the proposals for the works are not satisfactory. Situations where there is a high likelihood of disruption as a result of conflicting works, are automatically flagged for attention. A unique due date system is used to establish deadlines for completion of activities, and provides easy, effective monitoring of actual vs. planned events for both works promoter and network manager.

## Street Gazetteer and Areas of Interest

At the core of the system is a nationally compliant Street Gazetteer, with import/export options, providing instant enquiry access to all system data by street or by area. Comprehensive facilities are available for maintaining the gazetteer, including street centre-line geometry. All Street Works are located by reference to the gazetteer together with textual location, and point or polygon co-ordinates.

Map-based polygons may also be used to define areas of interest, such as organisation boundaries, consultation areas, inspector patches, and divisional office areas. These ensure automatic addressing of all information to the correct destination, as well as providing powerful geographic-based spatial analysis.

## Performance, Penalties and Charging

Insight accommodates all the various mechanisms that are used to provide the incentive for speedy and efficient completion of works, such as street occupancy rental, overstay charging, and remedial works or inspection failure penalties. All these options are provided, in addition to charging policies for notices/permit applications and statutory inspections. An integrated charging function, with manual adjustment facilities, enables street authorities to produce substantiated invoices, and helps works promoters monitor and minimise costs.

Statistical analyses of performance, over specific time periods, are available as required. However, the unique benefit of Insight is the wide range of flexible, in-built enquiries, providing instantaneous exception reporting. These are ideal for the professional manager, enabling effective dynamic performance monitoring to minimise deviations. The enquiries are user-configurable, without technical assistance.

Reporting may be based on geographic areas. For example, an Area Supervisor can demand information such as "list all the works in my patch, which should be completed by tomorrow, and are not yet recorded as complete". Producing this, with instantaneous on-screen or printed output, is as simple as entering the supervisor's identity and tomorrow's date, into a standard enquiry facility.

## Desktop Mapping

Mapping facilities are invaluable for obtaining an instant view of proposed works, and gaining an appreciation of the likely disruptive effects. Insight provides specialised map-based co-ordination facilities for this purpose, which include highlighting potential disruption effects. Of course, in order to utilise these facilities, it is necessary to be aware of the precise location of proposed works, so simple-to-use functions are provided for plotting the location of works and transmitting the co-ordinates with work notifications.

## INSIGHT STREET WORKS REGISTER

Insight Street Works Register provides an efficient means of controlling works on the highway, and minimising disruption effects, as well as forming the basis of a public information service. Benefits are maximised when the Register is used in conjunction with all other modules of the Insight for Highways range.



## Insight into Advanced Technologies

Innovation is reflected in many ways. Symology does not simply implement technology "because it is there", but to provide powerful, easy-to-use solutions which meet organisational objectives. Careful research of the potential, performance, and practicality, is undertaken in order to apply technology in the best way.

The sophisticated application of flexible data storage techniques, and carefully-crafted database design, are crucial in ensuring that all required data can be extracted and displayed instantaneously - whatever the required selection criteria or geographic area.

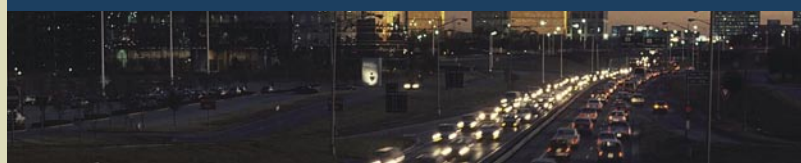
The system supports and utilises many leading edge technologies and standards, including ODBC, ActiveX, COM, CORBA, .NET, and XML. Many of these technologies are embedded within the Insight product to provide phenomenally powerful and seamless facilities for GIS, mobile data collection, quality reporting, and document production. Highly optimised, transaction-efficient, operation is provided with leading RDBMS systems such as Oracle and SQL Server. The Vision data system provides an ideal alternative for situations where there is no database administrator.

The advanced Windows ActiveX technology is used to provide sophisticated embedded mapping functionality, including the ability to plot the location of works. Transfer between the database and the map, in context, is instantaneous, effected by a simple button. The map-based facilities are carefully designed for simplicity of use and security, and all without the costs and overhead of providing a full GIS system on each user's desktop.

In addition to plotting, map facilities may be used for viewing current or planned works, and identifying potential disruption effects. Map-based internet publication can be used to provide a web-based information service.

System-wide facilities are provided to store multimedia files such as video footage, digital photographs, and scanned documents, adding substantial value to the information availability.

Insight is transferable (both technically and in licence terms) across all open platforms; including Microsoft, Unix and Linux systems. Deployment options include thick-client and thin-client (including browser-based) delivery.



# INSIGHT STREET WORKS REGISTER

## Functional Overview



### Street Gazetteer

- BS 7666 NSG/NLPG/NSAI compliant
- Gazetteer maintenance system
- Traffic Sensitive area definition
- Engineering difficulty definition
- Consultation requirement areas
- Gazetteer distribution capability
- Additional user-defined data

### Street Works Notification

- Works Management interface
- Automated selection of correct notice
- Automatic selection of recipient(s)
- Flexible notification rules
- All Code of Practice versions
- Automatic electronic data transfer
- Multiple recipient capability
- Full audit trail of notices
- "One-stop" Symology internet service
- FAX fall-back option

### Works Life-Cycle Monitoring

- Whole life of works processing
- Prompting for follow-up notices
- Prompting for permanent reinstatement
- Prompting for remedial works

### Street Works Register

- Street authority and utility works
- Automatic life-cycle monitoring
- Due-date diary system for all events
- Map-based co-ordination facilities
- Web publication of Register
- XML Register interface
- ODBC access to data
- Unidentifiable works recording
- Re-allocation of unidentified works
- Non-works disruption activities

### Inspections

- Multiple inspection types
- Inspection Checklists
- User-defined inspection criteria
- Flexible selection policy
- Random Sampling option
- Inspectors' diary system
- Defective works report production
- Defective works follow-up cycle
- Inspection results transmitted
- Inspection charging options
- Statistical analysis of failure rates

### Mobile Devices

- Latest technologies
- Multi-function devices
- Map-based functions
- Satellite positioning
- Digital photography
- Remote Web Services connection
- Symology-developed software
- Automatic server compatibility

### Areas of Interest

- Polygon plotting on the map
- Geographic view/update security
- Work allocation areas
- Political boundaries
- Inspector Patches
- Operational rounds
- Divisional Office areas
- Area of interest distribution

### Location Referencing

- Textual location descriptions
- Gazetteer referencing
- Map co-ordinates
- "Provisional Streets" option
- Re-allocation of Provisional Streets

### Invoicing/Charging Options

- Street occupancy charges
- Works overstay charges
- Inspection charges
- Permit application charges
- Ad-hoc Schedule of Rate charges

### Universal Facilities

- Highway authority and utility system
- Central or distributed databases
- Load-and-go functionality
- Interactive map links
- Spatial Analysis
- Full module integration
- In-built customisation options
- Intuitive user dialogue
- Customisable data display
- Office Products interface
- Working Days Calendar
- Access security
- Historical audit trails
- Performance Indicators

### G.I.S.

- Gazetteer and Inventory maintenance
- "Area of Interest" definition
- Viewing/Plotting facilities
- Seamless "in context" interface
- Map-based co-ordination of works
- Web-based public information option

### Customer Service

- Automated Public Information
- Public Consultation Process
- Telephone/Letter/Web interfaces
- Action-tracking and monitoring
- Dynamic escalation process
- Direct Inspections interface
- Service/Action scheduling
- History of public issues

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