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## Integrated System Overview

Using a common network referencing model, it is possible to provide an Integrated Highway Asset Management System.

This enables the user to link Pavement Condition data with Accidents, Structures/Bridges, Highway Inventory, Customer Services, Routine Maintenance Instructions, Works Orders, Street works and Street Lighting databases.

WDM® applications use server-based technology to deploy client modules using thick (traditional LAN/WAN), thin (Citrix) or web browser interfaces. Supported configurations range from a standalone Windows PC to corporate level application / database server farms.

All modules adopt a common graphical user interface (GUI), incorporating WDM® standard presentation tools, which include query building, map-based data presentation, reporting, charting and data collection.

This common GUI approach allows the user to concentrate on the data instead of having to learn new analysis procedures. Transition from one module to another requires very little additional training.

One of WDM® strengths is in producing highly configurable and adaptable systems. This flexibility means that WDM® software is equally suitable for use by all highway authorities, from borough or city councils to national government.

WDM® provide an excellent on-going support and advice service as part of the annual licence fee. This licence ensures that the software keeps up to date with the latest enhancements and developments.



- \* A complete solution to highway asset management**
- \* Providing efficiencies via shared services**
- \* Covering all aspects of highway, structures and environmental services**



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**Pavement Management System (PMS)** is the most widely used PMS with over 300 license holders. The WDM<sup>®</sup> PMS calculation module, which is PANDEF v3, SKID, HRM group 3, RAV (TTS/SCANNER) compliant, alleviates the need for users to run PMS feeder systems. The survey data stored within the WDM<sup>®</sup> PMS can be used to provide a dynamic, network-wide, condition based, Asset Management System. Tools are provided within the WDM<sup>®</sup> PMS to calculate the maintenance backlog, value the asset and to undertake whole life costing. The system's other features include ukPMS Tranche 3 processing, charting, data profiles, reporting and scheme management.

**ukPMS Manager (ukPMS)** capable of operating within the full WDM<sup>®</sup> Pavement Management System, WDM<sup>®</sup> ukPMS Manager is also available as a separate standalone module. It's designed to satisfy the requirement of Local Authorities to produce Audit Commission Performance Indicators, budget and scheme reports, maps and charts at a low cost.

**Accident Management System (AMS)** enables the import of accident data from Stats19/21, including the 2005 Quinquennial Review format. The accidents are then fitted to the highway network, enabling the WDM<sup>®</sup> AMS to compare accidents against road condition data including SCRIM. The intranet based reporting tool enables the user to graphically select and summarise data, calculate accident rates and skid rates for Audit Commission Performance Indicators, perform cluster analysis, report, chart and map accident data.

**Structures Management System (SMS)** enables management of structure inventory, which describes form of construction, services carried etc. Scanned images, drawings, photographs and correspondence can be stored against the relevant structure. The SMS enables the user to graphically plan and undertake General, Principal and Special inspections. Using data supplied from the Structures Management System, Structures Data Collector (SDC) provides on-site data collection software, allowing inspectors to record bridge condition to the County Surveyors Society bridge inspection rules. The bridge and structure Stock Condition Indices are calculated and analysed for completed inspections in the SMS.

**Customer Services System (CSS)** provides public enquiry monitoring and management and integrates with the other modules to provide a total integrated solution. Various search tools make it very quick and easy to position enquiries / defects. The integrated mapping also allows data layers to be stored from external GIS systems, allowing operators to click on maps and obtain any key information to pass to customers. 'POEMS' is a web based application providing map based web access to the CSS, enabling users to progress and complete enquiries remotely. WDM<sup>®</sup> provide a fully configurable internet browser frame 'WebCSM' to be inserted into a clients own website. The public can log faults directly over the internet using the WebCSM's simple mapping, which are then integrated automatically to a holding area in the CSS for validation.

**Environmental Landscape Manager (ELM)** covers the management of environmental inventory items, trees, verges, planted areas etc. All inventory items have fully user-customisable attributes, data tabs and pick lists. Data may be collected onsite via Environmental Landscape Collector (ELC), which provides a simple map interface for data collection / inspections. The system allows inventory to be collected as point (trees, shrubs), polyline (hedgcs) or polygon (planted areas, verges). The items can then be viewed & edited directly from the maps, or from text descriptions.

**Lighting Management System (LMS)** is designed to provide both the client and contractor with a complete solution to manage an authorities lighting stock. Tools are provided to collect lighting inventory on-site and manage existing lighting inventory. The Works Order module enables the user to record, repair and track outages, perform routine maintenance, cost major works, create / amend works orders, manage budgets, undertake quality assurance samples, invoice completed work and automatically update inventory. Fixed Reports are provided to calculate energy consumption for unmetred supplies and the latest condition indicators of lighting columns following guidance from the Institution of Lighting Engineers TR22 - Planned Inspection Routine. Map based software is provided to facilitate electronic scouting and routine maintenance. Works ordering can also be undertaken remotely using a web browser.

**Routine Maintenance System (RMS)** has been designed to provide a complete solution for managing both cyclic and noncyclic maintenance operations using the latest map based techniques. The system incorporates all client and contractor stages of the process and a comprehensive security manager ensures that users have the exact privileges required to fulfill their role in the process. Inventory and defect/scheme combinations are highly configurable allowing almost any implementation to be provided. Interfaces may be written by WDM<sup>®</sup> to the Corporate Financial Management System. This module, along with LMS, is fully integrated with the Call Centre Software - the CSS can be configured to only record subset defect combinations from the RMS. Inspection management/route management is also managed from the RMS module. Visual Inspection Collector (VIC) provides map based and/or GPS based on-site inspections. This is again highly configurable and adaptable to almost any inspection type.

**Public Right of Way Management System (PROW)** covers the management of Public Rights of Way including definitive route, inventory along a PROW and its condition. Reports are provided to generate Condition Index's for either local or nationally defined rule sets.

**PANDEF Deflection Manager (PDM)** provides a replacement for the original DOS based PANDEF system for processing Deflectograph results. The system provides route based fitting of data to a database, processing and presentation of results using the map, report and chart tools common to all WDM<sup>®</sup> modules.

**SKID SCRIM Manager (SSM)** provides a replacement for the original DOS based SKID system for processing SCRIM results. The system provides route based fitting of data to a database, processing and presentation of results using the map, report and chart tools common to all WDM<sup>®</sup> modules.