

**HERTFORDSHIRE COUNTY COUNCIL
ENVIRONMENT SCRUTINY COMMITTEE**

TUESDAY 21 OCTOBER 2003 AT 10.00 A.M.

REVIEW OF HERTFORDSHIRE HIGHWAYS OVERVIEW

Agenda Item No:

1a

Report of the Director of Environment

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1. Purpose of Report

This report is the first of a suite of reports to review the establishment and performance of the first nine months' operation of Hertfordshire Highways. This first report looks at the arrangement from the strategic point of view and subsequent reports will view specific operational topic areas.

2. Summary

- 2.1** The report reviews the reasons for launching the concept of a Strategic Alliance. The underpinning principles are described and the ways these are expected to contribute to providing a more efficient and effective service are outlined.
- 2.2** Progress in setting up the mechanisms to enable the Alliance to function are set out with the progress achieved in delivering operational performance described in the subsequent reports.
- 2.3** The provision of a highway service is a complex operation with many interrelated elements. Equally the component parts comprising the highway infrastructure are both variable and numerous. The nature of the highway means that each component has a finite life which, because of heavy use, is subject to accelerated rates of wear. The report, in describing the concept for the Alliance, attempts to show how, by working smarter and in a different manner, a more sustainable means of funding the maintenance of the asset can be achieved.

3. Conclusion

- 3.1** The report concludes that the Strategic Alliance concept is a sound basis for providing a sustainable means of looking after the highway infrastructure in an affordable way and the full potential is likely to be achievable within the original timescale identified at the time of taking the decision to proceed.
- 3.2** The progress in establishing the basic organisation and management mechanisms to enable the concept to function have taken longer than expected but the mechanisms are expected to be fully established by the end of the first year's operation. This will facilitate the improved functioning of the operational elements of service provision reviewed in the following reports.
- 3.3** The Scrutiny Committee is invited to consider the information provided and take a view regarding the conclusions reached.

Further scrutiny could be undertaken by:-

Requesting further report/reports

Monitor performance indicators circulated by Environment Department

Establish a specific topic group to further review areas of interest to the Committee

4. Background

- 4.1** On 1 October 2002 the County Council launched its “next generation” highway services contract. The concept was approved by Cabinet on 29 January 2001 and comprised the formation of a Strategic Alliance consisting of two private sector partners, one consultant, one contractor together with the County Council to form a single entity capable of delivering all the services associated with fulfilling the obligations required of the Council as Highway Authority.
- 4.2** The concept was in response to the Best Value review of highway services, principally maintenance. During this review the public made clear their desire for more service, of a better quality but without an escalation of cost.
- 4.3** The problem facing the County Council was of a highway infrastructure which is subject to exceedingly heavy use and rates of wear whilst much of its component parts are well over their normal design life period. As a result the demands on investment need if left unchanged would inevitably outstrip the ability to fund.
- 4.4** In order to meet the aspirations arising from the Best Value review it was important to find a sustainable way of delivering the Highway service in a manner which made best use of financial resources whilst giving the Authority the flexibility to manage its budgets within corporate priorities.
- 4.5** The provision of highway services is achieved by the combined efforts of Hertfordshire County Council staff and service providers.

The development of the service over the years has meant that at the time of the review 70-80% of service was supplied by third parties through various arrangements. Hence the greatest scope to produce a sustainable delivery mechanism was to improve the supply chain constraints affecting what others contribute.

- 4.6** The new way of working launched on 1 October 2002 sought to streamline the arrangement in a way which built on the latest best practice experience in order to maximise the impact of our financial investment on meeting corporate objectives.
- 4.7** The features of the new arrangement can be summarised under the following headings
- i) Economies of scale by providing all service through one entity
 - ii) Service requirements progressively specified by performance outputs with continued improvement

- iii) A greatly simplified procurement process
- iv) Removal of duplication such that best placed partner is freed to act and deliver first time action to achieve aims.
- v) Maximise the benefits to be achieved by working smarter and adopting DETR's Movement for Innovation "rethinking construction" initiatives.
- vi) Adoption of an Asset Management approach to the development and maintenance of the highway.

4.8 This report will look at progress in establishing the principles for the new arrangement and following reports on this agenda will review specific service areas. Together they will provide the Committee with an overview of achievement in the nine months of operation

5. Meeting Increase Demand

5.1 Corporate initiatives to make public access to all County Council services easier are likely to have a significant impact on the day to day volume of highway service. This together with enhanced expectations on the quality of service standards means that much of the growth in demand needs to be self-funding.

This is particularly important if the County Council is to be in a position to invest in a programmed renewal of its ageing highway asset.

5.2 The highway asset is probably the most valuable asset in the stewardship of the County Council and is currently valued at £3.223 Billion. However its exceptionally heavy use means that it depreciates, based on a mathematical model annually by £51.69m. The importance of its long term well being in terms of contribution to the corporate objectives of the County Council cannot be overstated.

5.3 At the time of the Best Value review it was estimated that between £3m - £5m of growth in basic service provision would be required in order to meet increasing user demand. This would not be achieved overnight and each element of service change was expected to be interdependent on other changes brought in as part of the overall project. The elements will need a period to develop in order to secure long term gain. The full extent of the improvements were not expected to be realised until year three onwards.

In addition there were anticipated to be a number of costs to be incurred during the set up which would need to be absorbed as part of more efficient working.

- 5.4** The summary table at Appendix A was provided to the Highways Services Procurement Members Panel on 17th July 2001 to indicate the areas which were likely to yield savings in order to fund the anticipated demand.

The delivery of cashable efficiencies in line with Best Value government requirements was written into the contract. This amounted to 200K in 2003/04 and a further 500K for 2004/05. Annual inflation rises, changes in service standard requirements and legislation and demographic changes would be expected to be met via normal budgeting processes.

6. Progress in establishing the basic operational structure

6.1 One entity

6.1.1 The establishment of the Strategic Alliance has involved the bringing together of three separate organisations each with its own culture and ways of working together employing in excess of 800 people.

6.1.2 The basic concept of a central core to support the venture with service delivery being achieved via four strategically located satellite area offices has been established although the acquisition and commissioning of the appropriate offices took longer than anticipated with the final office only coming on stream after six months.

6.1.3 The build up and recruitment of staff has been difficult for each partner. The implementation of TUPE requirements presented early complications especially for the works team and general skills shortages within all elements of the construction industry has continued to present all parties with difficulties in filling a number of key posts.

6.1.4 In setting up the Alliance it was recognised that the Works Team would need to establish a robust supply chain to cater for specialist resource and fluctuations in workload peaks.

In the early stages a heavy reliance had to be placed on the use of any available sub-contract labour as resources were mobilised and recruited.

In recent months the directly employed resource of the Works Team has been increased from 130 to 260 staff. In addition a more robust selection criteria for the use of sub-contract resource has been introduced together with improved supervision.

- 6.1.5 The alliance concept had at its centre the establishment of a common and shared database for the management of the highway infrastructure. The basis for this was the County Council's HERMIS system. At an early stage all parties agreed to adopt the HERMIS system in order to provide the operational and daily management tools for running the new business. Individual partners would need to service their own corporate systems via special links from the shared HERMIS system.

The status of the system is shown at Appendix B together with key development requirements.

6.2 Service outputs with continued improvements.

- 6.2.1 A key feature of the new way of working was to progressively move to specifying service on the basis of "outcomes" rather than define precisely how an activity should be carried out.

- 6.2.2 By adopting such an approach it is expected that the contractor will introduce innovative methods to achieve the required outputs. These in turn will offer flexibility, improved quality and value for money. It is necessary that information regarding extent and condition of the asset as well as clarity of expectation is provided in order that the appropriate allocation of risk can be achieved.

- 6.2.3 At the beginning of the contract a limited number of service areas were specified by outcome. These included,

Winter maintenance
Streetlighting
Grass cutting
Highway inspection
Emergency response

with a number of other areas identified for inclusion as asset data could be verified and response history established. These included,

White lining
Integrated response to public faults and emergencies
Safety barrier

- 6.2.4 The concept has proved effective in terms of management efficiency and as a means of focusing attention at the most appropriate point in the supply chain. The concept has also increased the scope of activity undertaken thereby ensuring that the total range of service is fulfilled under one service item e.g. streetlighting service includes vandalism and vehicle knockdowns as part of a comprehensive service.

In accordance with the need, as described in 6.2.2 above that sufficient information is available for the contractor to take on the management of risk, comprehensive records of past history of third party damage to lighting stock was available from day one.

- 6.2.5 The performance issues experienced in these service areas are dealt with in more detail within the topic specific reports included in this agenda. In the main the approach is proving more effective in ensuring a complete service is capable of being delivered at predictable cost and in a manner which offers potential for further integration. The performance issues have, in the main, involved protracted teething problems regarding establishing different working practices, greater dependence on computerised management and reporting systems and generally learning the "patch".

6.3 Simplified procurement process

- 6.3.1 The delivery of all highway services is now concentrated within the single entity which is Hertfordshire Highways. Consequently there is no longer a need to prepare comprehensive contract documentation for each specific project. This reduces the amount of repetitive documentation drafting, tendering cycle and evaluation. In turn this leads to more innovative solutions being developed in a co-operative way rather than different tenderers "re-inventing the wheel" and offering traditional "standard" offers. Overhead costs by definition are included within each tender and in the past involved the County in a need to meet overlapping and duplicated costs.
- 6.3.2 The past practice of ordering a multitude of works items from separate suppliers required a significant "paperchase" of commissions orders, invoices, instructions etc all of which needed to be matched and verified. The new approach allows single orders to be placed against predefined schedules of items with a single establishment cost for setting up the alliance separately and clearly defined.
- 6.3.3 The use of a common database for managing the entity means that the computerised management system can be used to record all items of activity relating to a defined part of the highway network. This provides a number of significant benefits including the simplification of the procurement process.

Each work activity is recorded on the database. The concept working practise is no record, no payment. The items comprising the work is recorded by the works team and matched to the costed item held within the database and generation of changes are thereby greatly simplified and can be transmitted electronically between the partners.

- 6.3.4 Currently the system is not fully operational and for certain activity areas it is still necessary to use paper systems before inputting into the database. This is a function of the need to test and configure the software in a manageable manner and the time to train and allow staff to become familiar with the system.

6.4 Removal of duplication

- 6.4.1 The service specification is written in such a way as to streamline the supply chain to enable the partner who is best placed to deliver the end service as first time action is freed to do so.
- 6.4.2 A number of significant examples have already been brought on line which are showing improvements in effective use of resource and which offer potential for future further development.
- 6.4.3 Highway safety inspections and response to customer generated faults are all carried out by the works team as a first time service. This reduces the need for multiple handling of problems and speeds the time at which a remedy can be affected. With greater understanding of the new way of working and further development of technology it is anticipated better use can be made of repair teams engaged on these two activities and enhanced integration will be achieved.
- 6.4.4 The receipt of customer generated faults is now well established and the technology required to direct the call to repair crews for response is working well. However there are still difficulties in ensuring the customer receives timely and intelligible feedback on the status of the repair. Appendix C provides a diagrammatic flow chart of the process with enhancement to the latter stages of the cycle scheduled for implementation late Autumn once enhanced control and communication technology has been installed.

6.4.5 A large number of repair/small scheme items of work do not necessitate detailed and complex specifications and drawings. Under the new style working it has been possible to introduce a “Walk and Build” element of the service. This concept does away with the need to commission and prepare formal design and enables the local teams to discuss requirements and leave the works team to complete to an agreed quality level. This both speeds up the process and makes better use of resource. This year £5m worth of work has been commissioned in this way.

6.4.6 The new way of working requires a new approach to supervision and the old tendency for “man to man marking” has been replaced with a more efficient method without removing checks on the quality of work and the opportunity to impose sanction to maintain acceptable levels of performance.

6.4.7 Compliance checks are covered via three main means.

a) Outcome or performance related activity. This requires the contractor to keep a certain attribute or service to pre determined standards: e.g. street lighting to 98% serviceability. In these cases the contractor keeps check on the item and carries out whatever is necessary to deliver the required standard. Faults are logged on a common database and every response is cleared on the system which registers the actions and times as appropriate. Management reports are produced which allow staff from both parts of the organisation to ensure the appropriate standards are met. If performance dips, remedial action is taken, initiated either by contractor or client staff. The contract has sliding penalties if the percentage achievement drops by defined percentage points.

To ensure the database accurately reflects the situation on the ground, randomly generated sample check sites are produced each month based on the total inventory and client inspectors visit the site to verify the status of the item. Based on this inspection, the standard achieved is either accepted or rejected.

b) More substantive work either schedule of rates or target cost (over £100,000 in value). This activity involves works where the scale usually requires design and specification of road reconstruction or improvement. In these cases the work is subject to supervision from a partner other than the contractor. Checks are made on the quality, quantity and appropriateness of the work and the health and safety aspects of the operation. Final acceptance inspections also take place.

- c) Response to day to day faults and minor repairs. In these cases the contractor carries out the action against a menu of treatments and is expected to respond to the call, locate the fault and carry out appropriate action. All these activities are logged and monitored on the computerised database. In certain cases the scale of the defect may require follow up action. This, in turn, is generated by the database in the form of a Category 2 report which client managers prioritise and authorise further action as appropriate. These activities are managed via the self certification process.

6.4.8 The self certification process is a quality control mechanism which provides an audit trail of what has taken place and logs onto the computerised database details of when and where action was taken, the qualities of consumables used, and the need for further action. The certification process is subject to third party independent audit by the contractor's quality control assessor, B.S.I. A parallel client audit regime of randomly selected items is then carried out to check all aspects of the activity. If the audit finds non-compliance above an acceptable level, the frequency/ intensity of sample is progressively ratcheted up at the contractor's expense until the checks are back in compliance.

6.4.9 The main sanction is that the contract is subject to a stringent "performance health check". If the specified standards are not reached then the contract does not roll forward. The terms of the contract are for an initial 3 year period with an annual review giving a further year extension if successful. This can roll the contract forward for a maximum 7 year period. A further 3 year option is available at the sole discretion of the County Council taking the total period for the contract as 10 years.

The contract is subject to a very comprehensive performance management regime monitoring over 75 indicators which are combined from a number of perspectives which include effects on highway asset, customer, organisations etc. These are weighted to provide a balanced scorecard which shows overall performance trends. Individual service specific items can also be identified to ensure continued improvement/acceptable standards over all elements. This is further explained in one of the following reports.

6.5 Smarter ways of working

6.5.1 The objective of adopting this approach was to achieve radical improvements in design, improved quality of finished work together with enhanced levels of sustainability and customer satisfaction. This would be achieved by moving away from the traditional rigid and precise specification method of defining work often administered within an adversarial climate to a more collaborative approach where all partners' contributions throughout the construction cycle would be valued. Timely and appropriate contribution from all parties would thereby influence the cost design and outcome of all service and works items with all parties taking ownership of problems and having an interest in achieving a satisfactory outcome at all stages.

6.5.2 Such an approach is a massive change in operating culture and as such will need time to settle down and deliver the expected benefits. The first year has proved more difficult than expected but there is now clear evidence that staff understand what is expected and are adjusting to a more interdependent and collaborative approach. Whereas partner teams are co-located the full integration of teams is only slowly taking place and many of the management arrangements for the alliance have proved cumbersome and misaligned. There has been a lack of clarity regarding roles, responsibilities, procedures and processes whilst communication both internally and with the outside world has been found inadequate.

6.5.3 Detailed audits have been carried out to identify the causes of these problems and these have been successful in identifying the issues which are now being addressed.

The management structure has been streamlined and made more businesslike and key accountabilities for named staff made highly visible for all to understand. To support this there has been improvement in the establishment and use of robust office systems.

6.5.4 The communication problem has been tackled on a number of fronts. A communications team drawn from each of the three partners has been established. Their role is to facilitate support for member communication, improve internal communications and adopt a proactive strategy with media and public.

The previous practices of having named area staff as contact points for members has been relaunched and regular monthly bulletins identifying key points of interest together with updated works programme information is now tailored to meet each individual member's needs.

6.5.5 Amendments to the management structure of the Alliance will see a greater emphasis on locating key staff at the local area office level. This is expected to speed decision making and enhance information exchange.

6.6 Asset management approach

6.6.1 The highways asset plan provides the focus for all partners in planning and developing the service to best effect. By having a clear and systematic approach which sets out what is to be achieved and in which relative priority, many of the day to day decisions can be taken in a more informed manner thereby getting better value from the resources allocated.

6.6.2 The key objective in maximising the effectiveness of resource is to move reactive work to a more pre-planned basis. This minimises duplication of effort and ensures that a repair best meets the needs. For example, a pothole repair on a section of road due to be reconstructed within the next two years can be of a different and lower standard than one where the road is about to be surface dressed later in the same year.

The new way of working is already enhancing our knowledge base and providing more “real time” access to relevant information than ever before.

6.6.3 The Asset team in conjunction with expertise from within the partnership is working to improve the prediction of deterioration modes to enhance the prioritisation of road rebuilding programmes. New ways of presenting results and information is being developed to help members decide on their preferred strategy for investing in lengthening the working life of the various hierarchy of network

7. Financial Implications

7.1 A prime reason for setting up Hertfordshire Highways was to maximise the financial resources committed to looking after the highway network.

For 2003/04 the distribution of funding allocated to the alliance is currently being managed as follows:

	£,000
Structural maintenance	26,618
Routine maintenance	10,485
Lighting	4,436
Safety engineering	2,989

Traffic and Environment measures	793
Integrated transport schemes	12,845
Establishment costs	4,088
	62,254

The number of projects to be tackled was determined and budget was allocated on the basis of previous activity spends. Consequently the significant increase in customer reported faults as described in agenda item 3 has had to be catered via more effective working.

8. Impact on Rural Areas

- 8.1** The emphasis on service delivery is common over all areas of the County. However it is expected that the improved public access to service requests and the responsive nature of this part of the service will benefit rural areas in particular.
- 8.2** The level of service provision provided to rural areas in terms of road refurbishment will be in accordance with Asset Plan priorities. In this respect the highest priority is given to roads which take the greatest and heaviest volumes of traffic. Consequently many main roads which traverse rural areas will have high levels of provision. On the lesser used unclassified rural roads and in the villages with footways it is likely that traffic volumes will be such as to afford these categories low priority for the foreseeable future.
- 8.3** It should be noted that safety related items will receive a rapid response wherever they are situated.

9. Conclusions

- 9.1** The original concept that the formation of a Strategic Alliance to provide the total highway service throughout Hertfordshire based on a structured Asset Management Plan remains sound. It has the potential to provide a sustainable way of ensuring continued high-level service provision.
- 9.2** The initial anticipated three year timescale to bring forward the full potential for the arrangement appears realistic although the assumption that the basics would be capable of being put in place during the first six months was optimistic.

It is too early to determine whether or not the anticipated efficiencies identified in Appendix A will be achievable in the first full year. It is likely that the need to address early teething problems and some changing requirements will mean that the full benefits will not be realised until later in the cycle and some scheme work may need to be the first call on next year's budget.

9.3 The basic mechanisms for managing, monitoring and delivering the service are now largely in place. Further adjustments to organisational structures and development of the computerised data, payment and performance monitoring arrangements need to be finalised and these are expected to be refined within the next three months.

9.4 This report has concentrated on the establishment of the mechanisms for delivery but to be fully successful the on the ground performance and processes leading up to action on site needs to meet acceptable standards. The following reports review the operational aspects and provide specific conclusions and improvement comment relevant to the subject area.

The overall success of the Alliance is dependent on both aspects moving forward to realise the potential offered by the concept.

9.5 The indications are that the establishment and refinement of the mechanisms described in this report will facilitate the continued improvement of the operational performance of the Alliance.

Background papers

Highway Services procurement panel papers
Hertfordshire Highways Performance Monitoring reports
Cabinet papers 29th January 2001

Summary Table

Feature	Comparative Service Cost Based on Existing Arrangement	Anticipated Change from Existing to Offset Service Standard Improvement			
		Cost	Saving	Year 1	Year 3 Onwards
Streamline procurement process	Average 550k		✓	275k	410k
Search and find approach	6.0m		✓	300k	600k
Winter maintenance	1.5m		✓	150k	225k
Self Supervision	2.0m		✓	400k	1.00m
Joint working	10.0m		✓	1.00m	3.00m
Sub Total Potential Savings to fund service increases				2,125	5,235
Establish new local offices	412,500 less 200k contribution	✓		-212k	-212k
Client staff relocation payment		✓		-200k	-
Develop common management systems		✓		-250k	
Information and Communication costs	85k p.a. revenue costs 70k per office to set up	✓		-365k	-85k
Sub Total Net costs to facilitate change				-1,027	297
Net contribution to meet service growth				1,098	4,938

HERMIS STATUS SUMMARY

1. Introduction

The purpose of this report is to identify the status of HERMIS and its various functions. Each function is identified below.

Listed against each function is the scope of what HERMIS can and cannot provide. HERMIS, in this context, consists of a number of applications (including Hansen, Access, Visual Basic, C++, Crystal Reports, Arcview and MARCHpms) that need varying levels of skills to develop and operate.

2. Street Lighting

Functionality introduced in 1999 includes Inventory records and reporting, power consumption reporting, associated inspection and work order records. Geographic location of units is expanding and the Works Team is keen to engage in implementing stock control systems. Trunk Road data is soon to be added and surveys to capture additional inventory data for reporting through the LTP are underway.

3. Roadway Network and Inventory

Initially implemented in 1999, functions now include schematic viewing of road inventory and attributes (present and past), inspections, accidents and work orders. Tools to maintain the network and its geography are used by our design team, now co-located with the HERMIS team in County Hall.

Latest additions include pre and post salting routes, salt bins, footway usage. Information to be added or under consideration includes grass verge maintenance, wards and inspection frequency.

4. Accident data and analysis

HERMIS stores all injury and fatal accidents (and associated data about vehicles, injuries and drivers) that occur on the highways and are reported by the Police (who also have access to HERMIS). Tools allow the compilation of sets of accidents, making it possible to study patterns in the accidents in order to apply education and engineering solutions. Sets are combined to make studies, from which performance statistics are reported.

Future developments will include adapting to a new method of reporting by the Police and possible accommodation of 'damage only' accidents.

5. Customer Service Requests

HERMIS can accommodate publicly reported faults and defects that are added directly, entered via the Herts Direct Web Site or added by our CSC. Decision

modelling analyses the fault and its location, directing the fault to the most appropriate recipient. Where appropriate, the faults will go directly to the Works Team and create a Work Order ready to record corrective action. Records provide a means of feeding back information to the public and enable us to ascertain our performance measured against our Charter Mark promises.

Locating the fault by clicking on a map, automatic email receipting and progress reporting and enhanced integration with work order records are aspirations for the future.

6. Sign Inventory Data

Signs and Gullies throughout the County have been re-surveyed within the past four years. HERMIS provides access to all these records, enabling cleansing schedules to be easily generated by sign attributes and any related road attribute such as size, area and speed limit. Photographs of unique signs are also held against each sign record, enabling easy replacement.

7. Scheme Programming, Management and Reporting

Schemes on the annually compiled Integrated Works Programme of special maintenance and capital works are entered on HERMIS and details are added through the life of the scheme. This is the source of data for the "Roadworks on the Web" pages on Herts Direct. As soon as the learning curve (an inevitable consequence of implementing new systems) is levelling, the roadworks web page will be made publicly available. Public facing information includes location, duration, disruption, diversion routes, contact details and work status.

Future aspirations include utilising the complex process control functions to manage the progress of scheme information from initiation, through cabinet listing, implementation and completion, to inventory data update and final payment.

The same tables and fields provide the ideal functionality to progress to scheme reporting, temporary traffic regulation management and recording of 'events' on the highway.

8. Work Ordering and self certified billing

Work Orders are now created for emergency, routine and programmed maintenance work. They can be added manually and are also created automatically from hazardous publicly reported faults and safety inspection observations. They are capable of identifying a committed value of work as a bill of quantities and record the actual value of work as a measured bill of quantities and show the percentage difference. These are used by the Service Management team to instruct work and by Works Team to raise an invoice for work done. The Work Order will also identify and record time taken to complete work and provides the means of performance assessment. All functions have been approved by our auditors for the purpose of self-certified billing.

Processes continue to be refined with additions including automatic creation of subsequent action work orders to cover events where more than one visit to site is necessary to make safe, then repair a defect, for example.

Development is commencing to enable a similar mechanism for structural maintenance scheme work ordering, variation of commitment, interim and final measurement invoicing and credit notes. This aligns with SAP integration.

9. Work Order Auditing

A HERMIS utility has been developed that identifies work that is to be considered for audit, selected by criteria such as purchase order number and/or dates. From this list of completed work orders, the utility will randomly select a prescribed percentage that is to be audited. Lists are produced and circulated. The audit results are entered directly on to the reviewed work orders in the Area offices. The utility also provides reporting of these audit results.

The utility is to be further refined to select by Invoice number, filter out work that cannot be audited (removed obstructions, for example) and to show more information to make the search and assessment of work done easier.

10. Inspections

Inspection functions have been in use for Street Lighting inspections for two years. The Works Team have developed handheld data capture facilities to record safety inspections on site that download to the HERMIS database. These are accessible to all users and especially useful to our insurance section. Hazardous observations automatically generate work orders to keep the highways safe.

Future development, which the Works Team are taking the initiative to progress directly with Hansen, includes implementation of the Hansen 'Wireless Solutions' that will enable transmission of inspection and work order data to and from the Works Team gangs as they travel through Hertfordshire. This will enable real-time data capture and quicker response to emergencies and hazards.

11. Geographical views of HERMIS data

A suite of tools developed for us enable a product called Arcview to provide the best geographic views of HERMIS data and the means to add GIS data to HERMIS. As a result, we can produce maps and plans of accidents, salting routes, schemes, road condition, and transfer this geographic information to the Herts Direct Web site. This data is now being aligned with Hansen's own GIS data format, which will facilitate the use of the Integrated Map Viewer providing every user of HERMIS the ability to view data spread upon a map.

Another recent development enabled us to store highway boundary information on HERMIS for easy and accessible future reference. The same facility will enable similar 'shapes' to be stored for reference such as those associated with grass verge maintenance or Controlled Parking Zone orders.

Future development aims to integrate with corporate moves to the latest management of GIS data on a central server and moves to wider web access to GIS data.

12. Traffic Signal Inventory data

Facilities are provided for the storage and maintenance of Traffic Signal data, but these have not been utilised yet.

13. Bridge and Structure Inventory Data

Facilities are provided for the storage and maintenance of Bridge inventory, but these have not been utilised yet. When resources can be programmed to map existing bridge data to HERMIS, bridge locations, inspections and works can be integrated and viewed alongside all other HERMIS data.

14. Employee Log

This facility stores details of every user of the HERMIS system, including their location and phone number. Each user and their details are added as a necessary part of creating a new user account. These records also include details of HERMIS training that each user has received.

This facility is being examined with a view to manage a register of Health and Safety qualifications necessary for working on the Highway.

15. Contractor Cataloguing

HERMIS stores the names of Contractors as a part of validating data entry in Work Orders, street lighting and gritting related functions. This facility has the potential to store details of different contractors and is being developed to provide a select register of contractors suitable approved to work on the highway. This list will become widely available to all users of HERMIS and accessible for approval of development works.

Reporting this list needs to be developed.

16. Document embedding and management

Almost every part of HERMIS, from Work Orders to Sign Inventory, provides the means to include any electronic computer generated file that might be associated with a particular record. This provides the mechanism for passing location plans and health and safety forms to the Works Team electronically with each work orders and store photographs of signs for easy replacement.

The only limit is that a single file cannot be linked to more than one HERMIS record without copying it. However Specom eB, which links easily with the HERMIS software, could overcome this shortfall if it should prove to be a problem in the future.

17. Reporting

The Hansen software used to add maintain and deliver most of the HERMIS functions does not include easy means of reporting data. Instead, HERMIS uses various other software applications including MS Access, Visual Basic, Crystal Reports and Arcview. These are used to create our own reports that users need to

provide their services. Some are designed such that the user creates their own data reports with a few clicks on the computer. Others enable the HERMIS support team to produce ad hoc one off reports on demand.

The latest supplement to this list of reporting applications, soon to be acquired, is Hansen Dashboard. This will enable real time reporting of performance and 'state of the nation' type issues from HERMIS data. It delivers information in the same way that instruments in a car enable decisions to effect safe and efficient travel.

18. Street Works (road space booking)

Processes and functions necessary for effective delivery of our service in compliance with the New Roads and Street Works Act (NRSWA) necessitate the use of CONFIRM software. This operates in isolation to the HERMIS data. As a result it has to be maintained as a copy of the HERMIS data and the Street Works cannot be easily integrated and viewed alongside other activities and works taking place on the highways without copying and transferring data between databases. However, HERMIS is being developed to undertake these functions by Hansen.

Because our own roadworks can be displayed on the web from HERMIS, the move to displaying the utility companies work on the web in the same way would be easy to facilitate when HERMIS undertakes the NRSWA functions.

19. Traffic Regulation Orders TRO

The Work Notice Application part of HERMIS is ideally suited to managing and controlling processes and is, therefore, ideally suited to managing the implementation of temporary TROs. The inclusion of this data within the HERMIS database would have the advantage of making it accessible for integrating with other events and works on the highway to ease congestion. Resources are insufficient to progress this at present.

As with Street Works, it will be equally as easy to view these temporary TROs on the web.

20. Integration with SAP

SAP is being implemented corporately to manage finances and human resources. Because work is instructed, estimated and paid for through HERMIS, the two systems must be integrated to avoid duplication of data entry. HERMIS has been accepted as one of a small number of approved feeder systems to SAP and progress is being made on this integration.

21. Pavement Management System integration

Data is collected every year to assess the condition of the highway network. This data is stored in HERMIS and is available to be viewed alongside every other item of data for any particular street. This data is used to compile an annual programme of structural maintenance work. This data is also processed automatically in a system called MARCHpms to derive Best Value Performance Indicators for assessment of our network in a national context influencing the allocation of government funding for local authorities.

HERMIS utilities are being developed to integrate the Hansen database with the MARCHpms database, thus realising the advantages of a single source of data.

22. Plant catalogue – Gritters and PC equipment

This part of HERMIS has been used to manage and monitor users PC, thus enabling efficient roll out of updated HERMIS software. It has also been utilised to manage the purchase of a new fleet of winter gritters and has potential for similar use in the future.

Improving the customer experience

Customer



Online fault log



Call centre



Customer confirmation



Streamlining fault reporting and repair

Works order



Repair



Order acceptance