

Submission of Application for Element 2 of the Funding for Transport Asset Management - Nottinghamshire County Council

1 Introduction

Nottinghamshire County Council (NCC) wishes to submit a bid under the Department for Transport (DfT) Asset Management Element 2 funding.

NCC is a Local Highway Authority based in the East Midlands region and is responsible for the maintenance of over 4,700km of local roads. As an Authority, NCC has adopted asset management principles and practices in the management of the highway assets.

NCC has gathered highway data and carried out analysis for a number of years now, recent work being linked with the implementation of a Highway Asset Management System. The data collection regime is based around previous gap analysis work completed as part of the production of the Transport Asset Management Plan (TAMP), version 2 of which is due to be published in April 2009. This has been supported by a report approved by the Authorities Highway Management Team which prioritised the collection of footway, safety fencing, street furniture/traffic signs and drainage asset data. This is to be supported with the annual ongoing collection of highways condition data.

The aim of this narrative is to highlight how NCC has made innovative use of data in making investment and maintenance decisions on the highway. This includes the use of both historic and new data, utilising systems and processes to integrate and develop all highway data.

The Authority has always tried to keep in touch with latest technology whilst fully appreciating that when data is collected it should be relevant, appropriate, reliable and affordable. Another integral element is the ability to maintain data both inventory and condition once collected. It is considered that our approach represents best practice in the management of our key highway assets and would welcome the opportunity to share this approach with other highway authorities.

The County Council has adopted a fully integrated system for the management of its highway assets. It is felt that this approach best suits our business needs. To support this integrated system the Authority has developed a centralised team responsible for the management of it's implementation and development.

The primary areas covered in this narrative include:

- Highway Asset Management System and data integration
- Developments in technical condition data
- Management of the highway drainage asset

The narrative will be presented in the order above as the development of the Authorities asset management system has facilitated advancements in the use of technical condition data and management of the highway drainage asset.

The innovation and techniques being used to manage the assets in Nottinghamshire effectively and efficiently are helping the council support its reputation for providing excellent services. The Authority in its Strategic Plan 2006 – 2010 “All Together Better” states that “... we want to make sure we provide communities with the services they need” and defines three specific ways this can be achieved, namely:

1. Putting our customers at the heart of everything we do
2. Delivering excellent, but affordable public services
3. Being a civic leader, helping to develop strong communities

This narrative will make reference to the Strategic Plan where applicable. Areas for development subject to successful funding will be included at the end of the narrative.

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2 Highway Asset Management System and Data Set Integration

The County Council's Highway Service Best Value Review 2002/03 identified the need for the Authority to purchase a Highway Asset Management System (HAMS) to significantly assist in establishing the full quantum and condition of our highway assets and enable the Authority to meet the recommendations of the Code of Practice for Highway Maintenance Management.

Following a detailed process of procurement the Confirm Highway Asset Management System supplied by Pitney Bowes was selected as the preferred software solution in 2006. The implementation of HAMS is allowing NCC to integrate many of its asset data sets and manage the highway asset in a consistent and effective manner. This should help us to achieve our target of delivering excellent, but affordable public services and including customers in our processes for managing the highway. This section will be split into the following sections:

- Overview of modules implemented
- Data integration
- Customer interface
- Management of change

Whilst many authorities use different asset management systems, we believe that it is our approach to the implementation and management of the system which is innovative and makes best use of our own skills and resources. To date the Authority has invested over £500,000 in the implementation and development of HAMS, this excludes staff time. Benefits achieved will be described in the relevant sections.

2.1 HAMS Module Overview

Over the years the County Council has had many different systems used to manage various asset types. The decision was made to try where possible to integrate data sets together. This offers the authority a number of benefits including consistency of approach, reduced training requirements for a range of systems, increased efficiency in viewing and manipulation of multiple data sets, the facility to link customer enquires to specific asset types and more. Where applicable all data is map based and compatible with all current Geographic Information Systems.

The overall management and implementation of the HAMS is the responsibility of the Highway Assets Team in the Authority. This avoids duplication of work between teams on module implementation and ensures a consistent approach is maintained. This has worked well as different areas of the Council now approach the Highway Assets team for advice and assistance in dealing with a range of asset data sets. Modules implemented (or in the process of implementation) are as follows:

- Customer Relations Management
- New Roads and Street Works
- Bridge Management System
- Street Lighting Management System
- Pavement Management System
- Inventory
- Inspections (including mobile working)
- Works ordering
- Arbicultural

Whilst most modules are now fully integrated, the population of data and system development is an ongoing process. Some of the advantages already being noted include increased response to customer enquiries, ability to extract data for analysis and increased data availability for staff.

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2.2 HAMS Data Integration

The key element to our approach for the HAMS development is the integration of data sets. Historically a number of networks have been maintained for various purposes. Within HAMS the chosen network is the street network maintained in the Local Street Gazetteer (LSG), this data ties in the Local Land and Property Gazetteer used by district councils, emergency services etc. NCC as the creating authority is responsible for the creation and maintenance of constituent parts of the LSG and works with local district and borough councils who are the Street Naming and Numbering authorities. Data is sent to Intelligent Addressing on a monthly basis for validation, this data is used by various organisations. However, the main linkage for NCC as a highway authority is the requirement of utility companies to notice works under the New Roads and Street Works Act 1991. All notices have to be linked to the USRN and these are currently loaded into our HAMS.

All other data contained with the HAMS is linked to the Unique Street Reference Number (USRN). This provides the key to data integration as the aim is to allow the highway manager, maintenance engineer, elected members other stakeholders information on a particular street in a single location. Figure 1 below illustrates a basic structure to data held on a street, the types of assets attached to a street may be physical (such as lighting columns and trees) or non-physical (such as traffic flows or health and safety information).

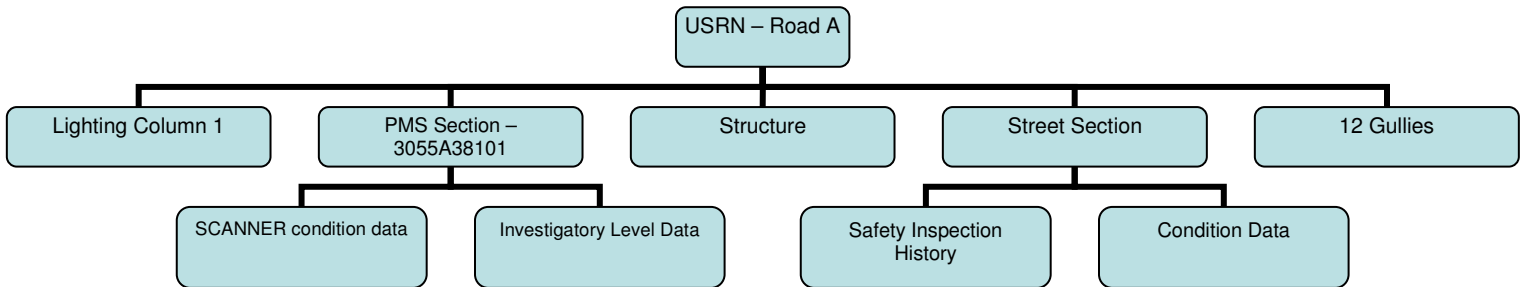


Figure 1: Example of basic structure for Highway Asset Management System

Another major issue for the Authority is providing data for the defence of insurance claims. Historically, this has been a resource intensive exercise requiring staff from multiple departments to participate with tight time scales.

NCC has set HAMS up to allow the administration of data supplied for insurance claims to be carried out via HAMS. As all data is linked to streets data, all required data such as inspection history, maintenance history, customer enquiries and utility works information can be obtained quickly and accurately directly out of HAMS and sent to insurance. This process does not have to be done by technical staff and administrative support is being utilised in this process. Figure 2 shows an example of a street history report obtained directly out of our HAMS.

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Street History Report

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Effective: 01/01/2008 to 18/12/2008		Street: Fox Road (33000938)						
Street: Fox Road (33000938)		Locality: West Bridgford, Nottinghamshire						
Area: Rushcliffe		Area: Rushcliffe						
Condition Survey								
Defect No.	Description	Log Date	Location					
Feat. No.: 2,000.00	Feature Id - Locn.:							
Batch: 800829 - Inspection Batch			Route: Rushcliffe Area4 Sep Enh CW/FV					
801473	remove blocks around tree	01/10/2008	o s 31					
801474	reset 1x10x5 kerb plus blocks around tree	01/10/2008	o s lanwood and voce pub					
801475	small element paving uneven around tree	01/10/2008	o s 17 o s the wickets flats o s trent bridge house and jic with radcliffe road					
801477			H-W FW Tree route uplift					
101477			Internal					
101479			H-W FW Tree route uplift					
101478			Internal					
Batch: 800355 - Ad Hoc Inspection Batch			Route: Ad Hoc Rushcliffe					
800924	C/way patching	24/06/2008	H-W CW Cracking					
100926			Internal					
Batch: 800195 - Inspection Batch			Route: Ad Hoc Rushcliffe					
800493	1x6x5 kerb loose	04/06/2008	o s trentbridge house					
100493			H-W FW Tree route uplift					
100493			Internal					
Batch: 800045 - Inspection Batch			Route: Ad Hoc Rushcliffe					
800025		23/04/2008	H-W CW Cracking					
100024			Internal					
800024		23/04/2008	H-W CW Cracking					
100025			Internal					
Customer Services								
Enquiry No: 607999	Logged by: Catherine Hallam	on: 19/03/2008 10:55	Officer: Sean Bluett					
Service: Road Works	Subject: Information Request	Classification: Service Request						
Desc.: would like application forms for temporary traffic lights. The company is not currently doing any works however would like them ready for future use. If possible could these be emailed-informed Kayley that I would request this but wasn't sure if it was possible								
Location: no location-application form request.								
Contact:								
Enquiry No: 607079	Logged by: Richard Penschaw	on: 25/02/2008 11:03	Officer: Jeremy Shaw					
Service: Carriageway/Footway	Subject: Blocked Drain	Classification: Report or Observation						
Desc.: Debate to be held 1st May re surface drains and proactive countermeasures to flooding. Gov't initiative. Located at the Barbican Centre, London. Please phone today to advise who will be going.								
Location: N/A								
Contact:								
Enquiry No: 102098	Logged by: Alex Stannard	on: 18/01/2008 10:49	Officer: Sharon Kirk					
Service: Carriageway/Footway	Subject: Temporary Sign Issue	Classification: Report or Observation						
Desc.: Update about temporary signs regarding that Belvoir Castle game and County and Craft fairs								
Location: Not on Fox Road but General								
Contact:								
Maintenance Management								
Job No.	Description	Location	Officer	Priority	Job Status	Entered	Completion	Works Order
Feat. No.: 2,000.00	Feature Id - Locn.:							
100024	H-W CW Cracking		Jerry Abbott	24 Hours	Job Closed	23/04/2008	13/05/2008	Act. RUSH/800057
100025	H-W CW Cracking		Jerry Abbott	24 Hours	Job Closed	23/04/2008	13/05/2008	Act. RUSH/800022
100493	1x6x5 kerb loose (H-W FW Tree route uplift)	o s trentbridge house	Jerry Abbott	24 Hours	Job Closed	04/06/2008	11/06/2008	Act. RUSH/800141
100926	C/way patching (H-W CW Cracking)		Jerry Abbott	7 Days	Job Closed	24/06/2008	27/06/2008	Act. RUSH/800272
101477	remove blocks around tree (H-W FW Tree route uplift)	o s 31	Keith Fletcher	30 Days	Job Raised	01/10/2008		

Report generated by : Mike Barnett

08:19:59

Figure 2: Example of Street History Report

2.3 HAMS Customer interface

As an Authority aims to put the customer at the heart of everything we do. The development of HAMS allows this to be achieved, via the Customer Relation Module within HAMS. Firstly all customer enquiries via phone and letter (scanned and linked electronically) are recorded within the system and details of enquiries sent directly to responsible Officers. This reduces the time between messages and facilitates all information related to the issue can be attached to the individual enquiry.

The County Council also utilises a “Golden Number” for all calls that act as a one stop shop. Staff at the Customer Service Centre has immediate and up to date access for all enquires, this also helps to reduce repeat calls and duplicate enquires being sent to officers. Work is currently being undertaken for HAMS to report on the number of calls and identification of duplicate calls as part of its commitment to provide accurate and consistent data for National Indicator 14 – avoidable contact.

Work is ongoing to develop links between HAMS and Customer Relations Management systems such as LAGAN (proposed County Council corporate system) and Northgate (systems used by District Councils). Partnership and collaborative working is key to successful linking of these systems, advantages will include reduced data handling and increased up to date information being available for customer services operatives to inform callers.

Section 4 of this narrative describes how data is being used innovatively on the drainage asset. The customer interface and data recorded through HAMS on customer enquiries and type of enquires such as flooding and blocked drains are vital in identifying “problem” or “hot spot” areas. As data is attached to streets, data can easily be output into other applications such as Geographic Information Systems. At this stage data can be plotted and combined with other data sets such as flooding information from the Environment Agency for further analysis to be completed. The customer interface is vital in identifying flooding issues that can be utilised in consultation with the relevant organisations.

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2.4 HAMS Management of Change

The implementation of a department wide HAMS has resulted in changes to existing systems and slight changes to processes/practices for certain staff. To overcome any difficulties and for management of the change process a significant amount of consultation and training takes place with affected staff. This is managed by a central team in the department and any necessary and support is provided by experienced officers that are both familiar with the system and common issues encountered.

The Highway Assets team promotes a “train the trainer” approach and champions within individual team, these are supported by specialists users where required. A number of user groups have been set up for the different modules within HAMS, these give opportunity for issues to be discussed, share best practice and identify ideas for development.

A major advantage of the system is that the user screens for the different modules look the same. Whilst content varies, staff with experience of manipulating asset data for street lights is able to transfer skills into other asset areas.

3 Developments in Technical Condition Data

NCC as a local highway authority collects a significant amount of technical highway condition data on an annual basis; this is supplemented by detailed inventory data collected on approximately 10% of the network as part of annual Detailed Visual Inspection (DVI) surveys. Technical condition data collected includes:

- SCANNER – 50% of A-roads in both directions annually, and 100% of B and C-roads in one direction annually
- SCRIM – 33% of A and B-road network in both direction annually
- CVI – 33% of unclassified road network annually
- DVI – 50% of Cat 1 & 2 Footway network annually and approximately 300km of other footways (Cat 3 & 4) and unclassified roads

Whilst SCANNER data is collected as part of the requirement to produce National Indicators 168 and 169, the data in conjunction with the other survey data sets is also used to:

- Inform the asset valuation process and provide data to assist in the calculation of Depreciated Replacement Cost
- Setting service levels for different classes of road
- Justify additional funding – Condition data formed the basis of a successful capital bid within the Authority
- To determine funding levels required and assist in the allocation of funds between road classes and operational areas
- To inform and support the production of annual work programmes and multi year programmes on the Principal Road Network
- Provide data to support Performance Management monitoring within the Authority

Together with the development of the Authority’s Pavement Management System (PMS) the data is available to all Offices county-wide, including District/Borough Council Partners with possibility to extend out to Design partner (Scott Wilson) and Construction partner (Tarmac).

Over the last two years significant work has been undertaken on highway condition data related to data management, analysis and its integration with other data sets. This section of the narrative will look at the following issues:

- Integration of data sets
- Benefits to programme delivery

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3.1 Integration of data sets

Over the years planned maintenance programmes have been produced and implemented using technical condition data and relying on local knowledge and memories of area engineering staff. The development of the HAMS as discussed in section 3 has facilitated the integration of data sets that can be utilised as part of the preparation of the planned maintenance programme.

For example, the Authority is implementing the Inspection and Works Ordering modules in the operational areas. This allows area staff to undertake periodic safety inspections and respond to customer enquiries remotely from the office. As all data is connected via the USRN (as described in section 3.2) then data such as number of enquiries, quantity and value of reactive maintenance works can be extracted and combined with technical condition data such as SCANNER to assist in the decision making process.

Historically, the technical data has been held centrally and software issues have restricted the circulation and availability of data. The integration of data into HAMS has facilitated the wider use, availability and understanding of this type of data. Area engineering staff have been very responsive to the improvements in the data type and methods of delivery. This has increased its level of use and helped achieve greater cross team working for programme delivery.

Other data held by the Authority such as Investigatory Levels have been incorporated into HAMS and linked to the technical condition data. This allows the authority to maintain a history and hence audit trail of any changes to this data set. This is particularly important where data is provided to defend accidents, some serious on the highway network where skidding resistance information is requested.

3.2 Programme Delivery Benefits

Advancements in the use and management of the data have enabled benefits in programme delivery to be achieved. Details of benefits are as follows:

- Performance data can be obtained quickly and accurately, changes to requirements can easily be adopted and data produced. Details analysis of performance data has also been used to inform the asset valuation process and assist in setting budget information.
- SCANNER and SCRIM is supplied at the same time and data displayed collectively in mapping software. This has allowed the production of structural maintenance and surface dressing programmes to be prepared together reducing overlap and abortive work. It has also helped the Authority in developing long term investment strategies.
- Technical condition data is used to support and inform customer enquiries regarding works programme. Data produced has also been used to successful bid for additional capital money for planned maintenance works.

Value for money is being achieved in the reduction in staff time preparing works programmes. In addition to this National Performance Indicators have shown consistency in the condition of the roads in Nottinghamshire, the Authority is confident that the work that is being done will assist the authority in improving its performance and reducing outstanding maintenance issues on the network.

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4 Management of the Drainage Asset

Over the years, Nottinghamshire like many counties had to deal with the effects of flooding. This was particularly prevalent in the summer of 2007 where a number of areas in the County were subject to severe flooding with property and infrastructure being affected. As part development for the management of the drainage asset, NCC appointed a Drainage Manager in November 2007. This post in conjunction with other Officers in the Authority has helped in the development of asset management principles for the drainage asset. In addition the post assisted in a recent Scrutiny Review of Flooding: Drainage and Watercourses undertaken by the County Council.

The effective performance of drainage as an asset can have significant impacts on the community and our customers the people of Nottinghamshire. The use of this asset data is aimed at good communication and consultation and allowing us to deliver drainage service that provides excellent service within a limited budget.

This element of the narrative will be considered in the following areas:

- Recording the asset
- Management of the asset
- Asset ownership
- Enforcement
- Customer interface
- Areas for development

4.1 Recording the Drainage Asset

Recording details of the drainage asset is a difficult and potentially expensive undertaking due to its nature with a large proportion being underground. Within the Authority records kept are varied and of differing qualities. Over the years, data such as the number of gullies on individual streets tends to be known for cyclic purposes. Other elements of drainage such as culverts, headwalls, ditches, outfalls and the like have tended to be recorded locally and known by local area engineering staff.

The appointment of a Drainage Manger has enabled the authority to have a detailed review of the data held and start a process for the collation and management of data held. The primary issue has been to research the records available. The Authority has initially concentrated on historical drainage drawings which tend to be shown on highway adoption drawings; although a number of drainage specific drawings have been found. So far approximately 2000 drawings have been located and electronically scanned. Some drawings scanned date back to the 1950s. Further work is being undertaken to extract drawings currently unavailable due to archiving.

It is envisaged that further drawings are available from District Councils as former housing authorities, as well as surface water plans from the old Rural District Councils who were the drainage authority before the advent of water companies. Overall though, records have been mostly available in areas where the County Council has always been the Highways Authority.

The County Council supplied a resource to link the electronically scanned drawings to the streets data referred to on the drawings. This data has been stored in our HAMS and is available to view in all area offices and at partner district/borough council's.

Details for large culverts (greater than 0.9m) have been historically stored and managed in a Bridge Management System. However, over the last year staff have also transferred details for small culverts (less than 0.9m) from old plans onto HAMS as these have not been treated as structures. All data stored on HAMS is linked to the relevant street via the Unique Street Reference Number (USRN). This data is obtained from the Local Street Gazetteer (LSG) maintained by NCC for the streets in Nottinghamshire. This allows data to be searched via the street name, road type, town, ward and more.

4.2 Management of the Drainage Asset

As a Local Highway Authority, NCC has a responsibility for managing the drainage asset as part of the highway i.e. culverts, drains and gullies. In addition to this, the Authority wishes to manage these as part of the overall drainage infrastructure of the County, much of which is the responsibility of other agencies.

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As an Authority, Officers have been working closely with the EA on drainage and flooding issues. Recently a presentation was made to the EA to illustrate the work done by NCC on recording the drainage asset and how data integrates with other assets such as structure. The aim was also to assist the EA understand how their systems could be developed. In the long term there are possibilities for linkages of the asset management systems. Work is ongoing to gain information on the various EA rivers within the county (many of which have been recently enained) and incorporate it into our HAMS. This will enable our critical infrastructure culverts to be maintained as part of the overall water course maintenance regime. This has a huge benefit to the community and this links in with the current thinking of the Pitt Review into the recent floods.

The work carried out on the drainage asset in HAMS has enabled NCC to provide information on the capacities of our system to the EA as part of a flood prevention study for the village of Lowdham. This is where 140 properties have had house/garden flooding in the summer of 2007. The data provided may not have been uncovered without the work carried out to collate the historic drainage information and proved a useful resource as part of the study. The way data is held also facilitates quick and easy retrieval of data saving staff resources searching through paper drawings.

Collaborative working is important to the County Council and it aims to manage the drainage asset in liaison with the Internal Drainage Boards (IDB's), water companies as well as those District Councils who choose to carry out water course maintenance as part of their responsibilities under the 1991 Land Drainage Act.

This method of asset management which is under constant review and development has benefits for reducing maintenance costs for the highway in terms of pavement/structure damage. There are also social, economical and environmental benefits of improvements to the management of the entire drainage infrastructure irrespective of responsibility for the community as a whole.

NCC is also trying to better integrate our asset management approach in specialist asset areas. An example is the 9 highway pumping stations that the council maintains and how the management could be linked with other agencies, who also maintain a large number of pumping stations. The aim of this integration is to look for economies of scale with an example being common monitoring system.

All the information is being used to start the first stage of the development of the Surface Water Management Plan for the villages affected by flooding. This would be under the overview of the EA where flooding is a direct result of a main river or as a joint local government approach (District Council and County Council) where flooding is not direct from a main river. Finally this would tie in with the Central Government thinking that the County Council should lead on the management of local flooding and be responsible for collating and recording the main flood risk management and drainage assets.

4.3 Drainage Asset Ownership

The identification and recording of our asset has identified large sections of drainage infrastructure of unknown ownership. A particular example is where our highway drains are carried into surface water sewers (i.e. they take surface water from properties) and these sewers are not public sewers. In this case they are not maintained by the local water company.

Also, large areas of district council houses, housing associations or old coal board estates have miles of underground drainage under the public highway which is not maintained. This affects highway maintenance condition as well as potentially causing localised flooding.

Whilst issues are being identified, this process enables NCC to manage the problem and liaise with relevant parties to obtain resolution of issues. The Authority is well placed to meet duties under the Traffic Management Act 2004 to record both our drainage systems and other private systems, however constant work and investment into the HAMS is required. In addition potential legislation for private sewers may result in ownership changing to public status and our asset system will help considerably in this respect.

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Currently, NCC does not make any investment in the maintenance of assets owned by other organisations. Other Highway Authorities do this in the absence of reliable ownership and assets records and this is a primary driver for NCC as unnecessary maintenance costs reduces our ability to effectively manage and maintain our own asset stock.

4.4 Enforcement

As a local highway authority, NCC has a duty to maintain and provide safe access to the highway, so safety and availability remain a key aspect. An asset management approach allows the authority to do this and also enables us to enter the area of enforcement in a co-ordinated way. For example, highway drainage and maintenance of highways is often dependant on the condition of watercourses in riparian ownership. The County Council can now work with districts and IDB's to prevent flooding and subsequent highway damage by using land drainage powers to prevent damage to the highway structure.

4.5 Customer Interface

The accurate recording of problems identified by customers and the general public means critical infrastructure from a drainage viewpoint can be easily and quickly identified. This means that the limited maintenance funds can be better targeted in the problems areas, thus improving customer perception.

The Authority also has specialist drainage response vehicles, these can be sent out with plans obtained via HAMS to clean out problems areas and better inform the public of what the highway authority has done and why. In addition, information with reference to apparatus maintained by other agencies can be provided together with relevant contact details. HAMS also has the facility to record details of drainage investigations and attach any external information collected such as photographs and video surveys.

5 Summary

Officers at the County Council actively participate in user groups, regional and national seminars. In addition the County Council is a member authority of the Midland Service Improvement Group and one of the leading authorities involved in the work on an interim asset valuation approach.

Over the past 12 months, NCC has been approached by a number of other authorities to demonstrate our HAMS with particular reference to the Pavement Management System, Inspections, Works Ordering and mobile working. This is very useful to help our own development and to appreciate difficulties experienced elsewhere.

This narrative has described how the Authority has tried to make best use of data collected. In order to achieve the advancements in our asset management the County Council has had to be innovative in its approach.

The Authority would be willing to act as a regional champion if successful; this would include presenting the work done on the data to date and providing details of advancements made using the secured funding.

This narrative does not include an amount to be claimed as it is considered improvements can be made irrespective of the amount allocated. It is envisaged that investment would be made in systems, data and staff resources. Areas of development should Nottinghamshire County Council be successful in an element 2 bid are detailed below, these are based around the subject areas of HAMS development, technical condition data and management of the drainage asset as described in this narrative.

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5.1 Areas for Development - HAMS

The authority has already made significant investment in the implementation of HAMS. However, any additional funding secured would allow us to push forward with a number of areas, these include:

- Development of web based customer enquiries utilising the latest map view technologies
- Publishing of asset data for wider access and usage
- Expanding the asset base stored within HAMS and analysis techniques adopted to aid decision making
- Develop reports and interactive mapping via GeoReveal to provide information for both Management and elected members of the County Council and partner organisations

5.2 Areas for Development – Technical Highway Condition Data

The Authority is committed to continue to invest in technical condition surveys; this includes the collection of the former National Best Value Performance Indicators 187 and 224b. Data produced will continue to be used for production of performance information, assist in budget and service level setting, preparation of works programme and in asset management planning. If NCC is successful in securing additional funding, the following areas for development are proposed:

- Expand the collection of footway inventory and condition data to assist in the development of lifecycle plans, asset valuation and programme preparation
- Develop HAMS and processes to incorporate accident data with technical SCANNER and SCRIM data to speed up the analysis process and aid decision making
- Further integrate planned and reactive maintenance programmes to allow the full history of streets to be reported
- Undertake workshops with operational staff to develop bespoke rule sets and processes to further enhance data analysis work carried out on the data

5.3 Areas for Development - Drainage

On a national level there are potential changes to the structure of Internal Drainage Boards. Currently there are 10 IDB's of various sizes in Nottinghamshire. The suggestion is that they will be reduced in numbers significantly to 23 nationally. The HAMS would need to develop to incorporate such changes. Asset data within HAMS needs to develop to include IDB watercourses where they cross highways. Other legislative changes may be included in the new Floods and Water Bill, as outlined in the Government response to the Pitt Review published in December 2008.

It is intended that should additional funding be made available from the DfT as part of the element 2 bid, NCC would be able to share their experiences and present findings as work is developed. The funding would allow the County Council to develop the following areas:

- Identification of critical infrastructure and carry out possible hydraulic assessment
- Collect detailed drainage inventory and condition data in identified "hot spot" areas
- Use HAMS and other Geographic Information Systems analysis techniques to identify problem areas and populate information for customer information
- Improve information availability to mobile units for emergency response situations
- Develop the HAMS system for the drainage asset and look at incorporating asset data from other agencies to facilitate informed decision making and increasing the collaboration and multi-agency working