



Asset Management Case Study

Local Authority	Oxfordshire
Region	South East
Sector	Highways
Theme	Highways Asset Management
Benefits	Employing an innovative and informed use of data, collaborative working and value management to manage and control flood risks
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Key lessons

- The drainage network is extensive and there are large gaps in information. As it would take a long time and a great deal of money to investigate the network in its entirety, it makes sense to concentrate attention on problem areas where investment will have the greatest benefit. Sometimes the solution is straightforward, whilst at other times it is necessary to consider the contributory factors over a wide area.
- The approach taken by Oxfordshire CC pre-empted the new Flood bill by involving other agencies in the work to identify high risk areas. Because the site investigation can often cost more than the solution, the more we can share data and resources the more efficient the work should be and the more successful the outcome, particularly if a SUDS approach is adopted.
- There is now a much greater focus in Oxfordshire on drainage issues than previously, and this has been reflected by the Cabinet agreeing to much higher budget allocations for drainage than in previous years. It would be a shame if the momentum is now lost as a result of the severe budget cuts nationally.
- Oxfordshire is taking advantage of new technology to record and map the drainage data on GIS; the system used for drainage inventory may well be applied to other asset groups in future.

Summary

Oxfordshire County Council is developing its asset management strategy to enable it to plan and respond to adverse weather events and climate change. This strategy involves identifying the locations that are most susceptible and where the risk of damage, disruption or hazard is greatest. A key aspect of this strategy relates to the control and alleviation of flood risk through the innovative and informed use of data, collaborative working and value management, and it is this area that it focused its bid for Element 2 transport asset management funding.

Background

Oxfordshire was one of the counties worst hit by the flooding in 2007. A number of major rivers burst their banks, including the Thames and the Evenlode. Flooding occurred in highly populated areas, and damage to the highway infrastructure alone amounted to over £1 million, with roads and bridges being particularly affected. Furthermore, highway drainage systems were unable to cope with excess water from land drainage flows due to lack of design capacity, damaged components or infrequent servicing.

Following these floods, Oxfordshire County Council recognised the need to put measures in place to better help them manage potential flooding and so it set about developing a strategy to manage this. This approach was further embraced following publication of the Governments Pitt Report, which recommended that local authorities should take the lead in devising strategies to improve flood management. Oxfordshire County Council has fully embraced the recommendations of the Pitt report and progress has been made on a number of fronts.

Drivers for Change

Oxfordshire identified a number of issues with its existing approach to Asset Management and outlined a number of key drivers to help them drive the programme forward, as follows;

- To become more informed about the nature and condition of their highways assets, particularly their drainage network
- To make the best use of the data available to help drive improvements
- To improve customers perception and satisfaction with Highways
- To produce sustainable on the ground solutions, whilst managing the flood risk

Because flooding isn't just a County Council issue, Oxfordshire recognised that it would benefit from a combined approach. As such, they formed the Oxfordshire 'Drainage Asset Management Working Group' which was made up of a number of both internal and external concerned parties, including (among others); the Area offices, the Asset Management Team, the ICT team, UK Climate Impacts Programme (UKCIP), The Environment Agency, Thames Water and the Emergency Services. The objective of this group is to identify organisations that can contribute to the input of data by qualifying its usefulness. As part of their remit they have identified a number of necessary changes to improve existing practices;

- Consider the effects of climate change at the planning stage
- Facilitate/promote the exchange of data between partner organisations
- Proactively manage flood risk
- Assess the implications of flood risk on vulnerable users , properties and traffic
- Consider the wider flooding and drainage issues, whilst addressing local concerns
- Improve cost effective, sustainable solutions
- Provide timely information for the local population and travelling public

Improvement Action

Oxfordshire County Council's 'Element 2' submission to DFT outlines how it would use the funds to control and alleviate flood risk through the innovative and informed use of data, collaborative working and value management. See [www.helg.org/asset management](http://www.helg.org/asset%20management). Reward funding of £500,000 was awarded. However, the funding is just a starter and it will need to invest significant additional funds throughout the duration of this project.

Oxfordshire's drainage network is one of its largest assets. It had been built up in a mostly ad-hoc manner over time, and much of it remained unrecorded, un-quantified or unidentified. The older drainage records were often inaccurate, incomplete or out of date. To address this, Oxfordshire has now begun the process of improving its drainage inventory database. As a starting point, Oxfordshire has adopted a targeted approach, enabling it to concentrate initially on the areas of the network that present the highest risk, eg sites with regular disruptive flood events with the study now being extended to consider the impact on major diversion routes, areas close to vulnerable people – retirement homes, etc.

To help it understand and respond to climate change and the adverse weather events it can trigger, Oxfordshire County Council has entered into a partnership with UKCIP to develop its response to climate change across the County Council's functions. UKCIP are based in Oxfordshire and provide climate change data for the Government. Through this collaboration, Oxfordshire County Council will be using various tools and data provided by UKCIP to identify areas within the County that are at high risk from changing weather patterns. This process will evolve, and will continue to be fine-tuned as time goes on.

As a starting point, Oxfordshire County Council - with UKCIP - has divided the county into 5 kilometre test grids. This enables them to monitor the weather and its impacts within a specific area, giving more detailed information as to the more problematic areas of the network. Alongside this 'practical' activity, it has also begun to review existing records of Oxfordshire County Council's highways data to enable it to trace problem areas back to their original source. To help achieve this, it is digitising all the old data to enable it to overlay this with the new information.

Receipt of this funding coincided with the 'Term Maintenance Contract' coming up for renewal and so Oxfordshire County Council took the opportunity to embed new terms into the contract to drive efficiency forward. These include targets and objectives around drainage. As part of this drive, it also took the opportunity to use a single contractor for the new contract, enabling it to build an integrated 'one-team' approach. The contract was awarded on a 10-year basis, with the opportunity to extend it to 20 years if all parties are in agreement at that time.

The survey teams out 'on the road' are utilising hand-held data capture devices to map the assets of each area. This is all done electronically using GIS. The system enables them to directly log inventory data and form a map of the region, developing a 'live' geographical representation of each area. The system focuses on drainage assets, detailing pipes, drainage runs, etc.

Barriers

Oxfordshire County Council has encountered a few barriers to implementing its asset management strategy. One of the key challenges has been the time it has taken to get both the hardware and software set-up to enable it to effectively manage asset management data. This has held it back

somewhat, so are not yet at the stage they had planned to be. In future it would allow more time for development of systems and the ‘snagging’ that arises in the development of new systems. The time spent by officers in re-tendering the new Transport Services contract has also delayed the project. Additionally, the potential cuts to maintenance budgets may hamper the scale of future investment in drainage improvements.

Outcomes

With regards to progress on promises made in the bid, the UKCIP weather model is now being trialled.– Oxfordshire is waiting for the data from the modelling to enable it to move to the next phase (which will depend on the results).

With regards to shared learning, Oxfordshire County Council attended a “Difference in Working Collaboratively” conference with other local authorities and partners. Furthermore, the Oxfordshire ‘Drainage Asset Management Working Group’ is working with different organisations to look at how they can accelerate the programme of work they have identified. The Oxfordshire County Council drainage team are very forward-thinking with regards to ‘Sustainable Urban Drainage Systems’ (SUDS) and do a lot of work to champion this approach. To this end, they have given a number of presentations on SUDS type of work to organisations such as the IHIE and CIPFA.

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