

**Report to:** Performance Scrutiny Committee

**Date of Meeting:** 26<sup>th</sup> January 2017

**Lead Member/Officer:** Lead Member for Public Realm /  
Head of Highways and Environmental Services

**Report Author:** Senior Engineer – Highways and Environmental Services

**Title:** Denbighshire County Council’s Management of Highway Structures

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### 1. What is the report about?

The following report is to outline to the Committee how the County Council manages its Highway Structure assets and how the Service intends to manage its current backlog of works in relation to the Highway Structure assets, within the County Highway Network.

### 2. What is the reason for making this report?

This report has been written to assist the Performance Scrutiny Committee in understanding the risks that the current condition of the County’s Highway Structure infrastructure poses, and to enable scrutiny of our proposed strategy (i.e. the ten-year Highways Structure Backlog Project).

### 3. What are the Recommendations?

To support the approach being taken by the Service to manage the backlog of works in relation to highway structure assets; i.e. the **Highway Structure Backlog Works Project**.

### 4. Report details

Denbighshire County Council’s Highway and Environmental Services manages 150 Highway Bridges, of which, 53 are listed and 6 of them are also scheduled monuments. The spans range from 1.5m all the way through to 440m. It also manages 258 culverts greater than 0.9m in diameter, over 300 retaining walls and in excess of 300 Public Rights of Way Bridges. The latest Gross Replacement Valuation, undertaken using nationally agreed methodology was £313million. Many of the structural assets within the county are hundreds of years old and many are in need of substantial attention to address existing risks.

In common with the industry standard, Denbighshire County Council uses the practices laid down in the United Kingdom Roads Liaison Group’s “Well Managed Highway Infrastructure : A Code of Practice” to manage its Highway Structures infrastructure. From this document, Denbighshire County Council has drafted its own

Highway Asset Management Plan to fully define the local standards we have chosen to adopt. The Code of Practice encourages adopting a “Risk Based” approach to management of highway Infrastructure. This includes varying from the agreed national standards, laid out in the UK Roads Liaison Groups Design Manual, in areas such as Inspection, and as a result in conjunction with our partners in the County Surveyors Society Wales’ Bridges Group we have devised a Risk Based Approach to structural inspection. As a direct result the Council now carries out substantially less “Detailed” Structural Inspections than stipulated within the nationally agreed standards, saving tens of thousands of pounds annually.

The Service also acts as a Technical Approval Authority, which means that the Council is responsible for ensuring that all new highway structural designs are completed to European Union standards and that structural assessments are undertaken to National Standards.

All of the Council’s assets that require a structural assessment, in accordance with National Highway Standards, now have an Assessment. In the UK this requires vehicles of up to 40Tonnes in gross weight to use the nation’s highway network without restriction. Denbighshire County Council has 30 assets with a substandard Structural assessment. Once a structure has a weak structural assessment report it is important to understand why that is and what is the best course of action. Following that appraisal it has been identified that 20 assets now require a weight restriction. The Council also use this information to assist in the safe passage of abnormal load movements across the county and notifications of such movements are monitored daily. The formal weight restriction orders will help enforce abnormal load movements.

The Backlog project consists of addressing SERIOUS defects to over 60 assets, spread throughout the county. If all current risks are realised, then the value of that work, if repaired on a like for like basis could exceed £14million. It is important to recognise that this is not the total cumulative figure for the entire highway Structure Infrastructure, but merely those which pose a risk of restriction/closure to the highway within the next ten years.

Using engineering judgement, accepting some weight/width restrictions, and improving the efficiency with which we deliver our services, then the estimated capital investment required to address the current risks associated with the Highway Structure Backlog assets is £6.059million. Highway Structures tend to be long lasting assets and, as such, it is considered that this work can be done over a 10 year period. Indeed, in numerous instances, it is desirable and usually by far the most cost effective use of funds to take several years to complete each project, because an old masonry structure can take many years to dry out.

The project budget requires a number of cost saving techniques. These include “Value Engineering”. So rather than rebuilding a failing element other solutions will be found. These techniques will include building buttresses, installing pattress plates, etc. In addition we intend to recruit directly employed inspectors to ensure we are no longer paying consultancy rates for routine works that is both very predictable and can be easily delivered using internally trained staff.

**5. How does the decision contribute to the Corporate Priorities?**

Maintaining “Open and Safe” highways contributes to the Corporate Priorities in terms of assisting in the development of the local economy and improving our roads. In addition, the Backlog Project will enable the council to demonstrate the delivery of efficiencies and improving services for our customers.

**6. What will it cost and how will it affect other services?**

The implementation of the Highway Structures Backlog Project will require additional resources. It is planned to increase the annual Highway Structures Revenue budget from the existing £145,000 to £245,000. The allocation that Highway Structures receive from the Highways Capital Block budget is also planned to increase to £320,000 per annum, for the 10 year duration of the Backlog Project. Finally, an additional £2.86million of capital funding will be required to complete the project, again spread over a ten year period and this element of the project was the subject of a Capital Bid to the Strategic Investment Group in December 2016. A spreadsheet is attached to show the breakdown of funds and projects within the Backlog Project.

In order to assist in the delivery of the project it is intended to recruit three additional members of staff. An additional apprentice construction operative will be recruited to assist in the delivery of the Backlog Project and the ongoing Planned Preventative Maintenance works. A further Apprentice will be recruited to assist in the inspection of our assets and the final addition will be a dual role of Supervisor/Inspector. Following the recruitment of these additional staff the construction operative team will then equal 3 in number and will be employed to work directly upon Highway Structures from mid-March until mid-November each year and then they will be available to be seconded to our Streetscene teams to assist in their winter operational activities. The additional staff will also enable the number of directly employed inspectors to rise from 1 to 3. Undertaking more inspections “in-house” will release more money from our Consultancy budget to spend on maintenance and capital works in future, and this is an important part of our ten-year strategy.

As a Highway Authority it is the Council’s statutory obligation to maintain the public highway, under the Highways Act 1980, i.e. it must be “Fit for Purpose”

Weight restrictions and road closures can have a very real impact upon the public population in terms of emergency response, economic harm and loss of competitiveness. The environment can also be damaged by requiring lengthy diversionary routes to be followed, thus increasing pollution of the atmosphere. Undertaking the Backlog Project will enable most of the proposed weight restrictions to be removed, and significantly reduce the number of future weight restrictions being realised.

**7. What are the main conclusions of the Well-being Impact Assessment? The completed Well-being Impact Assessment report can be downloaded from the [website](#) and should be attached as an appendix to the report**

Maintaining the existing highway networks will assist with:

- Maintaining cultural connectivity.
- Maintaining emergency routes.
- Preservation of the historic landscape.
- Protecting the economic confidence within the community

## **8. What consultations have been carried out with Scrutiny and others?**

A number of public consultations have been held over the last 6 months with local communities to assess the local impact of proposed weight restrictions to 20 bridges and retaining walls.

## **9. Chief Finance Officer Statement**

The proposed expenditure highlighted in the report should and will be contained within either existing capital allocations or the Environment and Highways overall revenue budget for 2017/18. However the commitment may impact on the ability of the service to make required efficiency savings in future years, therefore resulting in the need to identify further savings elsewhere within the service in order to meet council saving targets.

## **10. What risks are there and is there anything we can do to reduce them?**

There are numerous risk associated with undertaking such a project:

- The length of time and continuity of funding. Because many of the projects can take several summers to complete, the certainty of budgets may not be guaranteed. Failure to continue a particular project that has commenced means that almost all of the monies already spent will be wasted, as without completing the entire project brief, then desired benefit will not be achieved and risks will remain.
- The length of time and the continuity of staff. When dealing with such a lengthy project it is important to maintain detailed As Built Information and that good project management practices are observed. This will enable smooth transitions should potential future staff movements be realised, throughout the 10 year duration of the project.
- Working over water. Working over a watercourse means that in most instances it is only wise to work during the summer months, thus greatly reducing the length of time available during any one year and thus increasing mobilisation/demobilisation costs.
- Consents will be required for much of the works and hence forward planning is vitally important to ensure that bodies such as CADW and Natural Resources Wales have sufficient time to carry out their activities, prior to construction budgets being in place.
- Third party owners. Some bridges are owned by third parties, whilst other projects require access to third party land. As the Highway Authority, Denbighshire County Council, is at risk should the third parties adopt a confrontational approach.
- Temporary Traffic Management. Works need to be specified in such a way that considers the user of the Highway and attempt to keep the length of traffic disruption to an absolute minimum.
- The use of Term Contracts for the entire length of the project may not provide best value for money given the length of time for the project, so a suitable procurement

protocol would need to be drafted to consider the ten year, multiple project timeframe.

- Some projects require skilled staff, whose specialism can be in short supply. Not being able to access these skills, when required means that the programme may be at risk

#### **11. Power to make the Decision**

- Highways Act 1980
- Section 7.2.3 of the Council's Constitution states that Scrutiny can consider any matter which affects the Council's area or its inhabitants

**Contact Officer:**

Senior Engineer: Highways and Environmental Services

Tel: 01824 706745