

**Trusts and Charities Committee – 27 November 2015**

<b>Title of paper:</b>	<b>Structural Maintenance of Trent Bridge (Information Report)</b>	
<b>Director(s)/ Corporate Director(s):</b>	David Bishop, Deputy Chief Executive/Corporate Director of Development and Growth	<b>Wards affected: Bridge</b>
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<b>Other colleagues who have provided input:</b>		
<b>Date of consultation with Portfolio Holder(s) (if relevant)</b>	<b>Not Applicable</b>	
<b>Relevant Council Plan Strategic Priority:</b>		
Cutting unemployment by a quarter		<input type="checkbox"/>
Cut crime and anti-social behaviour		<input type="checkbox"/>
Ensure more school leavers get a job, training or further education than any other City		<input type="checkbox"/>
Your neighbourhood as clean as the City Centre		<input type="checkbox"/>
Help keep your energy bills down		<input type="checkbox"/>
Good access to public transport		<input type="checkbox"/>
Nottingham has a good mix of housing		<input type="checkbox"/>
Nottingham is a good place to do business, invest and create jobs		<input type="checkbox"/>
Nottingham offers a wide range of leisure activities, parks and sporting events		<input type="checkbox"/>
Support early intervention activities		<input type="checkbox"/>
Deliver effective, value for money services to our citizens		X
<b>Summary of issues (including benefits to citizens/service users):</b>		
At the meeting of the Trusts and Charities Committee on 11 September 2015, Councillors requested information from Highways regarding the maintenance of Trent Bridge. This report has been prepared in response to that request.		
<b>Recommendation(s):</b>		
<b>1</b>	That the committee note the contents of this report and provide comment.	

**1. REASONS FOR REPORT**

To give the committee the assurance that the maintenance regime in place will ensure that Trent Bridge will be able to fulfil its primary purpose as a crossing of the River Trent, as well as its preservation as a historic landmark structure.

**2. ADVICE**

One of the objectives of the Bridge Estate is “to provide for the efficient maintenance and repair of Trent Bridge and the approaches to it”. Consequently at the last meeting of this committee, members requested information on the maintenance of Trent Bridge. This report has been prepared in response to the information requested as detailed in the minutes of that meeting.

**(i) The process undertaken to assess the structural integrity and planned maintenance of Trent Bridge.**

A strength assessment was carried out in 1995 in accordance with Department of Transport standards for the assessment of Highway Bridges. This assessment found that the bridge was satisfactory for 40 / 44 tonne vehicles, with a maximum axle load of 11.5 tonnes. Since this assessment any abnormal loads heavier than this have been routed away from the bridge. As there have been no further changes in maximum permissible vehicle loads since this date it has not been necessary to re-assess the structure. Only if there is a significant change in the condition of the structure, or changes in legislation regarding vehicle weights, would the strength of the structure be re-assessed.

The regime for bridge inspections adopted by Nottingham City Council is in accordance with the Code of Practice for the Management of Highway Structures, (TSO 2005). This is for a general bridge inspection ever two years and a principal bridge inspection every six years. A general bridge inspection is carried out without specialist access equipment; whereas during a principal bridge inspection, the inspector is required to get with arms reach of all parts of the structure. The last principal bridge inspection was carried out in February 2012. At these inspections structural maintenance work required is noted. However, unless the work identified has immediate structural safety implications, it is generally left until the next major maintenance.

It is currently proposed to carry out major maintenance, including re-painting of the bridge, is carried out in 2018.

**(ii) Information on the causes of solutions to the erosion of the roadside sandstone.**

Some minor erosion of the roadside stone has occurred. However this erosion is not considered to be sufficiently severe to warrant intervention. The damage to adjoining stones to dismantle the structure outweighs the benefits of carrying out repairs. The situation will be continue to be monitored during the regular inspections as mentioned above, and if the deterioration becomes severe, then a programme to replacement of those worst affected stones would be put in place.

Preservation technics, such as resin repairs or use of coatings, are generally not recommended for historic buildings. Repairs to a listed building should be carried out using the correct geological stone, bedded in lime mortar. No attempt should be made to distress the new work to make it match in.

Since the bridge was built much of the decorative carvings have deteriorated to some extent, leading to a loss of crispness to the carving. It would be possible, though expensive, to get some of these sections replaced in new stone. However this is very specialist work. Should the committee wish, funds from the Estate could be put aside to fund a detailed investigation by a specialist stonemason. A report could them be presented to the Committee with fully costed proposals.

### **(iii) Alternatives to the current painting schedule and materials used.**

It is currently proposed to repaint the bridge in 2018/19. However following concerns expressed by the Committee the inside faces of the parapets were painted in early 2015 to enhance the appearance of the bridge.

From a structural engineering perspective the primary purpose of re-painting the bridge is to prevent corrosion. There are considerable costs involved in just erecting the scaffolding necessary, and therefore the frequency of re-painting is inevitably a balance between deterioration of the metalwork, and cost. There are no accurate deterioration models, and so choosing the best frequency for re-painting is inevitably down to assessment of the condition of the paintwork at inspections as well as engineering judgement.

Paint technology has moved forward considerably in recent years, and the decision was made to use a Poly-siloxane coating when the bridge was last repainted. This paint offered improved corrosion resistance, as well as improved resistance to "chalking". A review of current best practice will be made before any decision is made regarding the type of paint to be used when the bridge next repainted.

### **(iv) In advance of any renovation programme, suggestions as to how the maintenance and monitoring regimes of the bridge could be improved.**

The current maintenance regime should ensure the structural safety of the bridge. However, even with high quality industrial coatings, deterioration of parts of the metalwork is inevitable in those locations where water is leaking through the bridge deck. The best way to prevent this deterioration is to waterproof the deck. During installation of the waterproof layer traffic restrictions will need to be in place, and these will need to extend during peak periods.

The stone flagged footways are not ideal, with patches of concrete where inappropriate reinstatements have been made.

Consequently in early 2015 a bid was made to the Highway Maintenance challenge fund for a scheme that would see the bridge re-waterproofed and repainted, as well as the footways and carriageway resurfaced. As reported to the Committee earlier this bid was unsuccessful.

## **3. FUTURE MAINTENANCE PLANS**

This report outlines the present plan for maintenance of the Bridge. Following receipt of comments from the Committee a further report can be prepared outlining amended options for revised plans and their ramifications, should this be required.

## **4. BACKGROUND**

Funds are put aside from the income of the Bridge Estate for the maintenance of Trent Bridge. In recent years these funds have been used for enhancements to the ornamental lighting. However In recent years the amount put aside has been increased in anticipation of funding corrosion protection works in 2018. However the committee is merely asked to note the content of this report at present.

The Bridge Estate Charitable objectives are;-

1. To provide for the efficient maintenance and repair of Trent Bridge and the approaches to it.
2. To provide a contingency fund for the possible construction of such new bridge of bridges over the River Trent as may be found necessary or desirable.
3. To apply the residue of any income as the trustees thinks best for the improvement of the City of Nottingham and the public benefit of its inhabitants.

This report is for noting and has no financial consequences however should further monies be allocated for the maintenance and repair of Trent Bridge then the amount of surplus funds available to support the City Council's aims and objectives as set out in the Council Plan 2015-19 will diminish.