

Option	Sub Options	Officer Assessment
<p>Option A – Refurbish and Reopen</p> <p>The bridge remains closed and refurbishment works are carried out to allow its return to use. The works include replacement of the road deck of the fixed span together with varying amounts of replacement of the moving span deck, repainting, renewal of parts of the operating system and provision of traffic control measures to suit the various traffic options</p>	<p>A1 - allow the bridge to be used for pedestrians and cyclists but not for road traffic</p>	<p>Whilst it is generally agreed that options A1-4 and C1-2 are deliverable, it is also felt that that they respectively have significant shortcomings that would preclude them from recommendation</p> <p>The most significant concerns with option A1-4 relate to the residual risks presented by omitting the substructures elements from refurbishment, particularly moving elements such as the turntable and pintle that are known to be in a similarly worn condition. Failure to refurbish these elements would present an ongoing operational and structural risk inspite of the high cost of the partial refurbishment scheme</p> <p>Options A1-4 rely on the replacement of the bridges mechanical jacks. This does not solve, or arrest the fundamental problem of sagging. In the last 15 years the bridge has been noted to sag exponentially to a depth of 75mm. Our opinion is that lower jacks would offer temporary functionality, but allow the bridge sag more with time.</p>
	<p>A2 - allow the use of pedestrians, cyclists and</p>	

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	<p>light goods vehicles up to 3 tonne weight and keep the existing two-lane road layout. There are remaining concerns as to the ability to effectively limit traffic and prevent overloading of the bridge.</p>	
	<p>A3 - allow the use of pedestrians, cyclists and light goods vehicles up to 7.5 tonne weight but reduce the layout to a single lane regulated by amending the existing traffic lights at the Cleveland Street Junction. This option would allow the introduction of dedicated cycle lanes to either side of the single carriageway and also reduce the number of vehicle impacts on the main girders on either side of the bridge. There is a further recommendation to keep the official load rating at 3 tonnes as this considerably reduces the number of overweight vehicles above 7.5 tonnes that have historically used the bridge and improves the level of safety on the bridge and increases its service life.</p>	
	<p>A4 - allow the use of pedestrians, cyclists and light goods vehicles up to 7.5 tonne weight and keep the existing two-lane road layout. There is a further recommendation to keep the official load rating at 3 tonnes as for option A3 to achieve the same benefits. With the 3 tonne</p>	

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	<p>limit retained, this option is identical to the situation existing immediately before the recent temporary closure was put in place</p>	
<p>Option B – Restrict and Monitor</p> <p>The bridge remains open for pedestrians and cyclists with increased monitoring of the fixed span in place. This option presumes an acceptable monitoring solution can be implemented and due to the nature of the faults with the fixed span there is considerable doubt that this can be safely achieved. This option is effectively “do nothing” and does not address any of the issues with the bridge</p>	<p>No sub options</p>	
<p>Option C – Close and Conserve</p> <p>The bridge would be permanently closed, swung clear of the river, secured and preserved as a non-operational monument. The works include</p>	<p>C1 - allow the bridge to be retained as a conserved but non-operational listed structure with the river crossing point permanently stopped up</p>	<p>Option C1 would be appropriate if funds could not be identified to deliver a full refurbishment scheme</p>

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<p>isolations, repainting, and provision of traffic control measures.</p>		
	<p>C2 - allow the bridge to be retained as a conserved but non-operational listed structure with the river crossing point permanently stopped up and a new crossing point provided. Suggested possible locations for the new crossing point are at Air Street and near Eagle Terrace.</p>	<p>Whilst physically possible, the bridges team do not recognise option C2 as a feasible proposition. This is primarily due to the excessive cost of a replacement and the sheer complexity of purchasing privately owned land</p>
<p>Option D – Relocate and Replace</p> <p>The existing bridge would be permanently closed, dismantled and relocated to an alternative site where it would be displayed and preserved as a non-operational monument. A new opening crossing would be constructed at the existing site. The works include isolations, repainting, the provision of a display site for the existing bridge and the construction of a new bridge at the existing site. It</p>		

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<p>is expected that there would be considerable difficulty obtaining listed building consent for this option</p>		
<p>Option E – Remove</p> <p>The bridge would be removed. The works include isolations, dismantling, disposal and the provision of traffic control measures. It has been assumed that the bridge pit, abutments and caissons would be left in place. It is expected that there would be considerable difficulty obtaining listed building consent for this option.</p>		
<p>Option F – Extended Refurbishment</p> <p>The bridge remains closed</p>	<p>F1 - will allow the use of pedestrians, cyclists and light goods vehicles up to 7.5 tonne weight but reduce the layout to a single lane regulated by amending the existing traffic lights at the</p>	<p>The extended refurbishment and reopening to a maximum loading of 7.5t, restricted to 3T (to allow the regulation of unacceptable vehicles),</p>

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<p>and extensive refurbishment works are carried out to allow its return to use. This is essentially option A but the extended refurbishment reduces residual risks associated with the bridge condition that should reduce future repair works and improve reliability. The works include replacement of the road deck of the fixed span together with extensive replacement of the moving span deck, repainting, renewal of all of the operating system and provision of traffic control measures to suit the various traffic options.</p>	<p>Cleveland Street Junction. This option would allow the introduction of dedicated cycle lanes to either side of the single carriageway and also reduce the number of vehicle impacts on the main girders on either side of the bridge. There is a further recommendation to keep the official load rating at 3 tonnes as this considerably reduces the number of overweight vehicles above 7.5 tonnes that have historically used the bridge and improves the level of safety on the bridge and increases its service life</p>	<p>would effectively provide the council with a newly reconstructed, historic bridge, with an extensive design life.</p> <p>Although more costly, it would offer reliable (but still restricted) functionality. The possibility of unplanned and unbudgeted delivery would also be reduced, as would disproportionate, ongoing maintenance costs.</p> <p>*It is important to note that although option F1's single lane arrangement could increase congestion to the neighbouring highway network (particularly the East approach), it would protect the bridges main girders from vehicle impact and from dual vehicular overloading. To this end, this option would be the bridges teams' recommendation.</p> <p>It is also noted that traffic counts showed no significant impacts, even during school term time.</p> <p>Impacts were only seen when Bankside was affected by long term utility repairs.</p>

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	<p>F2 - will allow the use of pedestrians, cyclists and light goods vehicles up to 7.5 tonne weight and keep the existing two lane road layout. There is a further recommendation to keep the official load rating at 3 tonnes as for option F1 to achieve the same benefits. With the 3 tonne limit retained, this option is identical to the situation existing immediately before the recent temporary closure was put in place</p>	