



BLACKPOOL BRIDGES

Strategic Outline Business Case



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Document Purpose

The 'Strategic Outline Business Case' sets out the need for intervention (the case for change) and how this will further ministers' aims and objectives (the strategic fit). It provides suggested or preferred ways forward and presents the evidence for a decision to be made. The LEP will then decide whether or not to proceed with the scheme.

Once funding has been confirmed and the LEP has granted Programme Entry, schemes should progress to producing an 'Outline Business Case' (see separate template).

Proportionate Approach - as per Department for Transport (DfT) guidance, the amount of time invested in developing a business case should be proportional to the scale of the scheme. Consequently, schemes costing under £5m (including maintenance schemes) may not be required to produce an Outline / Full Business Case. Instead these schemes should only complete this Strategic Outline Business Case template.

For further information, please consult the following DfT WebTAG Guidance documents:

[An Overview of Transport Appraisal](#)
[Guidance for the Senior Responsible Officer](#)
[Guidance for the Technical Project Manager](#)

Transport for Lancashire's (TfL) Business Case Development Process Chart provides further details. See Appendix B. However, please seek confirmation from Transport for Lancashire (TfL) if you are uncertain as to the level of detail required for your schemes Business Case.

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1 Strategic Case

The strategic case helps to determine the need for a scheme. It must demonstrate the case for change, presenting a clear rationale for making an investment against the strategic objectives of the organisation proposing it and other relevant Government objectives. It provides important evidence and sets out robust assumptions at an early stage in the development of a business case and explains how various options have been sifted and distilled into a preferred scheme.

1.1 Strategic Context

Please explain the wider strategic context for the proposed scheme by describing the aims and objectives of the promoting organisation. Consider what is driving the need for change at a strategic level, including external factors such as new legislation, technology.

Blackpool Council's objective is to preserve and promote the resort as a leisure and holiday destination for the 21st century, while seeking inward investment and economic diversification opportunities. The council's corporate strategy states that Blackpool will become a more prosperous town by:

- Expanding and promoting our tourism, arts, heritage and cultural offer
- Attracting sustainable investment and creating quality jobs.

A coastal location with excellent air quality and beaches makes for an attractive resort, but tends to isolate Blackpool from the wider economy making attracting inward investment problematic. The resort's economic and social issues have grown as foreign holiday access has increased. Blackpool is now the 6th most deprived local authority area in England and Wales, with the lowest male life expectancy, 73.6 years compared to 78.5 for England. Additional information relating to social deprivation is provided in Appendices K (Distributional Impact Appraisal Screening) and L (SDI Additional Information).

Despite this the resort attracts up to 13m adult visitors per annum, causing severe transport and parking overcrowding at the peak.

The 'Greater Blackpool' area has the largest single concentration of seaside tourism jobs in the country - more than 19,000 with the value of tourism in Blackpool at £1.2bn p.a. 1 in 5 of all employees in Blackpool (11,000 jobs) work in the sector, double the England average.

Blackpool accounted for 23% of all visits to Lancashire in 2010. The Lancashire STEAM report 2012 went further by suggesting almost 17m visitors and £1.2bn spend (27% and 37% respectively of total Lancashire estimates).

The VisitBritain "Survey of the most visited English Cities and Towns by UK residents" 2010 stated Blackpool was:

- the second most visited town/city in terms of 'pure holiday trips', after only London;
- the fourth most visited place in England (after London,

- Manchester and Birmingham) for trips of at least one night;
- the twelfth most visited town/city in the UK for business trips of at least one night, showing its continued conference market.

Blackpool also has strong commercial and manufacturing sectors. However, the visitor economy is forecast by Visit Britain to be one of Britain’s best performing sectors over the next decade, with the value added contribution to the economy growing at 3.5% per annum. This would mean tourism showing faster growth than more recognised industries such as manufacturing and utilities. In 2025, the tourism economy is forecast to directly contribute £99.9bn in value added to the English economy, equivalent to 4.4% of England’s GDP, and to directly support an estimated 1.7m jobs in England by 2025, equivalent to 5.8% of total employment.

The project directly supports a range of strategic documents in particular the “Renewal of Blackpool” which is one of only four specific objectives in the Lancashire LEP “Strategic Economic Plan”, clearly denoting the town’s importance for support. The outcomes of the project support the overall objectives of the Visit England Strategic Framework for Tourism in England 2014-20, for example “To offer visitors compelling destinations”. A poor road system with visitors delayed in traffic congestion would not encourage repeat visitors. It is essential that people have a positive entry into and a departure from the town.

The resort’s bridges are a vital facility. Connectivity and an efficient distributor route network are crucial for a working economy, particularly in the Blackpool context. As noted, huge demand fluctuations must be accommodated. The Yeadon Way road, currently under repair, is vital to reducing tourism traffic impacts on the distributor route network. Much resource has been used in refurbishing and signing car parking, enhancing the arrival experience. Meanwhile the newly regenerated Central Business District greets visitors as they arrive at Blackpool North railway station. The council is supporting appraisal work considering the future refurbishment and role that the South Fylde Line might play in the resort’s transport future.

The two railway lines serving Blackpool require a number of both rail-over-road and road-over-rail bridges. With some dating back to Edwardian times, the maintenance burden that these present has become unsustainable, requiring rapid action. Carrying significant distributor route network elements, the loss of any of these bridges would cause severe disruption, with few diversionary routes available. Losing the Princess Street bridge carrying Seaside’s Way would be particularly difficult as this would undo the benefits of repair work carried out on Yeadon Way.

	<p>Additionally the Plymouth Road bridge crossing the North Fylde Line must be in a condition to accept overhead line equipment running under it following the railway line's electrification. Also it is essential that debris from the bridge does not fall on passing trains. Network Rail has been consulted with regard to this proposal and is in support.</p> <p>Losing any rail or road accessibility will cause economic problems and impede Blackpool's regeneration. Losing these bridges would be catastrophic.</p> <p>A plan indicating the location of all 10 bridges and their relationship and linkages with strategic areas of business, leisure, housing and transport hubs within Blackpool is provided as Appendix G.</p>
<p>1.2 Challenge or Opportunity to be addressed <i>Please describe the key characteristics of the challenge to be addressed and the opportunity presented. Provide an overview of the evidence supporting this and the impact of not progressing the proposed scheme.</i></p>	<p>Recent survey work has revealed the bridges' extreme poor condition and the lack of available repair options. Several bridges essentially require complete replacement and this is far beyond the normal cash allocations available to pay for such work. For this reason additional resources to secure these bridges and thereby Blackpool's economic future are sought.</p> <p>The advice received suggests that bridges will be required to close imminently unless significant remedial action is taken.</p> <p>As noted above, losing any of these bridges will be economically damaging; losing them all over a period of time would be devastating. The loss of confidence in the Blackpool economy that this would entail would retard the regeneration process and prevent any inward investment taking place.</p> <p>The distributor route network suffers some peak time congestion as would be expected, but without these installations the network will be inoperable with severe congestion throughout the day. Again the Princess Street bridge is particularly important in this respect; without it, visitor traffic will enter Blackpool using alternative routes to Yeadon Way and migrate onto the distributor network. However, if this situation pertains, visitor numbers will fall sharply easing that particular problem. It should be noted that Squires Gate Bridge also carries significant tourism volumes, being a principal approach to the Illuminations display and Blackpool Pleasure Beach.</p> <p>The programme proposed will offer the prospect of upgrading bridges to enable further capacity, improve design and offer better cycling and walking conditions. However, the scheme's principal gain is securing Blackpool's economy and heading off damage that might well be irrecoverable.</p>
<p>1.3 Strategic Objectives <i>Please present the SMART (specific, measurable, achievable, realistic and time-bound) objectives that</i></p>	<ul style="list-style-type: none"> Establishing a repairs timetable allowing the bridges to be returned to a fit and sustainable repair condition before closures or weight restrictions become necessary.

<p><i>will resolve the challenge or opportunity identified in Section 1.2 and explain how these contribute towards achieving the wider context set out in Section 1.1.</i></p>	<ul style="list-style-type: none"> • Ensure that the Plymouth Road bridge is in a fit condition to receive overhead line equipment prior to the proposed installation date of winter 2016/17. • Use the bridge rebuilding or repair programme to design in capacity improvements and to better cater for pedestrians and cyclists.
<p>1.4 Achieving Success <i>Please describe how the success of the proposed scheme will be assessed and/or quantified.</i></p>	<p>The bridges will be repaired to a sustainable standard, allowing them to be kept in good repair indefinitely within the resources expected to be available. As noted above, this situation needs to be achieved before closures must be instituted therefore the timetable is tight and achieving it will be a mark of success in itself.</p> <p>Their appearance as well as their multi-mode utility will be improved dramatically, improving the Blackpool gateway experience. This will be a one-off opportunity to do this. Attention to other installations that are in better structural condition will be paid in this respect, with minor repairs also providing opportunities for aesthetic improvements.</p> <p>Blackpool's aesthetic appearance and its utility design quality do project an image to visitors and potential inward investors that needs to be enhanced continually. The bridges are part of this. Such aesthetic improvements' impacts can only be appraised in the extreme long-term.</p> <p>Regeneration promotion strategies and schemes, including the Central Station Leisure Quarter and the National Energy College proposal, can proceed in confidence that a local distributor road network capable of supporting them will be available.</p>
<p>1.5 Delivery Constraints <i>Please describe any high level internal/external constraints or other factors that present a material risk to the delivery of this scheme.</i></p>	<p>There are no significant delivery constraints beyond those pertaining to any scheme of this nature and magnitude, including contractor availability, materials, weather and unexpected ground conditions, which have all been addressed in the appraisal work.</p> <p>The council has apportioned appropriate match funding to support the grant requested to deliver the works. An experienced engineering and project management team is in place to procure and deliver the works necessary.</p> <p>These are larger and more complex installations than the council normally deals with, but excellent appraisal work has been done within the highways asset management plan (HAMP) process and industry standard procurement methods will enable the right contractor to be appointed.</p> <p>The council has worked effectively with Network Rail in delivering the Lytham Road bridge refurbishment and good working relationships</p>

	<p>are in place. There have been useful preliminary contacts regarding Plymouth Road bridge, which will facilitate repair of the relevant bridges.</p> <p>Bridge condition and the need to remedy it are recognised as a corporate level priority providing the full necessary commitment to deliver the works proposed.</p>
<p>1.6 Stakeholders <i>Please outline the main stakeholder groups/organisations and their relevance or involvement in the development of the scheme. Identify any specific requirements, constraints or conflicts between stakeholders.</i></p>	<p>Blackpool Council, as Highway Authority, is responsible for the maintenance of its highway bridges and structures in accordance with the Highways Act 1980.</p> <p>Network Rail are partners as the bridge assets affect operational railway lines and potentially trains passing under or over them.</p> <p>The Blackpool Business Leadership Group has expressed strong support for the Council in its desire to maintain its bridge stock, understanding that the local economy depends upon these installations.</p> <p>Bridge works will take place near communities and homes. A consultation and information strategy will be put in place to allow community stakeholders to participate. This is essential work and a high degree of community support is expected, particularly when the urgency and the work's economic importance is outlined.</p> <p>Letters of support are included in Appendix J.</p>

1.7 Strategic Assessment of Alternative Option(s) (Number of options can be amended as required)

<p><i>The DfT's Early Assessment and Sifting Tool (EAST) can aid this process. EAST and guidance on using it can be found on the DfT website.</i></p>	Option 1	Option 2	Option 3
<p>Option Name <i>Please insert the name by which the option is known</i></p>	Do Nothing (Considered for all 10 bridges)	Do Minimum (Considered for all 10 bridges)	Do Something (Considered for all 10 bridges)
<p>Infrastructure Type <i>Please provide if different from the proposed scheme.</i></p>	Ten strategic highway bridges, five of which are road over road, four are road over rail and one is rail over road.		
<p>Variation from Proposed Scheme <i>What are the key differences (characteristics) between the proposed scheme and this option? How is it different?</i></p>	Do nothing options would allow all 10 bridges to continue to deteriorate without regulation. This option is not feasible.	Do minimum options would allow all 10 bridges to continue to deteriorate but in a regulated manner. This option would include the managed closure or weight restriction of seven of the 10 bridges within two years.	Proposed scheme in all 10 cases.
<p>Technical Assessment & Appraisal <i>Please describe the level of technical appraisal or assessment undertaken – including previous studies and relevant data – to assess this option, including application of the Early Assessment and Sifting Tool.</i></p>	All road bridges have been inspected and assessed in accordance with BA21/01 and BA16/97 within the past four years. Bridges particularly at risk have had further Principal Inspections and materials testing undertaken within the past 12 months.	All road bridges have been inspected and assessed in accordance with BA21/01 and BA16/97 within the past four years. Bridges particularly at risk have had further Principal Inspections and materials testing undertaken within the past 12 months.	All road bridges have been inspected and assessed in accordance with BA21/01 and BA16/97 within the past four years. Bridges particularly at risk have had further Principal Inspections and materials testing undertaken within the past 12 months.
<p>Consultation <i>Please explain the extent of any stakeholder or wider consultation on the option and summarise the key findings.</i></p>	Ongoing consultation is continuing with Network Rail where bridges either cross or carry railway line. Concern has been expressed by Network Rail about loose and falling concrete from bridge soffits of three of the bridges. Letters of support for the project from Network Rail and Blackpool Business Leadership Group in Appendix J.	Ongoing consultation is continuing with Network Rail where bridges either cross or carry railway line. Concern has been expressed by Network Rail about loose and falling concrete from bridge soffits of three of the bridges. Letters of support for the project from Network Rail and Blackpool Business Leadership Group in Appendix J.	Ongoing consultation is continuing with Network Rail where bridges either cross or carry railway line. Concern has been expressed by Network Rail about loose and falling concrete from bridge soffits of three of the bridges. Letters of support for the project from Network Rail and Blackpool Business Leadership Group in Appendix J.
<p>Indicative Cost (£M) & Economic Appraisal</p>	The required short-term capital	The required short-term capital	The total estimated capital cost of

<p><i>The DfT's Early Assessment and Sifting Tool (EAST) can aid this process. EAST and guidance on using it can be found on the DfT website.</i></p>	Option 1	Option 2	Option 3
<p><i>Please provide indicative costs if known or provide information on the likely affordability against the headings 'high' 'medium' or 'low.' Also explain any economic appraisal undertaken, including benefit/cost analysis</i></p>	<p>expenditure for the "Do Nothing" option is nil. In future bridges would be managed on a reactive basis within a HAMP. This option is not feasible due to safety risks and the legal duty on highway authorities to maintain safe passage along highways.</p>	<p>expenditure for the "Do Minimum" option is less than £50k. This expenditure would include the cost of processing legal orders for closure and weight restriction, the cost of signing diversions and erection of physical barriers to close and restrict bridges. Benefit/cost comparison of "do minimum" and "do something" options has shown that the "do minimum" option does not provide value for money.</p>	<p>the "do something" options is £11.365m (reference Appendix C – Detailed cost estimates). BCR values for individual bridges range from 3.07 to 52.45 and the BCR for the package of projects as a whole is 28.09 (reference Appendix E – BCR Calculations).</p>
<p>Impact against Strategic Objectives <i>Please describe how this option delivers against the strategic objectives set out in Section 1.3. Make reference to the outputs of the Early Assessment and Sifting Tool process.</i></p>	<p>Strategic objectives listed in 1.3 not met.</p>	<p>Strategic objectives listed in 1.3 not met</p>	<p>Strategic objectives listed in 1.3 fully met.</p>
<p>Key Risks <i>Please identify the key technical, funding and delivery risks associated with this option.</i></p>	<p>Key risks associated with the "do nothing" option relate to the effects of inaction. Safety risks due to likelihood of failing bridges range from catastrophic failure to minor injury. Blackpool Council, as highway authority, would be seen as failing in its duty of care to maintain safe passage along highways. Other key risks would be reputational, financial (relating to the local economy) and social (relating to disruption, wellbeing and disorder).</p>	<p>Key risks associated with the "do minimum" option relate to the effects of inaction. Whilst safety risks are reduced and partially mitigated, other risks would remain. These include reputational risk, financial risk (to the local economy) and social risk (wellbeing and disorder).</p>	<p>Technical, funding and delivery risks associated with the "do something" option are described in Appendix D – Blackpool Bridges Risk Register. The risk register identifies key risks, quantifies them through a QRA process and indicates proposals for response, monitoring and control. Key risks to delivery are:</p> <ul style="list-style-type: none"> • Project funding • Disruption to local road/rail networks if projects fail. • Co-ordination of works to Plymouth Road Railway Bridge with rail electrification proposals. • Statutory undertakers

<p><i>The DfT's Early Assessment and Sifting Tool (EAST) can aid this process. EAST and guidance on using it can be found on the DfT website.</i></p>	Option 1	Option 2	Option 3
			<p>requirements</p> <ul style="list-style-type: none"> • Seasonal traffic management • Availability of track possessions • Third party limitations on resources • Third party procedural requirements.
<p>Rationale for Rejection <i>Please explain why this specific option has been rejected in favour of the proposed scheme.</i></p>	<p>The “do nothing” option has been rejected on the basis of residual risks to safety, reputation and socio-economic wellbeing.</p>	<p>The “do minimum” option has been rejected on the basis of residual risks to safety, reputation and socio-economic wellbeing.</p>	<p>Proposed scheme.</p>

2 Economic Case

The Economic Case assesses options to identify all their impacts and the resulting value for money. This is a key requirement in fulfilment with HM Treasury's requirement for appraisal. In line with HM Treasury's appraisal requirements, the impacts considered are not limited to those directly impacting on the measured economy, nor to those which can be monetised. The economic, environmental, social and distributional impacts of a proposal are all examined, using qualitative, quantitative and monetised information. In assessing value for money, all of these are consolidated to determine the extent to which a proposal's benefits outweigh its costs.

2.1 Value for Money

Please describe to what extent the proposed scheme has been assessed in terms of value for money. Also explain how this will be developed through the Outline Business Case to provide accurate benefit-cost ratio information.

Where applicable, please include details of all options that have been appraised.

VfM should also include reference to the proposed scheme's economic, social, environmental and public accounts impact. (in line with the DfT's Transport Appraisal Framework)

[The Transport Appraisal Process](#)

2.1.1 Plymouth Road Bridge



Strategic Importance and Other Relevance Factors

This three-span bridge carries the strategically important A587 Plymouth Road (Eastern Ring Road) 4-lane carriageway over the North Fylde Line. It is owned and maintained by Blackpool Council as highway authority.

The bridge deck comprises concrete-encased riveted steel plate girders and joists. Loose and spalling concrete to the deck soffit was noted during recent bridge inspections by Network Rail which presents a serious hazard to rail traffic underneath the bridge.

In order to make best use of planned railway track possessions the maintenance work to this bridge should be undertaken in conjunction with Network Rail's planned electrification works to the North Fylde Line. These works are currently planned between December 2016 and May 2017. Failure to achieve this will mean that the cost of the bridgework will significantly increase as the newly installed overhead line equipment will need to be isolated and taken down to enable the bridge maintenance work to be carried out.

Inspection/Assessment History

The most recent assessment of the bridge was undertaken in June 2010 by Opus Consultants which concluded that the bridge had an assessed capacity of 40/44 tonne however the service bay cover slabs failed 3 tonne accidental wheel loading.

A further Principal Bridge Inspection (PBI) and material tests were undertaken in November 2014 by Wilde Consultants Ltd. This concluded that the composite

riveted steel girder and reinforced concrete bridge deck was so badly corroded due to airborne chloride attack that the deck should be demolished and reconstructed. The estimated cost of this work is estimated at £5.097m.

Current Situation/Condition

Monitoring of the bridge is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. A feasibility report has been completed by Wilde Consultants Ltd which considers a range of viable options and recommends a preferred option (“do something”) together with an estimated cost.

Options (Do Nothing, Do Minimum, Do Something)

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Because of the probable mode of failure of the bridge deck (i.e. sudden and unpredictable) and the risk to both road and rail traffic, the closure of the bridge to all vehicular traffic would be required within two years as a do minimum option.

(ii) Do Something.

Completed feasibility work indicates that the bridge could be re-decked whilst maintaining two lanes of traffic on Plymouth Road. The preferred option of re-decking, using a pre-stressed pre-cast composite bridge deck, would take approximately 6 months to complete at an estimated cost is in the region of £5.1m (see cost estimates in Appendix C). If the re-decking of the bridge was undertaken after the implementation of the planned electrification of the Preston to Blackpool North railway line (May 2017) then the cost would be significantly higher as overhead electric lines would have to be temporarily isolated, taken down and replaced during the works.

Economic Impact

The bridge carries the strategically important A587 Plymouth Road (Eastern Ring Road) 4-lane carriageway. The A587 Plymouth Road is the main strategic route carrying tourist traffic from the M55 to the north of Blackpool and beyond to Fylde. If the bridge was closed to vehicular traffic the diversion route would add 2.2km onto each vehicle journey together with 3 additional “give way” junctions. This will undoubtedly cause additional congestion at peak times with a consequential effect on local business. Plymouth Road would also be significantly impacted through loss of business and passing trade.

Social Impact

The introduction of a permanent closure to vehicular traffic across Plymouth Road Bridge (“do minimum” option) would create a sense of lack of investment

in the area which would in turn inevitably stifle investment and growth. The bridge currently provides an important physical and social link between communities on either side of the railway line in the area and is a landmark structure in the area. The bridge is adjacent to Layton Rail Station which caters for over 70,000 passengers annually with a current growth rate of over 11% per annum. Closure of the bridge would have a significant impact on the accessibility of Layton Station, particularly when travelling from the north.

Environmental Impact

Noise

The preferred “do something” option will provide a status quo in terms of traffic volumes and related noise issues. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 2.3km for 24,000 vehicles per day through a densely populated and already congested urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Pre-fabrication of site components (e.g. bridge beams and parapets) will be undertaken wherever possible to reduce noise and on-site construction time.

Air Quality and Pollution

The preferred “do something” option will provide a status quo in terms of air quality and pollution. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 2.3km for 24,000 vehicles per day through a densely populated urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The “do minimum” option would provide a status quo in terms of physical landscape and townscape however the introduction of permanent signage and physical barriers preventing vehicular access across the bridge would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would give an opportunity to provide much improved public realm both on the approaches to the bridge and on the bridge itself. The removal of the outdated and unsightly 1920’s-style solid concrete parapets would be a significant improvement which would give the opportunity

to erect a much more aesthetically pleasing more functional parapet. New textures and features could be introduced onto the carriageway and footway surfacing and there is also the potential to create cycle facilities within a better use of shared space.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Plymouth Road Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity. Pedestrians and cyclists will be allowed to cross the bridge in the “do minimum” option (vehicular closure).

Journey Quality.

Individual journey times are increased by 2.87 minutes (at 48kph). Additional increased journey time would be caused by vehicles having to negotiate three additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on

accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated as **29.96** which indicates “very high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “very high” BCR score are:

- Relatively high current traffic volumes
- A full closure would be required within two years for the “do minimum” option
- Relatively low cost of re-decking the bridge.

Other qualitative factors to be taken into account are:

- Network Rail Electrification of the Preston to Blackpool North railway line in which is currently programmed to commence in December 2016 and to be completed by May 2017.
- The strategic importance of the four-lane A587 as part of the Eastern Ring Road

Optimum Solution

The optimum solution is to carry out re-decking of Plymouth Road Bridge at an estimated cost of £5.097m. The work should be implemented as soon as possible and should preferably be completed so as not to disrupt the implementation of the planned electrification of the Preston to Blackpool North Railway Line which is planned to commence in January 2016.

2.1.2 Princess Street Bridge



Strategic Importance and Other Relevance Factors

Princess Street Bridge carries Seaside's Way (unclassified) over Princess Street (unclassified). Seaside's Way is the main arterial route from the M55 to the town centre car parks for visitors by car into the resort. The bridge used to carry rail traffic along the now disused length of rail line which previously linked Blackpool South and Central Stations. The bridge is now owned and maintained by Blackpool Council as highway authority. The bridge is a single span riveted steel plate girder bridge and was assessed in 2011 as having a zero live load capacity. A closure of Seaside's Way to vehicular traffic will have a major impact on local business and visitor access to town centre car parks which the town is heavily reliant upon.

The bridge has reached the end of its design life and the degradation will only continue.

Inspection/Assessment History

The bridge was assessed in 2011 as having a zero live load capacity.

Current Situation/Condition

Monitoring of the bridge is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. A feasibility report has recently been completed by Wilde Consultants Ltd which considered a range of viable options and recommended the preferred option of re-decking. The recommended option is to remove the existing bridge deck and replace with a composite pre-stressed beam / reinforced concrete composite deck at an estimated cost of £1.55m.

Options (Do Nothing, Do Minimum, Do Something).

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway

Structures. Because of the probable mode of failure of the bridge deck (i.e. sudden and unpredictable) and the risk to both road users and utilities, the closure of the bridge to all vehicular traffic would be required within two years as a do minimum option.

(ii) Do Something.

The recent feasibility report by Wilde Consultants Ltd considered a range of viable options from infilling to complete re-decking. The recommended option is to remove the existing bridge deck and replace with a composite pre-stressed beam / reinforced concrete composite deck at an estimated cost of £1.55m. This would take approximately 20 weeks to complete and could be phased so as to allow a single lane of traffic in each direction

Economic Impact

Princess Street Bridge carries Seaside's Way (unclassified) over Princess Street (unclassified). Seaside's Way is the main arterial route from the M55 to the town centre town centre car parks for visitors by car into the resort. If the bridge was closed to vehicular traffic the diversion route would add 0.6km onto each vehicle journey.

If Princess Street Bridge was closed to vehicular traffic the diversion route would add 0.6km onto each vehicle journey together with two additional "give way" junctions. This will undoubtedly cause additional congestion at peak times with a consequential effect on local business. If Seaside's Way had to be closed several of the town centre coach and car parks would become inaccessible. This would have a significant impact on local business and trade, particularly those businesses relying on income from tourism.

Social Impact

Closure of Seaside's Way to vehicular traffic would make several of Blackpool's main town centre bus and coach parks inaccessible to vehicles. If unused, these large open spaces would soon become derelict. The introduction of a permanent closure to vehicular traffic across Princess Street Bridge ("do minimum" option) would create a sense of lack of investment in the area which would in turn inevitably stifle investment and growth.

Environmental Impact

Noise

The preferred "do something" option will provide a status quo in terms of traffic volumes and related noise issues. The "Do minimum" option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 0.6km for 4,300 vehicles per day through an already congested urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and

vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Pre-fabrication of site components (e.g. bridge beams and parapets) will be undertaken wherever possible to reduce noise and on-site construction time.

Air Quality and Pollution

The preferred “do something” option will provide a status quo in terms of air quality and pollution. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 0.6km for 4,300 vehicles per day through an already congested urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The “do minimum” option would provide a status quo in terms of physical landscape and townscape however the introduction of permanent signage and physical barriers preventing vehicular access across the bridge would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would give an opportunity to provide much improved public realm both on the approaches to the bridge and on the bridge itself. The removal of the outdated riveted steel “through” girder parapets would be a significant improvement which would give the opportunity to erect a much lighter and more functional parapet. New textures and features could be introduced onto the carriageway and footway surfacing and there is also the potential to create cycle facilities within a better use of shared space.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Princess Street Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Individual journey times are increased by 0.75 minutes (at 48kph). Additional increased journey time would be caused by vehicles having to negotiate two additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated compositely together with all bridges carrying Seaside’s Way as **3.07** which indicates “high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “high” BCR score are:

- Relatively high current traffic volumes
- A full closure of the bridge would be required within two years for the “do minimum” option
- Relatively low cost of re-decking the bridge.

Another qualitative factor to be taken into account is:

- The strategic importance of Seaside's Way as the main arterial route to Blackpool's town centre car and coach park from the M55.

Optimum Solution

The optimum solution is to carry out re-decking of Princess Street Bridge at an estimated cost of £1.55 m. The work should be programmed and implemented as soon as possible as full closure of the bridge would be required within two years if the work is not undertaken before then.

2.1.3 Squires Gate Lane Bridge



Strategic Importance and Other Relevance Factors

The single span bridge carries the strategically important A5230 Squires Gate Lane dual carriageway road over the Kirkham to Blackpool South Single track railway line (The South Fylde Line). The A5230 is an important west-east radial route linking the M55, Blackpool Airport and the coast road. The bridge is owned and maintained by Blackpool Council as highway authority. Loose and spalling concrete to the deck soffit has been reported by Network Rail during recent bridge inspections which presents a serious hazard to rail traffic underneath the bridge and to Network Rail operatives.

Delaying the maintenance works will result in further degradation and the deck soffit being open to frost damage which will exacerbate the spalling and increase the risks associated with falling concrete.

The closure of Squires Gate Lane Bridge, either permanently or temporarily (for reconstruction) would require the diversion of 18,000 vehicles onto Harrowside and Watson Road. Because of the close proximity of Squires Gate Lane, Harrowside and Watson Road bridges, work to these bridges would have to be closely planned and co-ordinated in a way which minimised traffic disruption

and mitigated risks due to diversion of HGVs.

Inspection/Assessment History

The most recent assessment of the bridge was undertaken in June 2010 by Opus Consultants which concluded that the bridge had an assessed capacity of 40/44 tonne.

A further PBI of the bridge was undertaken in November 2014 by Wilde Consultants Ltd. This concluded that the composite riveted steel girder and reinforced concrete bridge deck was so badly corroded due to chloride attack that the deck should be demolished and reconstructed. The estimated cost of this was indicated as £2.439m.

Current Situation/Condition

Monitoring of the bridge is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. A feasibility report has recently been completed by Wilde Consultants Ltd which considers a range of viable options and recommends a preferred (“do something”) option together with an estimated cost.

Options (Do Nothing, Do Minimum, Do Something)

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Because of the probable mode of failure of the bridge deck (i.e. sudden and unpredictable) and the risk to both road and rail traffic, the closure of the bridge to all vehicular traffic would be required within two years as a do minimum option.

(ii) Do Something.

Recently completed feasibility work indicates that the bridge could be re-decked whilst maintaining two lanes of traffic on Squires Gate Lane. The re-decking would take approximately 4 months to complete and the estimated cost is in the region of £2.44m.

Economic Impact

The bridge carries the strategically important A5230 Squires Gate Lane 4-lane carriageway over the Kirkham to Blackpool South Single track railway line. The A5230 is an important west-east radial route linking the M55, Blackpool Airport and the coast road. The road is significantly important for tourist traffic and carries on average over 18,000 vehicles per day. If the bridge was closed to vehicular traffic the diversion route would add 2.5km onto each vehicle journey. Local businesses along Squires Gate Lane would also be significantly impacted through loss of business and passing trade.

Social Impact

The introduction of a permanent closure to vehicular traffic across Squires Gate Lane Bridge (“do minimum” option) would create a sense of lack of investment in the area which would in turn inevitably stifle investment and growth. The bridge currently provides an important physical and social link between communities on either side of the railway line in the area and is a landmark structure in the area. The bridge is adjacent to Squires Gate Rail Station which caters for over 20,000 passengers annually. The bridge is also adjacent to Blackpool Airport. Closure of the bridge would have a significant impact on the accessibility of Squires Gate Station.

Environmental Impact

Noise

The preferred “do something” option will provide a status quo in terms of traffic volumes and related noise issues. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 2.5km for 18,000 vehicles per day through a densely populated and already congested urban area.

During the construction phase, objectives for noise and vibration management would be, as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Pre-fabrication of site components (e.g. bridge beams and parapets) will be undertaken wherever possible to reduce noise and on-site construction time.

Air Quality and Pollution

The preferred “do something” option will provide a status quo in terms of air quality and pollution. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 2.5km for 18,000 vehicles per day through a densely populated urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The “do minimum” option would provide a status quo in terms of physical landscape and townscape however the introduction of permanent signage and physical barriers preventing vehicular access across the bridge would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would give an opportunity to provide much

improved public realm both on the approaches to the bridge and on the bridge itself. The removal of the outdated and unsightly 1920's-style solid concrete parapets would be a significant improvement which would give the opportunity to erect a much more aesthetically pleasing and more functional parapet. New textures and features could be introduced onto the carriageway and footway surfacing and there is also the potential to create cycle facilities within a better use of shared space.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Squires Gate Lane Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Individual journey times are increased by 3.13 minutes (at 48kph). Additional increased journey time would be caused by vehicles having to negotiate three additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated as **52.45** which indicates “very high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “very high” BCR score are:

- Relatively high current traffic volumes
- A full closure of the bridge would be required within two years for the “do minimum” option
- Relatively low cost of re-decking the bridge.

Other qualitative factors to be taken into account are:

- The strategic importance of the A5230 Squires Gate Lane dual carriage way as a radial route between the M55 and the coast road
- The proximity of the bridge to Blackpool Airport
- The proximity of the bridge to Squires Gate Lane Rail Station

Optimum Solution

The optimum solution is to carry out re-decking of Squires Gate Lane Bridge at an estimated cost of £2.439m. The work should be programmed and implemented as soon as possible as full closure of the bridge would be required within two years if the work is not undertaken before then.

Because of the close proximity of Squires Gate Lane, Harrowside and Watson Road bridges, work to these bridges would have to be closely planned and co-ordinated in a way which minimised traffic disruption and mitigated risks due to diversion of HGVs.

2.1.4 Waterloo Road Bridge



Strategic Importance and Other Relevance Factors

The four span bridge carries the strategically important A5073 Waterloo Road over Seaside's Way which has been constructed along the route of a disused length of rail line that previously linked Blackpool South and Central Stations. The bridge is adjacent to Blackpool South Station and is owned/maintained by Blackpool Council as highway authority.

Inspection/Assessment History

The most recent assessment and PBI were undertaken in April 2013 by consultants CPR Ltd. These concluded that the carriageway beams have an assessed capacity of 40/44 tonnes whilst the service bays have a capacity of 7.5 tonnes.

Current Situation/Condition

Monitoring of the bridge is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. A feasibility report has recently been completed by Wilde Consultants Ltd which considered a range of viable options and recommended the preferred (“do something”) option of installing a vehicle restraint system on both sides of the bridge to prevent accidental wheel loading the estimated cost of which is £506k.

Options (Do Nothing, Do Minimum, Do Something)

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Because of the probable mode of failure of the service bays (i.e. sudden and unpredictable) and the risk to both road users and utilities, a vehicular weight restriction of 7.5 would be the preferred do minimum option. This should be undertaken within the next two years.

(ii) Do Something.

The recent feasibility work indicates that the preferred option would be to install a vehicle restraint system on both sides of the bridge to prevent accidental wheel loading the estimated cost of which is £506k. This option would not require any road closures and could be completed in six to eight weeks.

Economic Impact

The bridge carries the strategically important A5073 Waterloo Road and forms part of the west-east link from the M55 to the Coast Road. Waterloo Road is significantly important for tourist traffic. If the bridge was closed to heavy goods vehicles the diversion route would add 0.8km onto each HGV journey together with two additional “give way” junctions. This will undoubtedly cause additional congestion at peak times with a consequential effect on local business. Local businesses along Waterloo Road would also be impacted through additional servicing costs and loss of business and passing trade.

Social Impact

The introduction of a permanent vehicular weight restriction across Waterloo Road Bridge (“do minimum” option) would create a sense of lack of investment in the area which would in turn inevitably stifle investment and growth. The bridge currently provides an important physical and social link between communities on either side of the railway line in the area and is a landmark structure in the area. The bridge is adjacent to Blackpool South Rail Station which caters for 86,000 passengers annually.

Environmental Impact

Noise

The preferred “do something” option will provide a status quo in terms of traffic volumes and related noise issues. The “Do minimum” option of closing the bridge to heavy goods vehicles would cause a permanent traffic diversion of an additional 0.8km for 1334 heavy goods vehicles per day through a densely populated urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Air Quality and Pollution

The preferred “do something” option will provide a status quo in terms of air quality and pollution. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 0.8km for 1334 heavy goods vehicles per day through a densely populated and already congested urban area. During the construction phase, objectives for air

quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The “do minimum” option would provide a status quo in terms of physical landscape and townscape however the introduction of permanent weight limit signage on the approaches to the bridge together with signing of diversion routes would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would require the construction of vehicle restraint barriers within both footways which would increase pedestrian and driver confidence on the bridge.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Waterloo Road Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Individual journey times are increased by 1.0 minute (at 48kph). Additional increased journey time would also be caused by heavy goods vehicles having to negotiate two additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated as **10.46** which indicates “very high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “very high” BCR score are:

- Relatively high current traffic volumes
- A 7.5 tonne vehicular weight restriction on the bridge would be required within two years for the “do minimum” option
- Relatively low cost of implementing measures to alleviate the necessity of a vehicular weight restriction on the bridge.

Another qualitative factor to be taken into account is:

- The strategic importance of the A5073 Waterloo Road dual carriage way as a radial route between the M55 and the coast road

Optimum Solution

The optimum solution is to construct vehicle restraint systems on both sides of the bridge to prevent accidental wheel loading on vulnerable parts of the bridge deck. The estimated cost of undertaking this work is £506k. The work should be programmed and implemented as soon as possible as a 7.5 tonne weight restriction on the bridge would be required within two years if the work is not undertaken before then.

2.1.5 Harrowside Bridge



Strategic Importance and Other Relevance Factors

The bridge carries Harrowside (West) over the Kirkham to Blackpool South single track rail line. The single span reinforced concrete portal frame bridge, which carries predominantly local traffic, is in a very poor condition due to a combination of many years of neglect and sea-borne salts corroding the reinforcement. Loose and spalling concrete has been noted on previous inspections which presents a serious hazard to rail traffic underneath the bridge. There is also a cellular approach ramp to the west of the main bridge. This structure has only recently been discovered as a highway structure. The length of the approach ramp is approximately 80 metres and it is of cellular insitu reinforced concrete construction. Early investigations indicate that the approach ramp structure is in a similar poor condition to the main bridge. Investigations and testing is ongoing to establish the full extent of the cellular approach ramp. Both the bridge and the approach ramp are owned and maintained by Blackpool Council.

A weight restriction or closure is under consideration for this bridge which, if implemented, would have a local impact on businesses, growth and tourism as local traffic currently using the bridge would have to be diverted onto adjacent strategically important routes which are already heavily congested.

Because of the close proximity of Squires Gate Lane, Harrowside and Watson Road bridges, work to these bridges would have to be closely planned and coordinated in a way which minimised traffic disruption and mitigated risks due to diversion of HGVs.

Inspection/Assessment History

The bridge, which was built in 1927, was assessed in 2010 by Opus Consulting Engineers. The assessment concluded that the bridge had a live load capacity of 40/44 tonnes. The most recent principal bridge inspection (PBI) was carried out in August 2014 by Wilde Consulting Engineers. The PBI incorporated extensive concrete testing which established that the concrete has a high level of chloride

contamination which in turn means that there is a high probability that the steel reinforcement will have a high degree of corrosion. The PBI also confirmed large areas of loose and spalling concrete on the bridge deck soffit which is a continuing hazard to rail traffic. The recommendation from the PBI was that the bridge should have a 3 tonne weight limit imposed and that wire netting should be installed underneath the bridge deck both as a matter of priority.

Current Situation/Condition

Monitoring of the bridge from the highway is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. A feasibility report is being compiled by Wilde Consulting Engineers which is considering a range of viable options.

Options (Do Nothing, Do Minimum, Do Something)

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Because of the probable mode of failure of the portal frame and approach ramps (i.e. sudden and unpredictable) and the risk to both road/rail users and utilities, a “do nothing” options is not feasible. The preferred “do minimum” option would be to implement a vehicular weight restriction of 3 tonnes and to undertake concrete repairs and/or install netting to the soffit of the bridge deck within the next two years. This would provide a safe and serviceable bridge for the next 15 to 20 years during which time the bridge could be managed within Blackpool’s HAMP and Bridges Lifecycle Plan. The estimated cost of the preferred “do minimum” option is £400k.

(ii) Do Something.

The recent feasibility work indicates that the preferred “do something” option would be to demolish and re-construct the bridge and approach ramp. The estimated cost of this option however is of the order of £11.5m. This option would take approximately 30 weeks to complete and would require the temporary closure of Harrowside West for the duration of the works. It is recognised that this option does not provide good value for money. The BCR for this option is **0.52** which is “poor” value for money (this BCR calculation is not included in Appendix E).

Economic Impact

The bridge carries the locally important Harrowside West and forms part of the local network around and to Blackpool Pleasure Beach amusement park. If the bridge was closed to heavy goods vehicles the diversion route would add 1.1km onto each HGV journey. Local businesses along Harrowside West would also be impacted through additional servicing costs and loss of business and passing

trade.

Social Impact

The bridge is adjacent to Blackpool Pleasure Beach amusement park which caters for over five million visitors annually (source: Tourist Information UK). Harrowside forms part of the local highway network around the Pleasure Beach area which becomes very busy and congested in summer "high season" months. Weight restriction (in the short-term) or full closure (in the medium-term) of Harrowside Bridge would make the existing traffic congestion problem even worse.

Environmental Impact

Noise

The preferred "do minimum" option of closing the bridge to vehicles over 3 tonnes would cause a permanent traffic diversion of an additional 1.1km for over 200 heavy goods vehicles per day through a densely populated and already congested urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Air Quality and Pollution

The preferred "do minimum" option of closing the bridge to heavy goods vehicles would cause a permanent traffic diversion of an additional 1.1km for over 200 HGVs per day through a densely populated urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The preferred "do minimum" option would provide a status quo in terms of physical landscape and townscape however the introduction of permanent signage preventing HGV access across the bridge, together with diversion route signing, would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the "do minimum" and "do something" cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Harrowside. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Individual HGV journey times would be increased by 1.3 minutes (at 48kph) if the “do minimum” option was implemented. Additional increased journey time would be caused by vehicles having to negotiate two additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for the preferred “do minimum” option for this bridge has been calculated as **20.53** which indicates “Very High” VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0

- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “very high” BCR score are:

- Relatively high current total and HGV traffic volumes
- High relatively low cost of structural maintenance

Other qualitative factors to be taken into account are:

- The local importance of Harrowside as a route to the Coast Road
- Light vehicles and pedestrians would be allowed to continue using the bridge following the implementation of a 3 tonne vehicular weight restriction.
- Because of the close proximity of Squires Gate Lane, Harrowside and Watson Road bridges, work to these bridges would have to be closely planned and co-ordinated in a way which minimised traffic disruption and mitigated risks due to diversion of HGVs.

Optimum Solution

The optimum solution is the “do minimum” option which is to implement a vehicular weight restriction of 3 tonnes and to undertake concrete repairs and/or install netting to the soffit of the bridge deck within the next two years at an estimated cost of £400k. Investigation and feasibility work is ongoing to determine the full extent and structural capacity of the vaulted approach ramps to the main span.

2.1.6 Gas Works Subway



Strategic Importance and Other Relevance Factors

Gas Works Subway carries Seaside’s Way (unclassified) over a disused and dilapidated pedestrian subway. Seaside’s Way is the main arterial route from the M55 to the town centre car parks for visitors by car into the resort. The

bridge used to carry rail traffic along the now disused length of rail line which previously linked Blackpool South and Central Stations. The bridge is now owned and maintained by Blackpool Council as highway authority. The bridge is a single span riveted steel plate girder bridge and was assessed in 2011 as having a zero live load capacity. The closure of Seaside's Way to vehicular traffic will have a major impact on local business and visitor access to town centre car parks which the town is heavily reliant upon.

The bridge has reached the end of its design life and the degradation will only continue.

Inspection/Assessment History

The bridge last had a principal inspection (PBI) and assessment in 2011. These were undertaken by consultants CPR Ltd.

The conclusions of the PBI were that the bridge was in very poor condition, the main structural steel elements having corroded substantially mainly due to the aggressive environment whilst the substructure was in fair condition. The assessment concluded that the bridge failed assessment and had zero live load capacity.

Current Situation/Condition

Monitoring of the bridge is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Recommendations from the most recent Principal Inspection report suggest that the optimum “do something” option is to infill the subway and to make the structure redundant. The estimated cost of this work is £312k.

Options (Do Nothing, Do Minimum, Do Something).

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Because of the probable mode of failure of the bridge deck (i.e. sudden and unpredictable) and the risk to both road users and utilities, the closure of the bridge to all vehicular traffic would be required within two years as a do minimum option.

(ii) Do Something.

The ongoing feasibility report by Wilde Consultants Ltd is considering a range of viable options from infilling to complete re-decking. The subway has been disused for many years and any future development in the area would have surface level accessibility across Seaside's Way. The recommended option is therefore likely to be that the subway is infilled and that all structural elements of the bridge are made redundant. The estimated cost of this work is £312k and it would take approximately four weeks to complete.

Economic Impact

Gas Works Subway carries Seaside's Way (unclassified) over a disused and redundant subway. Seaside's Way is the main arterial route from the M55 to the town centre town centre car parks for visitors by car into the resort. If the bridge was closed to vehicular traffic the diversion route would add 0.6km onto each vehicle journey.

If Seaside's Way had to be closed several of the town centre coach and car parks would become inaccessible. This would have a significant impact on local business and trade, particularly those businesses relying on income from tourism.

Social Impact

Closure of Seaside's Way to vehicular traffic would make several of Blackpool's main town centre bus and coach parks inaccessible to vehicles. If unused, these large open spaces would soon become derelict.

Environmental Impact

Noise

The preferred "do something" option will provide a status quo in terms of traffic volumes and related noise issues. The "Do minimum" option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 0.6km for 4,300 vehicles per day through an already congested urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Pre-fabrication of site components (e.g. bridge beams and parapets) will be undertaken wherever possible to reduce noise and on-site construction time.

Air Quality and Pollution

The preferred "do something" option will provide a status quo in terms of air quality and pollution. The "Do minimum" option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 0.6km for 4,300 vehicles per day through an already congested urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The "do minimum" option would provide a status quo in terms of physical

landscape and townscape however the introduction of permanent signage and physical barriers preventing vehicular access across the bridge would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would give an opportunity to provide much improved public realm both on the approaches to the bridge and on the bridge itself. The removal of the outdated riveted steel “through” girder and brick parapets would be a significant improvement which would give the opportunity to erect a much lighter and more functional parapet. New textures and features could be introduced onto the carriageway and footway surfacing and there is also the potential to create cycle facilities within a better use of shared space.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Gas Works Subway. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Individual journey times are increased by 0.75 minutes (at 48kph). Additional increased journey time would be caused by vehicles having to negotiate two additional “give way” junctions. The effects of this are quantified in the BCR

calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated compositely together with all bridges carrying Seaside’s Way as **3.07** which indicates “high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “high” BCR score are:

- Relatively high current traffic volumes
- A full closure of the bridge would be required within two years for the “do minimum” option
- Relatively low cost of re-decking the bridge.

Other qualitative factors to be taken into account are:

- The strategic importance of Seaside’s Way as the main arterial route to Blackpool’s town centre car and coach park from the M55

Optimum Solution

The optimum solution is to carry out infilling of Gas Works Subway at an estimated cost of £312k. The work should be programmed and implemented as soon as possible as full closure of the bridge would be required within two years if the work is not undertaken before then.

2.1.7 Watson Road Bridge



Strategic Importance and Other Relevance Factors

Watson Road Bridge carries the unclassified but locally important Watson Road over the Kirkham to Blackpool South single track railway line. The bridge is owned and maintained by Network Rail therefore the relative liabilities for maintenance between Blackpool Council and Network Rail are established through principles set out in the Bridgeguard 3 national agreement between Network Rail and local highway authorities. The bridge has an assessed overall capacity of dead load only. The bridge is within a close proximity to the promenade and Blackpool Pleasure Beach and is used by local traffic. If a weight restriction or closure is implemented the local traffic will need to be diverted onto the busy key corridors which provide access to the resort.

Because of the close proximity of Squires Gate Lane, Harrowside and Watson Road bridges, work to these bridges would have to be closely planned and co-ordinated in a way which minimised traffic disruption and mitigated risks due to diversion of HGVs.

Inspection/Assessment History

The bridge was assessed in 2002 by Mott MacDonald Ltd and assessment reports have been made available to Blackpool Council. The council have no record of the most recent principal inspection.

The bridge has two spans, the east span being of cast iron beam/jack arch construction whilst the west span comprises an original central brick arch with a widening on each side of the arch in cast iron beams and jack arches. Generally all elements supporting carriageway are able to carry 40 tonnes whilst other (footway) beams are restricted to zero, 3 or 7.5 tonnes capacity.

Current Situation/Condition

Monitoring of the bridge from the highway is ongoing in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Network Rail are also inspecting the bridge at regular intervals as part of their programme of planned inspections. A feasibility report has recently been

completed by Wilde Consultants Ltd in close consultation with Network Rail which considered a range of viable options including strengthening the existing cast iron beams using carbon fibre plate bonding, complete re-decking and providing protection to the vulnerable parts of the bridge deck. The preferred (“do something”) option is to take down and re-construct the bridge parapets and install a vehicle restraint system on both sides of the bridge to prevent accidental wheel loading. The estimated cost (to Blackpool Council) of this option is £336k. Additional work would be required by Network Rail to strengthen carriageway beams in order to meet their load carrying liability.

Options (Do Nothing, Do Minimum, Do Something)

(i) Do Nothing and Do Minimum.

Both of these options would require the bridge to be managed in accordance with DfT Standard BD79/13 – The Management of Sub-standard Highway Structures. Because of the probable mode of failure of the service bays (i.e. sudden and unpredictable) and the risk to both road users and utilities, a vehicular weight restriction of 3 tonnes would be the preferred do minimum option which should be implemented within the next two years.

(ii) Do Something.

The recent feasibility work indicates that the preferred option would be to take down and re-construct the bridge parapets and install a vehicle restraint system on both sides of the bridge to prevent accidental wheel loading. The estimated cost of this option is £336k. This option could be constructed under single lane closures thereby keeping disruption to a minimum. The work could be completed in six to eight weeks.

Economic Impact

The bridge carries the locally important Watson Road and forms part of the local network around and to Blackpool Pleasure Beach. If the bridge was closed to heavy goods vehicles the diversion route would add 1.3km onto each HGV journey. Local businesses along Watson Road would also be impacted through additional servicing costs and loss of business and passing trade.

Social Impact

The bridge is adjacent to Blackpool Pleasure Beach which caters for over five million visitors annually (source: Tourist Information UK). Watson Road forms part of the local highway network around the Pleasure Beach area which becomes very busy and congested in summer “high season” months. Weight restriction of Watson Road Bridge would make the existing traffic congestion problem even worse.

Environmental Impact

Noise

The preferred “do something” option will provide a status quo in terms of traffic volumes and related noise issues. The “Do minimum” option of closing the bridge to heavy goods vehicles would cause a permanent traffic diversion of an additional 1.3km for 1334 heavy goods vehicles per day through a densely populated and congested urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Air Quality and Pollution

The preferred “do something” option will provide a status quo in terms of air quality and pollution. The “Do minimum” option of closing the bridge to vehicular traffic would cause a permanent traffic diversion of an additional 0.8km for 228 heavy goods vehicles per day through a densely populated urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The “do minimum” option would provide a status quo in terms of physical landscape and townscape however the introduction of permanent weight limit signage on the approaches to the bridge together with signing of diversion routes would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would require the construction of vehicle restraint barriers within both footways which would increase pedestrian and driver confidence on the bridge.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Watson Road Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Individual journey times are increased by 1.6 minutes (at 48kph). Additional increased journey time would also be caused by heavy goods vehicles having to negotiate two additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated as **3.49** which indicates “high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “high” BCR score are:

- Relatively high current traffic volumes
- A 3 tonne vehicular weight restriction of the bridge would be required within two years for the “do minimum” option.
- Relatively low cost of new parapet and vehicle restraint systems for the bridge.

Other qualitative factors to be taken into account are:

- The local importance of Watson Road as a local distributor road adjacent to Blackpool Pleasure Beach theme park.
- Because of the close proximity of Squires Gate Lane, Harrowside and Watson Road bridges, work to these bridges would have to be closely planned and co-ordinated in a way which minimised traffic disruption and mitigated risks due to diversion of HGVs.

Optimum Solution

The optimum solution is to take down and re-construct the bridge parapets and install a vehicle restraint system on both sides of the bridge to prevent accidental wheel loading. The estimated cost of this option is £336k. The work should be programmed and implemented as soon as possible as a 3 tonne vehicular weight restriction would be required within two years if the work is not undertaken before then.

2.1.8 Chapel Street Bridge



Strategic Importance and Other Relevance Factors

Chapel Street Bridge carries Seaside's Way (unclassified) over Chapel Street (unclassified). The single span pre-stressed composite bridge was designed and constructed in 1984 (to current loading standards) and therefore is deemed to have an assessment capacity of 40/44 tonnes. Seaside's Way is the main arterial route from the M55 to the town centre car parks for visitors by car into the resort. The bridge is owned and maintained by Blackpool Council as highway authority.

Inspection/Assessment History

The latest principal inspection of Chapel Street Bridge was undertaken in 2012 by Pontes Engineering Ltd. As the bridge was designed constructed in 1984 to current loading standards there is no requirement for an assessment.

The findings of the 2012 PBI were that the bridge was generally in good condition but the bridge parapets were corroding and were in need of replacement.

Current Situation/Condition

The bridge is generally in good condition and there is no requirement for enhanced inspections or monitoring beyond the ongoing inspection regime. The 2012 PBI report commented that the existing steel parapets were corroded and recommended that they were replaced. The report also recommended other minor maintenance works. The estimated cost of this work is £209k. The work would take approximately two weeks to complete and could be undertaken within localised lane closures. The work is medium priority.

Options (Do Nothing, Do Minimum, Do Something).

(i) Do Nothing and Do Minimum.

The bridge is not at risk of failure and does not require intervention in the short-term.

(ii) Do Something.

The estimated cost of the parapet and minor maintenance work is £209k and it would take approximately two weeks to complete. The work could be undertaken within localised lane closures causing minimal disruption and delay. The work is medium priority and should be undertaken within the next five years.

Economic Impact

There is no risk of structural failure of the bridge in its current condition and therefore no requirement for traffic regulation. Consequently there are no anticipated differential economic impacts.

Social Impact

There is no risk of structural failure of the bridge in its current condition and therefore no requirement for traffic regulation. Consequently there are no anticipated differential social impacts.

Environmental Impact

Noise

Both the preferred “do something” and the “do minimum” option will provide a status quo in terms of traffic volumes and related noise issues.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Air Quality and Pollution

Both the preferred “do something” option and the “do minimum” option will provide a status quo in terms of air quality and pollution.

Landscape and Townscape

Both the preferred “do something” and the “do minimum” option will provide a status quo in terms of physical landscape and townscape.

The “do something” option would require the construction of a new vehicle parapet which would increase pedestrian and driver confidence on the bridge.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Chapel Street Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity.

Journey Quality.

Both the “do minimum” and “do something” options have a neutral effect on journey times.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated compositely together with all bridges carrying Seaside’s Way as **3.07** which indicates “high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “high” BCR score are:

- Relatively high current traffic volumes
- Relatively low cost of undertaking the parapet replacement works.

Another qualitative factor to be taken into account is:

- The strategic importance of Seaside’s Way as the main arterial route to Blackpool’s town centre car and coach park from the M55

Optimum Solution

The optimum solution is to take down and re-construct the bridge parapets on both sides of the bridge to prevent errant vehicles leaving the bridge. The estimated cost of this option is £209k.

2.1.9 Rigby Road Bridge



Strategic Importance and Other Relevance Factors

Rigby Road Bridge carries Seaside’s Way (unclassified) over Rigby Road

(unclassified). The single span pre-stressed composite bridge was designed and constructed in 1984 (to current loading standards) and therefore is deemed to have an assessment capacity of 40/44 tonnes. Seaside's Way is the main arterial route from the M55 to the town centre car parks for visitors by car into the resort. The bridge is owned and maintained by Blackpool Council as highway authority.

Inspection/Assessment History

The latest principal inspection of Rigby Road Bridge was undertaken in 2012 by Pontes Engineering Ltd. As the bridge was designed constructed in 1984 to current loading standards there is no requirement for an assessment. The findings of the 2012 PBI were that the bridge was generally in good condition but there were several minor maintenance issues which required attention.

Current Situation/Condition

The bridge is generally in good condition and there is no requirement for enhanced inspections or monitoring beyond the ongoing inspection regime. The 2012 PBI report commented that there were several minor maintenance issues which required attention. The estimated cost of this work is £73k. The work would take approximately two weeks to complete and could be undertaken within localised lane closures. The work is medium priority.

Options (Do Nothing, Do Minimum, Do Something).

(i) Do Nothing and Do Minimum.

The bridge is not at risk of failure and does not require intervention in the short-term.

(ii) Do Something.

The estimated cost of the minor maintenance work is £73k and it would take approximately two weeks to complete. The work could be undertaken within localised lane closures causing minimal disruption and delay. The work is medium priority and should be undertaken within the next five years.

Economic Impact

There is no risk of structural failure of the bridge in its current condition and therefore no requirement for traffic regulation. Consequently there are no anticipated differential economic impacts.

Social Impact

There is no risk of structural failure of the bridge in its current condition and therefore no requirement for traffic regulation. Consequently there are no anticipated differential social impacts.

Environmental Impact

Noise

Both the preferred “do something” and the “do minimum” option will provide a status quo in terms of traffic volumes and related noise issues.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Air Quality and Pollution

Both the preferred “do something” option and the “do minimum” option will provide a status quo in terms of air quality and pollution.

Landscape and Townscape

Both the preferred “do something” and the “do minimum” option will provide a status quo in terms of physical landscape and townscape.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Rigby Road Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on

physical activity.

Journey Quality.

Both the “do minimum” and “do something” options have a neutral effect on journey times.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has been calculated compositely together with all bridges carrying Seaside’s Way as **3.07** which indicates “very high VfM” in accordance with DfT guidelines:

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “very high” BCR score are:

- Relatively high current traffic volumes
- Low cost of undertaking the minor maintenance works.

Another qualitative factor to be taken into account is:

- The strategic importance of Seaside’s Way as the main arterial route to Blackpool’s town centre car and coach park from the M55

Optimum Solution

The optimum solution is to undertake minor maintenance work to the bridge. The estimated cost of this option is £73k.

2.1.10 Devonshire Road Railway Bridge



Strategic Importance and Other Relevance Factors

This single span riveted steel plate girder bridge carries the main Preston to Blackpool railway line, (which terminates at Blackpool North Station), over the B5124 Devonshire Road and has an existing headroom restriction of 4.7m. As the road was constructed after the railway, the bridge is owned and maintained by Blackpool Council. Major maintenance works are required to refurbish the girders to prevent continued degradation to this key structure.

Inspection/Assessment History

Network Rail manage this structure on behalf of Blackpool Council as though it were a Network Rail owned asset, i.e. Network Rail carries out Detailed Examinations (every six years) and Visual Examinations (every year). Further, Network Rail assessed this bridge to determine its safe load carrying capacity in 1999 and it was found to be satisfactory. Network Rail invoices the cost of the examinations to the Council. As a general rule, Network Rail would undertake any maintenance works required (in agreement with the Council) and would re-charge the Council for the work.

Current Situation/Condition

From a recent visual inspection, the main structural steelwork forming Devonshire Road Railway Bridge requires taking back to bare metal and the application of a new corrosion protection system as well as minor maintenance works. Of further concern however is the reinforced concrete deck slab which is susceptible to chloride attack.

Options (Do Nothing, Do Minimum, Do Something)

Options range from do nothing to undertaking a major maintenance scheme. The “do nothing” option would have no immediate implications for rail or vehicular traffic. The “do something” major maintenance scheme should therefore be seen as a low priority. The estimated cost of undertaking a major maintenance scheme on the bridge at 2014 prices is £439k.

Ultimately, failure to undertake major maintenance will lead to progressive corrosion and deterioration of the main bridge deck elements which in turn will lead to the need to strengthen or replace the bridge deck.

A long-term “do minimum” option would be to provide support to the bridge deck either by propping or by infilling. Both of these options would require the permanent closure of Devonshire Road to vehicular traffic however this is seen as a preferable alternative to closing or restricting the North Fylde Line. Blackpool North has an annual footfall of over 1.6m (ORR data).

Economic Impact

There are no short or medium-term economic implications for the “do nothing/minimum” options. There could however be significant longer-term implications for the bridge if future planned maintenance work was not undertaken within say 10 years. Failure to implement a planned maintenance regime for this bridge could result in the need for a replacement bridge deck should the main steelwork and reinforced concrete deck slab be allowed to deteriorate in an uncontrolled manner.

Longer-term economic impacts for the “do nothing/minimum” option are significant and would require the propping or infilling of the bridge with a consequential closure of Devonshire Road. This would lead to serious local traffic disruption in the area with a consequential impact on business and trade in the area.

Social Impact

There are neutral short or medium-term social implications for the “do nothing” option. The longer-term social impact of the closure of Devonshire Road would be very significant to the local economy.

Social impacts of the “do something” option are neutral.

Environmental Impact

Noise

The preferred “do something” option will provide a status quo in terms of traffic volumes and related noise issues. The “Do minimum” option of closing Devonshire Road to all vehicular traffic (in the longer-term) would cause a permanent traffic diversion of an additional 1.6km for 15,000 vehicles per day through a densely populated and already congested urban area.

During the construction phase, objectives for noise and vibration management would be as far as reasonably practicable, to control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Pre-fabrication of site components (e.g. bridge beams and parapets) will be

undertaken wherever possible to reduce noise and on-site construction time.

Air Quality and Pollution

The preferred “do something” option will provide a status quo in terms of air quality and pollution. The “Do minimum” option of closing the Devonshire Road to vehicular traffic would cause a permanent traffic diversion of an additional 1.6km for 15,000 vehicles per day through a densely populated and already congested urban area. During the construction phase, objectives for air quality and pollution management would be as far as is reasonably practicable, to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and plant used on the site and dust from construction activities.

Landscape and Townscape

The “do minimum” option would provide a status quo in terms of physical landscape and townscape however the infilling or propping of the bridge in the longer-term would be a significant negative intrusion into the public realm and would have a negative impact on wellbeing in the area.

The “do something” option would give an opportunity to provide much improved public realm both on the approaches to the bridge and on the bridge itself. The cleaning and painting of the underside of the bridge and the external bridge beams would be a significant improvement to the existing corroded and rust-stained appearance.

Heritage and historical resource

There is a neutral impact on heritage and historical resource for both the “do minimum” and “do something” cases.

Biodiversity

Recent principal bridge inspections and surveys have not identified any biodiversity issues on Devonshire Road Bridge. A biodiversity survey of the bridge will be undertaken at the commencement of detailed design. This will check for any evidence of habitation of bats, birds and other species and will make recommendations as to any mitigating measure that need to be taken in both design and construction phases.

Water/environmental

EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.

During the construction phase, works will be carried out in accordance with the Environment Agency best practice guide Working at Construction and

Demolition Sites: PPG6.

Site waste management will be undertaken broadly in line with the 2008 Site Waste Management Plans Regulations (repealed).

Physical Activity

Both the “do minimum” and “do something” options have a neutral effect on physical activity. Pedestrians and cyclists will be allowed to pass underneath the bridge in the “do minimum” option (vehicular closure).

Journey Quality.

Individual journey times are increased by 2.00 minutes (at 48kph). Additional increased journey time would be caused by vehicles having to negotiate three additional “give way” junctions. The effects of this are quantified in the BCR calculation.

Journey quality will therefore be adversely affected by the “do minimum” option.

Accidents

Both the “do minimum” and “do something” options have a neutral effect on accidents.

Cost Benefit Discussion

The quantitative Benefit to Cost Ratio (BCR) for this bridge has not been included as the bridge carries rail as opposed to road traffic and the relative BCR values would have been disproportionately high (95.28). The BCR value for Devonshire Road Railway Bridge would certainly be in the “very high” category.

- **Poor** VfM if the BCR is less than 1.0
- **Low** VfM if the BCR is between 1.0 and 1.5
- **Medium** VfM if the BCR is between 1.5 and 2.0
- **High** VfM if the BCR is between 2.0 and 4.0
- **Very high** VfM if the BCR is greater than 4.0

The main quantitative factors influencing the “very high” BCR score are:

- Relatively high current traffic volumes
- Relatively low cost of undertaking the major maintenance works
- Relatively long diversion route.

Another qualitative factor to be taken into account is:

- The strategic importance of Devonshire Road as a north-south route around the town centre.

Optimum Solution

The optimum solution is to undertake major maintenance work to the bridge as a medium priority. The estimated cost of this option is £439k.

2.1.11 Discussion on programme prioritisation

As stated previously, programming of works within the Blackpool Bridges Project is dependent on the success of bids for grant funding to:

- Growth Fund bid of £4.23m (LEP) (including £0.43m council contribution)
- Challenge Fund bid of £7.135 (DfT) (including £1.57m local contribution)

Other factors influencing the programming of works within the Project are as follows:

Plymouth Road Railway Bridge

In order to make best use of planned railway track possessions the maintenance work to Plymouth Road Railway Bridge should be undertaken in conjunction with Network Rail's planned electrification works to the Preston to Blackpool North railway line. The electrification works are currently planned to take place between December 2016 and May 2017. Failure to achieve this will mean that the cost of the bridgework will significantly increase as the newly installed overhead line equipment will need to be isolated and taken down to enable the bridge maintenance work to be carried out.

It is therefore essential that the programming of the Blackpool Bridges project as a whole has Plymouth Road Railway Bridge as its initial focus.

Bridges Along Seaside's Way.

Seaside's Way is the main car and coach route into the resort core from the M55 to access the town's main car and coach parks and visitor attractions (The Tower, Houndshell Shopping Centre, Winter Gardens and Blackpool's Leisure Quarter site).

Because of the close geographical location of the bridges along Seaside's Way, economies can be made by programming the work to these bridges to be let as a single package of work thereby making savings in contractor's site establishment and overheads. The bridges supporting or crossing Seaside's Way are:

- Princess Street Bridge
- Gas Works Subway
- Chapel Street Bridge
- Rigby Road Bridge
- Waterloo Road Bridge.

Squires Gate Lane and Harrowside Bridges

It should be noted that Harrowside Bridge forms part of the most convenient

	<p>diversion route for Squires Gate Lane Bridge. Harrowside Bridge should therefore be programmed for major maintenance and weight restriction prior to the reconstruction of Squires Gate Lane Bridge.</p> <p><u>Bridges Over/Under Network Rail Lines</u> The following bridges are located either over or under live Network Rail lines:</p> <ul style="list-style-type: none"> – Plymouth Road Railway Bridge – Watson Road Railway Bridge (road over rail) – Harrowside Railway Bridge (road over rail) – Squires Gate Lane Railway Bridge (road over rail) – Devonshire Road Railway Bridge (rail over road) <p>Planning, programming and implementation of works to these bridges will require detailed consultation and partnership working with Network Rail and their contracted representatives. Much of the work will have to be done under “track possession” arrangements during which train movements are temporarily suspended. Forward planning of track possessions can take up to two years to arrange. Discussions with Network Rail’s Outside Party Engineers are already ongoing but track possessions cannot be confirmed until project funding is secured. Programming of work to Blackpool’s railway bridges takes into account any uncertainty and risk associated with Network Rail track possessions and has been planned on the basis of ongoing discussion with Network Rail.</p> <p><u>2.1.12 Project programme of bridge maintenance works</u></p> <p>The current project programme and financial profile is provided as Appendix F.</p>
<p>2.2 <i>Please describe any economic assumptions made or that will be made as part of future appraisal work and the development of the Outline Business Case.</i></p>	<p><u>2.2 Economic Assumptions</u></p> <p>The following economic assumptions have been made in the preparation of this business case:</p> <ul style="list-style-type: none"> • Standard approaches and assumptions as per WebTAG guidance utilised wherever practicable. • 2010 base year assumed in BCR calculations • 60 year return period assumed. • Economic assessments generally undertaken for October traffic count data. Weekday AM/IP/PM values are seasonally adjusted by 0.9 to obtain annual average. (NB, Blackpool Illuminations 4/09 to 15/11). • Economic assessments have been undertaken for the Do Minimum (DM) and Do Something (DS) cases. DS cases are the optimised solution arrived at from feasibility studies based on principal bridge inspections and assessments of each bridge. DM cases are the minimum that would have to

	<p>be done in order to meet the legal obligations of a highway authority (e.g. road closures/diversions, vehicular weight restrictions etc.).</p> <ul style="list-style-type: none"> • Cost estimates are derived from current (Q4 2014/15) rates obtained from projects of a similar type and value in the North West of England. • Marginal External Costs and Indirect Tax (Cars) obtained from TAG Unit A5.4 January 2014. • User and provider annual parameters obtained from TAG Unit A-13 November 2014. • All work assumed to take place over two years (2015/16 and 2016/17)
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2.3 Sensitivity & Risk Profile
If applicable, please describe how changes in economic, environmental and social factors could affect the impact of the proposed scheme in terms of its benefit and costs.

2.3 Sensitivity and Risk Profile

Productivity uplifts are anticipated but are not quantifiable. No development is expected to be unlocked by the Blackpool Bridges project but the scheme will have connectivity and travel time impacts for travel to/from and across Blackpool as a whole (ref 4.1 – Commercial Viability).

A Development Uncertainty Log is provided below which shows the relative effects of the “do minimum” and “do something” options on future potential development in Blackpool (see Tables 2.3.A and 2.3.B below).

Table 2.3.A – Uncertainty Classifications

Probability	Description	Status
Near certain	The outcome will happen, or there is a high probability that it will happen	<ul style="list-style-type: none"> • Intent announced by proponent to regulatory Agencies. • Approved development proposals. • Projects under construction.
More than likely	The outcome is likely to happen, but there is some uncertainty	<ul style="list-style-type: none"> • Submission of planning or consent application Imminent • Development application within the consent process.
Reasonably foreseeable	The outcome may happen, but there is significant uncertainty	<ul style="list-style-type: none"> • Identified within a development plan • Not directly associated with the transport strategy/scheme, but may occur if the transport strategy/scheme is implemented. • Development conditional on the transport strategy/scheme proceeding. • A committed policy goal, subject to tests (e.g. of deliverability) whose outcomes are subject to significant uncertainty.
Hypothetical	There is considerable	<ul style="list-style-type: none"> • Conjecture based on currently available Information.

	uncertainty whether the outcome will ever happen	<ul style="list-style-type: none"> • Discussed on a conceptual basis. • One of a number of possible inputs in an initial consultation process. • A policy aspiration
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Table 2.3.B – Effects of Blackpool Bridges on Development Probability

Development	Probability with “Do Something” Option Prevailing	Probability with “Do Minimum” Option Prevailing
Central Business District	More than likely	Hypothetical
Winter Gardens Museum	Near certain	Reasonably foreseeable
Former Central Station site (Leisure Quarter)	Reasonably foreseeable	Hypothetical

For identification, assessment and mitigation measures for project risks, see the Project Risk Register attached as Appendix D.

2.4 Value for Money Statement

Using the Appraisal Summary Table (AST) (see section 2.5), please include a summary of the conclusions from the Value for Money assessment. The statement should provide a concise summary of the proposed scheme’s economic, environmental, social and public accounts impact.

2.4 Value for Money Statement

Values of Benefit to Cost Ratio (BCR) have been calculated using WebTAG guidance.

Table 2.4.A below summarises the calculated values of BCR for all bridges, both with and without marginal extra costs (MECs) and also shows the optimism bias adjustment (OBA) used within the BCR calculation and the reasoning behind it’s value.

Table 2.4A – Calculated Values of BCR

BRIDGE	TOTAL COST ESTIMATE (£M)	FINAL BCR	BCR WITHOUT MARGINAL EXTRA COSTS (MECs)	OPTIMISM BIAS ADJUSTMENT (OBA)	OBA REASONING
Plymouth Road	5.097	29.96	16.94	66%	Bridge over Network Rail. Programming critical.
Princess Street	1.554	The Final BCR value for all four bridges as a package is 3.07. (No point repairing one bridge in isolation).		44%	Minimal external risk.
Gas Works Subway	0.312			44%	Minimal external risk.
Chapel Street	0.209			44%	Minimal external risk.
Rigby Road	0.073			44%	Minimal external risk.

	Squires Gate Lane	2.439	52.45	33.29	66%	Bridge over Network Rail.
	Waterloo Road	0.506	10.46	8.40	44%	Minimal external risk.
	Harrowside	0.400	20.53	15.64	66%	Bridge over Network Rail.
	Watson Road	0.336	3.49	2.76	66%	Bridge over Network Rail.
	Devonshire Road	0.439	Not calculated due to disproportionality (bridge carries rail as opposed to road traffic)			Bridge over Network Rail.

2.5 Preliminary Appraisal Summary Table

N.B. This is a preliminary AST and should provide an overview of the impacts which must be developed during the Outline Business Case.

Appraisal Summary Table		Date produced:	February 2015		Contact:		
Name of scheme:	BLACKPOOL BRIDGES Project	Name	Jeremy Walker		Organisation	Blackpool Council	
Description of scheme:	Major maintenance to Blackpool's Strategic Highway Bridges. The AST table is completed on the basis of "do something" option interventions (with the exception of Harrowside Bridge for which the proposed intervention is the "do minimum" option). The AST table summarises effects for all bridges.	Role	Promoter/Official				
Impacts	Summary of key impacts	Assessment					
		Quantitative			Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Value of journey time changes (£)			188634		
		Net journey time changes (£)					
		0 to 2min	2 to 5min	> 5min			
	Reliability impact on Business users				28295		
	Regeneration	Analysis undertaken for the LEP estimated that the Blackpool Bridges scheme will generate approximately £17m of economic uplift by 2024.					
	Wider Impacts	The 'Greater Blackpool' area has the largest single concentration of seaside tourism jobs in the country - more than 19,000 with the value of tourism in Blackpool at £1.2bn p.a. 1 in 5 of all employees in Blackpool (11,000 jobs) work in the sector, double the England average. The resort's bridges are a vital facility in maintaining and growing the local and regional economy. Connectivity and an efficient distributor route network are crucial for a working economy, particularly in the Blackpool context.			n/a		
Environmental	Noise	Do something options present "like for like" solutions. No major impacts.			90		
	Air Quality	Do something options present "like for like" solutions. No major impacts.			615		
	Greenhouse gases	Do something options present "like for like" solutions. No major impacts.			5304		
		Change in non-traded carbon over 60y (CO2e)					
		Change in traded carbon over 60y (CO2e)					
		Landscape	Do something options present "like for like" solutions. No major impacts.			n/a	
		Townscape	Do something options present "like for like" solutions. No major impacts.			n/a	
		Historic Environment	Do something options present "like for like" solutions. No major impacts.			n/a	
	Biodiversity	Principal Bridge Inspections have not identified any habitats. Ecological "bat" surveys will be undertaken prior to commencement of works.			n/a		
	Water Environment	EA consent under the Water Resources Act 1991 is not required for this bridge as there are no adjacent watercourses and groundwater is unlikely to be affected by the works. There is also no risk of flooding being caused by the works and risks of pollution are low.			n/a		
Social	Commuting and Other users	Value of journey time changes (£)			68038 +125512 =193550		
		Net journey time changes (£)					
		0 to 2min	2 to 5min	> 5min			
		Reliability impact on Commuting and Other users	Intervention will increase reliability on the local road network through reductions in journey distance and hence overall levels of congestion. Monetary value of £29032 is calculated as 15% of commuting and other user's benefits.			29032	
		Physical activity	Do something options present "like for like" solutions. No major impacts			n/a	
		Journey quality	Do something options present "like for like" solutions. No major impacts			n/a	
		Accidents	Do something options present "like for like" solutions. No major impacts. Long diversion routes through urban areas would increase the likelihood of accidents.			24948	
		Security	Do something options present "like for like" solutions. No major impacts			n/a	
	Access to services	Do something options present "like for like" solutions. No major impacts			n/a		
	Affordability	Do something options present "like for like" solutions. No major impacts			n/a		
	Severance	Do something options present "like for like" solutions. No major impacts			n/a		

	Option and non-use values	Do something options present "like for like" solutions. No major impacts			n/a	
Public Accounts	Cost to Broad Transport Budget	Savings in maintenance.			13876	
	Indirect Tax Revenues	From AMCB table.			-23370	

The Quantitative column of the AST above has been greyed out as this is a SOBC and therefore scheme appraisal will be primarily qualitative. However if quantitative info is available please include.

3 Financial Case

The Financial Case concentrates on the affordability of the proposal and its funding arrangements.

It presents the financial profile of the proposed scheme and any associated risks. It determines the project costs per year and over its lifespan.

3.1 Affordability Assessment

Please explain how the affordability of the proposed scheme has been assessed.

3.1 Affordability Assessment

Since the provisional Growth Fund allocation for Blackpool's Bridges of £4.23m was ring-fenced by LEP in July 2014, much work has been done to make the business case more robust. Further, more detailed, site inspection and materials testing has been undertaken and feasibility study work commenced. One outcome of this is that the cost estimates for bridge maintenance work have increased significantly as the full extent of the work required has been determined. Blackpool's coastal location has had a major impact on the rate of deterioration of its bridge stock. Air-borne chlorides have had a major part to play in the corrosion of steel and chloride attack of concrete.

The total estimate (Q4 2014/15) for undertaking major maintenance to Blackpool's 10 strategically important bridges is now of the order of £11.365m

The Financial case for Blackpool's Bridges now therefore has to be based on successful bid applications from two sources. In addition to the Growth Fund provision of £4.23m, a further £7.135m is being sought from the DfT's Challenge Fund; a bid was submitted on 9th February 2015.

Details of Blackpool's contributory funding to both the Growth Fund and Challenge fund are summarised below in Table 3.1A

		<i>Table 3.1A – Contributory Funding Summary</i>					
		2015/16	2016/17	2017/18	2018/19	Totals (£m)	
LEP Growth Fund		0.500	0.600	1.200	1.500	3.800	
Council Contribution		0	0	0.430	0	0.430	
Total Growth Fund		0.500	0.600	1.630	1.500	4.230	
DfT Challenge Fund		2.114	2.855	0.596	0	5.565	
Council Contribution		0	0.785	0.785	0	1.570	
Total Challenge Fund		2.114	3.640	1.381	0	7.135	
3.2 Financial Costs <i>Please provide details of the Whole Life Costs of the proposed scheme and a profile of the costs over the period shown.</i> See Scheme Costs Guidance		Whole Life Costs (£m)					
		Year	2015/16	2016/17	2017/18	2018/19	>2019
		Profile	2.614	4.24	3.011	1.5	0
3.3 Financial Cost Allocation <i>Please illustrate how the Whole Life Costs (WLC) will be allocated between the organisations involved in the delivery of the proposed scheme. Also provide a cost profile of the costs allocated to each organisation over the period shown.</i>		Local Growth Fund (WLC £m)					
		Profile	0.500	0.600	1.200	1.500	0
		Private Sector (WLC £m)					
		Profile	0	0	0	0	0
		Other Public Sector (WLC £m)					
		Profile	2.114	3.640	1.811	0	0
3.4 Financial Risk <i>Please provide details of any financial risks associated with the delivery of the proposed scheme. Explain how these have been assessed and quantified. Have funds been committed? Identify any known shortfall in funding and provide evidence of how this shortfall will be addressed.</i>		3.4 Financial Risk The successful delivery of the Blackpool Bridges project depends entirely on the successful award of grant funding from LEP and DfT. Should either of the grant applications be unsuccessful, the project will progress by delivering repaired/reconstructed bridges in a prioritised order determined through a combination of BCR calculation and qualitative assessment. Financial risk has been built into project estimates. The main risks which are beyond the council's control include:					

	<ul style="list-style-type: none"> • Construction inflation • Network Rail costs and charges • Statutory Undertakers costs • Unforeseen ground conditions <p>Construction inflation has been included in cost estimates based on EC Harris predictions (January 2014) for outside London of:</p> <ul style="list-style-type: none"> - 2014 prediction, 2% - 2015 prediction, 4% - 2016 prediction, 4% - 2017 prediction, 4% <p>Network Rail costs and charges are based on ongoing discussions with Network Rail’s Outside Party Engineers (LNW) and also on Blackpool’s recent experience on the refurbishment of Lytham Road Railway Bridge in 2014 at a cost of approximately £1.0m</p> <p>Statutory Undertaker’s cost estimates have been obtained from the relevant utility and, in the majority of cases, are C2 estimates based on outline scheme proposal drawings and plant enquiries.</p> <p>Ground conditions are only a significant risk where new bridge abutments are proposed or where the weight of the new superstructure is significantly greater than the previous one. Temporary foundations may also be needed where heavy craneage is required. Provision has been made in cost estimates where appropriate.</p>
<p>3.5 Financial Risk Management <i>Please provide details of any risk allowance or contingency built into the Whole Life Costs of the project. Explain the rationale for the level of risk/contingency allocated and how this will be managed.</i></p>	<p>3.5 <u>Financial Risk Management</u></p> <p>The responsibility for future management and maintenance of Blackpool’s strategic bridges will generally continue to be with Blackpool Council as Highway Authority. The only exception to this is Watson Road Railway Bridge which is owned and maintained by Network Rail who have their own, well established, asset management systems and procedures.</p> <p>The bridges owned and maintained by Blackpool will in future be managed within the Council’s Highways Asset Management Plan (HAMP).</p> <p>Blackpool’s HAMP has been developed through the guidelines provided by the Chartered Institute of Public Finance and Accountancy (CIPFA). The value of Blackpool’s bridges is included within the value of assets reported to Government each year as part of the Whole of Government Accounting process (WGA). This valuation of the Council’s bridge stock is calculated based on a Gross Replacement Cost (GRC) and a Depreciated Replacement</p>

	<p>Cost (DRC). The GRC calculation determines what it would cost to replace the bridges assets with equivalent new ones and DRC is the result of a calculation of what the assets are worth in their current condition taking into account accumulated depreciation.</p>
<p>3.6 Financial Accountability <i>Please explain who will be responsible for managing the finances of the project. What arrangements are in place to ensure diligent financial management is in place?</i></p>	<p><u>3.6 Financial Accountability</u></p> <p>Blackpool Council is the accountable body for the Blackpool Bridges project. Accountancy practices are based strictly on CIPFA best practice guidelines.</p> <p>PRINCE2 financial and project management processes are utilised for the overseeing the management of capital projects.</p> <p>Examples of similar projects where these processes have been successfully employed are:</p> <p>Lytham Road Railway Bridge, 2014, project value approximately £1.0m.</p> <p>Yeadon Way Major Structural Repairs, ongoing, project value £4.25m (funded through DfT Pinch Point grant).</p> <p>Blackpool has also received much acclaim for its “Project 30” work for proactive roads maintenance. The project is funded through prudential borrowing and it is anticipated that over £110m will be saved over the next 25 years.</p>

4 Commercial Case

The Commercial Case provides evidence on the commercial viability of the proposed scheme and the procurement strategy. It should clearly set out the financial implications of the procurement strategy. It presents evidence on risk allocation alongside implementation timescales and details of the capability and skills of the delivery team.

4.1 Commercial Viability

Please outline the approach taken to assess commercial viability.

4.1 Commercial Viability

The Commercial Case

The commercial case for investment in Blackpool's Bridges is clear and unambiguous. Without investment in Blackpool's strategic bridges, the town will cease to be a commercially and economically viable place to live, do business and invest. Blackpool's strategic bridges are vital links connecting Blackpool to the motorway and rail network. They also provide key links locally between communities.

Messages of support for this business case are provided in Appendix J from Network Rail and Blackpool Business Leadership Group.

Lancashire's Strategic Economic Plan (March 2014) estimated that the Blackpool Bridges scheme will generate approximately £17m of economic uplift by 2024.

Economic Structure and Productivity

Measures of economic output for "do something" and "do nothing" are provided below (✓ = "do something", x = "do minimum")

	Large / High Beneficial	Moderate Beneficial	Slight Beneficial	Neutral	Slight Adverse	Moderate Adverse	High Adverse
Business Efficiency	✓						X
Business Investment		✓					X
Labour Market Efficiencies	✓						X
Links to National Transport Networks	✓						X

Brief bullet point justifications for the economic impacts that the project is likely to have (from the table above) are provided below:

Business Efficiency	The Blackpool Bridges project delivers time saving benefits to business trips. This is evidenced by
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		<p>the comparison within the BCR calculation of “do minimum” and “do something” journey distances and times. HGV vehicles are affected in all cases in the event of “do minimum”.</p>
	<p>Business Investment</p>	<p>The adverse growth and development effects of the project not going ahead would be to put at risk three key town-centre development sites which are identified in Blackpool’s Core Strategy: the Central Business District, Winter Gardens and former Central Station site (Leisure Quarter).</p> <p>The development of each of these sites is at significant risk if accessibility to and within the town centre is impeded. If Blackpool’s strategic bridges are allowed to deteriorate to a state where they require closures or vehicular weight restrictions then future investment in these prime development sites is at risk. This would put at jeopardy the following investment and potential for growth:</p> <ul style="list-style-type: none"> • Heritage based Visitor Attraction/Museum (Winter Gardens): This would result in 400,000+ visitors annually, £14.9m additional wider economic benefit annually to local economy and, 80 full time equivalent jobs directly created in the attraction. • Leisure Quarter: A recent proposal by the developer, Greenbank

		<p>Partnerships for a winter leisure complex incorporating an artificial snow slope, specialist retail outlets and two hotels and other ancillary uses would amount to £200m private investment. This would create directly 1200 jobs in the immediate development area and add around two million additional annual visits. This would lead to an additional £100m (approximately) into the local economy each year.</p> <ul style="list-style-type: none"> • Talbot Gateway Central Business District: Phase 1 was a £220m major investment in Blackpool. Phase 2 proposals are still under discussion but will include as a minimum a new £14m hotel.
	<p>Labour Market Efficiencies</p>	<p>With the reduced travel times of the “do something” option and access being maintained to the strategic highway network, the Blackpool Bridges project will maintain and improve the Travel To Work Area (TTWA) for Blackpool, the Fylde and Lancashire as a whole.</p>
	<p>Links to National Transport Networks</p>	<p>Plymouth Road (A587) is one of only three north south routes in the borough, is the most heavily trafficked and is a major bus route. It connects to the M55 motorway via the A583 and is on a route to the Fylde Coast’s major general hospital and a signed illuminations route. The Blackpool Illuminations are being upgraded for the 2015 display due to a £2.0m Coastal Communities Fund (CCF) initiative which will increase visitor numbers significantly. The bridge is also</p>

		<p>near Layton railway station, Unity Academy, Warbreck House government office and the council's Layton Depot. The bridge is also located over the Preston to Blackpool North railway line (North Fylde Line) which is scheduled for electrification between December 2016 and May 2017.</p> <p>Squires Gate Lane (A5230) is a key east-west route on the borough boundary. This link is vital for access to Blackpool Pleasure Beach, Blackpool Airport, the Tramway terminus and two large housing sites. It is also the main route into the resort for Illuminations traffic and a major bus route. It spans the South Fylde Line, which has considerable economic potential.</p> <p>Seasiders Way, which includes Princess Street Bridge, is the main car and coach route into the resort core to access the parking areas. This is on the route from the M55 motorway to the Tower, Houndshill shopping centre and Winter Gardens, which will house a new museum. Access to the Leisure Quarter site will be severely compromised if this route is not kept open. This former Central Station site is a prime 7.15ha area of land in the middle of Blackpool town centre. The site is in public ownership and has for many years represented the ultimate development opportunity for the resort; it is also a BIS 'Growth Demonstrator'.</p>
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<p>4.2 Procurement Strategy <i>Please summarise potential procurement options available (e.g. partnership, framework, new competitive tender). Details of the intended procurement strategy and the rationale behind selecting it should be provided.</i></p>	<p><u>4.2 Procurement Strategy</u> Procurement Rules The European public contracts directive (2004/18/EC) applies to public authorities including, local authorities. The directives set out detailed procedures for the award of contracts whose value equals or exceeds specific thresholds. As the current threshold for works (applying from January 2014 to December 2015) is £4,322,012 the EU Regulations will not apply to the Blackpool Bridges Project because of the phasing of the works over three years. The council is currently investigating means of minimising procurement costs by utilising existing regional framework agreements which are accessible to the authority. The use of existing frameworks would allow ECI and value engineered solutions to be developed and implemented. Use of established Framework Contracts also reduces the risk of construction inflation through utilisation of previously market tested rates.</p>
<p>4.3 Identification of Risk <i>Please outline the main commercial risks associated with the scheme (e.g. at-risk funding (capital and revenue)) and what strategy is in place to monitor and review these risks.</i></p>	<p><u>4.3 Identification of Risk</u> A Project Risk Register and QRA are included as Appendix D.</p>
<p>4.4 Risk Allocation <i>Please describe how the risks identified in section 4.3 will be apportioned and shared to demonstrate that risks are allocated to the organisation / body best placed to manage them to ensure cost effective delivery.</i></p>	<p><u>4.5 Risk Allocation</u> Details of risk apportionment and mitigation are included in Appendix D - Project Risk Register.</p>
<p>4.6 Contract Management <i>Please explain the contractual arrangements for delivering the proposed scheme. A high level overview of the implementation timescales should be included (append MS Project Programme, if preferred).</i></p>	<p><u>4.5 Contract Management</u> A detailed Financial Profile and Project Programme is provided as Appendix F. The Project Programme will be converted to MS Project format when funding is confirmed. Professional services will be procured through existing framework arrangements (Trafford, Stockport, Bolton and Manchester Council's Professional Services Framework is currently being utilised by Blackpool as an associate member of AGMA). Contractor procurement will also be through established Framework Contracts accessible to North West authorities. The use of existing frameworks would allow ECI and value engineered solutions to be developed and implemented. Use of established Framework Contracts also reduces the risk of construction inflation through utilisation of previously</p>

	<p>market tested rates.</p> <p>The council has an excellent recent record of implementing major capital highway-related projects. It is currently delivering improvements through the Department for Transport's Local Pinch Point fund to repair Yeadon Way and has recently completed the reconstruction of Lytham Road Railway Bridge, in partnership with Network Rail.</p> <p>Lessons learnt on these and other capital projects include:</p> <ul style="list-style-type: none"> - The importance and relevance of ECI. - Working within extremely tight programming constraints due to Blackpool being the UK's most popular visitor resort; the business community wanting the works to take place after the Illuminations (early November) and before Easter. - For Yeadon Way, there was extremely difficult ground conditions combined with major civil engineering work, which required very close collaboration with important decisions being made on a daily basis to ensure that the delivery was on time and to budget. - The importance of consultation/liaison with stakeholders, residents and elected members from an early stage, managed by the Project Board. - Sound project and programme management structure and arrangements being essential, adopting PRINCE2 principles. - The need for well-planned procurement strategies. - The necessity of effective risk management. - Communication and stakeholder plans need to be place. <p>On the Lytham Road Railway Bridge scheme, the council:</p> <ul style="list-style-type: none"> - Built up a very good relationship with Network Rail and managed to establish the works into their short term programme through joined up business case. - Managed to undertake works through Network Rail's experienced partner. - Worked very well in collaboration with Network Rail. - Used open book terms and target costs.
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5 Management Case

The Management Case assesses whether a proposal is deliverable by reviewing the project planning, governance structure, risk management plan, communication and stakeholder management. The Management Case should be clearly defined, concise and sufficiently robust to enable cost-effective delivery.

5.1 Governance

Please describe the Project Governance arrangements in relation to the Project Team; Project Sponsor/Project Manager; Project Board/Executive and their suitability to the role based on previous programmes of work.

5.1 Governance

Project Governance will be in-line with the council's PRINCE2 project management system, based on SMART principles and will deliver the programme to budget. An organogram is included with this application as Appendix I. The project board structure includes the following roles:

- Senior Responsible Owner: Holds ultimate project responsibility, ensuring focus on objectives and delivery. This officer will report to the portfolio holder accordingly – Jeremy Walker: Transport Policy Manager
- Senior User: Responsible for specifying project users' needs, including supervising necessary procurement procedures and monitoring contract performance, also identifying and seeking approval for any project variances, in-line with achieving the programme's overall aims – Will Britain: Principal Engineer – Highway Asset Management
- Senior Supplier: Represents those designing, developing, facilitating, procuring and implementing the project – Steven Gilmour: Senior Highways Engineering Coordinator
- Project Manager: Dealing with the works' day-to-day implementation – Bob Sutcliffe: Senior Highways Engineer. The Project Team will report to this senior officer.

This team will report to the Project Manager who will report to the Project Board, handling procurement compliant with European and domestic regulations.

Post-scheme appraisal and any ongoing monitoring will be addressed. Invoiced expenditure will be monitored so that delivery targets are met. This project will reference the HAMP

	<p>throughout.</p> <p><u>Evidence of similar projects</u></p> <p>Blackpool Council has a good record of implementing major capital highway-related projects. The council is currently delivering improvements through the Department for Transport's Local Pinch Point fund to repair Yeadon Way at a cost of £4.25m. The council also recently delivered the strengthening and repair of Lytham Road Railway Bridge at a cost of approximately £1.0m working in close co-operation with Network Rail.</p> <p><u>Management case</u></p> <p>A Project Board will be established and will meet monthly, accountable to the council's Corporate Leadership Team. The Project Board will include a political representative, a representative from Network Rail (as a major stakeholder) a representative from Transport for Lancashire (TfL) and representatives from the council's Policy, Highways, PR, Legal and Finance functions.</p> <p>The day to day Project Management will rest with the Project Manager who will report to the Project Board as they continue to meet on a monthly basis.</p> <p>There will also be regular reporting from the Project Board to the overall Governance Group which is TfL.</p>
<p>5.2 Go/No-Go & Decision Milestones <i>Please describe any outstanding Go/No-Go processes and Decision Milestones in relation to the progression of the proposed scheme.</i></p>	<p>5.2 <u>Go/No-Go & Decision Milestones</u></p> <p>The only go/no-go decision milestones that remain relate to funding and approval of grant applications. The outcome of DfT Challenge Funding bids is likely to be announced prior to 30th March 2015. The current timetable for this Growth Fund project is that the final Strategic Outline Business Case (SOBC) will be submitted for consideration to LEP's meeting on 21st April 2015.</p>
<p>5.3 Project Programme <i>Please set out an indicative delivery programme, including key milestones. Any programme / project dependencies should be referenced. If applicable, please explain how the programme is aligned to relevant delivery strategies and plans.</i></p>	<p>5.3 <u>Project Programme</u></p> <p>A project programme and expenditure profile is included as Appendix F.</p> <p>The programme indicates how and when delivery of all 10 of Blackpool's strategic bridges will be achieved assuming successful bids for both Growth Fund and Challenge Fund grants.</p>

<p>5.4 Assurance and Approvals Plan <i>Please document any key assurance and approval milestones (including any independent assurance).</i></p>	<p><u>5.4 MS Project Programme</u> An MS Project Programme will be developed for the project at an early stage. This will be the key tool for forward planning and programming, monitoring and milestone/target setting. Blackpool Council utilise MS Project as a management tool on all of their capital projects.</p>
<p>5.5 Communications & Stakeholder Management <i>Please explain how key stakeholders will be engaged throughout the delivery of the scheme, including details of proposed consultation events.</i></p>	<p><u>5.5 Communications and Stakeholder Management</u> As part of the preliminary preparation work for the project, a Communications / PR plan will be developed. Given that the nature of the proposed “do something” options is “like for like” maintenance, the majority of public consultation will relate to the construction phase. The Communications/PR plan will manage all aspects of consultation, information dissemination and public relations in a planned and co-ordinated way.</p>
<p>5.6 Programme / Project Reporting <i>Please describe the proposed reporting and approvals process. This must cover technical, financial, commercial and management elements.</i></p>	<p><u>5.6 Programme / Project Reporting</u> Design and other technical approvals would be managed in accordance with BD2/12 – Technical Approval of Highway Structures. Blackpool Council as highway authority is the Technical Approval Authority. Financial, commercial and management reporting/approvals are managed within a PRINCE2 project management regime.</p>
<p>5.7 Risk Management Strategy <i>Please describe the scope of the Risk Management Strategy for the proposed scheme. Include details of the key risks including organisational accountabilities.</i></p>	<p><u>5.7 Risk Management Strategy</u> The successful delivery of the project depends entirely on the successful award of grant funding from both DfT and the LEP. If there is a funding shortfall, the project will progress by delivering repaired/reconstructed bridges in a prioritised order determined through a combination of BCR calculation and qualitative assessment. Financial risk has been built into project cost estimates. The main financial risks to the project (in addition to grant funding not being allocated) are:</p> <ul style="list-style-type: none"> - Construction inflation - Network Rail costs and charges - Statutory Undertaker’s costs and charges - Unforeseen ground conditions. <p>Project risk management strategies are as follows:</p> <ul style="list-style-type: none"> – Identification of key risks – Categorisation of risks with cause and effects being identified

	<ul style="list-style-type: none"> – Qualitative Risk Assessment (QRA) – Risk response plan with risk mitigation and response – Allocation of risk responsibility – Monitoring and control arrangements for key risks. <p>A detailed Project Risk Register is provided as Appendix D.</p>
<p>5.8 Monitoring and Evaluation <i>Please summarise outline arrangements for monitoring and evaluating the performance of the proposed scheme.</i></p>	<p><u>5.8 Monitoring and Evaluation</u> The performance of the scheme will be assessed against objectives for the project to demonstrate that the scheme achieves value for money. A series of ‘before and after’ surveys will be conducted, including journey time, queue length and traffic volume for the surrounding local road network to assess whether journey times, highway safety and wider economic indicators have become more reliable or have improved. The Project Manager, working with the Project Board, will ensure that all evidence required for the established Monitoring and Evaluation Sub-Group of Lancashire’s LEP will be met. A Project Benefits Realisation Plan is included as Appendix H.</p>
<p>5.9 Project Management <i>Please summarise the overall approach for project management at this stage of the project.</i></p>	<p><u>5.9 Project Management</u> The Project Board is responsible for making decisions at key project stages. The Board will be chaired by the Senior Responsible Owner and at each key stage the Board will agree resource and project plans, and deal with risks/issues escalated by the design teams and Project Manager. The Governance Group for this project will be the Project Board. The Board is ultimately responsible to the council’s Corporate Leadership Team. The Project Board will be called upon to assess significant risks and consider exceptions which may result in extensions of time and compensation events. A budget tolerance of 10% is set for this project. The Project Board has the scope and authority to consider any overspends in relation to the council’s overall capital programme.</p>

Recommendations

DfT guidance dictates that the development of an 'Outline Business Case' requires a far more detailed level of appraisal.

Please summarise below the major elements of work that will be required in order for this 'Strategic Outline' Business Case to be updated to an 'Outline' Business Case (For example, data collection, modelling and appraisal techniques).

Further details on these recommendations should already have been included above against the relevant case.

1. Not applicable
- 2.
- 3.
- 4.
- 5.

For larger schemes an Appraisal Specification Report (ASR) should be developed. Please consult the following guidance for further guidance:

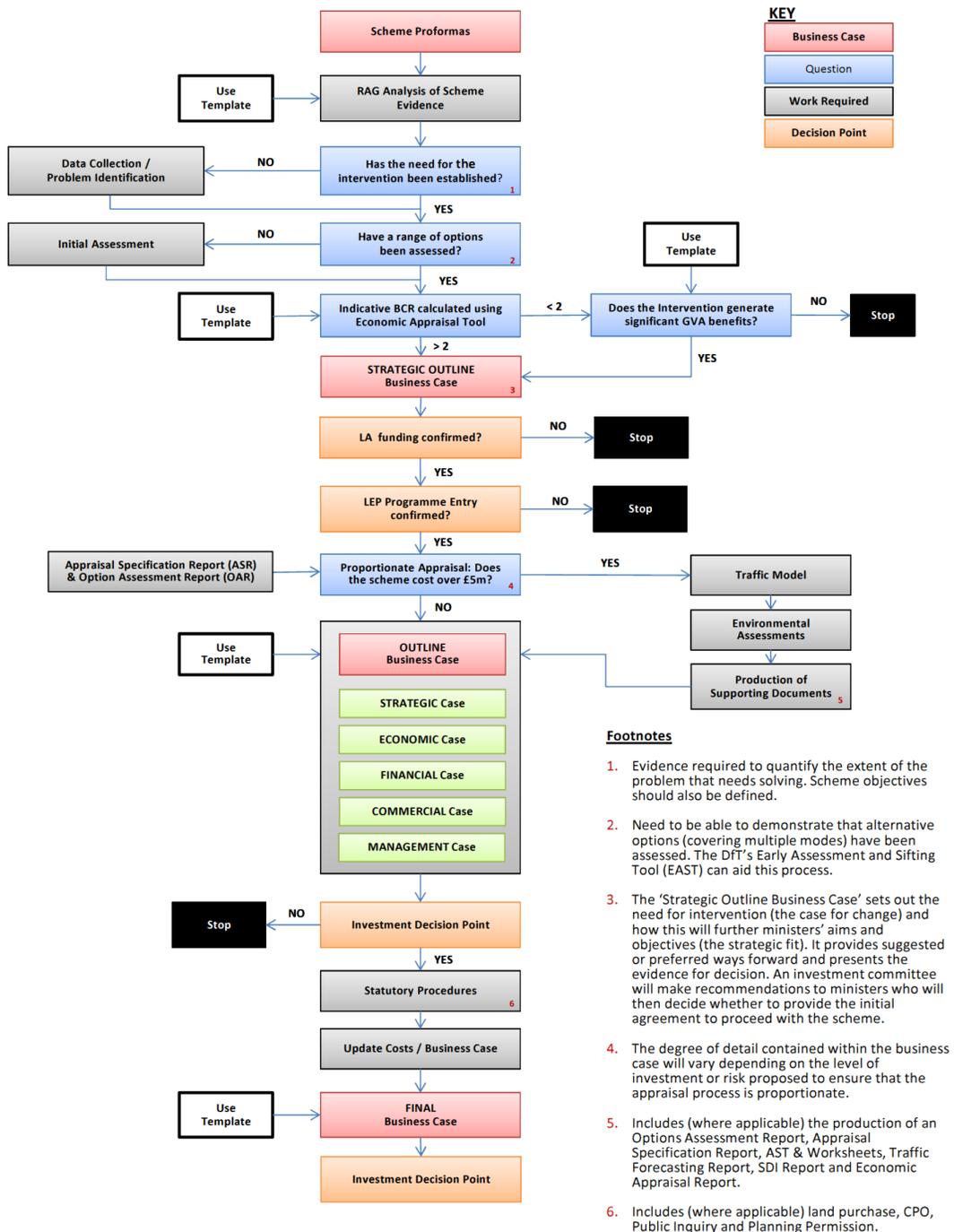
[Guidance for the Technical Project Manager](#)

Appendix A – Scheme Drawings

Scheme drawings are included as separate attachments referenced Appendix A.

Appendix B – Business Case Development Process Chart

The process chart should be cross referenced against TfL's Assurance Framework in order to determine the status of each scheme.



Appendix C - Cost Estimates

Appendix D – Risk Management (Project Risk Register)

Appendix E – BCR Calculations, TEE, AMCB and PA Tables

Appendix F – Financial Profiles and Project Delivery Programme

Appendix G – Location Plan and Strategic Linkages

Appendix H – Benefits Realisation Plan

Appendix I – Project Management Organogram

Appendix J – Letters of support for the Blackpool Bridges Project

Appendix K – Distributional Impact Appraisal Screening

Appendix L – SDI Additional Information