



Structures Fund template

This template is for local authorities proposing schemes for investment from the Structures Fund. Before completing the template, local authorities should read the [Structures Fund guidance and associated documents](#). Alongside the template, local authorities must also complete the economic toolkit for the proposed scheme.

Part 1 – Details of the Structure Being Promoted

1.1 Scheme Information

This section captures the key information on the scheme that is being proposed to the Structures Fund.

- a) Local highway authority (LHA) name: Knowsley Council
- b) Scheme / structure name and LHA bridges number: Whitefield Lane (160)
- c) Location (OS Grid Reference) of the scheme/structure (to identify location on map):
- Easting: 345452
- Northing: 389136
- d) Name of Project Manager: Richard Thorpe
- e) Email address: Richard.thorpe@knowsley.gov.uk
- f) Phone number: 07768 032553
- g) What type of eligible structure would your scheme address? (select all that apply)

☒	Bridges	☐	Cutting/embankment
☐	Fly-overs	☐	Tunnels
☐	Retaining walls	☐	Local highway repairs due to landslip
☐	Culverts	☐	Local highway repairs due to collapse
☐	Other structure type (please specify): Click or tap here to enter text.		

- h) Provide an overview of the structure proposed for intervention and the nature of the problem. (Maximum 250 words)

This could include, for example, the age, construction type, feature carried and feature crossed of the relevant structure and if the structure has listed heritage status.

Whitefield Lane (Structure No. 160) was constructed circa 1976 and carries Whitefield Lane (2 lane single carriageway) over the M62 motorway. It is a three-span bridge with half-joints. The end spans comprise of in-situ reinforced concrete slabs (voided for the length of the cantilever beyond the intermediate supports), while the suspended central span consists of 7no. prestressed concrete box beams acting compositely with an in-situ reinforced concrete slab.

This scheme originated as part of the M62 Structures Resilience Scheme and has undergone a programme of testing and review to date. Concrete testing has confirmed the presence of Alkali Silica Reaction (ASR) as early as 1994 to both abutments, pier columns, cantilevered end spans including the lower nib of the half-joint and the prestressed suspended span.

The east and west elevations of the half-joints are hidden by a reinforced concrete masking wall that covers the upper and lower nib of the half-joints. However, there are 7no. areas of cracked / spalled concrete with corrosion of the exposed reinforcement, which highlights failure of the bridge joints and deterioration of the upper nib and poor half-cell potential results. The deck drainage pipes which have been cast into main abutment walls and the external pier columns may be damaged or blocked causing water seepage to concrete that is susceptible to ASR because of the high alkali content of the cement and the reactive silica in the aggregates, causing the large vertical cracks observed over these elements

i) Provide an overview of the proposed intervention and how the works will address the problem.

This should set out the method of resolving the issue that is to be addressed.

Subject to completion of the assessment, the following work is anticipated to be required to improve the condition of the structure:

- a) Concrete columns – internal drainage within the columns appears to be exacerbating the alkali silica reaction (ASR). It is proposed that the deck drainage be diverted away from the columns. Concrete would then be removed from the piers to allow provision of additional reinforcement and the columns converted into a leaf pier. This would require additional foundations and the extra mass of the concrete may cause settlement so monitoring of headrooms would be required following construction.
- b) Concrete repairs to insitu areas, notably the half joints. Low cover, water ingress from the joints and ASR has resulted in the need for concrete repairs. It is anticipated and cathodic protection scheme would be installed to the areas of repairs.
- c) Abutments – structural repairs to the concrete fractures to the north and south abutments are required, alongside concrete repairs.
- d) The deck expansion joints would be replaced and a new waterproofing system applied to the deck and subsequent re-surfacing of the bridge. Deck drainage would be diverted away from the piers.
- e) Parapet risk review to be carried out and parapet to be replaced as part of the works as required. Parapet replacement is not currently envisaged and the structural repairs would take precedence.

Following the repairs, other than resurfacing and replacing joints/waterproofing in the future, the structure would require minimal maintenance and it would be anticipated a further 60+ years life could be achieved.

j) Is any part of the relevant structure owned by a third-party (e.g. the Canal and River Trust or Network Rail)?

Not applicable.

k) If the structure is on a diversion route for the SRN provide a clear description/commentary.

Whitefield Lane Bridge crosses the M62, ½ mile west of Junction 6. The M62 is part of the SRN and any propping work should the structure require it may affect the number of running lanes on the M62. The westbound carriageway of the M62 is currently 2 lanes through Junction 6 and reduction of this to a single lane would cause significant disruption.

1.2 Understanding the Condition of the Structure

Please set out the current condition of the structure in this section.

- a) Provide evidence that the relevant structure is in need of repair either now or by the end of the 2029/30 financial year. (Maximum 250 words)

Provide details of the process used for determining whether this structure is in need of repair and the timescale in which the repair is needed..

KMBC have undertaken concrete testing as early as 1994 and most recently in 2024. Early testing indicated the presence of Alkali Silica Reaction (ASR) to the abutments and external pier columns, and subsequent testing in 2008 and 2024 confirmed that ASR is affecting the insitu elements of the structure.

Principal and General inspections have recorded the structural cracking, most noticeably to the outer pier columns and abutments. These fractures have noticeably worsened since the 2008 concrete investigations. KMBC have carried out a structural review, half-joint risk review and HJ Risk Management. We are currently undertaking a full Bridge Assessment, shortly to embark upon a Half-Joint Risk Management Plan, an Options Report and Preliminary Design, closely followed by Detailed Design. Knowsley Council are responsible for the overbridge and that section of the M62 beneath it.

The Inspection for Assessment report (January 2025) concluded the structure to be in poor condition. An assessment of the structure is ongoing (due for completion in August 2026) and the outcome will confirm if the structure requires strengthening over and above the necessary repairs. Initial results suggest the columns have little spare capacity for current loading. .

- b) Please indicate if the relevant structure is **currently** subject to traffic restriction as a result of its condition.

Reference should be made to closures, weight limits, width restriction, limits on use.

As a result of the structural review and half-joint risk management plan concluding a high-priority structural assessment, all abnormal load proposals are currently being refused as a precautionary measure pending outcome of the ongoing assessment.

- c) Please indicate if the relevant structure is **not currently** but **by the end of the 2029/2030 Financial Year is expected** to be subject to traffic restriction as a result of its condition.

Reference should be made to closures, weight limits, width restriction, limits on use that are anticipated.

Without intervention it is currently anticipated that the structure will be subject to weight restrictions if the deterioration of the structure is not halted.

- d) If the answer to c) above is yes, then please estimate the likelihood of this occurring: (select box that applies):

- ☐ Low confidence in restriction occurring
- ☐ Medium confidence in restriction occurring
- ☒ High confidence in restriction occurring

- e) Please indicate if the relevant structure is **currently** subject to other temporary measures to manage risk.

Reference should be made to measures such as propping, etc.

No current temporary measures other than refusals of abnormal load proposals are in place at present, pending the outcome of the structural assessment.

- f) Please indicate if the relevant structure is **not currently** but **expected by the end of the 2029/2030 Financial Year** to be subject to temporary measures to manage risk.

Reference should be made to measures such as propping, etc. that is anticipated.

Without intervention, the continued deterioration of the structure will likely lead to the requirement of temporary measures. The outcome of the assessment will determine whether propping or weight restrictions on the piers is required to alleviate the loading on them.

The defects present to the structure ie open fractures and exposed reinforcement will continue to deteriorate. ASR to the concrete will accelerate as cracks widen and allow moisture deeper into the elements. The assessment results will allow a sensitivity to be carried out for future section losses, which would provide trigger values for deterioration and load restrictions. Ongoing testing would be required to monitor deterioration. Increasing fractures within the piers are more difficult to predict than the rate of corrosion to reinforcement. Concrete repairs (half joints/piers) would give confidence in the capacity.

Due to position of the M62 under the main span, propping of the suspended span would be costly, not only in practical terms but also to the narrowing of the M62 at this location which would require extensive traffic management. Propping may not be a practical long term solution due to the impact on the M62 and closure may be a preferred option. The M62 is limited to 2 lanes in the westbound direction at Junction 6 and reduction to 1 lane would cause significant disruption. Reduction of imposed live loading with associated diversions on the structure would be a more practical measure. This is all dependent on the outcome of the ongoing assessment.

- g) If the answer to f) above is yes, then estimate the likelihood of this occurring:

- ☐ Low confidence in temporary measures being required
- ☐ Medium confidence in temporary measures being required
- ☒ High confidence in temporary measures being required

- h) If available and applicable, what is the current Bridge Condition Indicator score (average and critical) of the relevant structure?

BCI Crit: 55.5

BCI Ave: 75.7

- i) Which elements of the structure are negatively contributing to the BCI scores and how has this changed in the last 5 years.

Reference should be made to recent inspections and highlight the type and extent of the defects.

The latest Inspection for Assessment report (January 2025) concluded the structure to be in poor condition. The main contributing factors to the deterioration of the structure are the condition of the half joints, the piers and abutments. There are several areas of cracked / spalled concrete to the lower nib of the the half-joints. Half cell testing showed an increased risk of corrosion occurring.

Monitoring of the fractures to the structure (piers and half joints was established in 2023 with an additional set of readings taken in 2024). Comparison of the readings showed no significant deterioration in this period but additional readings are required to provide a longer term set of results.

A Record Structural Review Form (RSRF) was carried out in March 2025. This included a review of the 2023 Structural Risk Review of the half-joints (rated medium risk in accordance with CS 466).

A half-joint risk management report (March 2025) concluded that the half-joints of Whitefield Lane bridge are very high risk. Further deterioration of surrounding concrete and corrosion to the reinforcement in the half joints will result in reduced capacity. Copies of the Inspection for Assessment Report (60741154-160-IfA-REP-P01) and the Half Joint Risk Management Form (60741154-160-HJRM-REP-P03_WLB HJRM) are included as Appendices 1 and 2.

- j) Submit, alongside this submission template, the most recent, dated copy of the structural inspection proforma or a report summarising this.
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Part 2 – Understanding the Case for Investment

2.1 Strategic Case

This section of the template captures the wider need for the scheme and how it aligns to the objectives of the Structures Fund.

- a) Provide a summary of how this scheme contributes to the Government's economic growth mission (Maximum 250 words)

Describe how the proposal will support economic growth (e.g. by creating jobs, attracting investment, improving productivity, or enabling new business activity) and set out the mechanisms through which these benefits will be delivered.

Whitefield Lane bridge currently forms a vital link over the M62, linking Jaguar Land Rover and Ford Automotive and Supplier Park and communities with Huyton Industrial Estates. Imposition of a weight restriction would severely limit options for goods vehicles travelling in a north- south direction and would put significant pressure on the closest diversion route to the west of the current site. Halsnead Garden Village, a development of 1,600 homes and 6 large distribution warehouses would be negatively impacted by reduced road links across the M62 and any lane closures on the motorway.

Continued deterioration to a condition that would eventually lead to propping or other similar intervention methods, these would have significant implications on the M62. Whitefield Lane Bridge is approximately ½ mile from Junction 6 (Tarbock Island) which connects the M62 and the M57. The M62 westbound is currently only 2 lanes and further narrowing would cause significant issues. Congestion would likely have a significant effect on journey times and increased local road traffic.

As all of the indicators show the structure continues to deteriorate, a refurbishment scheme at this stage would not only prevent costly diversions or propping, but it would also extend the life of the structure and save money that would otherwise be spent on a full replacement of the bridge further down the line.

Additionally the structure provides an alternative route when the adjacent busy dual carriageway, the A5300 is closed either in an emergency or as part of planned maintenance. Although Whitefield Lane is not an official diversion it has been observed to be heavily utilised when congestion occurs on the A5300.

- b) Explain how the scheme supports other Government policy objectives. (Maximum 250 words)

Provide a summary of the scheme's alignment to UK Government policy objectives as represented by the remaining missions.

If Whitefield Lane bridge was to be closed, or even subject to a weight restriction, there would be significant implications beyond the immediate economic cost to the region.

Increased traffic on temporary, or longer term, diversionary routes would result in increased traffic flows on smaller local roads, detrimentally affecting local communities, notably to the west of the structure which is the closest diversion route. Increased traffic would adversely impact the local road infrastructure, increasing journey times and reducing air quality along diversion routes and also on the M62/M57 through road congestion.

The increase in local traffic on diversions would negatively impact the local road network through increased wear on roads and structures. The increase in traffic would be detrimental to local public transport systems and discourage residents from taking alternative methods of transport such as cycling.

Whilst the scheme would not create an additional link, it would prevent a structure from more costly interventions such as replacement, which, due to its positioning over the motorway network, would cause considerable disruption over and above a refurbishment scheme.

- c) Explain why this scheme is a local priority. (Maximum 250 words)

Provide a summary of the scheme's alignment to local priorities and policies.

Whitefield Lane provides a vital link over the M62. It provides a route for approximately 10,000 vehicle movements daily, including approximately 1,100 LGV/HGV movements. Disruption to the capacity of this structure would result in a significant proportion of this traffic using alternative routes.

Historically, areas to the west of the structure have experienced significant road congestion when used as a diversionary route. Imposition of a weight restriction or closure of the structure would create significant local road problems which would negatively impact on local businesses and communities.

The Knowsley Council Plan 2025 – 2030 defines the councils priorities one of which is encouraging growth that benefits all the residents. Resilience within the road network is a key aspect in ensuring businesses thrive and jobs are created within the region.

Halsnead Garden Village is a development to the northeast of Whitefield Lane which will provide 1,600 homes alongside 6 distribution warehouses and development of the old Cronton Colliery site to the south of the new village is expected to produce 1,000 jobs. Additional growth in this area will put pressure on the road network and the close proximity of Whitefield Lane provides a valuable link across the motorway between Huyton and Halewood. These new developments would be adversely affected by loss of road links across the motorway.

d) Summarise engagement with local stakeholders, any joint-owners, levels of support for the scheme and explain any controversial elements. (Maximum 250 words).

Summarise support from relevant stakeholders such as the Local MP, Elected Members relevant combined authorities, National Highways, Network Rail, neighbouring LHAs, or important utility providers.

National Highways have been made aware of the issues on this bridge and approached regarding support for the scheme as it could impact on their network.

Discussions have been started with Liverpool Council as any impacts on the potential impacts of closing the M62 and Whitefield Lane would have for the neighbouring authority. These discussions are ongoing.

The structure carries several utilities but currently no discussions have commenced with them. As part of the options report consultation with the statutory undertakers will be pursued.

e) Provide a summary of the local approach to prioritisation of structural maintenance work. (Maximum 250 words)

Set out any weighting, scoring or other methodology which explains why this scheme has not been subject to work prior to this point.

Scoring of structures condition is primarily carried out using the BCI scoring. SAVI is used to aid in the initial sift of structures requiring remedial work. Vulnerable elements ie half-joints, post-tensioning, hidden elements etc are also identified.

A review of the council's structures identified several bridges of half joint construction with varying gaps in the assessments, structural reviews and half-joint risk reviews. A review of Whitefield Lane Bridge identified ongoing deterioration and a structural review alongside a half-joint risk management report were commissioned to determine the condition of the structure and the critical elements which were at risk of deteriorating further.

As part of the reviews it became clear that the structure had been the subject of historic, intermittent monitoring. This showed a pattern of ongoing deterioration and minor repairs had

been carried out, limited mainly to joint/waterproofing and resurfacing works. The main issues of ASR to the insitu elements had been managed through PBI and GI inspections.

Until this point, other structures have taken precedence and the funding on a scale to provide a comprehensive remedial package or reconstruction has not been available.

Knowsley Council Plan (KPC) 2025-30 focuses on providing a thriving environment for both residents and businesses. The KMBC Highway Asset Management Strategy (HAMS) develops an asset hierarchy to identify critical highway infrastructure helping to identify priorities for the network which can aid in developing maintenance strategies and plans.

f) Provide a summary of why this scheme has been selected for this application to the Structures Fund. (Maximum 250 words)

Provide a brief summary of the specific need for this structure is advanced to the Structures Fund.

The structure has a history of defects and due to the design of the piers containing internal drainage, has continued to deteriorate. The structure is suffering from Alkali Silica Reaction (ASR) which will continue to affect the structure whilst it is subject to water ingress from joints and internal drainage.

Structural and risk reviews have been carried out concluding that the structure is now in poor condition.

A structural assessment is currently being undertaken to determine the load capacity of the bridge. Notwithstanding the assessment outcome, the condition of the structure is such that ongoing deterioration will occur and there is a strong possibility that the capacity of the structure will need to be regularly reviewed as the condition worsens. Given the vulnerable nature of details such as half-joints, if the structure is allowed to deriorate further then closure or potential propping may be required, and eventually replacement of the structure.

The cost of providing comprehensive remedial work to extend the life of the structure is not within current council budgets and without the funding from the Structures Fund, a more limited series of repairs will only be possible. These will have to be carried out on a more regular basis to keep the structure operational but due to the nature of the defects, their causes and position of the bridge over the M62, the ongoing cost of repairs will account for an increasing percentage of the council structures budget, limiting funds for other maintenance projects.

g) Summarise the impacts of not delivering this scheme (Maximum 250 words).

The response should consider the impact of not delivering the scheme, such as community severance, lengthy diversion routes or impacts on other infrastructure.

There are several consequences of not delivering the scheme notably:

- 1) Reduced infrastructure for commercial and housing developments in the region leading to impediment of growth opportunities. Diversions coupled with congestion would lead to additional costs for businesses and lead to lack of business investment in the area.
- 2) 'Managed decline' of the asset leading to weight restrictions, propping or eventual closure. Delay to repairs would result in more costly replacement scheme in future.
- 3) Loss of a valuable link over the M62 between Huyton and Halewood leading to permanent diversions and increased traffic flows and congestion on local roads.
- 4) Potential impact on M62 (SRN). If propping was required this may result in the narrowing of the M62, reducing capacity at a point on the network close to a busy junction (M57 interchange) and a stretch of motorway (westbound) that is only 2 lanes.

- 5) Loss of resilience in the local road network in the event of work being carried out on other key routes ie A5300.
- 6) Reduction in air quality in surrounding areas due to significant increased local traffic, coupled with reduction in safety for other road users ie cyclists and pedestrians caused by diverted road users looking for alternative routes.
- h) If applicable, explain how the scheme helps prevent the likelihood of community severance for all transport modes and the impact that this severance would have or already has. (Maximum 250 words)

Answers should explain the impact on connecting local people to facilities, services, employment, education and local communities. The response should also summarise the extent of diversions for communities, which modes are impacted and how. Applicants may wish to use the guidance in TAG A4-4 Social Impact Appraisal.

The structure acts as a link over the M62 and if it was to close it would necessitate a diversion for its current users.

Immediately north of the M62 there is a large industrial estate with a variety of businesses and a council recycling centre. This area borders Stadt Moers Park. Slightly further north is Huyton Town centre. Maintaining full capacity of the structure will prevent the severance of the north and south sides of M62 and imposition of costly diversions. Goods traffic accessing the industrial estate would be required to take a diversionary route to the west of the structure.

South of the M62 are the residential areas of Belle Vale and Netherley, along with several farms which utilise the structure for access to the industrial estate north of Whitefield Lane. Closure of the structure may result in less traffic between the north and south of the M62 due to delays and congestion, resulting in less cohesion and opportunities for communities either side of the motorway.

The anticipated diversion route from the south (Netherley) would be west along Caldway Drive and then north onto Naylor'sfield Drive/Wheat Hill Road before turning east onto Cronton Road. Depending on the origin of the journey a journey along the diversion could be up to 3 miles. Although there are alternative routes between the various areas, it has been noted that during previous traffic diversions, the areas south of the M62 become very heavily congested, with the stretch of Naylor'sfield Drive/Wheat Hill Road between Cronton Road and Caldway Drive being observed to be gridlocked under previous diversions.

- i) Summarise the volumes of traffic by mode that are impacted as a result of any community severance (Maximum 250 words).

Explain the impacts on non-motorised and motorised traffic flow. Describe how diversions may differ by mode.

Vehicles would be required to use a diversion to the west of the existing structure of approximately 2.5 miles. The route for all forms of traffic would be to follow

Whitefield Lane Bridge traffic count (2026) average 24 hour figures over 7 day count.

Cars – 8,096

LGV – 1,425

HGV – 353

Public service vehicles - 8

The bridge is currently lightly used by pedestrians and cyclists. There is a single footway along one side of the structure and no dedicated cycle lane or shared use pedestrian / cycle way. Pedestrians and cyclists would also be required to use this route if the structure was closed as

alternative paths to the east are unlit and not suitable for all pedestrian/cycle users. Whilst the ‘no congestion’ time for motorised vehicles would only be a few minutes, it would be a significant walk for pedestrians, and cyclists would be required to share road space with increased traffic flows.

2.2 Economic Case

This section sets out the assessment for Value for Money of the project. Applications must use the provided economic toolkit, but if alternative methods have also been used to support the economic case, this section provides the opportunity for the results to be reported.

- a) Set out the key sources for the economic benefits (e.g. journey-time savings, carbon, etc.) of the scheme. (Maximum 250 words)

Describe the main benefits the scheme is expected to deliver.

The Whitefield Lane Bridge is a key strategic asset within the Borough of Knowsley; it contributes to reducing congestion on local roads and serves as a pivotal connection between Halewood and Huyton.

The continued operation of Whitefield Lane Bridge is essential in ensuring economic activity and growth is continued, through connection of housing and employment sites.

Notably, operation of the Whitefield Lane Bridge serves as a connection for the following housing, leisure, employment sites, and as a strategic freight route.

It is important to note, the Whitefield Lane Bridge is also in the vicinity of potential development land and if the bridge continues to deteriorate, it will cause significant negative impact on the surrounding network; resulting in a decline of economic growth.

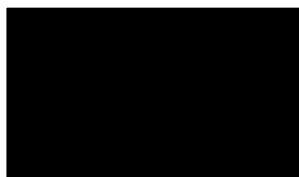
Carbon modelling of the additional journey times incurred if the structure had to be closed or subject to a weight restriction have not been calculated at this time.

- b) Summarise the estimate of the present value of costs and benefits (in 2023 present values, market prices) and the benefit cost ratio of the scheme from the economic toolkit.

Present Value Costs (PVC)

Present Value Benefits (PVB)

Benefit to Cost Ratio (BCR)



- c) Explain assumptions used in the economic toolkit to estimate the present value scheme costs. (Maximum 250 words)

Describe the basis of the costs input to the economic toolkit and provide justification for the risk and optimism bias values that have been used.

Optimism bias of 55% has been assumed at this stage as no design work has taken place and the assessment is still ongoing. There has been no contractor involvement at this stage.

- d) Explain the sources of data and assumptions used to complete the Scheme Details section of the economic toolkit. (Maximum 250 words)

Provide details of the source of all data and associated assumptions (e.g. provenance, data checks, etc).

The refurbishment estimate was developed using information from the recent bridge inspection and the proposed refurbishment strategy. Costs were derived by identifying the principal work activities required, including concrete repairs, half-joint repairs, waterproofing and resurfacing, drainage modifications, pier strengthening works, traffic management, design and approvals.

The estimate represents an optimistic but achievable delivery scenario assuming no significant deterioration beyond that currently identified and that the existing foundations remain suitable for the proposed pier modifications. Summaries of budget estimates can be found in Appendix 6 of the supporting Appendices.

Quantities have been estimated from inspection and testing reports and benchmark rates derived from comparable projects to develop an early project estimate. During the next phase of the works AECOM and Tarmac will be engaged to develop more refined and accurate pricing.

e) Describe significant non-monetised impacts of the scheme. (Maximum 250 words)

Consider any economic, environmental and social impacts that have not been monetised to fully describe the impacts of delivering the scheme.

There are several key benefits to the scheme, these mainly centre around not requiring a diversion. These can be summarised as following:

- 1) Maintaining the link will ensure that the businesses and neighbourhoods north and south of the M62 will remain well connected and avoid becoming severed from each other
 - 2) Community cohesion – by ensuring that the two main communities either side of the M62 have strong transport links, the
 - 3) Travel time. Failure to deliver the scheme will result in longer travel time which will adversely affect the lives of local communities but also of businesses.
 - 4) Congestion. Long term or permanent diversions will cause congestion both north and south of the M62. Previous diversions for minor works to Whitefield Lane have caused significant congestion of local roads.
 - 5) Road safety. Maintaining Whitefield Lane Bridge will prevent diversions in the long term. Failure to do so will put additional strain on local B roads, and road users frustrated by congestion will find inappropriate routes around the diversion which may compromise road safety.
 - 6) Air quality. The area will see a negative impact on air quality from 2 sources. Firstly, closure of Whitefield Lane Bridge will result in longer travel times and an increase in traffic emission. Secondly local junctions will experience significant waiting traffic and increased emissions. Many of these junctions are close to residential properties.
- f) Where an alternative economic assessment has been undertaken to support a case for investment, please summarise the data used, the assumptions made and the results obtained (in 2023 present values, market prices). (Maximum 250 words)

Some schemes may have been subject to economic assessment to support previous cases for investment. Summarise the key details of these here, including details of the data, assumptions and results (e.g. present value of costs and benefits and benefit cost ratio).

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Present Value Costs (PVC)

Click or tap here to enter text.

Present Value Benefits (PVB)

Click or tap here to enter text.

Benefit to Cost Ratio (BCR)

Click or tap here to enter text.

To enable the assessment of the economic case, please submit the supporting information listed below to StructuresFundTAB@dft.gov.uk

- Economic Toolkit
- Any supplementary reports which support the economic case

2.3 Commercial Case

This section captures information on the commercial viability and procurement strategy for the planning and delivery of the scheme being promoted.

- a) Explain the LHA capacity and experience delivering comparable schemes. (Maximum 250 words)

Where capacity is challenging for local authorities, explain how any capacity gaps may be addressed to ensure delivery of the scheme.

Radshaw Nook Bridge is a simply supported 4 span composite structure, situated over the A580 East Lancashire Road. Each span was skewed at 31 degrees to the carriageway below. The bridge is located immediately to the west of Junction 4 of the M57 motorway. In 2019 a Principal Bridge Inspection was undertaken and concluded that the structure was in poor condition due to low cover to the reinforcement, water ingress and chloride contamination.

AECOM were commissioned to undertake relevant testing, assessments and subsequent detailed design for the repair scheme.

In early 2023, Tarmac Highways Maintenance on behalf of Knowsley MBC undertook the delivery of the required repairs. The works value was £0.6m and was delivered in a time frame of 5months.

The structural repairs consisted of hydro-demolition of defective concrete, concrete repairs including re-casting on piers, deck soffits and diaphragms. Installation of cathodic protection system. Replacement of defective reinforcement, crack repairs and painting of deck beams. The carriageway joints were replaced and waterproofing and surfacing works completed.

- b) Explain the delivery plans and procurement strategy for the scheme. (Maximum 250 words).

This section should include explanation of the various stages of the scheme that are required for completion. This may include design, consents and construction processes.

KMBC have entered into a framework agreement with AECOM to provide asset management and professional design services. AECOM are currently undertaking the assessment of Whitefield Lane Bridge and will be engaged to provide detailed design, project management and site supervision of improvement schemes.

The council also have in place a contract with Tarmac as their term service contractor to provide maintenance and construction services.

These contracts run until January 2032. Having both of these long term agreements in place eliminates the need for long tendering processes and provides early contractor involvement through both Tarmac and their supply chain partners.

- c) Describe the delivery risks associated to the project delivery. This should include risks which may challenge the end date for the Structures Fund.

Explain what risks have been identified and how might these be mitigated.

The key risks identified which may affect project delivery are:

Construction unknowns – although extensive testing and inspections have been carried out, remedial work to existing structures carries a risk of unquantified or unknown defects, particularly when carrying out concrete repairs which may extend beyond identified defects once work starts.

Cost increases linked to global markets as recently witnessed with the Middle East conflict and its potential disruption to supply chains and material costs. Over the duration of the project global uncertainties pose a risk to construction projects.

Statutory undertakers services – whilst not currently envisaged that services will be unduly affected by the works, until design proposals and discussions with utilities take place, any change requiring diversions may adversely impact programme

Ground conditions for construction of leaf piers. Assumptions have been made based on the existing foundations and the ability of the ground to accommodate the weight of the new leaf piers. Ground investigation will be necessary and if more complex foundations are required this may impact the design phase and add time to the construction programme.

Traffic disruption – whilst a degree of disruption is inevitable, undue disruption may require additional phasing of the works affecting the construction programme. Early consultation with National Highways will be required to ensure any works either side of the construction site are not programmed in during the anticipated construction phase. The AIP for the design works will be shared with National Highways at an early stage for consultation.

- d) Explain whether liaison with any applicable third-party organisations present a particular risk to delivery and whether those organisations have agreed to support the scheme's delivery.
(Maximum 250 words)

In this section set out if the scheme requires support from other organisations, and the nature of any engagement undertaken to date.

Discussions have been commenced with National Highways. This section of the M62 is currently the responsibility of KMBC but the M62 is also part of the Strategic Road Network and any loss of capacity would have implications for the region. Traffic management on the M62 during the works would result in some loss of capacity and approvals may be required from National Highways depending on the durations and extent etc. Initial discussions with National Highways indicate that this section of motorway is currently being considered for trunking although no timescales for this are available.

2.4 Financial Case

- a) Provide estimated outturn costs (£million) for the scheme in the table below. The table should be completed with total costs, requested DfT investment, LHA contribution and third-party contributions. Only capital funding costs should be included in the table.

To note, the prospectus sets out that:

- schemes should be delivered by end-2029/30.
- schemes with early delivery (i.e. in 2026/27) may be prioritised.
- schemes should not be affordable from existing LA budgets.
- local contributions are required for proposed schemes.

- preference will be given to schemes with higher local contributions and/or those where there is a high percentage of local contribution.
- preference will also be given where the local contribution is:
 - not from other central government funding sources.
 - partially funded from other third-party sources.

	2026/27	2027/28	2028/29	2029/30	Total
Requested DfT investment					
LA contribution					
Other contribution					
Total costs					

b) Outline how the LHA has sought to manage this scheme from existing budgets and why that has been unsuccessful.

Explain the local approach to managing the existing DfT contribution across its highway assets and what specific challenges have meant that this structure was not repaired earlier.

The scheme started as part of the M62 resilience scheme, whas was funded via the City Region Sustainable Transport Settlement (CRSTS). The value of the funding has been spread across Whitefield Lane Bridge and other structures which have similar issues (ASR, half-joints) along the 4 mile stretch of the M62 which Knowsley are responsible for. The funding was sufficient to progress reviews and testing, along with the assessments but there is insufficient funding to allow for the scheme to progress beyond design.

c) Describe the whole life costs anticipated without the proposed scheme. Explain how the proposed scheme mitigates costs from a whole life perspective. (Maximum 250 words)

Explain maintenance considerations for maintaining the structure and compare these to the scheme cost to demonstrate the financial benefit of delivering this scheme.

It is anticipated that without the scheme being carried out, increased monitoring of the structure, concrete inspections and half joint inspections and management will be required. Any works below the structure incur high costs due to the motorway traffic management requirements, even for routine inspections and monitoring. The concrete affected by ASR will continue to degrade as it is exposed to water. The ASR affected concrete will lose strength and testing will be required to determine if/when the capacity is compromised. This continued deterioration will necessitate more regular reactive repairs which have been considered will take place every 2 years. Due to the nature of the half-joints, inspection is limited and there is possibility that hidden deterioration will occur, which in time will result in increasingly costly repairs and disruption to the motorway. WLC will be developed as part of the next phase of the works following the completion of the assessment.

d) Summarise how the cost estimate for the scheme has been developed.

Set out the basis for the estimate. For example, is it based on an estimate from similar work, developed by a quantity surveyor or a contractor quotation. Describe the inflation assumptions used and the rationale for these.

The refurbishment cost estimate was developed using information from the recent Inspection for Assessment Report and the proposed refurbishment strategy. The estimate was prepared using a bottom-up approach, identifying the principal work activities required to extend the service life of the structure, including concrete repairs to half-joints, prestressed beams, abutments and wing walls, conversion of the existing column piers into reinforced concrete leaf piers, drainage modifications, deck waterproofing and resurfacing, traffic management, design, approvals and construction supervision. Quantities were derived from available drawings, inspection records and engineering assumptions regarding the extent of deterioration. Unit rates were based on typical 2025 UK bridge refurbishment costs for comparable highway structures, including specialist motorway traffic management, access requirements and contractor preliminaries.

No contractor involvement has been carried out at this stage pending the outcome of the assessment, but once the scheme extents are confirmed, the council intend to involve our framework contractor (Tarmac) to provide further information on anticipated scheme costs.

- e) Explain the financial risks that have been considered and factored into the estimate and what contingency is allowed for.

Explain the key risks and their impact on the cost and programme, including how these link to the overall contingency allowed for in the estimate.

Financial Risks which have been considered at this stage include:

Additional half-joint deterioration discovered during breakout. This would impact programme duration, repair costs and traffic management costs.

Greater extent of beam end repairs or prestressing issues. Additional programme duration and costs.

Increased motorway traffic management requirements would primarily impact scheme costs.

Additional drainage replacement beyond currently proposed scope – information is not available at this time into the discharge locations and future surface runoff requirements

Increased concrete repair quantities following hydrodemolition.

Additional corrosion protection requirements or supplementation of additional reinforcement

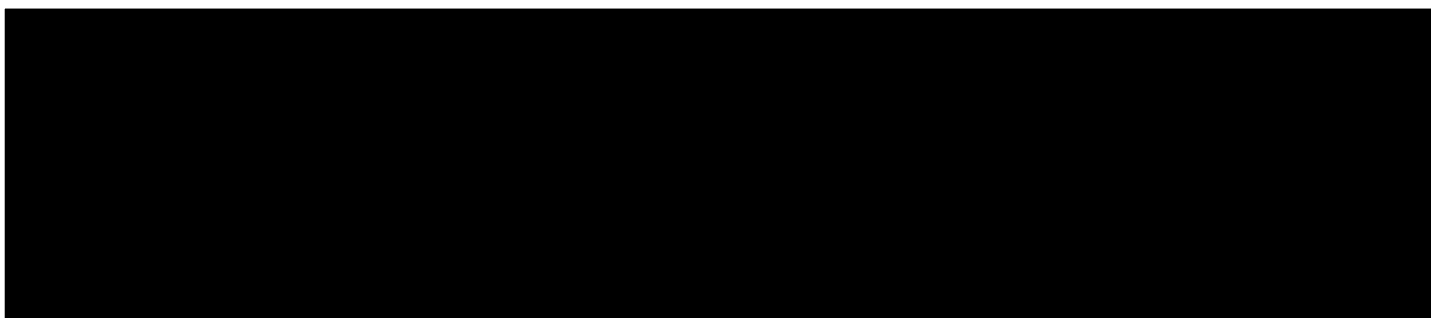
Programme extension due to possessions or weather

The new leaf piers are effectively acting as an encasement and durability upgrade and that the foundation bearing pressures remain acceptable. Ground investigation would be required to confirm local bearing for foundations are adequate. Inadequate GI would impact programme and costs due to delays and additional foundation solutions.

Middle East conflict escalation putting pressure on material prices.

The estimate for the scheme at this stage is £4.25million with risk contingency covering the above elements of approximately £0.65million giving a budget cost of £4.9million.

- f) Provide details of the local and other contributions, including the relevant funding sources and the certainty of whether these contributions are available. (Maximum 250 words)



2.5 Management Case

Outlines how the project will be delivered and managed effectively.

a) Select the option which best describes the current stage of the project:

- ☒ No design, benchmarked against other schemes only
- ☐ Design concept only, no supplier yet engaged
- ☐ QS estimate / early supplier engagement, stable design

b) What is the anticipated start date for construction for the scheme?

Autumn 2028

c) What is the anticipated end date for construction for the scheme?

December 2029

d) Summarise the approach to the management of the delivery of the scheme. This should be from the current point of development to completion.

This should include the management of resources, including the supply chain, to ensure delivery and an explanation of any evidence that provides certainty of delivery within the timescale.

KMBC have a framework agreement with AECOM to provide asset management and professional design services. AECOM are currently undertaking the assessment of Whitefield Lane Bridge and will be engaged to provide detailed design, project management and site supervision of the scheme. The council also have in place a contract with Tarmac as their term service contractor to provide maintenance and construction services. These existing contracts remove the need for tendering, shortening the overall programme and allowing early engagement with all parties. Upon completion of the assessment, as the council have these contracts in place, optioneering and early design and risk workshops would be held between KMBC/AECOM and Tarmac. These will identify key risks to programme, cost and management of delivery challenges and allow Tarmac to engage with their supply chain at an early stage to ensure that procurement of any specialist construction services happen early in the programme. Utilities, National Highways and other stakeholders that are identified will be engaged from the outset to ensure their requirements are met along with mitigating any risks that arise.

e) Explain the key delivery risks and challenges and how the local authority intends to address them. Answers should also explain any financial risks and how any cost overruns will be addressed by the local authority. (Maximum 250 words)

Explain how key financial risks are being managed and mitigated. Explain how other risks are being managed (e.g. are there any points of complexity or requirements regarding planning or land ownership?).

The council already have contracts in place for the provision of design and construction services which mitigates against lengthy tendering processes. The main risks are: Construction unknowns – remedial work to existing structures carries a risk of unquantified or unknown defects. It is proposed that preworks inspections are carried out to limit the extent of additional work once work starts. Cost increases linked to global markets as recently witnessed with the Middle East conflict and its potential disruption to supply chains and material costs – contingency has been built into the fee estimate. Statutory undertakers services diversions – early design proposals will be discussed with utilities and their requirements factored into the design. Ground conditions for construction of leaf piers. Ground investigation will be carried out in order to determine the best foundation solution. Monitoring of the structure for settlement following construction will be carried

out to ensure headrooms are not compromised. Traffic disruption - undue disruption may require additional phasing of the works affecting the construction programme. Early consultation with National Highways will be required to ensure any works either side of the construction site are not programmed in during the anticipated construction phase. The design Approval in Principle will be discussed at an early stage with National Highways SES in order to smooth the approval process and reduce risk during the design phase.

- f) Describe the key project controls that will be employed by the local authority to ensure that schemes are delivered on time and in budget. (Maximum 250 words)

Provide details of the methods that the authority uses to ensure timely delivery within budget.

Regular meetings will be held with all parties (including stakeholders such as National Highways and statutory undertakers) to discuss programme, risk and budgets. Within the framework contracts, KMBC have Key Performance Indicators which will be used to monitor supplier performance and delivery.

- g) Set out if the scheme requires permission from other bodies, and how this permission can be obtained to ensure delivery.

Provide details of the permission required, the likely timescale for obtaining permission and any potential barriers to obtaining that permission.

The structure crosses the M62, which Knowsley Council are responsible for along a short length at this location. Either side of the KMBC owned stretch of motorway is the responsibility of National Highways and work to Whitefield Lane Bridge will have implications for the M62 either side of the bridge with respect to traffic management. Liaison will take place with National Highways throughout the design process. The scheme will require traffic management on the M62 which will have some impact on the Strategic Road Network in the area and it is anticipated that the council will work closely with National Highways to limit disruption and gain any approvals that are required.

- j) If applicable, explain how the scheme development has included consideration of climate adaptation and ensures the future resilience of the highway network (Maximum 250 words).

Describe how climate related risks (e.g., flooding, heat, extreme weather) have been assessed and incorporated into design measures to improve the long term resilience of the highway network. This may include evidence of risk assessments, adaptive design features, and how the scheme will maintain network performance under future climate conditions.

The scheme is currently a refurbishment of an existing structure over the motorway. The surface water drainage from bridge deck currently passes internally through the columns. This is proposed to be redirected and will be designed to ensure that it has capacity to accommodate predicted surface runoff from the bridge deck. Furthermore the discharge will be designed to ensure that it does not affect the drainage to the M62 so as to avoid any standing surface water on the motorway. Material choice for the resurfacing works will take into account anticipated future temperature ranges to maintain a safe and durable solution.

- h) Explain the considerations have been made or will be developed to account for the management of carbon for the development of the scheme.

This may include development of a carbon management plan dealing with whole life carbon (e.g. using low carbon construction measures to deliver the scheme or reducing emissions through reducing vehicle miles).

It is endeavoured to undertake the development of the scheme in line with the key PAS 2080:2023 principles for whole lifecycle carbon management. It is considered that progressive deterioration of the structure expected as part of a "do nothing" scenario is likely to result in higher costs and higher carbon

emissions within the system compared to timely intervention. Reduction in the structure's vehicle loading rating will lead to higher traffic emissions due to increased journey distances for heavy vehicles and increase of vehicle traffic on surrounding local roads. Further significant deterioration of the structure may also result in the replacement of the structure being economically preferable to refurbishment options. The intervention proposed within this application would avoid greater emissions and costs associated with major works in the future and be the most effective option in accordance with the carbon reduction hierarchy. The scheme's infrastructure carbon emissions have been estimated at 388 tCO₂e, with upfront carbon (A1-A5) and in-use carbon (B2-B4) assessed within the scope, in line with DfT Local Transport Quantifiable Carbon Guidance. The carbon calculations have identified the carbon hotspots, which will be considered in engineering decision-making and targeted for interventions in further stages of the project. The structures team will work collaboratively with contractors and suppliers to minimise the carbon footprint of works in line with the principles and roles defined within PAS2080:2023. The baseline for the scheme's carbon emissions will be used as a reference for measuring the carbon performance, with targets for carbon reduction considered for further stages of the project. Opportunities for carbon reduction will be collaboratively throughout the project and may include specifying lower-carbon, locally available materials, optimising the construction sequence and traffic management, championing lean construction techniques and considering low emission construction plant.

- i) What statutory undertakers affect the proposed scheme? Has any engagement been undertaken and how has this been accounted for within the delivery approach?

Set out the relevant statutory undertakers, the impacts they may have on the programme – including planning – and how this part of the programme will be managed. If applicable, describe how deterioration of the structure has or may impact utilities services and the extent of this disruption.

Regular meetings are held with statutory undertakers to ensure all parties are kept up to date with future planned works. As part of the design phase close liaison will take place with statutory undertakers to minimise disruption. It is not anticipated at this stage that there will be any diversions to statutory undertakers that cross the deck, although waterproofing, joint work and resurfacing will be required and these works will need to be close proximity to the existing services which will require protection from any works.

Part 3 – Governance and Declarations

3.1 Equality Analysis

a) Has analysis of the equality impacts of the scheme been undertaken by the LHA in line with the Public Sector Equality Duty? Select below:

☒ Yes

☐ No

b) Explain how the equality impacts of the scheme have been considered or will be considered. Identify the relevant affected groups with protected characteristics, and any planned measures to mitigate these impacts. (Maximum 250 words)

A detailed EIA will be carried out as part of the scheme but initial analysis indicates the following:

Age - the works associated with the scheme will maintain access and safety to all road users. During any scheme and works associated older people with limited mobility may suffer short-term inconvenience during the temporary diversion, to mitigate this traffic management and restrictions over Whitefield Lane Bridge will be phased to keep them to a minimum.

Disability - the works associated with the scheme will maintain access and safety to all road users. Accessibility of all disabilities will be considered during the design phase and once works are completed access will be unimpeded for people with impaired mobility, avoiding diversionary routes in the long term. Temporary diversions will cause short term inconvenience during the scheme but will be phased to keep them to a minimum.

Offending Past, Race, Sexual orientation and Gender Identity - the works associated with the scheme will maintain access and safety to all road users.

Socio- Economic Status and Child Poverty - the works associated with the scheme will improve access and safety to all road users. Short term diversions during the scheme may cause increased journey times but phasing will take into account all users. The long terms impacts of closure should the scheme not go ahead will adversely affect these users.

3.2 Public Sector Transparency

When LHAs submit proposals for funding to DfT, as part of the Government's commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, they must also publish a version excluding any commercially sensitive information on their own website within two working days of submitting the final proposal to DfT.

a) Please specify the weblink where this proposal will be published.

<https://www.knowsley.gov.uk/council-and-elections/publication-scheme/what-our-priorities-are-and-how-we-are-doing>

3.3 Declarations

Senior Responsible Owner declaration

As Senior Responsible Owner for [Whitefield Lane Bridge Refurbishment], I hereby submit this request for approval to DfT on behalf of [Knowsley Metropolitan Borough Council] and confirm that I have the necessary authority to do so.

I confirm that [Knowsley Metropolitan Borough Council] will have all the necessary statutory powers and other relevant consents in place to ensure the planned timescales in this proposal can be realised.

- a) Name: Dale Milburn
- b) Signed: 
- c) Date: 03 August 2026
- d) Email: dale.milburn@knowsley.gov.uk

Section 151 Officer declaration

As Section 151 Officer for [Knowsley Metropolitan Borough Council], I declare that the scheme cost estimates quoted in this proposal are accurate to the best of my knowledge and that [Knowsley Metropolitan Borough Council]:

- has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution.
- accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties.
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme.
- accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested and that no DfT funding will be provided after 2029/30.
- confirms that the authority has the necessary governance and assurance arrangements in place and that all legal and other statutory obligations and consents will be adhered to.

- e) Name: DAN BARLOW – Deputy s151 Officer
- f) Signed: 
- g) Date: 30 July 2026
- h) Email: dan.barlow@knowsley.gov.uk