Department for Transport

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: Kent County Council

b) Scheme / structure name and LHA bridges number: A299 – Dargate to Ramsgate. Dargate to St Nicholas-at-Wade A299 carriageway, four overbridges (KCC Nos. 9010, 9011, 9012, 9013), Chestfield Tunnel and Ramsgate Harbour Approach Tunnel

c) Location (OS Grid Reference) of the scheme/structure (to identify location on map):

Easting: Start of route: 608599; End of route: 636973

Northing: Start of route: 163109; End of route: 164059

d) Name of Project Manager: [redacted]

e) Email address: [redacted]

f) Phone number: [redacted]

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): Carriageway reconstruction due to geological instability		

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.

The A299 between Dargate and Ramsgate is a dual carriageway, national speed limit, strategic link road to Thanet. It is part of both the Major Road Network and Kent's Resilient Highway

Network. The route plays an important role in addressing historical economic disadvantage due to Thanet's peripheral location. Without the full package of works outlined, the route faces immediate closure or restriction before the end of 2029/30. The proposed interventions will ensure the A299's intended operational NSL speed, improve network reliability, and mitigate the risk of unplanned closures. Without intervention, closures would sever community access and disrupt key active travel links.

The scheme comprises two elements. Firstly, refurbishment of life-expired safety critical equipment in the jointly operated Chestfield Tunnel and Ramsgate Tunnel, bringing them all up to current standards and ensuring their uninterrupted operation. Ramsgate Tunnel is the route to the Port of Ramsgate, upgrades here will ensure that the Tunnel is operationally ready to accept increased traffic volumes should the Port be brought back into full usage as an alternative to the Port of Dover.

Secondly, the full reconstruction of sections of carriageway affected by significant undulation, alongside stabilisation works to bridge abutments and the replacement of bearings and expansion joints on four overbridges. These defects have arisen from ground instability associated with the underlying clay formation, resulting in structural deterioration.

The readiness of the tunnels will provide access assurance to Manston Airport, which is a primary cargo hub, which was granted Development Consent Order approval in 2022.

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.

The Tunnels within this proposal are critical highway structures, built and maintained to enable the public to travel efficiently and effectively by by-passing urban areas. It is essential that they remain safe and available to maintain key routes into London, Dover, connecting to the Strategic Road Network (SRN), Manston Airport, the Port of Ramsgate; with Ramsgate Tunnel being on the Trans-European Road Network. Maps of the assets locations are appended to this bid to demonstrate their location and collective impact and risk to this critical route.

Chestfield Tunnel is located on the A299, centrally at the location of the carriageway deformations also requiring intervention and funding within this bid. The Ramsgate Tunnel is also located on the A299, and whilst in Ramsgate, the two tunnels operate interdependently from the same Control Room at Ramsgate Tunnel. The Control Room is permanently staffed with trained operatives controlling and monitoring the tunnels via their shared networked systems for supervisory control and data acquisition (SCADA). Renewing assets and systems in a single KCC tunnel will impact the other. Both tunnels have many end-of-life systems, and renewals in Chestfield Tunnel will require renewals in Ramsgate Tunnel and vice versa.

Upgrading, refurbishing and/or replacing the degraded, obsolete and failing systems in the tunnels will restart the asset lifecycle. For example, the entire ventilation system, the tunnel fire main system, the Electrical Distribution System and cabling, the PLC hardware and servicers, the LV switchboards and associated systems.

This will provide the following additional benefits:

- Prioritise preservation of life. Through the provision of dropped kerbs and step-free access, installing evacuation assembly points, installing wayfinding signage and directional escape lighting and replacing Emergency Roadside telecommunications, for example. This will bring assets up to current standards.

- Increased resilience of the wider network including the Port of Ramsgate and subsequently the Port of Dover, access arrangement to Manston Airport for future freight operations and as well as for the A2 diversionary route in case of closure on the Strategic Road Network.
- Additionally, resilience will be gained at a local level as there are no longer spare components for the majority of the Tunnels' equipment. At present, due to critical spares being unavailable or requiring fabrication, unplanned closures are highly likely. Resolving this will ensure that local communities can continue to access homes and businesses for the foreseeable future.
- Control traffic safely. By providing integrated traffic management electronic signage on the diversion routes and approach roads, enhancing the tunnel closure system and the provision of Lane Control Signals.
- Address environmental risk. There is a need to update drainage interceptors and install the required pollution control measures and procedures to protect the environment. With this, on site pumps will then be able to remain resilient to remove standing water from flooding events and spill events.
- Align to standards and best practice. The required systems as stated in the Road Tunnel Safety Regulations will be installed, e.g. an Automatic Incident Detection System and redundant power provisions. Plus, Supervisory Control and Data Acquisition (SCADA) system improvements and upgrades.
- Be safe and resilient in their facilities and ancillary buildings. By refurbishing Control Room facilities and radio masts, replacing distribution boards, small power wiring and lighting circuits at a minimum.
- Be effectively maintained. Designs and interventions will ensure that the tunnels can be effectively maintained by Kent County Council (KCC) in that the products installed will be "off-the-shelf" where appropriate and with minimal moving parts to prolong their life cycle and ease budgetary pressures of maintenance schedules.

The carriageway element of this bid targets structural deterioration and network performance issues along the A299 Thanet Way. The route has experienced long-term ground movement since at least the early 2000s, becoming operationally significant by 2010. Investigations undertaken between 2014 and 2022 consistently confirmed that the principal mechanism is moisture-related movement within London Clay and clay embankment fills. The A299 undulations are not primarily a pavement failure issue. It is a long-term geotechnical and earthworks problem. This has resulted in pronounced carriageway undulations and progressive damage to key highway structures, including four bridges where abutment movement has led to failure of bearings and expansion joints.

The intervention comprises of geotechnical intervention and a full-depth reconstruction of affected carriageway sections to remove deformation and reinstate long-term pavement performance. In parallel, structural works will stabilise bridge abutments and replace defective bearings and expansion joints, restoring the structural integrity and serviceability of the affected bridges.

Golden Hill Overbridge (Bridge No. 9010), Convicts Wood Overbridge (Bridge No. 9011), Thorndon Wood Road Overbridge (Bridge No. 9012) and Bullockstone Road Overbridge (Bridge No. 9013) were all built in 1996-97 and are of similar forms and suffering from similar issues. All of the overbridges are experiencing differing levels of longitudinal and transverse displacement which is resulting in distorted and displaced bearings and reduction of expansion joint gaps. The

displacement is the result of consolidation and cyclic soil movements of the embankments which were not allowed for in the design and pertaining to the A299 carriageway ground instability.

Studies have been undertaken, including ground investigations and options studies, to determine the causes and possible solutions to the current problems. These studies have focused on Golden Hill and Bullockstone Road with the intention that the same solution could be repeated across all bridges. Availability of funding has prevented these works from progressing beyond the investigation and Option Study stage.

The proposed intervention involves removing the upper parts of the embankment and replacing them with lightweight fill to reduce earth pressures on the abutment. The bearings and expansion joints will be replaced, fixity moved from the abutment to a pier and, where necessary, the ballast wall will be removed and reconstructed.

These coordinated works directly address the root cause of the problem, ground movement and associated structural distress, rather than applying short-term maintenance solutions. As a result, the scheme will:

- Ensure the A299 remains at its intended operational speed and improves journey time reliability.
- Reduce the risk of unplanned closures or emergency interventions.
- Maintain critical connectivity for communities on both sides of the corridor.
- Safeguard the continuity of the Crab and Winkle Way, an important active travel route.

Overall, the scheme represents a long-term, resilient solution that protects a strategically important route, enhances safety, and supports both local access and wider economic activity. This is the exceptional bid for Kent County Council as agreed by the Cabinet Member for Highways and Transport.

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

No, all the assets within this scheme are within KCC’s ownership.

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

The A299 is the diversion in the event of a closure on the A2. Traffic is signed to leave the M2 at Junction 7 (Brenley Corner) and follow the A299 before joining the A256 and following that to rejoin the A2 at Whitfield (and vice versa). The A299 is a key access route to Manston Airport, which has been used to facilitate “Operation Stack” and “Operation Brock”, in which the airport holds HGV traffic during cross-Channel traffic 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.

Chestfield and Ramsgate Tunnel**,** and their Control Rooms, have had no major refurbishment since construction in the late 1990s. Many safety and engineering systems are obsolete and end of life. The Chestfield Tunnel 2024 Principal Mechanical and Electrical and Structural Inspection highlighted 77 Urgent issues and 349 further issues. The Ramsgate Tunnel 2024 Principal Mechanical and Electrical Inspection highlighted 31 Urgent issues and 53 further issues.

Refurbishment and upgrade reports for both Tunnels and a Special Inspection make further recommendations.

The A299 Overbridges were subject to a special inspection in 2021 which identified that bearings have sheared and the fixed bearings were now non-functional due to movement within the bridge embankments. This has caused unknown stresses and the abutments to fall inward, ultimately the bridge expansion joints now no longer exist. Regular monitoring has gone hand-in-hand with ground investigations and the development of an Options Report in 2026.

The A299 carriageway is experiencing significant deterioration associated with ground instability linked to underlying clay formations, manifesting in pronounced carriageway undulations, loss of ride quality, and progressive structural degradation. These defects impact user safety, vehicle wear, and network performance; immediate to short-term intervention is regularly required. The carriageway has recently been subject to a 50mph speed restriction between Dargate and St Nicholas-at-Wade for 10 months, due to safety. Lane closures have also been implemented when the deterioration to the carriageway occurs quickly. The increase of exceptional summer droughts and wet winters cause will lead to significant recurrence of carriageway deformation.

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.

The A299 carriageway was, until 21 July, subject to a 50mph speed restriction for 10 months. Reactive measures were taken to treat the unsafe undulations temporarily. It is designed for the National Speed Limit (70mph).

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.

Weight limits will be considered for the four overbridges, subject to worsening of their condition. This is dependent on further movement within the ground supporting the abutments.

The tunnels, however, are expected to require closure by the end of the 2029/30 financial year. The tunnels are currently reliant on a number of life safety systems that are approaching the end of their operational life and are increasingly affected by equipment obsolescence. Many of the components that support these systems are no longer manufactured, and KCC is experiencing growing difficulty in sourcing replacement parts, compatible components, and technical support. As a result, there is an increasing risk that critical failures cannot be rectified within acceptable timescales, potentially compromising the safe operation of the tunnels.

For example, historical failure trends for the Chestfield Tunnel ventilation fans have left us just 1 fan failure from a Tunnel closure. Replacement parts are difficult/increasingly impossible to obtain, and failure of this system could necessitate the closure of the tunnel. Such a closure would effectively sever the A299 Thanet Way between Whitstable and Herne Bay, requiring traffic to be diverted onto the A2990, a single carriageway route with significantly reduced capacity. While the

design of a replacement ventilation system for Chestfield Tunnel is underway, construction funding has not yet been secured, with anticipated costs exceeding £2 million. While ventilation equipment provides a clear example of this risk, it is not the only life safety asset affected by obsolescence and ageing infrastructure. Similar obsolescence risks exist across other critical tunnel life safety systems, meaning that the ventilation fans should be viewed as one example of a broader asset sustainability challenge rather than an isolated issue.

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.

The A299 carriageway was recently subject to a 50mph speed restriction, for a prolonged period, between Dargate and the St Nicholas-at-Wade due to the visible and significant undulations in the carriageway, negatively impacting safe driving conditions.

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.

In 2024, the Chestfield Tunnel ventilation system suffered faults
and failures which necessitated an immediate urgent closure of the A299. Temporary repairs were carried out to enable the tunnel to reopen but another failure would lead to a full closure. This system currently has an increased maintenance and monitoring regime in place. Although Chestfield Tunnel is able to operate in Contraflow if a single bored tunnel's fans failed, for example, it doesn't mitigate for the risk of failure of both tunnels systems due to failure in the control equipment or computer systems, for example. In the event of contraflow providing bidirectional travel in a single bore whilst the opposite carriageway bore is closed due to equipment failures, implemented traffic management arrangements would represent only a temporary mitigation. entailing average speed cameras, enhanced signage and specialist road restraint systems being deployed to manage public safety,

Traffic Management drawings and diversionary routes are appended to this bid.

Should the Port of Ramsgate be successful in obtaining a ferry operator which results in an increase in the volume and type of Commercial traffic through Ramsgate Tunnel, there is a high likelihood that traffic restrictions will need to be put in place so the Tunnel can operate safely. The life safety systems, which require replacement and/or enhancement, are not capable of containing and managing the consequences of mass HGV or Dangerous Goods fires and spillages. Restrictions will need to be agreed and executed to mitigate the risks.

The four overbridges are monitored and, subject to further deterioration, it would be reasonably expected that weight restrictions or single lane working would be required prior to the 2029/30 financial year end.

The A299 carriageway has regularly experienced significant undulations in recent decades, likely caused by differential shrinkage and expansion of clay formation subsoil, in turn likely caused by

climate change as summers get hotter and dryer and winters become wetter. Over the last decade, KCC has spent circa £20m on reactive interventions to remove the hazard to road users and maintain the national speed limit on this road.

Our interventions have gradually increased from 40mm resurfacing, increasing depths to 150mm, and the use of different materials such as SMA, HRA and EME2 (which is stiffer). On one section, we tried reconstruction to a depth of 640mm using two layers of InterAx, without success.

Without significant intervention, it is clear that sections of the A299 Thanet Way will continue to undulate, requiring inventions such as temporary speed limits, lane closure and, in extremis, full closure in one direction or both.

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: Golden Hill BCIcrit 58, Bullockstone Road BCIcrit 55, Convicts Wood BCIcrit 75, Thornden Wood BCIcrit 81 NB: Element 9 Foundations is not considered in calculation of BCIcrit so condition issues resulting from movement can be underplayed in the scores.

BCI Ave: Golden Hill BCIav 75, Bullockstone Road BCIav 78, Convicts Wood BCIav 91, Thornden Wood BCIav 87.

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.

BCI scores have been impacted by the condition of bearings, cracks in primary deck elements and spalling. It should be noted that issues with the abutment movements on these bridges are not reflected in the BCI_{crit} values as the foundation element is not included in that calculation.

The four overbridges have been observed to be experiencing excessive movement of the abutments due to the apparent horizontal spread of the approach embankments. Inspections have recorded horizontal movement of the shoulders of the approach embankments and apparent forward and lateral movement of the abutment. The cause of the continuous abutment movements is likely resulting from the earthworks behind the abutments.

j) Submit, alongside this submission template, the most recent, dated copy of the structural inspection proforma or a report summarising this.

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.

The A299 plays an important role in addressing economic disadvantages by better connecting residents and businesses in Thanet and Canterbury districts with opportunities elsewhere in Kent and beyond. Closing this route, or creating lengthy diversions on it, would stall its success in improving connectivity.

There are large-scale sites for redevelopment. These include the Port of Ramsgate, for which Thanet District Council has aspirations to grow and reopen for cross-Channel ferries, providing resilience to the Kent ports. Such an ambition can only be realised if the Ramsgate Tunnel is operating such that HGVs can safely transit through it.

The Manston Airport site has a Development Consent Order, but interrupting its most direct highway connection to the M2/A2 would inhibit its capacity to operate as a specialist freight airport with reliable onwards transportation of goods (air freight tends to be high value). The potential socio-economic benefits of the airport, and the local contribution to education, training and skills, weighed substantially in favour of granting consent. Total investment is around £750m.

Also, at Manston, an application for a waste-to-hydrogen plant - £120m investment.

Further, this route supports the local tourist sector, including the coastal resorts of Whitstable, Margate, Broadstairs, Ramsgate and Deal. There is also proposed development at Brooklands Farm, Whitstable, which will bring new park and ride facilities and enhance local cycling and walking opportunities. This will require a new connection to the A299. More information on economic impacts is provided in appendix file 'Economic Investment and Growth in A299 corridor'.

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.

Of the other Missions, the scheme best supports Breaking down the barriers to opportunity – giving children the best start in life. Thanet and its coastal towns have suffered from economic disadvantages due to a peripheral location and losses in key economic sectors, such as tourism. Supporting the functioning of the full A299 route will improve access to education and training by maintaining connectivity across the area, but also in supporting access to key future opportunities such as Manston Airport.

The recently published strategy for integrated transport, Better Connected, includes eight priorities. Not addressing the structural issues on the A299 would be adverse to achieving 'Provide safe and dependable journeys' and 'Create healthier communities' because journeys will become more unreliable and longer if parts of the route are closed to all traffic, as well as the impact on the Crab and Winkle Way (NCN1). Increased traffic on unsuitable routes diverting from closures,

particularly in residential areas and sites where significant new housing stock is under construction, would also likely worsen air quality and increase severance effects.

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.

Kent's Local Transport Plan 5 highlights 9 challenges. Challenge 1 is the lack of funding to maintain highway assets, risking them becoming less resilient – this is directly relevant to the A299's structural issues. Policy Outcome 1 is: "The condition of our managed transport network is brought up to satisfactory levels, helping to maintain safe and accessible travel and trade," leading directly to the first priority proposal for the local road network – to maintain it, enabling Kent's business and residents to complete the journeys they need to make to support a growing economy and improving quality of life.

Without sufficient funding from the Structures Fund, it is not possible within current budgets for KCC to complete the full range of asset upgrades and reconstruction to ensure that the A299 functions as a strategic route between the motorway and Port of Ramsgate, via the many important established and new development sites along it. Therefore, it is highly likely that part or multiple parts of the route will be closed by 2029/30.

Thanet has received investment due to its economic and social challenges, and the transport infrastructure interventions have made strides to address such challenges in the area. However, they need to continue to be safely operational so as not to further disadvantage the area and risk the success of development that has and is continuing to come forward off the back of the good vehicular access.

This position is supported by local and regional stakeholders - letters appended to this submission.

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.

Tunnel stakeholders such as Kent Fire and Rescue, Kent Police, South East Coast Ambulance Service, Environment Agency, Districts/Boroughs, Port Operators etc. are members of Tunnel Design and Safety Consultation Groups (TDSCG) and Emergency Planning Groups (EPG) which are chaired by the KCC Tunnel Manager. Engagement within these groups has consisted of discussing operational and maintenance risks, design requirements and changes and stakeholder interdependencies for the operation of and availability of the tunnels.

The Port of Ramsgate is owned and operated by Thanet District Council and predominantly relies on the use of Ramsgate Tunnel to operate, therefore the teams work closely to maintain an effective operation across both port and tunnel. Local aggregate and small businesses also hold premises adjacent to the Port of Ramsgate. When Ramsgate Tunnel is closed, the only alternative route is along Military Road, which is coordinated between Thanet and KCC to minimise impact. Emergency closures are prepared for as much as possible in EPGs, with risks discussed and mitigated ALARP.

The section of the A299 recently affected by speed restrictions is the subject of frequent public concern and complaints, largely due to ongoing maintenance interventions and associated traffic restrictions. It is also the SRN diversion route. These recurring disruptions have led to frustration among road users and local communities, reinforcing the need for a permanent, long-term

solution. A permanent solution would have a high level of local public and stakeholder support, as the route is a critical transport asset.

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.

In Kent, highway infrastructure is managed in accordance with the Highway Asset Management Plan. This document sets out a detailed methodology for identifying maintenance priorities and ensures KCC's compliance with the principles of the Well-managed Highway Infrastructure Code of Practice. KCC faces significant challenges in maintaining a safe and reliable highway network during a time of limited resource, deteriorating condition and increasing public expectations. The rate at which local roads are deteriorating exceeds the rate of investment and as such KCC must prioritise needs across the county.

KCC has adopted a risk-based approach for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, response, resilience, priorities and programmes. The management of current and future risks is embedded within our approach to asset management and service delivery.

Ultimately, the interventions required are unaffordable to KCC within its current funding envelope for capital investment and this has prevented the works needed from being completed, and in the case of the A299 carriageway, works being a short-medium term solution. The Upgrade and Feasibility Reports for the Chestfield and Ramsgate Tunnels and the A299 carriageway suggest that £10s of millions are needed to prevent closure of these routes and we do not have this level of funding to spend in a county the size and complexity of Kent.

Given the sums involved, it is not possible to divert resource from other highways asset management since this would disproportionately and negatively affect maintenance across the county, leading to more highway asset defects.

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 scale of the maintenance/replacement of structural elements is such that it is far beyond the financial capacity of normal highway maintenance budgets. The overall scheme costs are estimated at £75m whereas KCC's highway maintenance grant funding is approximately £56m across the whole county's assets for the 2026/27 financial year. Borrowing additional funding to support this route also has to be balanced against a picture of increasing demand for wider statutory functions across the whole Authority.

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.

High likelihood that speed restrictions, weight limits, and road closures will be implemented. Chestfield Tunnel will be closed by 2030 given there are no spare parts for the obsolete life safety and engineering equipment, shutting the A299 between Dargate and St Nicholas. Access to the Port of Ramsgate will not be to the standards required to allow operations at the port involving HGVs. Disruption on the A299 would weaken the economic case for investing in the area (e.g. £750m Manston Airport, £120m waste-to-hydrogen facility).

Restrictions affecting the overbridges would have a range of consequences. A closure of Convicts Wood bridge would sever the Crab and Winkle Way (NCN1), which is an important local tourist attraction as well as a sustainable travel corridor between Whitstable and Canterbury.

Any closure of the A299 would require lengthy diversions suitable for HGVs. This may require use of the old Thanet Way (A2990), but this now serves substantial residential development and is unsuitable for long-term use as a diversion for this volume of traffic (approximately 40k AADF).

A closure at Ramsgate Tunnel has no alternative highway route. Access would be via a private port road – Military Road – although access would be difficult for HGVs required to turn right from Royal Parade. It would also disrupt local businesses operating from the arches under Royal Parade.

The annual and permanent rectification costs would be even more unaffordable for the East Kent Unitary Authority. Without the Structures Fund and KCC's match funding, there is no prospect of resolution.

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 Convicts Wood overbridge carries the Crab and Winkle Way, which forms part of National Cycle Route 1. Closing this bridge would sever the traffic-free route between Canterbury and Whitstable. Not only would this restrict sustainable and active travel between the two destinations, but also impact the tourist economy.

Closure of parts of the A299, including its tunnels, would not sever communities directly but would divert traffic on to less suitable routes. That increased traffic would create severance impacts, such as use of the A2990 Thanet Way which separates residential areas and is unsuitable for the volume and mix of traffic that uses the A299.

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.

The Convicts Wood overbridge carries walkers, cyclists and agricultural vehicles only over the A299, closing this bridge would segregate whole communities and impact local agriculture businesses. It is the Crab and Winkle Way – NCN1. Reviewing the Strava dashboard for 2025 (the most recent complete year) records 10,580 cycling trips over the bridge itself with 27% of those being commuting trips. The adjacent bridges are also hot spots for cycling. Manual counts in the vicinity recorded pedestrians in excess of 300 per day on parts of the route in September 2024.

It is challenging to quantify the traffic affected by the A299 carriageway scheme, if this affected section was closed, traffic in East Kent would be dramatically re-routed causing significant disruption for over 100,000 people, assumed from the 2025 DfT traffic count data at the A299 Yorkletts being 50,878 AADT.

A KCC funded manual traffic count at Ramsgate Tunnel was carried out in from June 4th – 10th 2024. Of the 1,932 vehicles counted in that, approximately 15% were vehicles of greater size than a car or taxi. The tunnel is the main highway route to the Port of Ramsgate, where offshore wind farms are serviced and local shipping and large aggregate dispensary businesses operate. Severance to these business operations would shift traffic to diversionary routes and impact on the community, leisure and small business.

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.

Structures Fund investment to avoid diversion of traffic principally delivers journey-time savings, reflecting the large stretch of A299 and local road routes via overbridges of the A299 resulting in lengthy diversionary routes combined with high volume of affected traffic. Generating 77% of total benefits, journey-time savings total £1.52bn PVB (2023) over 60 years. This reflects the scale of network impact, especially from the risk of Chestfield tunnel / A299 closure and the resultant lengthy diversion that would be necessary for the over 12,000 vehicles a day traveling the whole east-west length of the A299 at risk.

Diversionary routes are already well used with high local traffic volumes. Congestion banding has been calculated and evidenced in the toolkit and these drive the second highest category of benefits from the package, accounting for 10% of benefits and totaling £152m (PVB 2023).

The third highest benefit is from reduced vehicle operating costs, due to diversionary routes being longer distance – hence undertaking the Structure Fund investment will remove use of diversionary routes and shorten journeys. This accounts for 7% of benefits and totals £104m PVB (2023).

Please note that per Structures Fund Guidance and FAQs, for this package bid the PVC, PVB and BCR reported is an aggregation across the package. The package shows the A299 highway, tunnels, and Bullockstone and Thornden Wood bridges deliver net positive benefits on an incremental basis. Convicts Wood and Golden Hill bridges have little effect on traffic networks and have BCRs below 1:1.

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)	£12.7m
Present Value Benefits (PVB)	£1,516.9m
Benefit to Cost Ratio (BCR)	119 : 1

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.

Risk adjusted costs with optimism bias applied in each toolkit, and incorporating inflation using real cost inflation index rate 2.1% from TAG Databook sheet A1.2.1. The optimism bias recommended for schemes in DfT TAG at SOBC stage have been used – so 46% for roads, and 55% for bridges and tunnels (fixed links). For the toolkit copy that considers the A299 plus the Chestfield tunnel costs, a weighted average of the two optimism bias values was used based on each components share of total cost, giving an overall value of 48%.

Operating / maintenance costs are assumed to have a 23% optimism bias – with justification based on evidence in an article referenced in TAG Unit A1.2 (article link Updating the evidence behind the optimism bias uplifts for transport appraisals). Table 8 on p24 of the article shows an OPEX mean overrun value of 23% bases on three road schemes.

The A299 economic toolkit assumes a £1.7m reactive maintenance cost per annum in the without scheme case, consistent average annual spend over the last decade. In the with-scheme case, 25% of opex costs are forecast to remain, so a forecast 75% of annual spend is saved. This represents the real financial burden to KCC keep the A299 safe and operational. For the overbridge links and tunnels, no change between without and with scheme works is anticipated in terms of operating & maintenance costs, as the scheme would rectify an emerging fault that can only be managed through monitoring and potential future closure.

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).

Vehicle volumes and traffic type splits have been sourced from DfT Count Point data where available, supplemented with KCC ATC data. AADF data has been used for roads on diversionary routes, with the addition of diverted traffic volumes, to estimate congestion band inputs. This follows the DfT guidance to ensure this is calculated as *"based on an average flow in an average hour on an average day"*. Volume/Capacity plots from KCC transport modelling for TUBA assessment have been included in toolkits as additional supporting evidence for the congestion band selections.

Journey times with and without diversions have been taken from Google maps traffic routing, during interpeak periods, reflecting that the majority of traffic will occur outside of the peak periods when congestion may cause spikes in journey time. This approach aids avoiding overforecasting of journey time benefits from avoiding diversions due to structures defects. As per DfT guidance and feedback at draft bid stage, real origins and destinations have been carefully considered to reflect realistic routing impacts of diversions.

For the A299 only through-traffic east-west between the A299 junction with A2 and A299 junction with A28 has been considered as only this traffic is guaranteed to feel the full effect of the diversionary route journey time disbenefit. For overbridges, the phased introduction of weight restrictions on traffic types has been incorporated between 2030 to 2040, with 2030 being limited only to HGV and PSVs.

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.

The area has a series of development site allocations in the local planning authorities Local Plan. Known as the South Whistable Strategic Development Area, it consists of the Brooklands Farm and Bodkin Farm sites which collectively will provide 1,870 new homes, and 4,000 sqm of business work space, a primary, secondary and SEND schools. The site requires a new junction off of the A299 due to the scale of development and unsuitability of the local roads to the sites for bearing the majority of development traffic. Without the Structures Fund investment, the development may not be able to proceed, or if it does, may become very poorly served for vehicle access in the event its access to the A299 is lost due to failure of the carriageway. The benefits of the development have not been incorporated into the economic toolkit, however this is a significant non-monetised impact of the Structures Fund scheme and should be viewed in the context of the importance of ensuring housing can be delivered, thereby aligned to government policy priorities.

The Isle of Thanet would experience a significant loss of carriageway capacity access, if the Structures Fund investment could not occur. An area with widespread areas in the worst 10% of the country on the Index of Multiple Deprivation, and also subject to planned £65m government investment through the Lower Local Majors road network pipeline fund for the North Thanet Link, which would support thousands of new homes in the Thanet planning authority area.

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).

A TUBA appraisal, conducted to be TAG compliant, has been completed using the Kent Transport Model for forecast year 2027. The scenario captures effects of the closure of the A299, Chestfield tunnel and the overbridges. Base model enhancement was undertaken: 62% of counts meeting GEH <5 criteria in the original base improved to 75% in the enhanced model. When considering counts with GEH <7.5, there are 89% of counts meeting this criteria. Although TAG criteria GEH <5 is not fully met, there are 24 counts just outside of TAG criteria (between 5 and 7.5), meaning that the model is considered overall, a good match to observed conditions.

Results show a forecast PVB (2023 prices) of £120.9m for the forecast year. This single year forecast is in excess of the Present Value of Costs for the package of £12.7m (see question 2.2 b)).

A sensitivity test of a 50 mph speed limit restriction on the A299 was undertaken, commensurate with recent limit KCC imposed prior to rectifying work in summer 2026. Gives an annual PVB (2023) of £14.4m.

A sensitivity test was conducted of the impact if only Chestfield Tunnel safety systems fail and traffic cannot be routed in either direction along this stretch of the A299, with diversion via A2990 parallel to the closed section. Results give PVB (2023 price) annual benefit of £58m which would offset the PVC of the scheme investment needed.

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.

KCC has strong experience delivering complex highway and structural renewal schemes, including carriageway reconstruction, ground stabilisation, and bridge works on key routes. In-house teams provide expertise across carriageways, structures, tunnels and project management, with a proven track record of delivering schemes.

Where specialist skills are required, the authority can access them efficiently through existing contracts and frameworks.

Specialist skills can be gained via established supply chain arrangements with experienced contractors via our Highways Term Maintenance Contract (HTMC). Additionally, consultants working through our Professional Services Framework Contract (PSFC). We also have access to expertise via our Road Asset Renewal Contract.

PSFC teams have already undertaken ground investigation works and options studies for the bridges and it is envisioned that they would proceed to design stage. The site works would be undertaken by the HTMC

A dedicated in-house team manages the Tunnels programme for operations, maintenance and schemes. Consisting of a Project Support Officer, Engineer and Programme Manager; the latter holds the role of Tunnel Manager in-line with the Road Tunnel Safety Regulations of which Ramsgate Tunnel is held, by due to being on the TERN network. The team are utilising the Kent Highways Term Maintenance Contract (HTMC) and Professional Services Framework Contract (PSFC) to assist Tunnel schemes in delivery which have internal funding. The team would require additional resource to deliver works outlined in this bid; through permanent recruitment, secondments and/or resource sourced from framework consultants.

A selection of Team member’s profiles of experience and an organigram are appended to this submission.

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.

KCC have multiple options for scheme design and construction. The Highways Term Maintenance Contract is available to reach out to their specialist supply chain for scheme design and construction. In addition, the Professional Services Framework Contract provides KCC with an initial three consultancy firms, who have sub-consultants, to complete design and also assist in

delivery. Examples of this are: the design for the Ramsgate Tunnel LED lighting retrofit, which is in progress with the HTMC supply chain, with the construction due to be completed through the same contractual route. The Chestfield Tunnel Ventilation renewal design is in-progress with PSFC consultants, to be delivered by the HTMC. Key stages have been outlined in the attached high-level delivery plan.

The overbridge scheme will be delivered via HTMC. The design will be implemented on Golden Hill Bridge initially giving the opportunity to apply lessons learnt to the design before rolling it out to the remaining bridges.

The A299 carriageway scheme delivery will be subject to full competitive procurement due to the estimated scheme costs.

A high-level delivery programmes have been appended to this bid for the overbridges. Alongside an outline delivery programme for high priority (P1) tunnel schemes.

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.

Tunnel project risks may evolve during the design phases for the tunnels systems due to their interdependencies and complexities. It has been considered that “back-bone” services such as Electrical Distribution Systems shall require forward thinking to allow for the schemes, being delivered as part of this wider project, to have sufficient power supplies and communications facilities. For example, an electrical power upgrade will have to account for the power draw required from additional equipment installed in later programmes of works.

Additionally, the national supply chain of tunnel specialist contractors is limited in comparison to other Highways infrastructure. Co-ordinating the works within this bid would require confirmation of resource from supply chain over the 5 financial years. Early contractor engagement and early outline designs for the Ramsgate Tunnel LED Lighting Retrofit, Chestfield Ventilation Replacement, Chestfield Portal Lane Control Signals, SCADA resilience and Tunnel civils works have already taken place with indicative programmes outlined; reducing this resource risk.

The overbridges have become subject to intending stresses due to the abutment movement. Currently the main deck elements do not appear to be suffering serious consequences of this movement but if not corrected it is only a matter of time until this currently local issue will impact the entire structure and replacement rather than repair may be necessary.

Ground investigations have, at this stage, only been carried out on two of the four bridges. There is a risk that the cause of the observed issue actually varies between the bridges in a way that has not been anticipated. To mitigate this risk additional ground investigations could be arranged whilst the initial design is being developed.

For the A299 Carriageway, a key risk relates to ground conditions. The scheme is located on unstable clay formations, creating the potential for unforeseen ground conditions during design or construction that could impact the scope of works, chosen construction methods, and delivery programme.

As a result of surfacing works over the last decade, we have good knowledge of underground services, and thus have mitigated this risk to reconstruction works. We will reflect that knowledge in designs.

Due to the A299 being part of an SRN diversion route, there is a risk of reduced availability of road space. Early programming and support from National Highways is likely to mitigate impacts to our programme. KCC runs a High Speed Road Maintenance Programme which encompasses the carriageway, overbridges and Chestfield Tunnel; these closures will act as an efficiency is the programme and allow for scheme work and maintenance activities to be carried out in unison. Additionally, Chestfield Tunnel has the ability to operate in a contraflow arrangement due to each tunnel bore have its own independent supply of power. With notice given to the Port of Ramsgate and local businesses, Ramsgate Tunnel is able to be closed during daytime hours (08:00-18:00) increasing the work-time availability.

To minimise impact and disruption, we intend to minimise roadspace duration requirements by sharing traffic management arrangements to include carriageway, tunnels and bridge elements of this project. We intend to use contraflow arrangements for carriageway works, and this can be scheduled to include bridge abutment works (which will require Lane 1 closures) and tunnel works (which can be carried out under contraflow traffic management).

It is assumed that one element of Local Government Reorganisation risk that can be mitigated is the location aspect, because the structures within this programme are highly likely to be within one new Unitary Authority area. Therefore, resources associated with those structures are likely to transition across to that new Authority. In any event, enough notice will be available so that a management plan for the delivery of the works can be formulated for any eventuality. However, as KCC cannot afford the proposed schemes at present, it is highly likely that a smaller unitary would be unable to afford the schemes following Local Government Reform. This presents a risk to the contributed funding amount outlined in this document, additionally, the issues raised in this bid would likely be more significant than if not corrected pre-Local Government Reform.

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.

Thanet District Council and the Port of Ramsgate work closely with the KCC Tunnel Manager and collectively they share operational requirements and risks to both the Port and Ramsgate Tunnel. Both parties have discussed the Fund and shall collaborate to maintain an effective operation across both port and tunnel, during the delivery of the Ramsgate Tunnels schemes.

Due to the carriageway scheme's proximity to the Strategic Road Network (SRN). KCC have engaged with and will require coordination with National Highways, particularly where traffic management arrangements and potential closures necessitate diversion routes onto the SRN. Any restrictions on the A299 could result in increased traffic flows on their network, requiring agreement on diversion strategies, timing of works, and mitigation measures. KCC has an established and positive working relationship with National Highways, built through previous joint working and coordination on similar schemes, which will support effective engagement and timely approvals.

Utilities searches have been completed for the overbridges and only two, Golden Hill and Thornden wood have stats crossing the structure. These are local telecoms cable which do not present significant complexity to arrange diversions or protections in the timescales proposed.

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	£3.15m	£15.75m	£22.05m	£18.90m	£63m
LA contribution	£3m	£3m	£3m	£3m	£12m
Other contribution	£-	£-	£-	£-	£-
Total costs	£6.15m	£18.75m	£25.05	£21.90	£75m

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.

Kent County Council (KCC) previously secured £4 million of Department for Transport Challenge Fund resource in 2020, supplemented by £420,000 of KCC match funding, to address deterioration on sections of the A299 Thanet Way.

This earlier funding enabled targeted intervention; however, due to the complexity of the underlying issues, hyper-inflation after COVID and the Ukrainian War, works were necessarily limited in scope. The available funding was sufficient to reconstruct only a short section of the most severely affected carriageway, addressing immediate risks but not the wider corridor-level problem. However, this intervention (at a depth of 640mm using two layers of InterAx) has since shown signs of undulation.

As a result, further intervention is now required to deliver a comprehensive, long-term solution.

Since 2012, we have commissioned a number of site investigations and technical advice on causation and possible solutions, in summary:

- Between 1996-2010 - Progressive Movement Develops as the clay embankments progressively dry and settle. Shrink-swell cycles develop and Differential movement accumulates slowly across the route. significant resurfacing undertaken due to widespread carriageway undulations and deformation. A 2013 Safety Review found worsening undulations; cracking; flooding; settlement; embankment distress. The review linked increasing carriageway deterioration with wet-weather and loss-of-control collisions.

- 2014 Phase I Investigation, investigated 15 principal defect sites. The review concluded that the dominant cause was differential movement; highly shrinkable London Clay; settlement associated with embankments and drainage interfaces. Following this investigation, in December 2014 - Clapham Hill Landslip occurred where an approximately 50m wide embankment failure was discovered.
- 2015 Phase II Ground Investigation with boreholes and laboratory testing confirming pavement generally sound; no widespread pavement failure; highly plastic London Clay; shrink-swell behaviour as the principal mechanism. The report concluded the problem was largely irreversible.
- 2015-2020 InSAR Monitoring analysed: 260 monitoring stations; over 65,000 measurements; five years of satellite data. It demonstrated ongoing settlement; local heave; seasonal movement cycles; correlation with rainfall and dry periods.
- 2017 - Major Strengthening Scheme spent Approximately £5.8m to Reconstruct the carriageway at recurring hotspots. Speed restrictions removed and 70mph restored.
- 2019 - Brexit Resilience Works additional strengthening works undertaken but recurrent movement still observed.
- 2021 Ground Investigation route-wide GI included: 40 locations; 75 boreholes; 437 vane shear tests; extensive laboratory testing. It identified: desiccated clay; fissured clay; root penetration; drying clay embankments; moisture-related deformation.
- 2022 Geotechnical Review The most comprehensive interpretation of all the evidence. Key conclusions: embankments are undergoing long-term settlement; cuttings are experiencing shrink-swell cycles; climate change is increasing deterioration; original pavement foundation may have been thinner than ideal for the ground conditions; moisture control is essential for long-term resilience.

Recent advice has concerned options to permanently resolve undulations. We have considered a range of interventions alongside our experience of those described at 1.2(f), and have concluded that full reconstruction of certain sections, including the removing of clay soil substrate, up to a depth of 1640mm is appropriate to permanently resolve undulations on this road. Additional analysis of the requirement for moisture barriers; geogrid reinforcement; deeper capping layers; lime stabilisation and ground improvement is required.

This scheme builds on the earlier works by addressing the root cause across a wider section, rather than continuing with isolated repairs that do not provide lasting resilience or value for money.

Following the failure of the Chestfield Tunnel ventilation fans, which caused the short-term closure of the tunnel, followed by the lengthy contraflow operation. £1 million of KCC emergency reserves funding was secured. This sum does not cover the whole costs associated with the system design and construction. The design work for this complex tunnel system is circa £250,000 with construction estimated between £2.3m - £5.7m dependent on the final design. This is one example of the funding shortfalls of the allocated capital budget for tunnels safety system renewals.

For the A299 overbridges, KCC have commissioned technical notes, options studies and ground investigations to understand the problem whilst also maintaining a programme of monitoring on the abutments. The estimate costs associated with the main works to each structure are Golden

Hill £0.94m, Bullockstone £1.34m, Thornden Wood £1.15m and Convicts Wood £0.9m. Highways and Structures budget pressures have prevented the main works from being commissioned.

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.

KCC has incurred over £17 million in reactive maintenance costs for the A299 carriageway defects over the past decade (approximately £1.7 million per annum). A further £2.7 million has been spent on reactive maintenance costs this Financial Year to reconstruct the most unsafe sections on the A299, leading to no long-term improvement in asset condition. This demonstrates that the current approach is not cost-effective. This investment would replace a cycle of repeated revenue expenditure with a single capital investment, delivering significantly lower whole-life costs and improved value for money over the asset lifecycle.

The majority of the systems within Chestfield and Ramsgate tunnels are end of life and obsolete. Given recent failures and the known unavailability of spares, reactive maintenance costs will increase with options for the safe operation of these assets becoming limited. Tunnels have Minimum Operating Requirements which outline how each tunnel system supports safe public passage, life safety systems can provide supporting short-term mitigations for deficiencies, but these are limited.

The overbridges will require long term high frequency inspection until the present issues are resolved. Deterioration would lead to long term traffic management costs. Once scheme is implemented, ongoing costs will be reduced to standard bridge inspections and maintenance.

Overall, KCC have defined rates for standard maintenance activities applicable for the assets within this bid. Resetting the asset lifecycle will reduce the whole life costs due to the ability to utilise these rates and reduce quoted items and resources at high costs.

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.*

KCC commissioned the Consultant WSP to report on the investment required for both Chestfield and Ramsgate Tunnels. The reports recommend system upgrades and replacements to enable the tunnel to meet new statutory and designs standard requirements, and additional systems to mitigate operational risks, including costs estimates and a draft schedule for completion of any proposed works.

Cost estimates for the investigation and construction of the A299 solution is currently based upon the 2026 reactive reconstruction cost of approx. £900 per sqm plus an estimate for the design and surveying required to establish the permanent solution.

The price for the overbridges works was developed by a consultant on behalf of KCC based on experience of similar schemes and published pricing information such as Spons. This estimate was developed in 2018. In 2021 a firm tender price from a contractor was obtained for undertaking the works to a single bridge. This tender price, and the CPI change from 2021 to 2026, has been used to adjust the original estimate. A new draft option study, June 2026, has been received with a revised estimate for Golden Hill Bridge. Whilst this price is broadly comparable to the previous quote it has not been used to update the overall estimate as, at the time of writing, it had not been fully reviewed.

Through our Highways Term Maintenance Contractor, KCC have a defined schedule of rates for standard maintenance activities applicable for the assets within this bid. This includes traffic management, minor civils work, major civils work, carriageway resurfacing and surveying. These scheduled rates allow for bills of qualities to be produced and for costs estimates to be produced for a portion of the forward works within this bid.

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 considered across the works required for the A299 carriageway, overbridges and tunnels are associated to the spatial spread of the required works across multiple sites. As the specialist teams are all within the KCC Highways Service and have experience in delivering multi-discipline projects, we have considered that the different assets progressing at different speeds could create programme misalignment and a risk of rework or reprogramming. In the short-term, any delays to the individual asset types may affect traffic management strategies. Whilst in the long-term, multi-year programmes are likely to be exposed to inflation and increases in material costs. In addition, the A299 carriageway requires investigations and agreement on its permanent solution, adding the financial risk of site-specific unknowns.

Should the experienced specialist teams within KCC, combined with the input from designers and contractors, find that the costs and/or programme face delay they will adopt a risk based approach. The teams will refine their programmes to address the high risk areas, continually considering cost and risk delivery. The carriageway and bridges team will coordinate their programmes for alignment. The tunnels programme shall focus on tunnel “back-bone” services such as electrical power distributions and communications network upgrades.

The options study for the Overbridge designs is based on ground investigations to only two of the four bridges at this stage. The key risk is that the ground conditions in the remaining two bridges are not typical and the proposed design solution would have to be updated. This risk will be mitigated by procuring the outstanding ground investigations during the detailed design phase of the first bridge to ensure the results are ready to update the design, if necessary, following the completion of works to the first bridge.

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)

Describe the various sources of funding and their availability.

The Kent Lane Rental Fund can be applied for by projects with specific outcomes that can achieve network innovation, efficiency and multiple-stakeholder benefits. The fund derives highways charges made to companies working on specific roads. Due to the bidding process and fund board interview and assessment required to access this fund, it has not been considered in the current Financial Case. Individual applications of over £50,000 are permitted.

KCC will contribute the allocated DfT maintenance block funding for tunnels (~£2m) to support the projects and shall use the remaining challenge fund money, that was granted for the four overbridges design, to support the delivery of the works necessary. KCC are in conversations and writing to the affected District and City Councils to request they contribute via their on-street parking surplus and Levelling Up Funding alongside any other sources they may have to support the schemes, given the criticality to their areas.

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?

Tunnels: FY 2026/2027 Carriageway and Overbridges: FY 2027/28

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

Carriageway, Overbridges, and Tunnels: FY 2029/2030

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.

For the Tunnels and A299 overbridges, delivery shall be via our PSFC to carry out a detailed design. This design shall be passed to our HTMC for Early Contractor Engagement and delivery. Following the ground investigations for the A299 carriageway, the dedicated team shall assess the data and, depending on estimated costs, carry out a full procurement for the works or use the PSFC and HTMC to design and deliver the required works. At this time we assume full procurement is required and this is reflected in our cost estimates. With regards to project management KCC Programme Delivery Team, designers and contractors for each asset type (carriageway, bridges and tunnels) will hold monthly Steering Group meetings to discuss the technical details for design, governance, construction and handover. During these meetings a project report and tracker will be updated to identify and escalate any areas of concern, where decisions are required and/or impact on the other asset types within this bid. Feedback from Steering Groups will be shared at monthly Programme Board meetings. The Programme Manager of each asset area of this bid will communicate the details of their projects and collaborate with the other Programme Managers within this bid to find efficiencies, such as with road closure dates, and review financial progress. The Programme Board will also be made up of the Leadership Teams. Where the board is unable to resolve an issue, it is escalated to the Sponsoring Group. The Sponsoring Group is held bi-monthly, and chaired by the KCC Head of Transportation, with the Corporate Director and Directors of Highways & Transportation and Growth and Environment. Technical advisors are invited where necessary to close out any issues escalated to this point. The Sponsoring Group is the final decision point for any escalated issues. As the project transitions into construction, the Programme Manager will support and engage with the contractor and sub-contractors to ensure alignment in delivery, through an evolved Steering Group Meeting. This will ensure that on-site supervisors are fully briefed in the aim of reducing contractual and financial variations/issues and early warnings/compensation events.

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 key delivery risk on the A299 carriageway and its overbridges are the unknown ground conditions and the potential foundation complexities. Early stage estimates are based on assumptions that the carriageway will require an in-depth survey and full reconstruction. Within the tunnel assets, the systems integration and programme planning is complex, to ensure that renewals are compatible with legacy systems for supervision and control. For all projects there is a financial risk for the maintenance of traffic flow during the construction phases. KCC intend to manage these risks with a contractor engagement strategy to ensure the individual project groups are communicative and collaborative, procuring intelligently so that financial risks are minimised and joint working and outputs are beneficial across the projects. Tunnel cost estimates are readily available through the WSP reports and can be used to query and benchmark future quotations for works to ensure value for money on complex and unique projects. The overbridge scheme will commence with the most critical structure, Golden Hill, so lessons learnt can be applied to later schemes. This would allow works scope in later schemes to be adjusted following cost overruns in earlier works.

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.

The scheme contracts will be managed through Contract Management tools and software as required by the delivery method. Contracts (previously CEMAR) a contractual management system used for all commissions under the PSFC and Confirm is the contractual instruction and project tool used for works carried out by the HTMC. Schemes to be delivered via KCC's HTMC, have full project control under CDM 2015 and internal processes. These include appointing a Responsible Officer (Programme Manager) to be accountable for project controls which shall ensure design options are evaluated for effectiveness and that associated costs are proportionate to the project; considering allowance for risk and associated needs such as traffic management. A team shall prepare a Scheme Task Order with pre-construction information to the Principal Designer. Sharing all health and safety, risk and design information with the HTMC for delivery. The Technical Approval process will be followed. Regular project meetings and project trackers will be used by KCC to monitor project risks, issues and to ensure that the programme is updated and achievable. the Project Gateway Process will be used to provide assurance that the projects can progress successfully to the next stage. If the project is in difficulty, an improvement/recovery plan, defining the what, the who and the when, to identity the steps, owners and timescale to overcome the identified issues in order to try to recover the programme.

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.

No permissions are required for the majority of works. The structures all fall within KCC’s control as highways authority. They have no direct interface with other transport operators such as Network Rail or National Highways. The works, demonstrable from those sections of A299 highway reconstruction to date, and the nature of works to bridges and tunnels can all be undertaken within the highway boundary using

planned closures, lane closures, and diversionary routes where necessary. This means almost all the proposed works do not have risks associated with any consents or approvals process, helping to provide assurance of the stated delivery timescales. This also means that KCC has flexibility in the delivery programme for the work and could start very soon, for example with the repairs to the first bridges, to expedite early delivery of the outcomes for which the Structures Fund has been designed.

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.

Climate-related risks will be assessed using available climate projections and local asset evidence, with particular focus on the behaviour of shrink–swell clays along the A299 corridor. These soils are highly susceptible to moisture variation, and future conditions of hotter, drier summers and wetter winters are expected to increase the frequency and magnitude of seasonal movement, leading to a greater risk of pavement deformation and reduced asset life. The design will incorporate this risk through enhanced pavement construction and subgrade treatment to better accommodate movement and reduce moisture sensitivity, alongside improved drainage to manage increased rainfall intensity and maintain stable ground conditions. As designs progress the consideration of climate adaptation will continue to be central to development. Upon reaching final design, if design models assumed a worse climate, then anticipated, designers shall claim relevant adaption. The projects will incorporate climate adaptation and resilience throughout the development and assessment of options.

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 though reducing vehicle miles).

All asset-related decisions will require robust business cases which align with KCC carbon reduction principles and consider not only the initial investment but also ongoing and future costs. Proposals that increase the asset footprint or hinder carbon reduction must include carbon offsetting costs to prevent negative impacts. The Highways service project budget will accommodate these offsetting costs. Furthermore, any changes must be thoroughly understood, taking into account their impact on the carbon footprint and the budgets needed to meet the asset's future requirements. KCC have planned to integrate a carbon functionality tool into our contractor's platform, in addition our Technical Approval Process for new and renewed highway assets encourages designers to consider lifecycle costs, embedded carbon and maintainability early in the design process. For all schemes it is the priority and intention to carry out works to maintain rather than replace, which is inherently a lower carbon option.

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.

During previous reactive carriageway works, including geotechnical investigations, trial holes, carriageway reconstruction and resurfacing schemes, engagement was undertaken with the relevant statutory undertakers to obtain C2 and C3 utility searches and utility record plans covering the area repaired. A review of the available utility records indicates that there are no significant statutory undertaker constraints within the principal reconstruction areas. For the overbridges, bridge telecommunications cables have been

identified at the crossing and, whilst service diversions have not yet been agreed, there is no reason to believe that any diversions could not be arranged within the planned programme. For all asset types, the majority of the proposed works footprint is clear of known utility apparatus and, therefore, no major utility related impacts on the construction programme are anticipated. In a limited number of locations, existing utility assets have been identified in close proximity to, or adjacent to, the proposed works. These comprise of low voltage electricity cables, low to medium pressure gas mains, and Level 3 telecommunications infrastructure. Any interfaces with these services can be effectively managed through the application of established safe working practices, appropriate permit to work controls, and ongoing liaison with the relevant utility owners. Consequently, the risk of programme delays associated with statutory undertaker assets is considered to be low. No extra high voltage electricity infrastructure, high/immediate pressure gas mains, or Level 3 Communications have been identified within the designated carriageway reconstruction areas. As a result, no significant utility diversions or lengthy third-party approval processes are currently anticipated. Several non-intrusive surveys will be undertaken prior to construction. These will include a PAS 128 Type B utility survey to verify the location and depth of buried services and to confirm the accuracy of existing utility records. The findings from this survey will be used to refine the construction methodology and ensure that any residual utility related risks are appropriately identified and managed. Based on the information obtained to date, there is no evidence to suggest that deterioration of the existing carriageway has adversely affected any utility services within the reconstruction areas. Continued coordination with statutory undertakers, together with verification of buried services through PAS 128 surveys, will ensure that utility assets are protected throughout the works and that any potential impacts on the construction programme are proactively managed.

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)

KCC uses EqIAs to capture and evidence its equalities analysis of the impact of its actions on KCC service users, residents and staff with protected characteristics. KCC complete EqIAs for all schemes to understand the ways in which design, construction, operation and other activities can be designed to the greatest benefit of protected characteristic groups in Kent. The KCC protected characteristics are as follows: Age, Disability, Sex, Gender reassignment, Race, Religion / Belief, Sexual orientation, Pregnancy / Maternity, Marriage / Civil Partnership and people who have Carer responsibilities.

As this bid shall enable journeys to continue being made in the current volume and at the current speed limits, the assessment has concluded that a net positive impact on all protected characteristic groups would occur due to the project compared to the counterfactual of widespread road closures, restrictions and diversions, because of the substantial journey time savings that would accrue affecting all road users which will include all protected characteristics.

During construction/delivery of the project some minor negative adverse impacts are a risk, such as the delay impact arising from diversions, however KCC has existing mitigations in place through the communication and advertisement of planned closures, and their sequencing, to reduce the impacts to road users (including all protected characteristics within that) as far as practicable. Ongoing stakeholder engagement will ensure equality impacts are continuously reviewed and addressed.

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.kent.gov.uk/roads-and-travel/road-projects

3.3 Declarations

Senior Responsible Owner declaration

As Senior Responsible Owner for [A299 – Dargate to Ramsgate. Dargate to St Nicholas-at-Wade A299 carriageway, four overbridges (KCC Nos. 9010, 9011, 9012, 9013), Chestfield Tunnel and Ramsgate Harbour Approach Tunnel], I hereby submit this request for approval to DfT on behalf of [Kent County Council] and confirm that I have the necessary authority to do so.

I confirm that [Kent County 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: [redacted]
b) Signed: [redacted]
c) Date: 30/07/2026
d) Email: [redacted]

Section 151 Officer declaration

As Section 151 Officer for [Kent County Council], I declare that the scheme cost estimates quoted in this proposal are accurate to the best of my knowledge and that [Kent County 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: [redacted]
f) Signed: [redacted]
g) Date: 31/07/2026
h) Email: [redacted]