

Lower Thames Crossing Response to Consultation 2017



Foreword



I am delighted that we are moving forward with the Lower Thames Crossing following the Government's decision on the preferred route.

For more than half a century the Dartford Crossing has been the only road crossing of the River Thames east of London. It is operating beyond the limits of its capacity, leading to congestion and unreliable journey times in Dartford and Thurrock, and restricting economic growth in this area and the country.

The preferred route is a bored tunnel under the Thames east of Gravesend and Tilbury, with a new road north of the river, connecting to the M25 between junctions 29 and 30, and a new road south of the river joining the A2 near Gravesend. This new 70mph, 13-mile route and crossing will be built to the highest safety standards. The crossing is not an isolated solution, it is part of the biggest investment in roads in a generation.

The decision is underpinned by years of studies, assessments and consultations. I would like to thank the tens of thousands of residents, businesses, environmental bodies, local authorities and many others who took the time to respond. Your contribution helped shape the decision on the preferred route, which has been developed further from the proposed scheme on which we consulted.

This location offers the improved journeys, new connections, network reliability and economic benefits that only a new, alternative crossing, away from Dartford, can provide. This benefits the local area, the region and the country as a whole.

We recognise that major new infrastructure project on this scale raises concerns within the community, particularly regarding the impact it will have on homes, communities and the environment.

We looked carefully at the consultation feedback and carried out further assessment of the options, resulting in a recommendation for the western rather than eastern southern link. Overall, the preferred route provides the best balance between improving journeys and providing value for money, combined with the smallest community and environmental impacts.

Highways England and Government listened to the concerns raised about the Dartford Crossing and are committed to delivering a package of measures to improve traffic flows at the crossing and approach roads over the coming months and years. These measures alone would not provide the benefits realised by a new crossing at a different location.

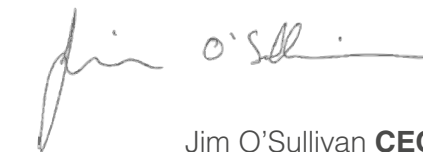
We will now progress the design and assessment of the preferred route in more detail. This will include more detailed environmental, air quality and noise assessments, further traffic modelling and more detailed design and assessment. We will be contacting land and property owners close to the route to help them understand potential impacts, their options and their rights.

There will be further opportunities to comment on the proposals we put forward and further public consultation. This is an integral element of the statutory planning and consents process.

We will work with the Thames Estuary Growth Commission, the South East Local Enterprise Partnership, councils, the ports and other employers and local communities as they develop their plans for this area.

Highways England has a long history of managing the impacts of building in sensitive areas. We will apply this expertise and experience to the Lower Thames Crossing project.

Wherever possible we will maximise opportunities for road users, our stakeholders and communities to be part of shaping and delivering this vitally important and ambitious project. The Lower Thames Crossing is a flagship project for the region and the country. It marks new opportunities, inspiration and direction for future generations.



Jim O'Sullivan **CEO**

This booklet

This booklet presents the preferred route for the Lower Thames Crossing, together with a summary of our 2016 public consultation, the responses we received, and how the consultation influenced the decision.

Whilst all consultation responses were carefully analysed and considered, this booklet does not attempt to set out every consultation response nor address every issue raised. Instead, it concentrates on the themes that arose from the consultation and explains how they have been taken into account in the preferred route decision and how they will inform the next stages of design and development.

Further and more detailed information is available. This includes Ipsos MORI's consultation report, our analysis of and detailed response to consultation feedback, and our post-consultation technical assessment of route options. A list of documents is provided at the end of this booklet.

The booklet has been structured into the following sections:

[The Preferred Route](#)

[The need for a new crossing](#)

[Public consultation](#)

[What you said about our proposals, and our response](#)

[Proposed location of the crossing](#)

[Route north of the river](#)

[Route south of the river](#)

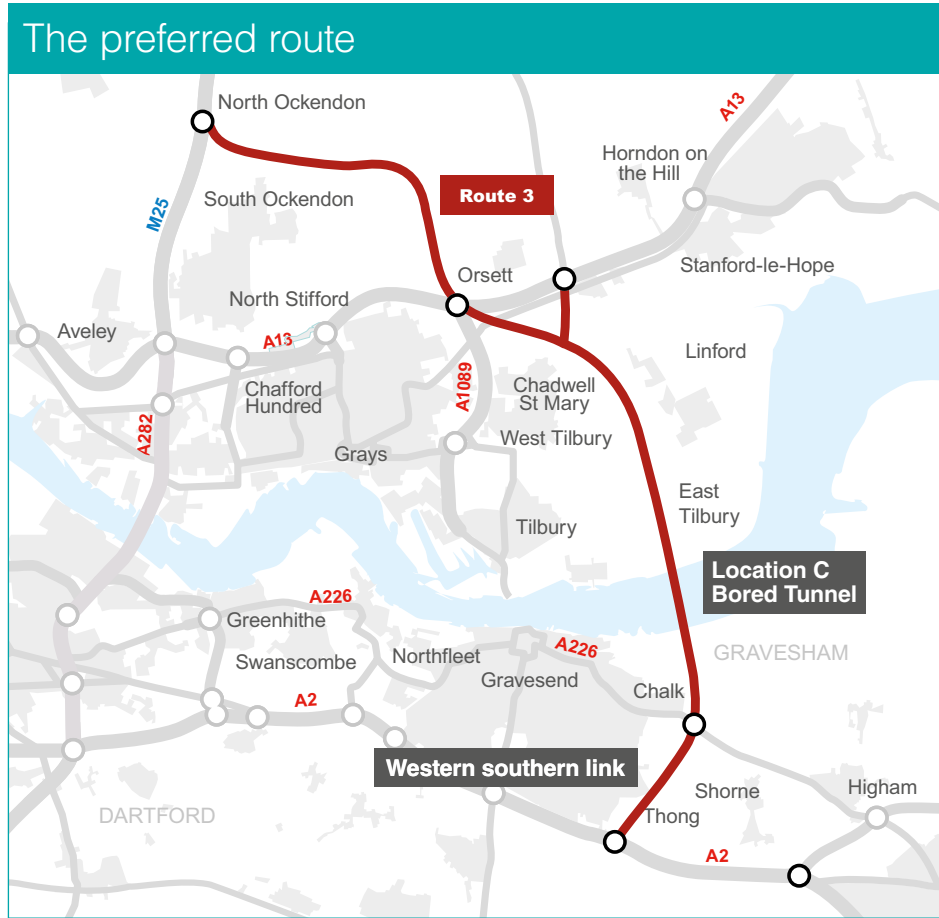
[Changing our route recommendation](#)

[Themes](#)

[What happens next](#)

[Further information](#)

The preferred route



The preferred route was announced by the Secretary of State for Transport. The decision follows careful consideration of more than 47,000 responses to our 2016 Route Consultation and further assessment of options.

Location C: A new crossing east of Gravesend and Tilbury offers the improved journeys, network reliability and economic benefits that only a new, alternative river crossing, away from Dartford, can provide.

We have carefully considered feedback and selected a route and crossing that, overall, provides the best balance between improving journeys, minimising impacts on local communities and the environment, combined with transport and economic benefits and value for money.

A **bored tunnel** will minimise impacts on local communities with the least visual and noise impacts and will have the least impact on environmentally sensitive areas as it avoids specially designated areas along the riverside.

Route 3: A new road north of the river would run from a new junction on the M25 between junctions 29 and 30 and connect to the tunnel via the A13. This offers the transport and economic benefits of the shortest, most direct route, whilst minimising community and environment impacts overall.

The Western Southern Link: A new road south of the river would run from the tunnel to the A2 east of Gravesend. This route will provide the lowest impact on residential areas and communities, with the least environmental impacts on protected natural areas, countryside and landscape, combined with the transport and economic benefits of a 70mph route with a re-modelled A2 junction.

Benefits

Transport

- Provides a safer, faster, more reliable road offering easier travel between Kent and Essex and beyond. This offers new connections and shorter journey times to local destinations, as well as regional and national destinations.
- Creates a second crossing of the Thames east of London, providing a modern, resilient, alternative crossing and in doing so, relieving pressure and congestion on the existing Dartford crossing and approach roads.
- Improves transport connections at a critical part of the road network by providing more than 70% additional capacity.
- Allows the road network to perform better overall, increasing traffic flow across the river and benefiting the main arterial routes in the area including the A13, A127 and A2.

Economy

- Opens opportunities for investment and regeneration, supporting local businesses, national companies and international trade through the Channel and Thames Estuary ports.
- Creates jobs, apprenticeships and training opportunities for people both during construction and long-term.
- Adds more than £8 billion to the UK economy and creates more than 6,000 new long-term jobs.

Communities and environment

- Provides a new connection between Kent and Essex, connecting communities and improving access to jobs, housing, leisure and retail facilities either side of the river.
- Improves air quality around the existing Dartford Crossing by helping to reduce traffic levels and alleviating congestion.
- Provides opportunities for environmental enhancement along the route, which could include features such as green bridges and improved wildlife habitats.

Key features

This new 70mph, 13-mile route and crossing will be built to the highest safety standards incorporating the latest in engineering and information technology.

As a modern new road, it will offer a safer driver experience, including a tunnel that is designed to accommodate heavy and dangerous goods vehicles. Our current assessment is based on two lanes of traffic in each direction, however the tunnel we are proposing would be large enough for three lanes in each direction to allow for expansion in the future.

The scheme is expected to cost between £4.4 and £6.2 billion, although the cost will not be certain until further design work is complete.

What happens next

We are still at an early stage. We will further develop the design and assessment of the preferred route, informed by consultation feedback. The next stage includes environmental surveys, more detailed air quality, noise, visual and land impact assessments, further traffic modelling, assessment of a three-lane rather than two-lane route, and design work around, for example, the number of junctions.

There will be further opportunities to comment on the proposals, through further public consultation which will be undertaken as part of the statutory planning and consents process.

We are contacting land and property owners to help them understand potential impacts, their options and their rights.

As we develop the design of the scheme we will be taking into account plans and proposals for the South East. The Growth Commission, the South East Local Enterprise Partnership, Kent and Essex County Councils and others have set out ambitious plans for the area and have made it clear that a new crossing is essential to help make these plans a reality. We will continue to work with these and other organisations and local communities to deliver a scheme that best meets the needs of road users, communities, the environment and business.



The need for a new crossing

For more than half a century the Dartford Crossing has been the only road crossing of the River Thames east of London.

The crossing is one of the UK's busiest roads, with more than 50 million vehicle crossings a year. It provides the link between the Channel ports, London and the rest of the UK. It enables the movement of goods and services locally, regionally and nationally and provides local residents with access to housing, jobs, leisure and retail facilities north and south of the river.

The crossing has been operating beyond the limits of its capacity for many years, making it one of the busiest and most unreliable stretches of the whole UK major road network. There are very high levels of congestion, frequent closures and highly variable journey times. Incidents occur almost daily (over 300 a year), which result in closure of at least part of the Dartford Crossing. The nearest alternatives are the Blackwall Tunnel (a 27-mile detour) or, for larger vehicles, via the M25 (up to a 100-mile detour).

Congestion at the crossing quickly spreads, causing gridlock across the wider Dartford and Thurrock area which can often take 3 to 5 hours to recover. There is a major incident once a week on average, where it can take all day for the congestion to clear. Air quality and noise levels near the crossing and the A282 are poor.

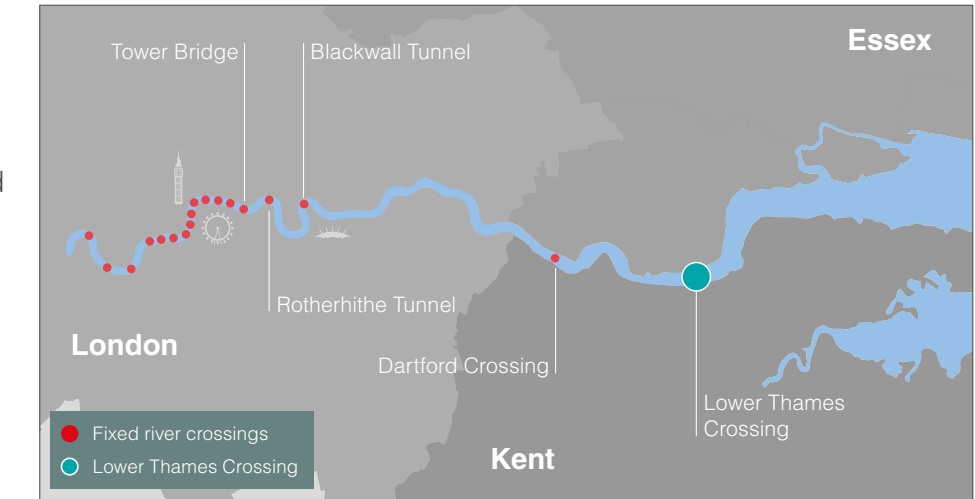
Congestion and delays are major barriers to growth and expansion locally, regionally and nationally. North Kent and south Essex under-perform economically when compared other areas close to London. Businesses across the region and the country tell us they need more reliable journey times across the Thames to allow their businesses to operate efficiently and to support growth.

Predictions for increases in traffic volumes mean the current problems will only get worse. One crossing east of London is not a sustainable situation for the long-term. The need for a new crossing has long been recognised in order to reduce congestion, unlock growth and support businesses and the region as a whole and to attract new investment.

Not an isolated solution

We are committed to continuing improvements at Dartford and the surrounding area. The introduction of Dart Charge from 2014 has improved journey times even with increased usage of the crossing; recent major improvement work at Junction 30 of the M25 has improved traffic flow. We have also recently consulted on the A2 Bean/Ebbsfleet junction improvements.

Work is underway to further improve the operation of the existing Dartford Crossing and improve traffic flows, in particular with heavy goods and oversized vehicles. We are working with local highway authorities to identify further measures for medium and long-term improvements in addition to work on a new Lower Thames Crossing.

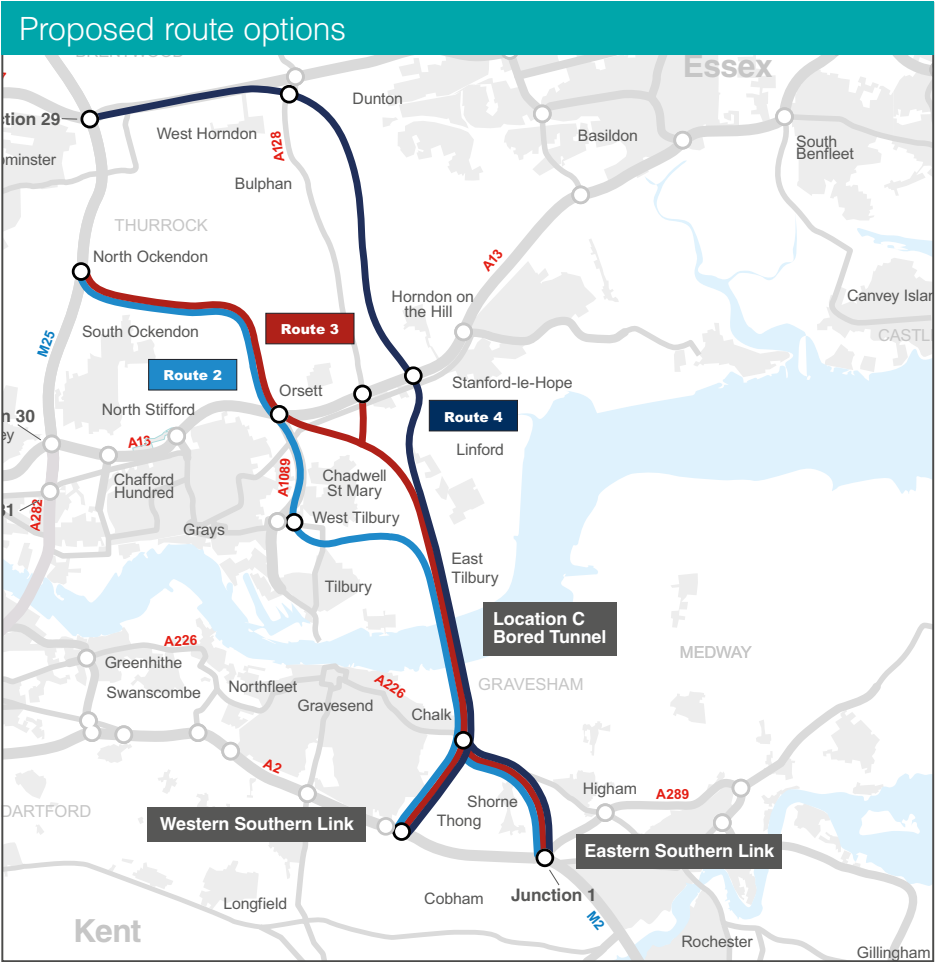
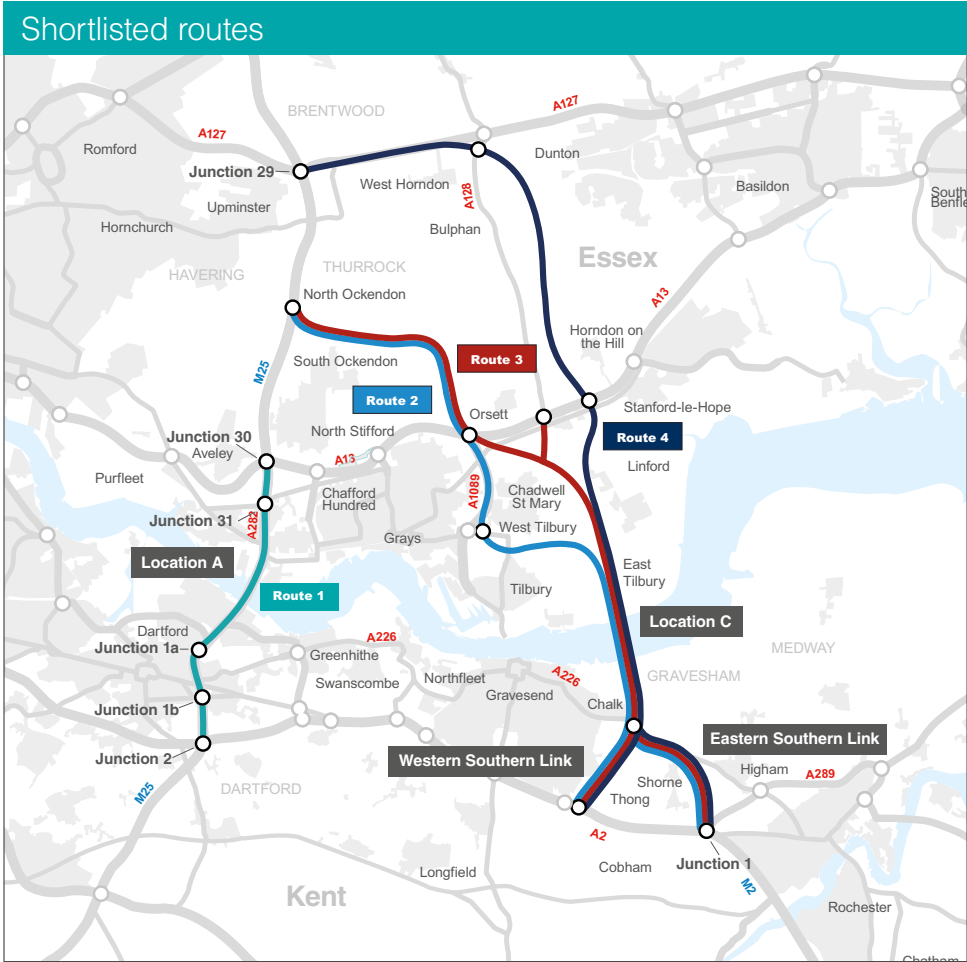


Developing the options

Following a series of studies and a public consultation in 2013, the Government commissioned Highways England to consider options for additional capacity at two location options: at or near the existing Dartford Crossing, known as Location A; or a new crossing location further east, known as Location C. We were also asked to assess improvements to the A229 between the M2 and M20, known as C Variant.

For both locations we developed engineering solutions and assessed them in terms of their economic, traffic, environmental and community impacts. The assessment also took into account the significant growth and development plans for the region. We assessed a wide range of options at both locations before narrowing down to a shortlist of options at Locations A and C.

This work culminated in a public consultation on route options. As set out in our consultation materials, our assessment showed that Location A did not meet the scheme objectives and was not proposed as a viable route. Our assessment showed that C Variant was not essential as part of a new crossing scheme but that it would be considered as part of Highways England’s wider route strategies.



Scheme objectives:

Economic

- Support sustainable local development and regional economic growth in the medium to long term.
- Be affordable to Government and users.
- Achieve value for money.

Transport

- Relieve the congested Dartford Crossing and approach roads and improve performance by providing free-flowing north-south capacity.
- Improve resilience of the Thames crossings and the major road network.
- Improve safety.

Community and environment

- Minimise adverse impacts on health and the environment.

Public consultation

Our route consultation was held between 26 January and 24 March 2016. The purpose of this non-statutory consultation was to obtain feedback on our proposals and identify any new and relevant information that should be taken into account in the decision-making process, before making a preferred route recommendation to the Department for Transport.

The consultation

We sought views and comments on:

- The proposed location of the crossing
- Route options north of the river
- Route options south of the river
- Our proposed scheme – the combination of location, crossing type and routes
- The need for additional junctions.

How we undertook consultation

We wanted to inform as many people as possible about the proposed scheme and give them the opportunity to provide their views. As part of this approach, and to encourage high levels of participation, it was important to ensure that information about the consultation was easy to find and readily available. To support this we:

- Placed adverts in local, regional and national newspapers, on posters across the lower Thames area and online
- Sent letters and leaflets to more than 250,000 households and businesses around Locations A and C
- Sent 380 personalised letters to landowners and/or occupiers of properties closest to routes
- Held 24 public information events across the area to provide opportunities for people to talk to the project team about the proposals. 12,875 people attended
- Attended more than 20 public forums
- Sent emails to more than 900,000 Dart Charge account holders and 11,500 web subscribers
- Created a dedicated Lower Thames Crossing website (www.lower-thames-crossing.co.uk) to ensure all information relating to the consultation was easily accessible.

Consultation materials

We published a range of materials including:

- A consultation booklet setting out the proposals
- A range of maps and exhibition materials
- Themed factsheets covering biodiversity, water, air quality, noise and vibration, land and property, construction and traffic modelling
- A summary business case
- A consultation questionnaire
- The Pre-Consultation Scheme Assessment Report that provided details of the appraisal of all routes including engineering, safety, operational, traffic, economic, social and environmental appraisals.

Documents were available online and in hard copy at various locations including libraries, at our events and on request.



Capturing and analysing responses

Respondents could provide their views through a number of channels:

- Online questionnaire
- Paper questionnaire
- Letters and emails.

We appointed Ipsos MORI, an independent analysis company, to capture and analyse responses to the consultation and to prepare an independent report of their findings.

A freepost address for postal responses and a dedicated consultation email address were created, which went directly to Ipsos MORI.

Correspondence sent to Highways England or third parties (Department for Transport, other government departments and Members of Parliament) was also forwarded to Ipsos MORI.

All responses underwent a rigorous process of checking, logging and confirmation, and were securely filed at Ipsos MORI.

The consultation questionnaire set out a series of questions in two different formats:

- Closed questions inviting respondents to express preferences or the extent to which they agreed or disagreed with proposals
- Open questions that invited respondents to give their views and comments in their own words.

Responses were analysed, coded and matched against a series of themes. Each code represented an issue or viewpoint raised by respondents. Organisation responses to open questions, and unstructured responses via email and post, were analysed qualitatively rather than being coded.

A detailed report on the consultation process, response and analysis is available in the Lower Thames Crossing Consultation Analysis of Findings report.

We worked alongside Ipsos MORI and conducted further analysis and reviews of the responses, to identify the themes. We then conducted further assessment of the route options, taking account of consultation responses.

This work informed the preferred route recommendation that we made to the Department for Transport. This work will also inform the design and assessment work for the next phase of the project.

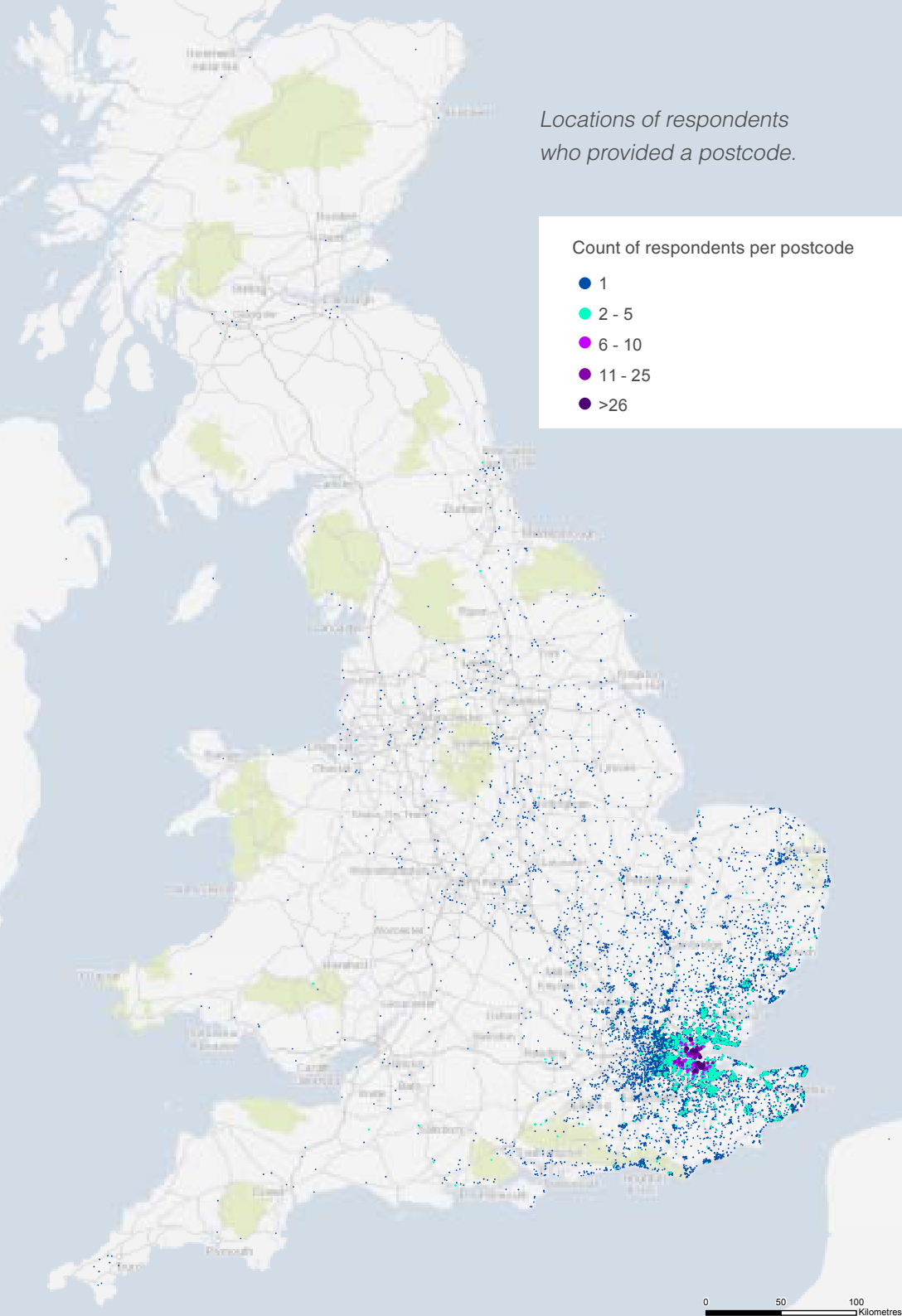
Details of our work and the findings are available in our Post-Consultation Scheme Assessment Report.

Consultation responses

We received 47,034 responses to consultation, the largest ever for a UK road project. Responses were received from across the UK, with the largest proportion from south Essex, north Kent and the adjoining London boroughs. More than 33,000 people provided responses using the questionnaire.

The vast majority of responses were received from individual members of the public. 523 responses were received on behalf of organisations and groups. These included statutory agencies, elected representatives, action groups, environmental groups, transport groups, community groups, local government organisations (including county, district, parish and town councils), and businesses.

13,284 responses were received from 14 separate campaigns. We also received three petitions.





What you said about our proposals, and our response

This section provides a summary of your views and feedback received during consultation, and our response to them. We have grouped this information into sections according to the key questions asked. Respondents could express preferences for a particular route option or the extent to which they agreed or disagreed via tick boxes, and were also given open questions inviting them to set out their views and comments in their own words.

Our questionnaire set out a number of questions seeking views on:

- The proposed location of the crossing – setting out our proposal to locate the new crossing at Location C, east of Gravesend and Tilbury
- Route options north of the River Thames – three were presented with one identified as forming part of the proposed scheme
- Route options south of the River Thames – two were presented with one identified as forming part of the proposed scheme
- ‘The proposed scheme’ – Highway England’s preferred combination of crossing location, the type of river crossing and route
- The need for and location(s) of additional junctions.

Questionnaire responses are presented in numbers and charts. These charts show responses by type of respondent (public or group/organisation) and by geographic location (for those who provided a postcode with their response).

A number of common themes and reasons emerged as to why respondents agreed or disagreed with proposals about location and routes, which were reflected in questionnaire responses, letters, emails, campaigns and petitions. These have been grouped together where appropriate and explored further in the ‘Themes’ section of this document. Feedback is not necessarily presented in the order of questions asked. Comments on junctions, for example, are covered throughout different sections of this booklet.

Themes are presented as high level summaries in this booklet and more detailed information, analysis and assessment is available in the Ipsos MORI consultation report and the Post-Consultation Scheme Assessment Report.

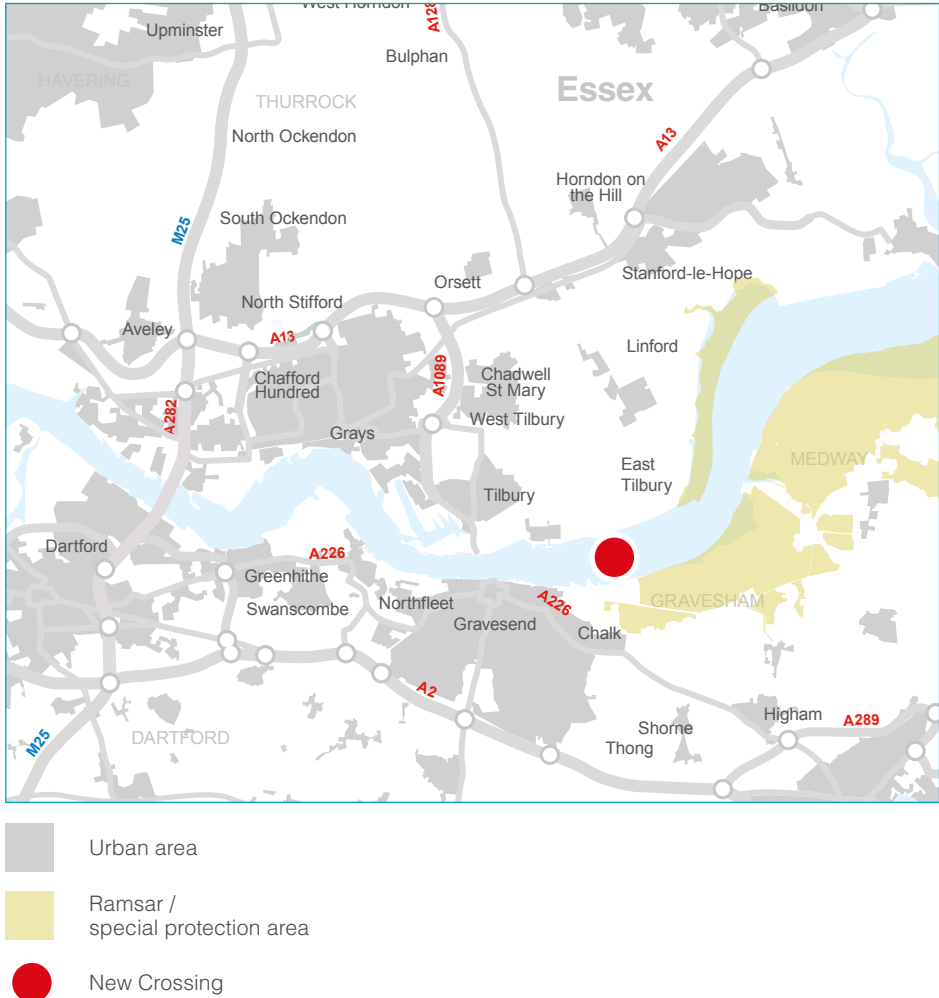
Proposed location of the crossing

We asked

We proposed a crossing at Location C, east of Gravesend and Tilbury. We asked, “On balance do you agree or disagree with our proposal for the location of a crossing at Location C?” We also invited people to provide reasons for their answer.

Summary of responses

- 19,729 (60%) of individual respondents agreed or strongly agreed with our proposal. Support was strong from individuals across the UK, the wider Kent and Essex region, Dartford and London boroughs nearby. 11,998 (36%) of individual respondents disagreed or strongly disagreed. Opposition to Location C was strongest in Gravesham and Thurrock (Figure 1).
- The majority of organisations and groups also strongly supported Location C, in particular businesses and elected / representative organisations. Opposition was strongest from special interest organisations (Figure 2).
- Essex County Council, Kent County Council and Dartford Borough Council strongly supported a crossing at Location C. Thurrock and Gravesham Borough Councils strongly opposed this proposal. Thurrock expressed opposition to any new crossing in Thurrock.
- Comments relating to our proposal for a bored tunnel broadly said it would minimise impacts on local communities, with least visual and noise impacts, and would have the least impact on environmentally sensitive areas as it would avoid the Ramsar site and a Special Protection Area.



Proposed location of the crossing

Figure 1 - Public responses

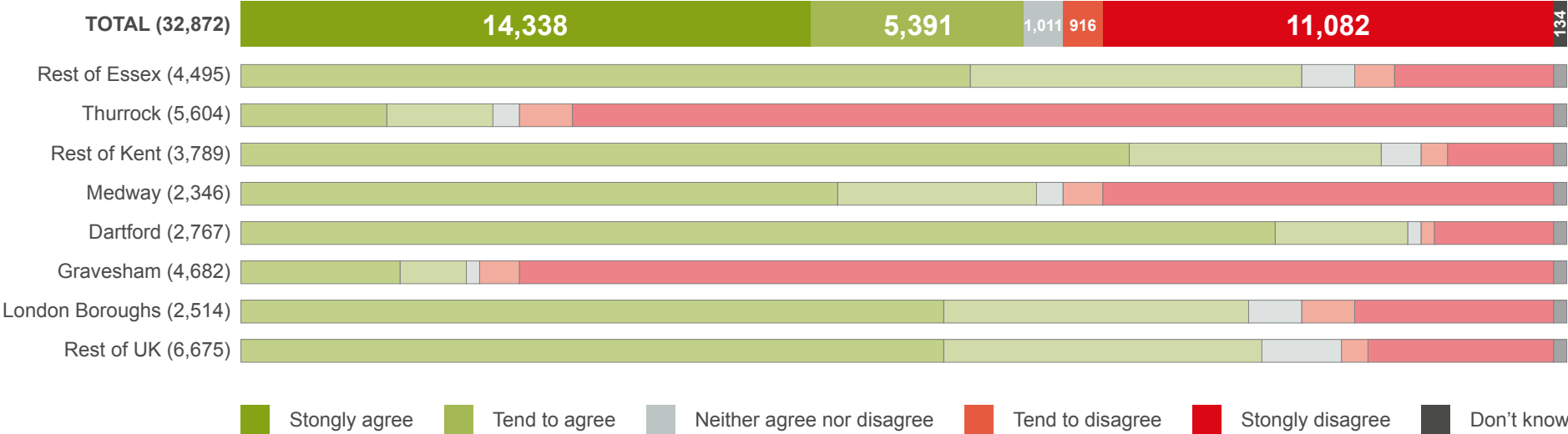
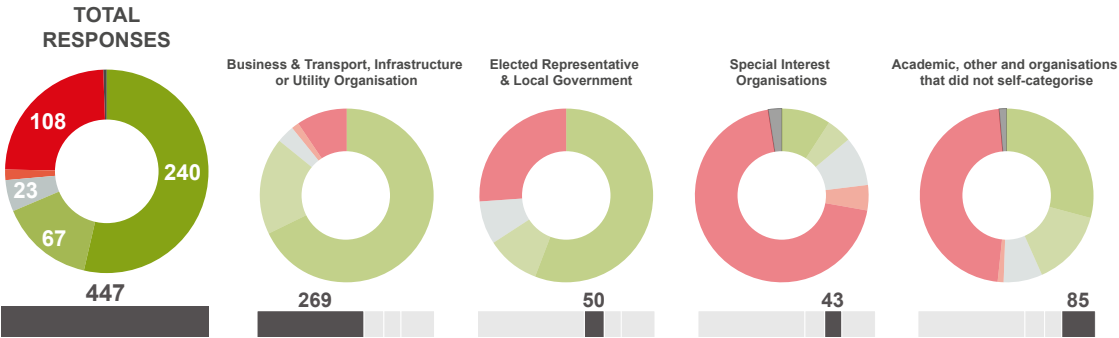


Figure 2 - Organisations and groups



Numbers and charts are drawn from those who responded using the questionnaire.
Source: Ipsos MORI

Proposed location of the crossing

You told us

The key points that emerged from responses are summarised below.

The main reasons given in support of Location C were:

- Positive effect on congestion, including at Dartford
- Improved network resilience
- Reduced journey times and better connectivity to local and regional destinations
- Positive effect on communities and individuals
- Greater economic benefits for people and businesses
- The Dartford Crossing is inadequate for future needs.

The main reasons given against Location C were:

- Impact on the environment and local communities, in particular air quality
- Potential for additional congestion in the local area, in particular Thurrock and Gravesham
- A crossing at Location C would not draw enough traffic away from the Dartford Crossing to ease congestion there.

Reasons given either in support of or against proposals were common across responses to different questions. These have been grouped into themes, along with our responses, and are summarised in the ‘Themes’ section of this booklet. These include:

- Alternative locations
- Economy, housing and business
- Transport and traffic, impacts on wider road network
- Air quality and noise
- Ecology, green belt and Areas of Outstanding Natural Beauty
- Community impacts, severance, land and property
- Landscape/townscape and visual effects
- Alternative solutions.

Proposed location of the crossing

Our response

A crossing at Location C, east of Tilbury and Gravesend, is the preferred crossing location

There was strong and widespread support for a new crossing at Location C. However, there was strong, mainly localised opposition.

A new crossing at Location C offers the improved journeys, new connections, network reliability and economic benefits that only a new, alternative river crossing, away from Dartford, can provide.

We understand that a major new infrastructure project on the scale of the Lower Thames Crossing can cause worry and concern, particularly about the effect it will have on homes, communities and the environment.

We have carefully considered the issues raised and conducted a thorough assessment of the options. Throughout the further design stages of the scheme we will continue our assessment work to understand these issues in more detail and identify how best to protect and enhance communities, environment, landscapes and heritage wherever possible.

A new crossing east of Gravesend and Tilbury best meets the scheme’s objectives and balances the needs of road users, the community, the environment and business, providing significant economic and transport benefits and value for money. The preferred route decision was informed by consultation responses and further assessment of options, the nature of the problems at Dartford and the needs and plans for the area.

Location C

- Provides an entirely new transport connection at a critical part of the road network, creating more than 70% additional capacity across the Thames east of London.
- Offers significant economic and transport benefits and safer, more reliable journeys.
- Offers a modern, reliable alternative crossing east of London. Relieves pressure and congestion on the existing crossing and approach roads.
- Opens opportunities for investment and regeneration, for businesses to grow, offering access to jobs, housing, leisure and retail facilities for local residents.
- A bored tunnel minimises impacts on local communities with least visual and noise impacts and has the least impact on environmentally sensitive areas as it avoids the Ramsar site and a Special Protection Area.
- As a new construction, it will provide a safer driver experience, including a tunnel which is designed to accommodate heavy goods and dangerous goods vehicles.

Next steps

- Detailed ecological surveys to allow assessment and mitigation of effects on sensitive habitats.
- Detailed geological and engineering assessments to more precisely locate the crossing.
- Further design work, assessment and consultation.

Route north of the River Thames

We asked

We proposed three route options north of the river, referred to as Routes 2, 3 and 4. We asked “Where do you think the route should be located north of the river?” and “On balance do you agree or disagree with our proposal?”. We also invited people to give reasons for their answer.

Summary

- Route 3 received the highest proportion of support (33%) from the public (10,591). This is reflected in responses from the rest of Essex and Kent, the adjoining London boroughs and the rest of the UK.
- Route 3 also received the highest proportion of support from organisations and groups, in particular businesses and elected/representative organisations.
- Opposition to any of the routes proposed was strongest in Gravesham and Thurrock and from special interest organisations.
- Route 4, the longest and most easterly of the proposed routes, was the next favoured route option across most groups.
- Route 2, the closest route to existing urban areas, received little support.

You told us

A range of feedback was received on our proposals for the routes north of the river. The key points that emerged from responses are set out below with themes presented later in this booklet.

- Reasons given in support of Route 3 were that it offers the shortest, most direct route; improved access to destinations; the least environmental impact; least construction impacts and is the most cost-effective route.
- Reasons given against Route 3 were concerns about properties impacted and potential severance between communities and facilities; traffic impacts on the Orsett Cock junction and A13 slip roads; impacts on cultural heritage sites and visual impacts.
- Reasons given in support of Route 4 were that it avoids built up areas, offers improved access to destinations and is likely to reduce congestion. Reasons given against were that, as the longest of the proposed routes, it offered less journey time savings, higher cost, and further disruption during construction, along with higher impacts on historic buildings and sites.
- Reasons given in support of Route 2 were that if offered good access to Tilbury docks and less impact on the countryside. Reasons given against were proximity and impacts on communities, limited reduction in congestion and potential loss of the Tilbury Flood Storage Area.

Route north of the River Thames

Figure 3 - Public responses

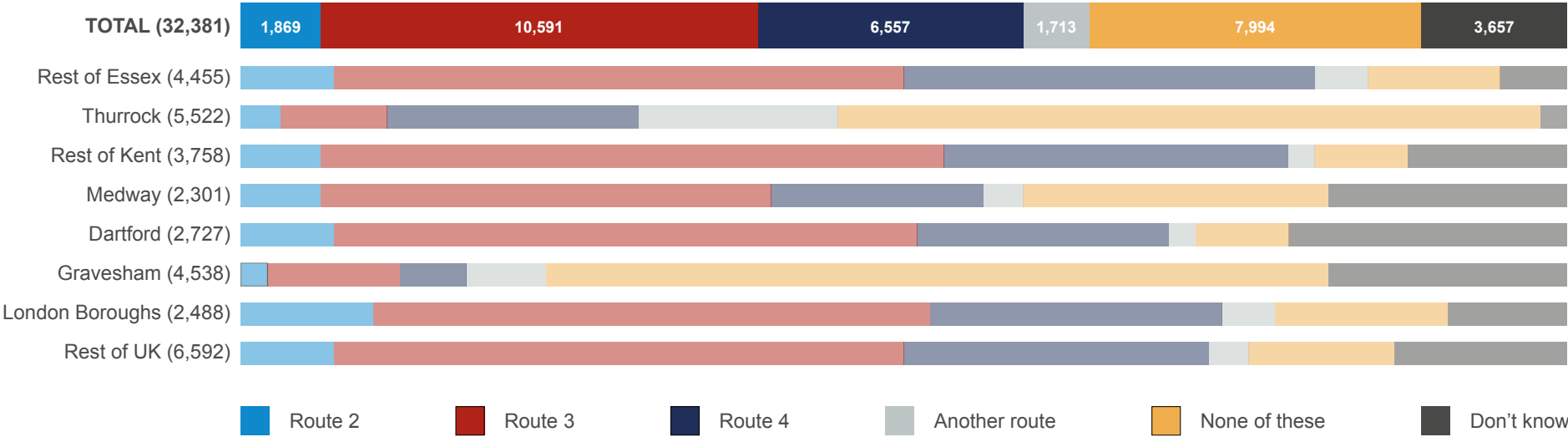
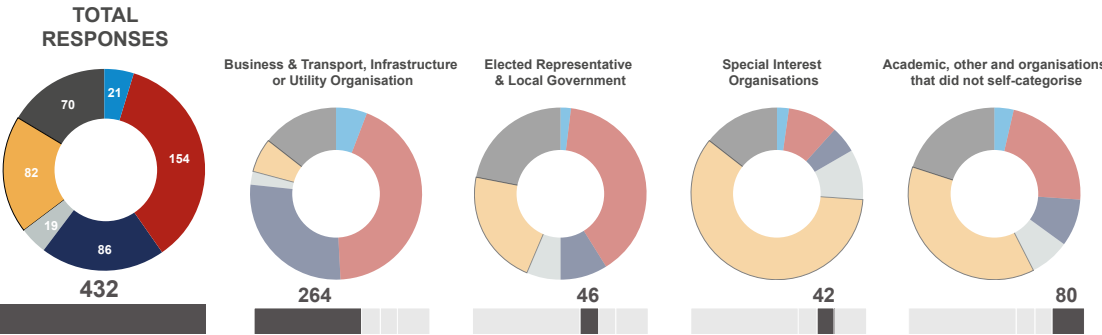


Figure 4 - Organisations and groups



Numbers and charts are drawn from those who responded using the questionnaire.
Source: Ipsos MORI

Route north of the River Thames

Our response

Route 3 is the preferred route north of the river

This route provides the best balance between minimising community and environmental impacts, combined with better transport and economic benefits. It offers the shortest, most direct route, an entirely new 70mph road offering the greatest improvement to journey times and the least disruption during construction. Route 3 best meets the scheme objectives.

Our assessment shows that this route will have an overall improvement on the wider road network. Further design and assessment work during the next stage will consider in more detail the impact on Orsett Cock junction and A13 slip roads, and traffic impacts across the strategic road network.

The provision of a new local junction north of the river will be considered in the next stage of scheme design. Our studies will look to optimise all junction arrangements to create the right balance of connectivity and better network performance.

We understand concerns about the effects this scheme will have on homes, communities and the environment. Further work will be done during the next stage to understand how best to minimise impacts on communities and residents, and protect and enhance environmental areas, species and habitats wherever possible.

Route 3

A new road connecting to the M25 via a new junction between junctions 29 and 30 near North Ockendon.

- Shortest, most direct route offering 70mph along whole route.
- Best balance of minimising community and environmental impacts.
- Least disruption during construction.
- Best of the proposed routes for wider network impacts, offering a connection to the A13, enabling traffic movements eastwards from Orsett Cock and improved links to the M25.

Next steps

- Further design work and assessment, including M25 and Orsett Cock junctions, A13, and consideration of a new local junction at Tilbury.
- A range of surveys including environmental, ground condition and archeological surveys to allow assessment and mitigation of impacts.
- Discussions with landowners and impacted communities
- Review of alignment and engineering around landfill sites.
- Further consultation.



Route south of the River Thames

We asked

We proposed two route options south of the river in Kent, referred to as the Western Southern Link and the Eastern Southern Link. We asked “Where do you think the route should be located south of the river?” and “On balance do you agree or disagree with our proposal?”. We also invited people to give reasons for their response.

Summary

- A higher proportion of the public favoured the eastern link (38% - 12,304) rather than western link (18% - 5,889)
- A higher proportion of organisations and groups also favoured the eastern link, in particular businesses and elected/representative organisations.
- Opposition to either of the routes proposed was strongest in Gravesham and Thurrock and from special interest organisations.

You told us

A range of feedback was received on our proposals for the routes north of the river. The key points that emerged from responses are set out below with themes presented later in this booklet.

- The impact on protected areas including Sites of Special Scientific Interest (SSSI), Kent Downs Area of Outstanding Natural Beauty (AONB), ancient woodlands and green belt.
- The impact on communities including severance, air quality and noise impacts.
- The visual impact of the junction with the M2/A2 and the need to improve the junction to improve traffic performance.
- Suggestions to remove the junction with the A226.
- Some respondents expressed strong concerns about the significant impacts of the eastern link on greater numbers of communities, properties and protected environmental sites including the Kent Downs AONB.
- Reasons provided in favour of the western link were that it minimised impacts on communities and the environment.

Route south of the River Thames

Figure 5 - Public responses

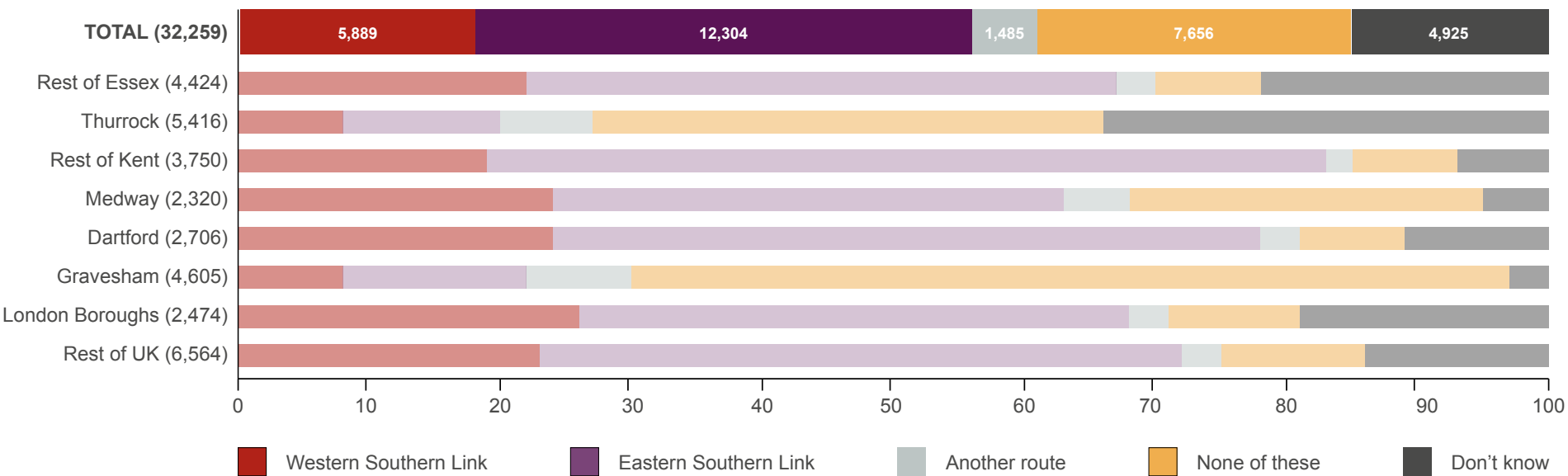
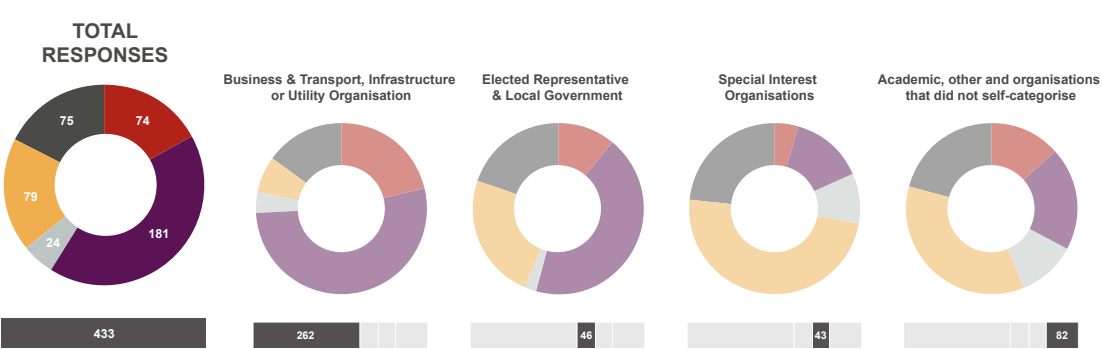


Figure 6 - Organisations and groups



Numbers and charts are drawn from those who responded using the questionnaire.
Source: Ipsos MORI

Route south of the River Thames

Our response

The Western Southern Link is the preferred route south of the river

The western link offers the transport and economic benefits of a 70mph route combined with lower community and environmental impacts than the eastern link.

This is a change to our consultation proposal of the Eastern Southern Link. Whilst there was a higher proportion of support for the eastern link, which offered better transport and economic benefits of a motorway-to-motorway route, we have listened to the concerns raised about impacts on communities and protected environmental areas. Having taken into account consultation responses, we conducted further assessment of both routes south of the river.

Our assessment showed there is very limited opportunity to reduce the community and environmental impacts of the eastern link, particularly on the Kent Downs Area of Outstanding Natural Beauty, Sites of Special Scientific Interest and ancient woodlands.

Additional assessment was conducted for the junction between the western link and the A2 to understand the extent to which the traffic performance could be improved. We identified that, although re-working of our initial design for the junction with the A2 would be required, it would offer a 70mph route without significantly increasing environmental or community impacts.

As a result we amended our recommendation to the Western Southern Link, connecting to the A2. The western link best meets the scheme objectives.

We understand concerns about the effects this will have on homes, communities and the environment. Further work throughout the next stage of the project will help us to understand how best to minimise impacts on communities and residents, and protect and enhance areas, species and habitats wherever possible.

Some of the mitigation measures to be considered during the next stage of scheme design include extending the length of the tunnel and also removing the proposed new junction with the A226.

Western Southern Link

A new road connecting to the A2, east of Gravesend.

- Least impacts on residential areas and communities.
- Least environmental impact on protected natural areas, including Kent Downs Area of Outstanding Natural Beauty, Sites of Special Scientific Interest and ancient woodland.
- Lower visual impacts at existing M2/A2 junction.
- A re-modelled A2 junction offers the transport and economic benefits of a 70mph route, through faster, more reliable journeys
- Easier access to and from the M25.

Next steps

- Further design work and assessment, including improvements to the A2 junction and consideration to remove the A226 junction and extend the tunnel.
- A range of surveys including environmental, ground condition and archeological surveys to allow assessment and mitigation of impacts.
- Discussions with landowners and impacted communities.
- Further consultation.

Changing our route recommendation

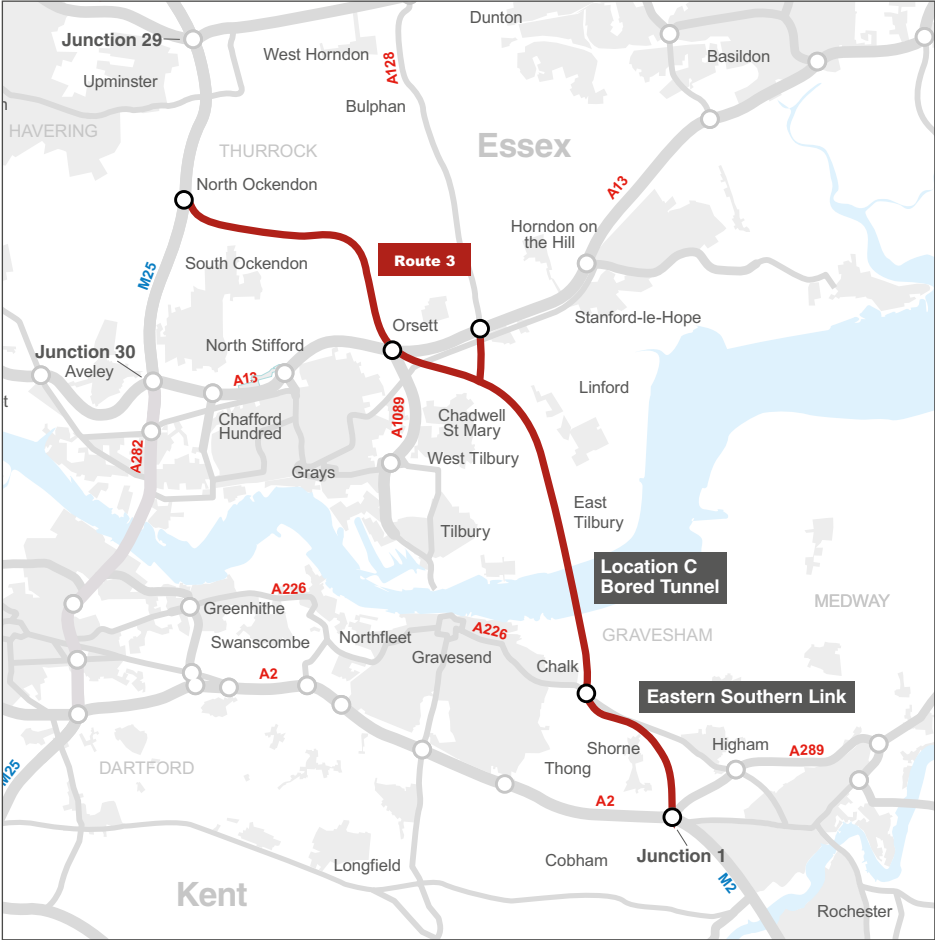
Our ‘proposed scheme’

The scheme we proposed at the 2016 public consultation was a bored tunnel crossing at Location C with Route 3 connecting to the M25 north of the river and the Eastern Southern Link connecting to the M2 south of the river.

Responses to the question regarding whether people agreed or disagreed with our proposed scheme were fairly evenly split. Half of those who responded to the question (16,545) agreed with it while around two-fifths (13,898) disagreed.

As set out in earlier sections, following assessment of the consultation responses, Highways England was clear that Location C and Route 3 remained the best options, but that the proposed southern route option required further assessment and reconsideration.

We listened to concerns raised about the impacts on communities and the environment and re-evaluated our proposed solution. This resulted in us amending our recommendation from the eastern to the western link.

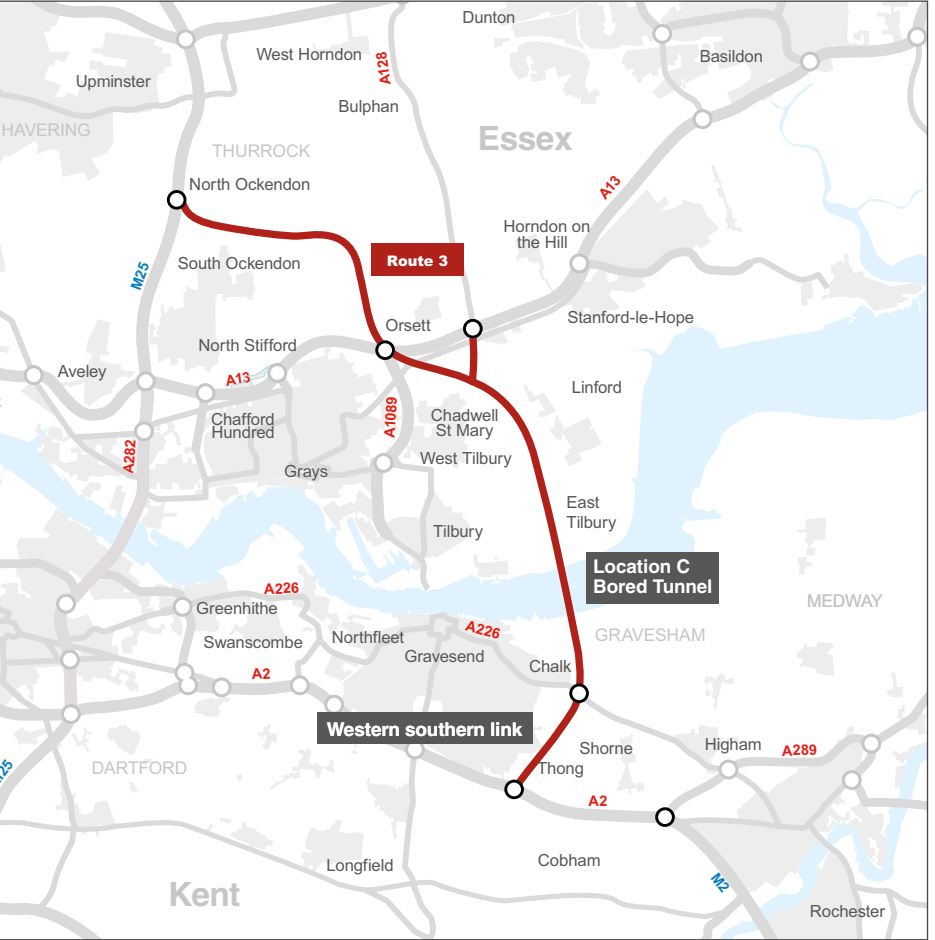


The preferred route

The preferred route is a bored tunnel crossing under the River Thames east of Gravesend and Tilbury (Location C). A new road north of the river will join the M25 between junctions 29 and 30 (Route 3), and a new road south of the river will join the A2 in Kent (Western Southern Link).

This route provides the best overall balance between minimising community and environmental impacts, combined with the improved journeys, new connections, network reliability and economic benefits that only a new, alternative river crossing, away from Dartford, can provide. This new 70mph, 13-mile route will be built to the highest safety standards and incorporate the most up-to-date engineering and information technology.

This decision has been informed by consultation responses, the nature of the problems at Dartford and the needs and plans for the area. A new crossing east of Gravesend and Tilbury best meets the scheme's objectives and balances the needs of road users, the community, the environment and business, providing significant economic and transport benefits and value for money.



Themes

A range of feedback was received on our proposals, including supportive comments, neutral comments, objections and issues. All consultation responses, including questionnaires, letters, emails, campaigns and petitions, were analysed and grouped into themes.

This section summarises prominent and common comments and issues that were raised in the consultation, and our response to them. These are drawn from our detailed analysis.

Further information and detail on consultation responses is available in the Ipsos MORI report. Further detail on our assessment of themes and our response is available in the Post-Consultation Scheme Assessment Report.

For this booklet, we have summarised themes under the following headings:

- Alternative locations
- Economy, homes and business
- Transport and traffic
- Air quality
- Noise
- Ecology
- Green belt and Areas of Outstanding Natural Beauty (AONB)
- Landscape / townscape, visual and heritage impacts
- Community impacts
- Land and property
- Construction impacts
- Local traffic, junctions and the wider road network
- Futureproofing.
- Alternative solutions

Alternative locations

You said

Location A: Some respondents suggested that the new crossing should be located at Location A, near the existing Dartford Crossing. Some specifically suggested that a long tunnel at Location A from south of the M25 at Junction 2 to north of the M25 at Junction 30, would be a better solution. However, a similar proportion of respondents stated that they were opposed to a new crossing at Location A.

Our response

We thoroughly assessed options for a crossing at Location A, near the existing Dartford Crossing. We have re-appraised this option extensively to assess whether the previous conclusions reached are robust and still valid. We remain clear that a new crossing at Location A is not a viable solution and does not meet the scheme objectives:

- It does not provide sufficient additional free-flowing capacity on the network
- It does not provide an alternative route and incidents at Dartford would still cause severe congestion as all traffic would still use the existing roads
- It would take at least six years to build, with severe disruption affecting hundreds of millions of journeys
- Air quality and noise in the Dartford area would be worsened by increased traffic and, at times, would exceed EU air quality limits
- It would not connect new communities to the strategic road network, therefore offering limited regional economic benefits
- It would offer low value for money.

The suggested long tunnel at Location A was assessed as part of a wide range of potential options. Our assessment showed that this would carry relatively low traffic volumes, would be very high cost (estimated at £6.6billion), whilst offering very limited economic benefits and would be poor value for money.

You said

Some respondents suggested a new crossing further east would be a better solution.

Our response

Other locations: A crossing further east of Location C was considered and rejected by the Department for Transport in 2009 ‘Dartford River Crossing Study’. Our assessment shows that a crossing further east performs poorly against the scheme objectives. It would have a high cost and represent poor value for money, it would carry a limited amount of new traffic and provide limited relief at the existing Dartford crossing. These conclusions have been updated and re-examined by Highways England and have been found to still be robust.

Economy, homes and businesses

You said

Some respondents said they were supportive of a crossing at Location C and mentioned the economic benefits of this location as a reason for their support. Some cited problems they have experienced with congestion at the Dartford Crossing and the resultant impacts on both the operations of businesses and the growth of the local and wider economy as reasons for their support.

Some suggested Location C would create new opportunities for residents and businesses by improving commuting times and stimulating growth in Essex and Kent. Some suggested it offers the potential for new housing, new jobs, new businesses and expanded markets in the areas of Essex and Kent.

Some said there was limited information on the extent of economic benefits that would accrue to the local area, including benefits for local businesses.

Some expressed concerns that a new crossing would encourage further warehouse development whereas it is high-skilled and professional jobs that are needed in the area.

Some said that future housing growth will stimulate demand for further schools, hospitals and other public services which are already at or near capacity, leading to a deterioration in quality of life for existing residents.

Our response

Consultation responses demonstrated that economic growth, opening access and opportunities to investment, business growth, housing and jobs are important factors across all response groups.

The traffic model and economic appraisal will be updated with new demand data to reflect updates to projected economic growth, local growth strategies and future land-use developments. It is anticipated that this will bring a focus on the regional impacts, including the incremental housing developments that may occur as a result of the new crossing.

The Lower Thames area has been a priority for regeneration for at least 20 years. It is recognised that public services provision needs to keep pace with demographic changes and future population growth. We will work with the Local Enterprise Partnership, the Thames Gateway Growth Commission and local authorities as they further develop their growth plans.

Detail on economic analysis including cost and benefit calculations is available in the Post-Consultation Scheme Assessment Report.

Transport and traffic

You said

Comments and responses in support of Location C said it:

- Offers shorter journeys and better connectivity for the people of Kent and Essex
- Would improve traffic flow and congestion at Dartford
- Will give road users a choice of river crossings and provide an alternative to the Dartford Crossing during incidents.

Comments against Location C said that it would not provide sufficient relief at Dartford. Some said that it will increase congestion locally.

Some respondents questioned the accuracy of the traffic model used to assess options.

Our response

As set out earlier in this booklet, our assessment shows that a new crossing at Location C will improve journeys by offering a new, modern alternative to the existing Dartford Crossing and would substantially improve the resilience of the strategic road network east of London. Specifically:

- It would provide more than 70% additional road capacity across the river connecting Essex and Kent
- Modelling predicts 38% more journeys across the Thames east of London by 2025 and 55% more journeys by 2041
- The M25 and M2 can cope with additional levels of traffic that the new crossing would attract

- Heavy goods vehicle movements are predicted to reduce at the Dartford Crossing by 29% in 2025
- There would be improvements in journey times for a range of local, regional and national journeys, using both the existing Dartford Crossing and the new crossing in both 2025 and 2041.

The traffic model used for the appraisal has undergone detailed technical review. In particular, this included a detailed examination of its validity in the area around the existing Dartford Crossing (the M25, A282 and main east-west corridors). This demonstrated good performance in this critical part of the model. As a result of this overall technical review, the model was approved for the options appraisal.

We will continue to develop and refine the traffic model as the scheme progresses, to ensure that it continues to provide a robust assessment of the traffic impacts of the new crossing. As part of this process, the traffic model will be enhanced later this year to include updated travel demand data and the latest information about development commitments. There will be further opportunity to comment on proposals in future consultation.

Our response to local congestion and traffic impacts is covered on page 43 of this booklet.

Air quality

You said

Some respondents expressed concerns that a new Lower Thames Crossing would lead to a failure to comply with UK and European air quality and carbon emissions directives and policies.

Concerns were also expressed about extra traffic in places already subject to poor air quality including Thurrock, Gravesend and Dartford.

Some respondents expressed the view that diverting traffic away from the existing crossing would improve air quality in Dartford.

Our response

Our air quality and emissions analysis indicates that air quality limits at properties along the proposed route will not be exceeded.

Several areas in Dartford currently exceed air quality limits. Our analysis shows that there would be an overall improvement in air quality at Dartford with the Lower Thames Crossing at Location C.

A detailed air quality assessment will be undertaken in the next stage of scheme development as part of our environmental impact assessment for the preferred route.

Noise

You said

Some respondents expressed concerns that traffic noise along the proposed route could affect communities and rural tranquillity. Some gave the view that Location C would do little to reduce noise levels at Dartford or Thurrock.

Our response

For properties near the proposed route, our analysis indicates that noise levels will be within acceptable levels. However, we will carry out more detailed modelling in the next stage of development and, where appropriate, we will develop solutions to mitigate the effects of traffic noise. That could include:

- Modifying the route alignment close to sensitive locations
- Keeping the road as low as possible within the landscape to use natural screening and cuttings
- Using environmental barriers like earth mounds or acoustic fences
- Using low noise road surfaces.

Ecology

You said

Some respondents expressed concerns that the scheme could impact the ecology of the area.

Some respondents opposed Location C due to the potential impact of the southern links on European protected areas, on the riverside salt marshes and on the Shorne Marshes Royal Society for the Protection of Birds reserve.

Some respondents stated that the proposals are not consistent with planning policy which includes protection of Sites of Special Scientific Interest, ancient woodland, local wildlife sites and protected species.

Our response

A bored tunnel was proposed as this minimises impacts on the European protected areas, riverside marshes and the river bed. The tunnel portal locations will be assessed in more detail as part of the scheme design and development in order to identify how best to minimise environmental and community impacts.

The western link south of the river was selected, which has lower environmental impacts than the eastern link.

We have considered the preferred route against various protections in place for sensitive sites and species and believe the scheme will satisfy all policy and legal tests.

We will carry out a comprehensive suite of surveys to understand wildlife populations and movements, to identify how best to avoid or minimise adverse effects on the protected sites and elsewhere.

Green belt and Areas of Outstanding Natural Beauty

You said

Some respondents were concerned about the impact on the green belt, and felt that proposals are contrary to national planning policy, with the possibility it would encourage urban sprawl and inappropriate development. Concerns were also raised about impacts on the Kent Downs Area of Outstanding Natural Beauty (AONB).

Our response

The preferred route was carefully selected to minimise environmental impacts as far as possible. Following consideration of the consultation responses, the western link was selected, which has less impact on Kent Downs AONB than the eastern link.

Planning policy and the consents process for the Lower Thames Crossing sets out a number of tests that must be met before approval is granted. This includes for any development being proposed in the green belt or affecting the AONB.

We have considered the preferred route against planning policy in relation to green belt and the AONB and believe that national need for the scheme will satisfy those tests.

The scheme will not affect the planning policy presumption against infill and encroachment development in the green belt.

Landscape/townscape, visual and heritage impacts

You said

Some respondents said a bored tunnel is the best option at Location C because it has minimal effects on the landscape.

Some respondents were concerned that the proposed scheme would detract from the natural landscape and residents' visual amenity.

Our response

We will prepare a detailed Landscape and Visual Impact Assessment to assess the effects of the route on the physical features of the landscape including vegetation and buildings, and the visual impacts on residents and users of community facilities.

We will investigate ways to avoid or mitigate landscape and visual impacts including replacement planting, cuttings and banks, and design of signs and gantries.

The tunnel portals will be situated to minimise their effects on the surroundings including on the nearby historic forts north of the river and other buildings. The roads will be in deep cutting for some distance after they exit the tunnel, further reducing their presence in the landscape.

Community impacts

You said

Some respondents were concerned that they would be cut off from community facilities and access including local footpaths, farmland, open spaces and other facilities.

Some respondents suggested that a longer tunnel south of the river at Location C could mitigate some environmental impacts of the scheme and reduce the severance between Chalk Church and Chalk.

Our response

We will continue to work with affected communities to assess issues raised and identify appropriate solutions such as alignment changes or provision of alternative facilities.

Where a public right of way may be severed we would expect to re-connect it. We will also explore how the needs of cyclists, pedestrians and horse-riders can be incorporated within the scheme.

We want to leave a positive legacy in the local area. We commit to working with local communities to not only minimise the scheme's impacts but to also explore opportunities to support local projects and initiatives that will make a long-term positive difference for local communities. This could include creating new footpaths and cycleways or developing a community fund to support local groups.

One of the measures to be considered in the next stage of scheme development to mitigate environmental and community impacts would be a longer tunnel south of the river.

Land and property

You said

Some respondents were concerned that their land or property will be devalued or demolished.

Our response

The preferred route was carefully selected to minimise land and property implications as far as possible.

It is still too early for us to know exactly where we need to build until we have carried out further design work, assessment and consultation as part of the statutory planning process. The route may be subject to some adjustment as a result of that work.

Highways England has a long history of minimising the impacts of building in sensitive areas. We will apply that expertise and experience to minimise the impacts of the scheme on all property and land as we further develop the design of route.

We appreciate that it may be difficult for landowners to sell their properties because of the impact of large scale works and appropriate policies are in place to help them. We are contacting land and property owners to help them understand potential impacts, their options and their rights.

Construction impacts

You said

Some respondents raised concerns about how the construction of the Lower Thames Crossing would affect them.

Some respondents raised concerns about Route 3 crossing landfill sites and the risks around managing landfill material and the disturbance of hazardous liquid waste during construction.

Our response

Construction, by its nature, is a disruptive process, however we are committed to reducing the impact of works on local communities.

We will examine in more detail the requirements for temporary works, the land needed for construction and access routes, and the likely phasing of works. This will help us plan measures to minimise or mitigate potential impacts.

We will develop plans to identify where traffic management may be necessary on some roads and seek to maintain running lanes during the day where possible.

We will use construction techniques that minimise disruption. This includes the bored tunnel method which will minimise impacts on the riverside marshes and riverbed, and offsite construction which enables faster progress and use of the river for transporting materials.

We are assessing alignments for the route where this passes through landfill areas.

Local traffic and the wider road network

You said

Some respondents requested the inclusion of widening the existing A229 dual carriageway between the M2 and the M20 in Kent (Blue Bell Hill), which was called C Variant in earlier studies. It was suggested that this was needed to maximise the benefits of the new crossing and improve the wider road network.

Some respondents raised questions and concerns about impacts on other parts of the road network. This included:

- Impacts on traffic on the A228 to and from the M20
- Impacts of increased traffic and congestion on the M2-A2 corridor and on the M25 as a result of the new route
- Impacts on Orsett Cock junction, particularly queuing traffic on the A13 exit slip roads and the new junction with the A13
- Suggestions that a new local junction could be located north of the river near Tilbury.

Some respondents said they believed the proposals will make traffic conditions worse and that improvements would be needed on the A127, A130 and A12.

Our response

Our assessment showed that C Variant would have limited benefits and is not essential as part of a new crossing. Highways England will give further consideration to the A229 and the A228 as part of ongoing regional route planning.

Our assessment indicates that there is sufficient capacity on all sections of the M25 and M2 to accommodate the additional levels of traffic resulting from the new crossing in both 2025 and 2041.

In response to comments about other road impacts, our assessment indicates that, by effectively bypassing Dartford, the new crossing would lead to:

- A significant decrease in traffic in both directions on the A2 between the M25 and Gravesend.
- A reduction in traffic in both directions on the A127, between the M25 Junction 29 and the A128 Junction.
- Little change on the A12.

A new crossing at Location C will enable the road network to perform better overall and improve traffic flow across the river. It is also expected to be beneficial for sections of the main arterial routes in the area, including the A13, A127 and A2.

The provision of a new junction north of the river, in the Tilbury area, will be considered in the next stage of scheme design. Our studies will look to optimise all junction arrangements to create the right balance of connectivity and better network performance.

We will work with the relevant highways authorities to carefully consider the impacts of the scheme on local roads.

Futureproofing

You said

Some respondents suggested that three lanes should be built in each direction from the outset for future-proofing purposes, with many noting that this would be more cost-effective in the long run.

Our response

Our current assessment is based on a two-lane route. We will be updating our traffic model for the next stage of scheme development, which will include assessment of a three-lane route. The tunnel we have proposed would be large enough to accommodate a dual three-lane carriageway.

Further advances in communications and technology, for example autonomous vehicles, will also be considered as we develop and assess the scheme. This will help to ensure that any solution is future-proofed against anticipated changes in demand in the longer term.

Alternative solutions

You said

Some respondents suggested alternative transport solutions including improving public transport, new rail and marine freight routes and other sustainable options in place of building a new road.

Our response

The 2009 ‘Dartford River Crossing Study’ commissioned by DfT concluded that passenger and freight rail did not provide a viable alternative to a new road crossing for the Thames. These conclusions have been updated and re-examined by Highways England and have been confirmed as robust.

Alternative modes would therefore be complementary to a new crossing and not a replacement for it. Highways England will seek to work with Network Rail, other public transport providers and the relevant local authorities as they develop plans and proposals for public transport.

Whilst not providing a direct replacement for the new crossing, road and rail public transport, ferries and rail freight would all provide alternatives which would help to manage growth in road traffic and increase the longevity of the infrastructure.

What happens next?

We will progress the design and assessment of the preferred route, which will be the basis for further public consultation. This includes carrying out environmental surveys, more detailed environmental impact assessments, further traffic modelling and more detailed design work around, for example, junctions. Further traffic modelling work will help to further refine our understanding of the potential traffic flows at and between the two crossings.

These assessments will help us understand how best to minimise community and environmental impacts and continue to ensure that the preferred route remains the best solution.

We are looking to the future, and will further consider growth projections and plans for the South East. The Thames Estuary 2050 Growth Commission, the South East Local Enterprise Partnership, Kent and Essex County Councils and others have set out ambitious plans for the area and have made it clear that a new crossing is essential to help make these plans a reality.

We are committed to working with local communities, local and central government, environmental bodies, employers and developers to ensure that the Lower Thames Crossing leaves a positive legacy driven by needs within local communities and surrounding areas, guided by partners with expertise and interest in relevant areas. We look forward to working together to shape the detail and the priorities for the future of the area and the environment, for the economy, for now and for future generations.

As the Lower Thames Crossing is a nationally significant infrastructure project, it will follow the procedure for obtaining a development consent order (DCO). This includes a statutory pre-application consultation, whereby there will be a further opportunity to comment on the proposals.

We are taking decisions now to make a difference for the long term. The Government and Highways England are seizing the opportunity to build a road network fit for the 21st century as part of the biggest investment in roads in a generation.

Further information

To find out more about the preferred route and next steps for the new Lower Thames Crossing you can:

Visit our website
www.lower-thames-crossing.co.uk

View and download reports and other scheme related information.

Ipsos MORI’s independent report – Lower Thames Crossing Consultation: Analysis of Findings Report

Our Post-Consultation Scheme Assessment Report, which is split into seven volumes as follows:

Volume 1: Executive Summary

Volume 2: Introduction and Existing Conditions

Volume 3: Identification of Routes and Public Consultation

Volume 4: Engineering, Safety and Cost Appraisal

Volume 5: Traffic and Economics Appraisal

Volume 6: Environmental Appraisal

Volume 7: Appraisal Summary and Recommendations.

Information for landowners is also available via our website.

You can sign up for updates via our website.

Follow us on Twitter

Keep up-to-date on progress and announcements by following us on Twitter:

Twitter: @lowerthames

Send us an email

Email the team and we will respond to your enquiry as quickly as possible:

Email: lrc@highwaysengland.co.uk

Give us a call

Call our national helpline and we will discuss your enquiry and help find the information you need:

Phone: 0300 123 5000

View printed documents

Printed materials will be made available to view at several locations in the local area. Visit our website, email or call us for further details.

If you need help accessing this or any other Highways England information, please call **0300 123 5000** and we will help you.

© Crown copyright 2017.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/

write to the **Information Policy Team, The National Archives, Kew, London TW9 4DU**, or email psi@nationalarchives.gsi.gov.uk.

This document is also available on our website at www.gov.uk/highways

If you have any enquiries about this publication email info@highwaysengland.co.uk or call **0300 123 5000***. Please quote the Highways England publications code **PR263/16**

Highways England Creative job number S160680

*Calls to 0300 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls.

These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Printed on paper from well-managed forest and other controlled sources.