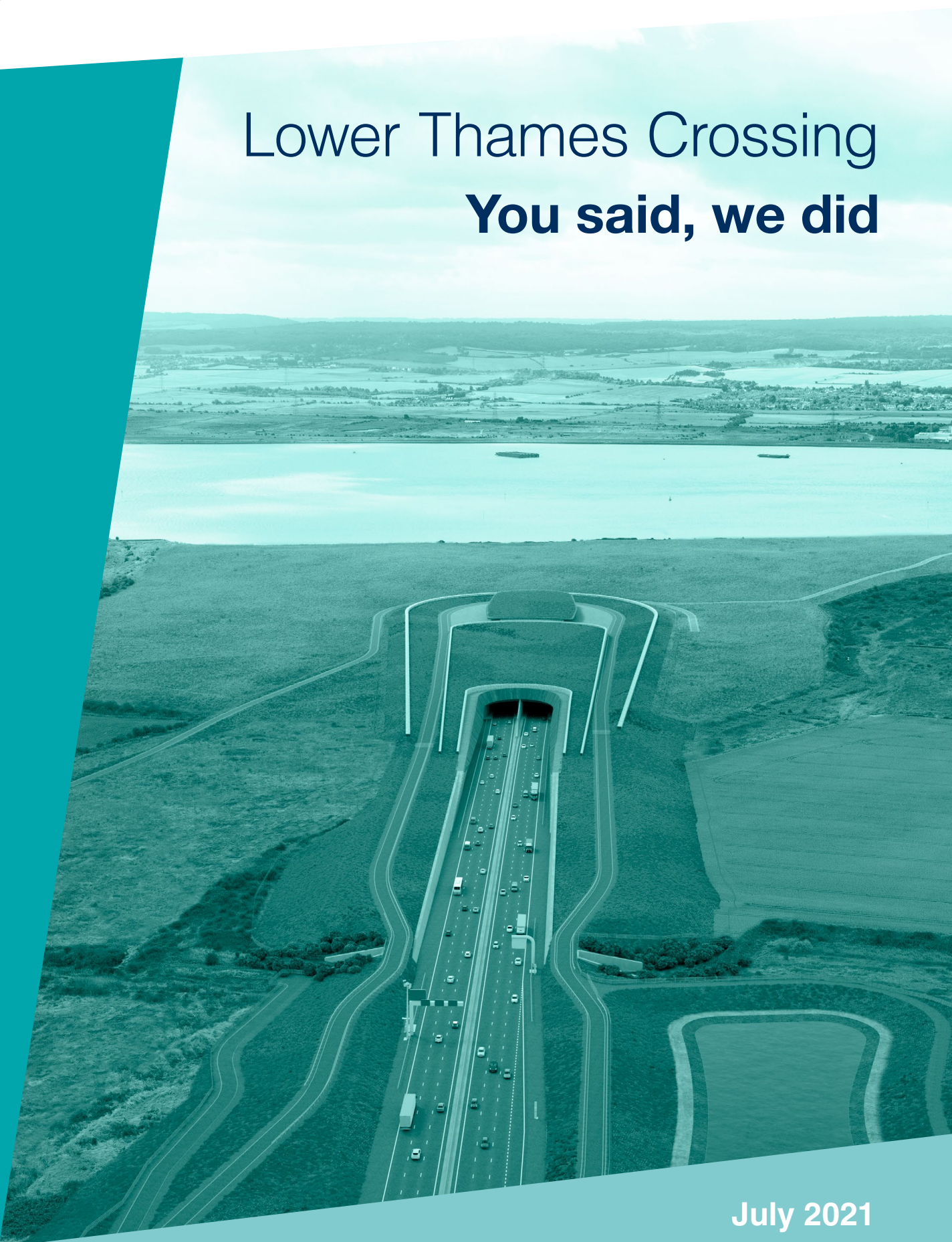


Lower Thames Crossing

You said, we did



July 2021
Community impacts consultation

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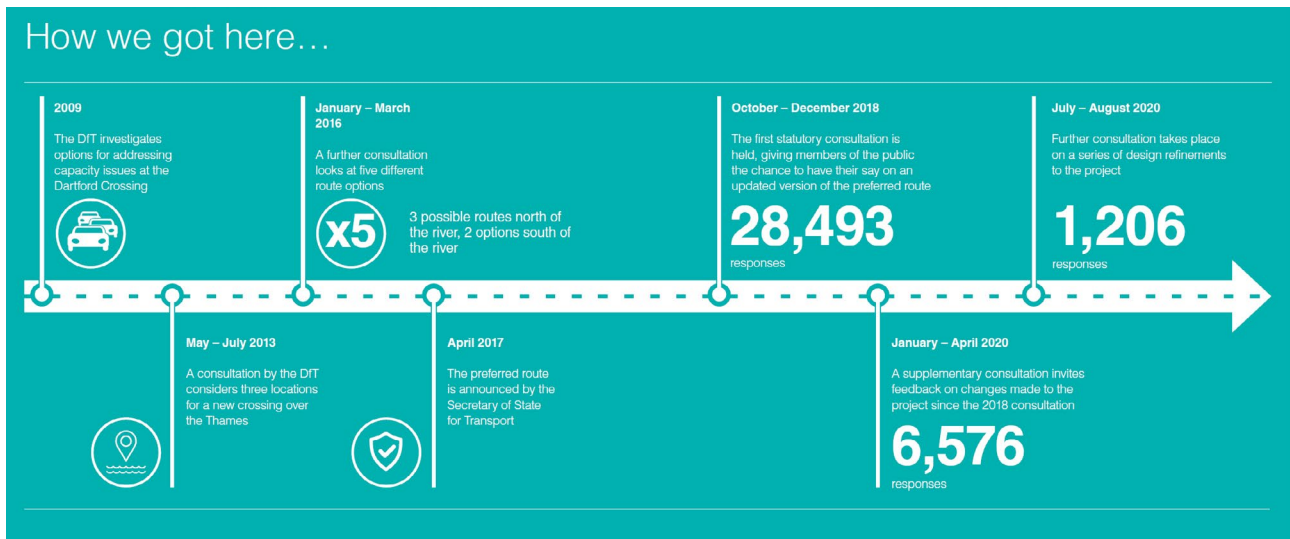
Introduction

The story so far

Consultation and engagement have been key to the project proposals. Since the preferred route for the Lower Thames Crossing was announced in 2017, we've held three public consultations and continued to engage with our stakeholders to refine and improve our proposals. We have developed the project, including carrying out environmental surveys, traffic modelling and detailed design work across the route as well as diversions to existing utilities.

We undertook a statutory consultation in 2018. This was followed, in 2020, by a supplementary consultation and a design refinement consultation. These were both non-statutory consultations.

The diagram below shows the timeline of consultation.



Following this consultation, we published a [Project update in Summer 2019](#) that accompanied a [report](#) produced by Traverse summarising the feedback we received.

To secure permission to build and operate the project, we must apply to the Planning Inspectorate for a Development Consent Order (DCO). If our application meets the standard required to be accepted for examination, an Examining Authority would be appointed to consider the application and make a recommendation to the Secretary of State to grant or refuse consent. It is the Secretary of State that will ultimately decide whether development consent is granted.

Following our design refinement consultation last summer, we submitted a DCO application to the Planning Inspectorate in October 2020. However, based on early feedback, we withdrew the application in November 2020.

Capturing your responses

For all three consultations since 2018, our response form could either be completed online (via the project's consultation website), downloaded and emailed, or sent in hard copy via our freepost address. It was also possible to provide feedback in a letter or email.

We appointed Traverse, a specialist agency, to independently analyse the responses to all three of our consultations. We reviewed and considered all issues raised. Traverse also prepared an independent report of the findings from the statutory consultation, which was published in July 2019 and can be found on our website. The feedback received, alongside our ongoing technical work, such as environmental surveys, was used to refine the design of the project.

Our analysis

Every response received by Traverse was scanned (hard copy only) or downloaded, assigned a unique reference, and transcribed on to a database for analysis. Every issue raised was grouped into themes, then analysed and considered in the decision-making process.

Purpose of this document

This document sets out some of the things we have done in response to your comments. It provides a summary of the feedback from the statutory, supplementary and design refinement consultations. Each consultation is discussed in a separate chapter with a breakdown of the feedback we received. For each question we asked, the most common feedback is summarised and we have included in this document our response to negative as well as positive responses. We have included the 25 most common suggestions received for each consultation along with our response to these.

We have also provided a series of maps and images to show how the feedback you provided has helped to develop the project.

How we developed this document

We have taken a quantitative and qualitative approach to selecting issues covered in this document. The quantitative approach used the analysis undertaken by Traverse as a basis for the initial selection of topics. The qualitative approach involved workshops within the project team and engaging with stakeholders on the topics. This document has been designed to be accessible to read and representative of the majority of comments received.

With our quantitative approach, for each question asked, Traverse developed a list of codes to describe different topics that were raised by consultees, for example, congestion or environmental issues.

Traverse created a report which provides the codes for each question and how many times the corresponding issue was raised by a consultee in their response. It was also broken down by different consultees groups, for example, individuals, local authorities or landowners/occupiers. We divided the list into whether the feedback supported or opposed our proposals

and then organised these by the highest number of responses. We sorted the list by the number of responses from individuals, then by landowners/occupiers. From these lists we produced a shortlist covering 10 support and 10 oppose codes. Where codes were in relation to a similar theme, we grouped them together, which provided a slightly shorter list for each question. Therefore, you will see a different number of support or oppose comments for each question.

We have presented the most common reasons for supporting or opposing the project for each question asked. The supportive reasons are presented in bullet points and the opposing reasons or suggestions in tables alongside our response to the issues raised. We have used tables to be clear to the reader what our position is on the issue or suggestion.

With our qualitative approach, we held workshops with members of the project team to discuss issues that we heard about through the consultations. This included feedback from stakeholder groups, members of the public at events and through ongoing stakeholder engagement. We identified issues that were not necessarily the most commonly raised through analysis of consultation feedback, but that we knew were of particular interest to communities and stakeholders.

We engaged with local authorities by sharing a list of the topics and asked for comment and if there was anything they would like to see or felt was missing.

In selecting the most common suggestions, we used the information provided by Traverse to group all suggestions for each consultation and sorted these by the highest number of responses. We sorted by individuals, then by landowners/occupiers, and picked the most common 25 to cover a representative range of issues.

You may have raised an issue or suggestion that you do not find fully represented in this document. The You said, we did document summarises the feedback received from each of the consultations. A consultation report will be provided as part of our DCO application, which will describe the approach to, and outcomes of consultation and engagement undertaken on the project. It will also set out a comprehensive list of all issues contained in consultation responses and explain how we have considered them.

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Statutory consultation

Developing the project

Following the options consultation in 2016 and Preferred Route Announcement (PRA) in 2017, significant development of the new road's design was carried out before it was presented in our statutory consultation in 2018. During this period, we developed and tested a number of options for the new road, looked at traffic modelling results and worked with Highways England's safety teams. We also undertook further engagement with landowners, local authorities, stakeholders and the public along with investigating the route in terms of ground conditions and environmental assets.

We also investigated issues in line with the post consultation Scheme Assessment Report, a suite of documents reporting on the options consultation, the appraisal of the route options, and Highways England's recommendation. This included considerations such as the overall capacity and connectivity of the route.

The work we conducted in developing the Preferred Route for statutory consultation involved the following:

- All junctions on the project (A2, A226, Tilbury, A13/A1089 and M25) were developed to refine the design, in line with feedback from consultation and ongoing engagement, assessment of the environmental impacts, and refined to reflect increasing accuracy in our traffic modelling results. During this process several options were developed and reviewed for each location. Each junction was presented in our statutory consultation proposals. More information on the optioneering process can be found in the [Design, construction and operations](#) document, released during our statutory consultation.
- The route of the project between the junctions was also developed to minimise its impact on the surrounding area.

In response to feedback received during the 2016 options consultation, and in response to Highways England's own design philosophy 'The road to good design', the height of the road was reduced, in some places by as much as five metres, to reduce its visual impact. Following statutory consultation in 2018 even more work was done to reduce the height of the road. Approximately 80% of the route is now in cutting, false cutting or tunnel.

- The number of lanes along the new route was increased from two to three lanes.
- Further design development led to modifications of the A2 corridor to minimise lane change manoeuvres and allow sufficient capacity for predicted traffic by separating M2 and A2 traffic.
- South of the River Thames, the A226 junction was removed due to its predicted impact on the local road network, associated air quality and noise impacts around Higham, and feedback from stakeholders on the preferred route.
- This allowed the southern tunnel entrance to be redesigned and moved 600 metres south, and emergency access routes to the southern tunnel entrance to be redesigned.
- A review was carried out to assess whether a junction at Tilbury, and a link into the southern end of the A1089, was needed to achieve the scheme objectives. Multiple options were considered for the junction. This link was included in our Environmental Scoping Report in 2017, but was removed from our proposals before the statutory consultation in 2018 and is now being investigated separately by Highways England. A rest and service area and maintenance depot were proposed near the northern tunnel entrance, along with Tilbury junction which allowed access to these facilities. These were included in the statutory consultation proposals. Following a re-assessment of how the route could be managed and maintained, and looking at less impactful locations for service area provisions, the proposed facilities, along with the access junction, were removed following statutory consultation.

Cutting

When a road is to go below existing ground, the soil or rock is removed, either altogether or to form landscape embankments on each side.

False cutting

A false cutting is a means of screening a road by creating embankments on one or both sides of the road to reduce noise and/or visual impacts associated with vehicles passing.

- Between Tilbury and the A13/A1089 junction the route was moved into a five to six-metre cutting and false cutting, lessening the visual impact on the community.
- At the A13/A1089 junction, a number of options were developed and tested to identify the required links at this junction, while reducing the impact of the project on the environment. We also lowered the new link roads associated with the Lower Thames Crossing to pass below the current level of the A13, and maintained a maximum of two levels within the junction to reduce its visual impact.
- Some sections of the road were moved from an embankment to a viaduct structure through the Mardyke valley to reduce the impact of the project on the flood zone and agricultural land. Overall, the Mardyke viaduct and Orsett Fen viaduct lengths were increased by approximately 50 metres, which increased the open aspect and reduced the volume of flood compensation required in this area.
- The route was moved further north to remove the impact on the Ockendon landfill.
- Works along the M25 corridor and at junction 29 of the M25 were included to ensure the junction could be operated safely and with sufficient capacity for the predicted traffic flows. The introduction of a northbound link road allowed safe access to the M25 and junction 29 for both Lower Thames Crossing and M25 traffic. However, it also increased impact on Thames Chase Community Forest. Following statutory consultation, and close engagement with Thames Chase Trust, we developed mitigation to reduce the impacts of the Thames Chase Community Forest. Examples of this include the addition of a new walking, cycling and horse riding bridge over the M25 to improve connectivity for the southern section of the Thames Chase Community Forest, and providing replacement land to the north and south of the site for new woodland areas.
- In response to feedback, the M25 junction was altered to reduce its visual impact, the route was lowered to pass underneath the M25 which also removed the need for the road to cross the railway line twice.
- At junction 29, the M25 was widened from three to four lanes to maintain free-flowing traffic while avoiding further impact on ancient woodland around the junction.

Plans for construction and the diversion of utilities

Plans for building the Lower Thames Crossing were developed in parallel with the project design, consultation and engagement activity. Construction plans at this stage were based on desktop research and early engagement with utility companies about the impact on utility networks and infrastructure. Site investigations were also in the early stages of development. Feedback from engagement and consultation was used to produce a high level construction programme, which was included within the statutory consultation materials. Construction activities were set out at statutory consultation to explain what work would need to be undertaken to build the new road and associated works.

We also developed proposals for construction compounds and their possible locations. Five main compounds and several smaller sites were identified and included within the statutory consultation proposals.

A forecast of the impacts from the construction of the Lower Thames Crossing on the road network were categorised as low, medium or high for specific roads. This was based on estimated journeys of Heavy Goods Vehicles (HGVs) transporting material to and from sites, construction traffic and diversions and road closures that were known at the time.

We recognised that significant utility infrastructure existed throughout the project area, including both small and large-scale assets. This included nationally important high voltage overhead electricity and high-pressure gas pipeline networks operated by National Grid and their location with regards to the project. Reference was also made to the local distribution networks for power cables, gas pipelines, water pipelines, sewerage systems and telecommunication networks, which are largely concentrated along the existing road corridors. A high-pressure gas pipeline that used to operate as part of Barking Power Station was highlighted, as was a trunk water pipeline owned and operated by Essex and Suffolk Water on the western side of the M25.

Traffic assessments

Work on a new, updated transport model was undertaken after the PRA to assess the impacts from the proposed Lower Thames Crossing. This transport model is called the Lower Thames Area Model (LTAM) and is the one we are using today. The LTAM was developed to provide a more up-to-date representation of travel patterns in the area using mobile phone data and new traffic counts. The updated transport model was used to support the development of the project.

Overview of statutory consultation

Our statutory consultation was held between 10 October 2018 and 20 December 2018. Its main purpose was to provide all interested parties, including statutory consultees, local communities, organisations and people with an interest in land affected by the new road, an opportunity to understand our proposals and provide feedback. It also sought people's views on the preliminary environmental information relating to these proposals.

The consultation

We asked for feedback on:

- the need for the Lower Thames Crossing
- the selection of the preferred route and subsequent changes made to it
- the route south of the River Thames
- the tunnel and its entrances
- the route north of the River Thames
- the junctions
- public rights of way
- measures to reduce the impacts of the project
- the land required to build the Lower Thames Crossing
- the rest and service area, and maintenance depot
- forecast traffic conditions with the project
- our approach to road user charging
- plans for building the Lower Thames Crossing
- changes to utilities infrastructure

We also asked for any other comments about the Lower Thames Crossing and about the consultation.

How we carried out the consultation

We ran an extensive publicity campaign aimed at raising awareness of the consultation and encouraging participation in the process. To support this, we:

- sent a leaflet to 283,000 addresses within five kilometres of the new road
- sent around 2,500 personalised letters to landowners and/or occupiers of properties within the development boundary
- held 60 consultation events across a range of venues to raise awareness of the project and provide opportunities for people to talk to the project team about the proposals – almost 15,000 people attended the events
- attended more than 100 meetings with stakeholders, including local authorities, statutory environmental bodies, business representatives and locally elected representatives including MPs and ward councillors
- sent 2.5 million emails to individuals or organisations with registered Dart Charge accounts
- placed statutory notices and informal advertising in local, national and trade newspapers
- organised eight locations where people could view all the statutory consultation materials, known as deposit locations, and 27 information points with take away leaflets, the guide to consultation and response forms
- created a dedicated website to make sure all information relating to the consultation was easily accessible

Consultation materials

We produced a suite of statutory consultation documents and maps to help participants understand more detail about our proposals. These included:

- Your guide to consultation
- Approach to Design, construction and operation
- Case for the project
- Map Book 1 – General Arrangements
- Map Book 2 – Land Use Plans
- Map Book 3 – Engineering Plans
- Preliminary Environmental Information Report (PEIR)
- Preliminary environmental information summary
- Traffic forecasting report
- Traffic forecasting non-technical summary

Consultation responses

We received 28,493 responses to our statutory consultation – this is a record for a consultation of its type. Responses were collected from across the UK, with a large proportion from Kent, Essex and Thurrock. We received more than 25,000 online response forms. The majority of responses were from individual members of the public, with 314 from statutory consultees and local authorities. More than 500 were from other organisations and groups.

The Woodland Trust organised an online email campaign with a pre-printed message and space for respondents to add their own comments. In total, we received 2,117 responses to this email – 966 added additional comments to the supplied campaign text.

Breakdown of response type



What you said about our proposals and our response

Key themes

Overall, a substantial number of people who responded to our statutory consultation supported the need for the project and the proposals. We asked you to help shape our solutions and below are some key feedback themes that you raised in your responses:

- Traffic and congestion on local roads and strategic road network
- Impact on the landscape, countryside and green belt land
- Impact on ancient woodland and woodland areas
- Impacts to local wildlife and habitats

Statutory consultation feedback

- Increase in pollution and impact to air quality
- Impact on local communities, including amenities and open space
- Noise and vibration created by the project during construction and operation
- The complexity of the junctions, including safety of the roads and crossing
- Impacts of the rest and service facilities and Tilbury junction
- Opposition to charges at the Lower Thames Crossing

Our response to these issues are covered where they are raised under each question within the following sections of this document.

Summary of feedback received in statutory consultation

The following sections provide a summary of your views and the feedback we received during the statutory consultation. They also outline our response to your feedback and explain where, in some cases, we made changes and in others why changes were not made.

Firstly, we have summarised the 25 most common suggestions we received to the statutory consultation and our response to them.

We then summarise the feedback for all questions about the project proposals. Most of the questions included asking respondents to what extent they support or oppose an element of the proposals. There were also questions giving respondents an opportunity to explain why they held a certain view. We have followed the questions as they were asked in the response form.

Chapter 5 of this document provides a series of maps and images to show how the feedback you provided has helped to develop the project.

Our target date for the road opening is 2029/30, but for the purposes of construction and traffic modelling the opening date is assumed to be 2029 throughout this consultation.

Signposting to other documentation

Throughout the following sections we have signposted to other documents within this consultation where you can find more information about our proposals. A list of these documents and a short description of each are included below:

- Operations update – provides a summary of how the new road and its features will look when it opens. It also details the impacts, associated mitigation measures and the changes made to it since the design refinement consultation in 2020.
- Construction update – sets out our plans for constructing the Lower Thames Crossing, building on the feedback we have received from previous consultations.
- Ward impact summaries – describes how the construction of the project and operation of the road would affect each local authority ward area. It also describes the mitigation measures that we would make use of in each area to manage the effects of construction.

We also refer to the control documents that will form part of our DCO application. These documents describe how we would manage any impacts associated with construction. Where indicated, drafts of those documents are also provided as part of this consultation, offering more information on specific aspects of our plans. Documents mentioned in the following sections include:

- Code of Construction Practice (CoCP)
- Register of Environmental Actions and Commitments (REAC)
- Outline Traffic Management Plan for Construction (OTMPfC)
- Wider Network Impacts Management and Monitoring Plan

Most common suggestions received in statutory consultation feedback

We received a number of suggestions about the proposals set out in the statutory consultation materials.

Based on the methodology explained in Chapter 1, we have summarised the 25 most common suggestions across all questions, and provide a response to how your feedback has been used and whether any changes were made or not.

Summary of what you said	Our response
<p>You suggested that the Lower Thames Crossing should be priced the same as Dartford Crossing so the charges do not influence the choice of crossing</p>	<p>It is government policy that river crossings will normally be funded by tolls or road user charges. To align with this policy and to help the project meet its objectives, it is proposed that vehicles would be charged for using the crossing.</p> <p>There are no plans to operate the Lower Thames Crossing without a road user charge. It is expected that by lowering or removing the proposed charges, more traffic would use the new route, increasing congestion at the crossing and its approaches. If granted, the DCO would include powers for the Secretary of State for Transport to impose road user charges equal to those at the Dartford Crossing.</p>
<p>You suggested that the charges should be minimal or affordable, otherwise drivers would not use the crossing</p>	<p>At statutory consultation, we intended to seek ‘flexible’ charging powers. However, our approach changed and at supplementary consultation we proposed to align charges and other details of the charging regime with those at the Dartford Crossing, such as hours in which the charges apply, discounts and exemptions.</p> <p>Throughout the development of the new road, our traffic modelling has assumed equal charging across the project and Dartford Crossing. This is used as the ‘base case’ for traffic and environmental assessments.</p>
<p>You suggested that the Lower Thames Crossing should use the same payment process as Dartford and that there should be a single account for both crossings</p>	<p>A road user charge is likely to discourage some people from using the crossing. However, our modelling results indicate that with the charge there will still be significant demand for the crossing, and the project will achieve the scheme objectives of relieving the congested Dartford Crossing.</p> <p>It is expected that discounts will be offered to account holders, on the same terms as the account discounts that apply at the Dartford Crossing. The discount scheme would be in line with the system in place at the Dartford Crossing. The DCO will also include powers enabling the Secretary of State for Transport to apply a local resident discount for charges imposed under the DCO to residents of the local authorities in which the tunnel entrances would be situated, which would mean those living in Gravesham and Thurrock.</p>
<p>You suggested that local residents should qualify for discounts for using the new crossing, as compensation for the disruption they would experience</p>	<p>It is intended that the Lower Thames Crossing charging scheme would be a free-flow operation with Automatic Number Plate Recognition technology to detect and identify vehicles and to charge remotely, without the need for charging booths or barriers. It is expected that the Lower Thames Crossing and Dartford Crossing charging schemes would be operated together. This would include the payment channels and how to set up an account. We are expecting to provide the facility to run a single account to pay for both crossings.</p>

<p>Summary of what you said</p>	<p>Our response</p>
<p>You suggested that utilities infrastructure should be placed underground as this would minimise the visual impact</p>	<p>The works to divert existing utilities infrastructure have developed iteratively through close engagement with the relevant utility companies, further investigations, and consideration of feedback from organisations and residents of the affected areas. In a number of instances, this process has resulted in further changes to the utility proposals from statutory consultation, due to a better understanding of existing conditions and constraints.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead power lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p>
<p>You suggested that care should be taken to avoid any visual impact of utilities</p>	<p>An example of this is that we were able to reduce the extent of overhead power line diversion works presented at statutory consultation in the Chadwell St Mary area by moving the Lower Thames Crossing route approximately 60 metres to the north east.</p> <p>Undergrounding power lines is not possible at all locations because of factors including impacts on land, the need to maintain network resilience, local geology, accessibility for maintenance, cost, and the needs of the relevant utilities company.</p>

Summary of what you said	Our response
<p>You suggested that the crossing should be sited east of the preferred route; these respondents typically argue that the preferred route is too close to the Dartford Crossing</p>	<p>A structured process has been followed by the Department for Transport (DfT) and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p>
<p>You suggested that the crossing should be sited west of the Dartford Crossing; these respondents suggested locating the new crossing at Woolwich replacing ferry services</p>	<p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p>
<p>You suggested that the crossing should be sited at Canvey Island, including comments that it should link with the A130</p>	
<p>You suggested that public transport should be improved rather than building a new crossing and new roads. This includes the suggestion that alternatives like this, which were ruled out in 2009, should be reappraised</p>	<p>We are responsible for managing the strategic road network in England. The objectives for the new road were agreed between Highways England and the DfT and are recorded in the objectives of the scheme.</p> <p>These objectives include the need to relieve the congested Dartford Crossing and approach roads. The proposals for the new road have been assessed as the best response to the set objectives.</p> <p>Strategic development of national transport infrastructure is the responsibility of the DfT.</p>
<p>You suggested that there should be an additional crossing at Dartford instead of the preferred route; these respondents usually say that making use of existing infrastructure would minimise disruption and be a cheaper option by using the existing infrastructure</p>	<p>The new road could be used by public transport operators running bus or coach services. Existing bus routes using the Dartford Crossing, or for many other routes affected by its current performance would see improved journey times as a result of the new road.</p> <p>An assessment was carried out by the DfT in 2009 which considered provision of rail. This study found that provision of a rail solution alone would not relieve the congested Dartford Crossing, and also found that after accounting for the numbers of passengers and freight that would use the rail crossing, the inclusion of rail infrastructure within the Lower Thames Crossing would not provide value for money.</p>

<p>Summary of what you said</p>	<p>Our response</p>
<p>You provided suggestions on how to enforce payment from drivers of vehicles in other countries</p>	<p>Non-UK based drivers are required to pay for their crossings in the same way as UK based drivers. The Dart Charge compliance rates show that the overwhelming majority of journeys are correctly paid for within the required timescales, by UK and non-UK drivers. However, free-flow road user charging schemes are subject to non-compliance, both unintentional and deliberate, and by UK and non-UK based drivers. Therefore enforcement measures are necessary for the scheme to be credible.</p> <p>The DCO would, if granted, include powers to enforce the project road user charges in the same way as the Dartford charges are enforced.</p> <p>As with domestic customers, Highways England encourages compliance among non-UK customers and is serious about tackling cases of evasion. Highways England uses an Automatic Number Plate Recognition system which is capable of capturing both UK and non-UK vehicle registration marks. Where there is any doubt about the country of the registration, the image would be reviewed manually.</p> <p>If it is confirmed that a road user charge has not been paid, enforcement measures would be used to recover outstanding charges. Such measures include effective penalty and recovery processes and the use of a European debt recovery agency to support recovery of outstanding charges from non-UK vehicles. This approach has proven to be successful on existing charged roads, including the Dartford Crossing, and would be replicated at the Lower Thames Crossing.</p>

Summary of what you said	Our response
<p>You suggested a range of specific individual suggestions about how the impact on local communities could be minimised, including being mindful of the timing of the construction work if it's near to schools or residential areas</p>	<p>We have reviewed and considered the individual suggestions made regarding how impacts on the community could be minimised and, where practicable, these have been included in the project. Some of these range from design changes or commitments made in documents for the contractor to adhere to.</p> <p>Local people, communities and community assets have been considered throughout the design and development of the new road. We have consulted with local people and stakeholders at appropriate stages of the project's development, with feedback influencing how the impacts on local people, schools, businesses, public rights of way and community assets would be mitigated.</p> <p>We developed an approach to construction which reduces risks and minimises the construction period. Since statutory consultation and the feedback received from the public, local authorities and local businesses, the construction approach has been further refined with many mitigation measures being adopted. Some examples of these include, minimising the use of local roads (particularly around the M25 and A13) by creating offline haul roads directly off the strategic road network. We would also introduce landscaping (for example Chalk Park) to reduce traffic using the network, and minimise the carbon footprint by reusing material onsite, as well as providing green space for the local communities.</p> <p>Construction compound locations have also been refined to reduce their impacts, in some cases moving them further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are included within the Code of Construction Practice (CoCP) and Register of Environmental Actions and Commitments (REAC), which are part of this consultation.</p> <p>The CoCP includes mitigation measures and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours. The CoCP will also form part of our DCO application.</p>

(continued on next page)

Summary of what you said	Our response
	<p>We are exploring options to minimise impacts on schools during construction, for example potentially avoiding deliveries during school drop off and pick up times. Please see the OTMPfC, which is also part of this consultation.</p> <p>Access to community facilities, such as leisure centres, would be maintained during construction, with mitigation measures relating to construction traffic management and community engagement as set out in the CoCP. The effects of traffic disruption to businesses located in close proximity to the project would be reduced or avoided through measures in the OTMPfC. These include restrictions on the routes taken by construction traffic and careful design and timing of temporary road closures or diversions.</p>
<p>You suggested that the crossing should be a bridge instead of the proposed tunnel</p>	<p>Designing the crossing as a tunnel instead of a bridge reduces the effects on the environment and community as tunnels have substantially fewer visual and noise impacts. The use of tunnels also helps to avoid sensitive and valuable habitats such as the Thames Estuary and Marshes Ramsar and Special Protection Area (SPA). In addition, tunnels are not affected by severe weather, unlike bridges such as the Queen Elizabeth II Bridge at Dartford, which is closed on safety grounds during high winds.</p>
<p>You had suggestions relating to compensation for those affected by the Lower Thames Crossing which overwhelmingly call to compensate adequately or even generously and to compensate for reasons such as noise disruption</p>	<p>Since the PRA in 2017, owner-occupiers of residential properties within the Order Limits have been able to ask us to purchase their properties by serving a Blight Notice under the Town and Country Planning Act 1990 (as amended). We have received a number of blight notices and we have purchased a number of properties since PRA.</p> <p>We have also written to residents near the route regarding compensation that may be available to them due to the effects on their property from the new road once it is opened and has been in operation for a year.</p> <p>Further information about the compensation offered to those affected by the project can be found in the following Highways England documentation: Your Property and Compulsory Purchase, Your Property and Blight, Your Property and Discretionary Purchase and How to claim for the effects on your property of a new or altered road (Part 1 Compensation).</p>

Summary of what you said	Our response
<p>You suggested that traffic management and the running of the Dartford Crossing should be improved instead of building a new crossing</p>	<p>Many alternatives, including those involving upgrades to the Dartford Crossing, were considered before announcing the preferred route for the Lower Thames Crossing in 2017. Highways England monitor and regularly review the operation of the Dartford Crossing to identify whether further efficiencies can be made. This includes, regularly reviewing incidents and responses and updates being made to the control systems that reduce the time taken to release escorts and to remove oversized vehicles from the approaches.</p> <p>Other improvements have also been developed, which include:</p> <ul style="list-style-type: none"> ■ In December 2020, enforcement cameras were installed at A282 junction 1b to deter the misuse of the yellow boxes at the junction. The aim of this was to prevent motorists blocking the roundabout gyratory in order to allow local traffic to continue to flow through the junction, this should reduce the impact on local roads during periods of congestion on the approach to the Dartford Crossing.
<p>You suggested that the Dartford Crossing should be improved instead of building a new crossing</p>	<ul style="list-style-type: none"> ■ In August 2019, a number of improvements to the A282 M25 junction 2 were implemented to improve and manage traffic flows. This included: <ul style="list-style-type: none"> ▪ upgrading of traffic signals and revised timings ▪ addition of an extra lane to the roundabout ▪ extension of the A2 London bound exit slip onto the M25 link road ▪ improvements to road signs and markings on the roundabout ▪ installation of red light traffic enforcement <p>Due to the existing constraints at the Dartford Crossing, improvements to the existing infrastructure and management, while improving traffic flow, would not provide the additional capacity needed to relieve the congested Dartford Crossing and its approach roads.</p>

Summary of what you said	Our response
<p>You suggested that existing roads will need upgrading to cope with increased traffic. These tended to focus on the M20 but also roads that connect the M20 to the A2/M2, such as Blue Bell Hill, which respondents expect to become more congested once the Lower Thames Crossing is operational</p>	<p>The purpose of the new road is to meet the scheme objectives agreed between Highways England and the DfT. These include providing traffic relief at the Dartford Crossing and new free-flowing north-south capacity across the Thames.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p>
<p>You suggested that existing roads would need upgrading to cope with increased traffic as a result of the project</p>	<p>The DfT's Road Investment Strategy (RIS) 2: 2020-2025 acknowledges the potential impacts of the Lower Thames Crossing on the road networks in Kent, Thurrock and Essex. It includes a commitment for Highways England to work with local highway authorities to consider what that means for the shape of the strategic road network and local roads in those areas, including the A13 towards Southend.</p> <p>RIS2 also provided funding to investigate linked improvements on the A2 into Kent as part of the pipeline of work for the next RIS.</p>

Summary of what you said	Our response
<p>You suggested that measures should be taken to reduce road traffic rather than building new roads</p>	<p>We are responsible for managing the strategic road network in England. The objectives for the new road were agreed between Highways England and the DfT and are recorded in the scheme objectives. These include the need to relieve the congestion at the Dartford Crossing and its approach roads.</p> <p>The strategic road network provides essential infrastructure which allows for the efficient movement of people and goods. Such a network can play a key part in enabling and sustaining economic prosperity and productivity. In September 2020 the DfT released information on traffic trends until the year 2019. These indicated that while overall traffic on urban 'A' roads remained constant between 1994 and 2019, all other types of roads experienced an increase in traffic, with motorways and rural 'A' roads experience some of the highest growth in the same period. Currently 79% of domestic freight is moved by road, and 68% of workers typically travel to work by car.</p> <p>To achieve the challenging goal of net zero greenhouse gas emissions by 2050 there will need to be substantial changes in how we travel around the country. This will include changes in technology to reduce emissions from vehicles, and will also include a need to deliver more efficient logistics, to reduce mileage driven by HGVs, and increasing the use of active travel (cycling and walking) and public transport.</p> <p>Measures put in place to tackle the coronavirus (COVID-19) pandemic had a major impact on the volume of passenger vehicles on the road network, compared to similar periods in 2019. Freight traffic has never stopped as there has been a continuous requirement for deliveries throughout the pandemic.</p> <p>Through 2020 and into 2021, COVID-19 has had a marked impact on everyday life, including on traffic on the road network. In early March 2020 the UK government set out four phases in its response to COVID-19, with the first national lockdown commencing on 23rd March. This, and subsequent restrictions, limited the movement of people to varying degrees.</p> <p>Information gathered during this time on road use showed the importance of the strategic road network. During the lockdown period in late March and April 2020, only essential workers</p>

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Summary of what you said	Our response
	<p>were allowed to go to their place of work, and travel outside of the home was severely limited. April 2020 was the month which saw the largest fall in traffic, 63% lower nationally than traffic levels in April 2019. Traffic levels then varied through the year as the constraints changed. In 2021, the demand has rebounded and is rapidly returning to pre-COVID-19 levels.</p> <p>While reduction in demand across the national road network may be required to achieve the net zero greenhouse gas emissions by 2050, there will remain a need to relieve the congested Dartford Crossing and approach roads.</p>
<p>You suggested that the crossing should be future proofed, including some specific suggestions for how to future proof it, such as increasing the size of the tunnels</p>	<p>Providing sufficient capacity to relieve congestion at the Dartford Crossing is one of the scheme objectives. The new road's proposed tunnels have been designed based on traffic modelling results in accordance with guidance set out by DfT. Based on the modelling outputs, two tunnels providing three lanes in each direction would handle future traffic flows, with the tunnels forecast to remain free-flowing for the foreseeable future.</p> <p>In response to issues raised during statutory consultation and following further investigations, some elements of the new road were redesigned and further modelling carried out. This work confirmed the decision to use two three-lane tunnels. In addition, increasing the size of the tunnels to accommodate four lanes would substantially increase the cost, complexity and risk associated with the project.</p>
<p>You suggested that the number of lanes proposed for the crossing should be increased, often to four lanes in each direction to better future-proof the crossing</p>	<p>The provision of a third tunnel for maintenance or future traffic would add significant cost to the project, and could not be justified by the benefit provided. A third traffic tunnel is not needed to manage the forecast demand or achieve the required lane availability as set out in government targets within the Road Investment Strategy.</p>
<p>You suggested that public and especially local opinion needs to be listened to and taken into account during the decision-making process</p>	<p>We considered all feedback and paid attention to responses commenting on local impacts and benefits. On the basis of this local and wider regional sentiment, we have made changes to the proposals as described throughout this document.</p> <p>The overriding priority has been to develop a new road that balances the need for improved road capacity across the Thames with the need to limit negative impacts on local communities and the environment, and provide value for money.</p>

Summary of what you said	Our response
<p>You had suggestions relating to an access road linking the junction to Tilbury or providing a connection to the port. These included suggestions that such a road should be incorporated into the plans, comments from those who believe that a link is included in the current plans and either object to or support this inclusion</p>	<p>In 2017, we developed proposals to provide a direct link road between the then-proposed Tilbury junction and the Port of Tilbury. This link was removed from the Lower Thames Crossing before statutory consultation and is now being investigated separately by Highways England.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we also decided not to progress the rest and service area near East Tilbury as part of our DCO application. This meant there was no longer a need for the Tilbury junction.</p> <p>The removal of this junction (as presented in statutory consultation) from the proposals that were presented at supplementary consultation, would not affect local access or journeys between Kent and Thurrock or Essex because no local access from this junction was proposed at consultation. The design of the new road does not preclude the construction of a junction at Tilbury should this option be pursued in future. If a Tilbury link road and junction were proposed, these would require appropriate planning consent.</p> <p>DfT's Road Investment Strategy (RIS) 2: 2020-2025 provided funding to investigate the Tilbury link road as part of the pipeline of work for the next RIS.</p>
<p>You made suggestions about the building approach, which included the need to reuse spoil on site, and on the importance of early engagement with affected parties</p>	<p>We have considered the suggestions raised during consultation in the development of our plans and these have guided how the new road would be built. We have continually engaged with local authorities and statutory environmental stakeholders on our proposals for the reuse of spoil which have been refined since statutory consultation.</p> <p>Existing ground conditions have been identified through an extensive ground investigation programme. The results of this work have helped with the design of the route, its structures and the plans for how to build them.</p> <p>As a result of public consultation and stakeholder feedback, we have refined the proposed construction access routes. Vehicles would access construction sites mainly using the strategic road network, to avoid sending HGVs through residential areas.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project.</p>

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Summary of what you said	Our response
	<p>Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>In addition to the measures proposed above to reuse materials and reduce HGV trips, stockpiling of chalk south of the River Thames would lessen the impact on the existing road network during the construction phase because the HGVs needed to remove the spoil would be spread out over an extended period. The removal of the stockpile material is expected to take up to three years after the road has opened. This was consulted on during the design refinement consultation.</p> <p>Spoil from the tunnels would be in the form of slurry, which would be treated and then used in land forming at Goshems Farm, near to the proposed northern tunnel entrance. Most of the other spoil, such as from cuttings, would be used on site, with the rest (for example, any contaminated material) removed by road or river, via the nearby ports.</p> <p>The percentage transported by river would be decided by the appointed contractor within relevant constraints. We would be unable to remove spoil or bring in materials to the construction sites by rail because of a lack of suitable infrastructure.</p> <p>We are currently undertaking an environmental impact assessment. This explains how materials will best be used, with 'disposal' the least favoured option after opportunities to reuse, repair and recycle have been explored. The relevant legislation, best practice and British Standards would determine which materials would be used in construction.</p> <p>We have been engaging with stakeholders in relation to our proposals for a number of years. Following the announcement of the preferred route in 2017, we have been talking to affected land owners about our proposals. During construction, we would continue to work with stakeholders, including local authorities, emergency services, landowners, businesses and communities.</p>

In the following sections we have summarised the feedback for all questions about the project proposals. We have followed the order of questions as they were asked in the statutory consultation response form.

Need for the Lower Thames Crossing

We asked...

“Do you agree or disagree that the Lower Thames Crossing is needed?”

Summary of responses

- 26,127 responses were received
- 25,901 respondents were members of the public and other non-statutory organisations
- 208 respondents were people with an interest in land
- 18 respondents were statutory bodies and local authorities
- 22,381 (86%) individual respondents agreed or strongly agreed that the crossing is needed
- 2,684 (10%) individual respondents disagreed or strongly disagreed that the crossing is needed

You said...

The most common reasons people support the crossing were:

- To help alleviate congestion and should be built as soon as possible
- It would reduce journey times in the area, especially across the River Thames
- It would address a lack of resilience on the current road network and will provide an alternative route when existing river crossings are closed or heavily congested
- To improve connectivity to new areas by opening new routes for motorists
- It would reduce the effects of air pollution, particularly in the Dartford area
- It is needed to support businesses

The most common reasons people opposed the crossing and our response to these are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about congestion being made worse or moved to other roads</p>	<p>Concerns raised during statutory consultation regarding the impact of the new road on congestion led us to develop our design.</p> <p>Following feedback from our statutory consultation, the A2 junction was altered to help with the capacity of the local roads and connections on the south of the A2. We provided more direct connectivity between Gravesend and the M2/A2 eastbound, and redesigned the Gravesend East junction and link roads to improve journey times.</p> <p>The work along the A2 corridor included the provision of two one-way link roads, north and south of the A2. These connect to the existing A289 and the old A2 at the eastern end, helping to improve the traffic flows and safety. This removed conflicting traffic flows and the same arrangement is proposed at the M25 junction with the inclusion of the northbound link road to junction 29.</p> <p>At the A13/A1089 junction, the junction layout was modified to manage traffic levels and reduce delays.</p> <p>At each stage of the project the predicted flows from the traffic model results have been used to identify the number of lanes required on each section of the route and link roads. As the project has developed, each design was run in the traffic model to assess the impact on traffic flows.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p>

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Summary of what you said	Our response
	<p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns about the environmental impacts, or loss of green belt and countryside</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of our main aims. Environmental mitigation measures have been developed to minimise the impacts.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help to lessen the impacts on the Thames Estuary and Marshes Ramsar and SPA, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p> <p>The proposed footprint of the upgraded section of the M2/A2 was reduced by removing the hard shoulder along the eastbound connector road and reducing the width of lane four and the central reservation. These changes have lessened the impact of the road on the Kent Downs Area of Outstanding Natural Beauty (AONB), while still maintaining safety and traffic flow.</p> <p>North of the Thames, at supplementary consultation the northern tunnel entrance remained in the same position, but the distance between the northbound and southbound tunnels was narrowed, reducing the footprint of the project.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the rest and service area near East Tilbury. The project would operate safely without it and the proposed facility had significant impacts on the environment, including green belt land, and local communities.</p>

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Summary of what you said	Our response
	<p>The Lower Thames Crossing route east of South Ockendon was moved 200 metres south-west to reduce the impact on the environment, utilities and landfill works in the area. Due to the realignment of this link, the layout of the structures over the Mardyke river and nearby Orsett Fen Sewer and Golden Bridge Sewer rivers were altered.</p> <p>Overall, the Mardyke viaduct and Orsett Fen viaduct lengths were increased by approximately 50 metres, which increased the open aspect and reduced the volume of flood compensation required in this area. The heights of the viaducts were kept as low as possible, to reduce their visual impact and the footprint of the embanked section as far as possible.</p>
<p>You raised concerns about the environmental impacts such as air quality caused by increased pollution</p>	<p>We considered the feedback regarding air quality, but we did not make any changes to the proposals. However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>For example, air quality is predicted to worsen on the A228, through Cuxton to the M2, and between M2 junctions 1 and 2.</p>

Summary of what you said	Our response
<p>You raised concerns about the cost to build and use the new road</p>	<p>We considered the feedback regarding the cost to build the project, but we did not make any changes to the proposals.</p> <p>The Dartford Crossing is one of the country's most strategically important roads. For over 65 years it has been the only crossing between Kent and Essex, and is now over capacity; it was designed for 135,000 vehicles a day but is regularly used by more than 180,000.</p> <p>The increasing volume of traffic, and the fact the crossing is affected by high winds, means it has one of the highest incident rates in the country. These incidents can cause huge tailbacks and congestion on nearby local roads. When the Dartford Crossing is closed the only option for some HGVs is making hundred-mile-long diversions.</p> <p>The Lower Thames Crossing will take more than 13 million vehicles a year away from the Dartford Crossing and ease congestion on heavily used sections of the M2, A2, A13 and M25. It would also reduce traffic overflowing on to some local roads.</p> <p>More reliable crossings would boost local and regional economies. Freight traffic using the Lower Thames Crossing would have an uncongested route to Dover and businesses could operate more effectively. For residents, it would mean better access to homes, jobs, leisure and retail facilities on both sides of the river.</p> <p>All parts of the new road, including links and structures, have been designed to be cost-efficient. Costs of construction and operation are considered throughout the design process to ensure costs are controlled.</p> <p>With regards to concerns about the cost of using the new road, a road user charge is likely to discourage some people from using the crossing. However, our modelling results indicate that with the charge there will still be significant demand for the crossing, and the project will achieve the scheme objectives of relieving the congested Dartford Crossing. If granted, the DCO would include powers for the Secretary of State for Transport to impose road user charges equal to those at the Dartford Crossing.</p>

Summary of what you said	Our response
<p>You raised concerns that a new crossing would negatively affect local communities</p>	<p>Local people and communities have been considered throughout the design and development of the Lower Thames Crossing and consulted with at each stage of the project's development. At all times, we have sought to minimise the amount of land impacted or required for the project to reduce its effect on landowners and local people.</p> <p>Wherever possible, the new road has been designed to avoid and reduce impacts and effects on population and human health. We have included various measures to reduce the impacts of the route for local communities. For example, we added green bridges throughout the route, some of which also include routes for walkers, cyclists and horse riders.</p> <p>Seven green bridges, with public rights of way, have been proposed. At statutory consultation, five green bridges were proposed: at Green Lane north of the river, and over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed at: Hoford Road, North Road and Muckingford Road. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p> <p>The provision of new routes for walkers, cyclists and horse riders would be designed to improve access to the existing network. Any footbridges, green bridges and underpasses would be accessible to all users, including those using wheelchairs, and would be designed so as to ensure the safety of vulnerable users.</p> <p>In addition to our proposals for green bridges and new routes for walkers, cyclist and horse riders, we are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>In addition, the project has sought to generate a positive legacy of green infrastructure and identified an opportunity to improve access to semi-natural open space. For example, south of the Thames, in the area of land to the north west of the southern tunnel entrance, the project has developed a landscaping mitigation proposal that creates a wooded hill.</p>

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Summary of what you said	Our response
	<p>This provides open space and creates a separation between the southern tunnel entrance and the edge of Gravesend, while also softening the edge of the settlement.</p> <p>We are continuing to identify opportunities to help local communities, which includes creating apprenticeships and jobs, as well as identifying volunteering opportunities. We are also seeking to help local businesses form part of the supply chain to build the route if the project is granted consent.</p>
<p>You raised concerns about the decision-making process such as prioritising economic benefits over environmental and community impacts</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment and communities is one of the project's main aims. Over the last 10 years a significant amount of work has been done to assess the options to improve road capacity across the Thames, east of London. Options were assessed for technical feasibility, environmental acceptability, and performance against the scheme objectives. One of these objectives is "to minimise adverse impacts on health and the environment".</p> <p>To read more about how we have minimised the impacts of the project on the environment and communities, see our responses in the section 'Environmental impacts and how we plan to reduce them'.</p>

Preferred route selection and changes

This section of the response form contained two questions asking about the selection of the preferred route and how the route has been refined since then. The final question allowed respondents to provide reasons for their answer and any comments.

We asked...

"Do you support or oppose our selection of the preferred route for the Lower Thames Crossing?"

and

"Do you support or oppose the changes we have made to the route since our Preferred Route Announcement in 2017?"

Open space

Open space land can include public gardens, land used for public recreation and disused burial grounds

Summary of responses

Preferred route question

- 24,653 respondents answered this question
- 24,429 respondents were members of the public and other non-statutory organisations
- 207 respondents were from people with an interest in land
- 17 respondents were from statutory bodies and local authorities
- 17,203 (70%) individual respondents supported or strongly supported the selection of the preferred route
- 3,691 (15%) individual respondents opposed or strongly opposed it the selection of the preferred route

“Changes made since 2017 question”

- 24,538 respondents answered this question
- 24,315 respondents that answered this question were members of the public and other non-statutory statutory organisations
- 206 respondents were people with interest in land
- 17 respondents were from prescribed statutory bodies and local authorities
- 13,857 (60%) individual respondents supported or strongly supported the changes made to the route since 2017
- 2,886 (12%) individual respondents opposed or strongly opposed the changes made to the route since 2017

You said...

The most common reasons people support the preferred route or changes to the route were:

- It is the best option and should be built as soon as possible
- It would have a beneficial impact on congestion, including the Dartford Crossing
- Local communities would benefit and disruption would be minimised
- Access to more direct and efficient routes between many locations such as north and south of the Thames and would provide better connections and journey times
- The design changes since 2017 considered public opinion, with increased economic benefits and reduced environmental impacts and land take
- It has fewer environmental impacts than the other options

The most common reasons people opposed the preferred route or changes to the route and our response is summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the location of the project, with comments suggesting it is too close to the Dartford Crossing or not agreeing with the chosen location</p>	<p>We considered the feedback regarding the location of the project, but we did not make any changes to the proposals.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p>
<p>You raised concerns that the project would worsen congestion on both local roads and the strategic road network</p>	<p>We considered the feedback regarding congestion, but we did not make any changes to the proposals.</p>
<p>You raised concerns that the project would only temporarily reduce congestion or move congestion elsewhere on the road network</p>	<p>The road network across the south east of England carries a high volume of traffic on a daily basis, and is coming under increasing pressure due to economic growth across the region. As a result, there are a number of areas of severe existing congestion across the road networks. The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region would change. This would lead to some improvements and some worsening of other areas of existing congestion across the region.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do</p>

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Summary of what you said	Our response
	<p>not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>DfT's Road Investment Strategy (RIS) 2: 2020-2025 acknowledges the potential impacts of the Lower Thames Crossing on the road networks in Kent, Thurrock and Essex. It states a commitment for Highways England to work with local highway authorities to consider what that means for the shape of the strategic road network and local roads in those areas, including the A13 towards Southend.</p> <p>RIS2 also provided funding to investigate linked improvements on the A2 into Kent and the Tilbury link road as part of the pipeline of work for the next RIS. It also highlighted that Highways England is currently working with Thurrock Council to assess the possibility of taking over operation of the A13/ A1014 during RIS2. This would improve connectivity from the end of the section of the A13 already in the strategic road network, through to the London Gateway Port following completion of the A13 three-lane widening project.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns about the project increasing pollution and negatively impacting air quality</p>	<p>We considered the feedback regarding pollution and air quality, but we did not make any changes to the proposals. However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and</p>

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Summary of what you said	Our response
	<p>diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>Detailed responses to concerns about air quality across the project can be found within the following sections:</p> <ul style="list-style-type: none"> ■ Route south of the river ■ Route north of the river ■ Northern connections ■ Environmental impacts and how we plan to reduce them ■ Need for the Lower Thames Crossing ■ Public rights of way <p>The construction phase is likely to affect air quality as a result of emissions of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact to farmland, countryside and the green belt</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project’s main aims. Environmental mitigation measures have been developed to minimise the impacts of the new road. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise, restore and compensate’ to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of adverse effect they are intended to offset.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as ‘Best Most Versatile Land’.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on ‘Best Most Versatile Land’. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help to lessen the impacts on the Thames Estuary and Marshes Ramsar and SPA site, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p> <p>The proposed footprint of the upgraded section of the M2/A2 was reduced by removing the hard shoulder along the eastbound connector road and reducing the width of lane four and the central reservation. These changes have lessened the impact of the road on the Kent Downs Area of Outstanding Natural Beauty (AONB), while still maintaining safety and traffic flow.</p>

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Summary of what you said	Our response
	<p>North of the Thames, at supplementary consultation the northern tunnel entrance remained in the same position, but the distance between the northbound and southbound tunnels was narrowed, reducing the footprint of the project.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the rest and service area near East Tilbury. The project would operate safely without it and the proposed facilities had significant impacts on the environment and local communities.</p> <p>The Lower Thames Crossing route east of South Ockendon was moved 200 metres south-west to reduce the impact on the environment, utilities and landfill works in the area. Due to the realignment of this link, the layout of the structures over the Mardyke river and nearby Orsett Fen Sewer and Golden Bridge Sewer rivers were altered.</p> <p>Overall, the Mardyke viaduct and Orsett Fen viaduct lengths were increased by approximately 50 metres, which increased the open aspect and reduced the volume of flood compensation required in this area. The heights of the viaducts were kept as low as possible, to reduce their visual impact and the footprint of the embanked section as far as possible.</p> <p>Since supplementary consultation, ongoing development of construction and utility diversion works, alongside reviews of land take, have resulted in a reduction in the new road's Order Limits. This has reduced the land take for temporary and permanent works north and south of the river. Notable examples include, a reduction in land take within ancient woodland and site of special scientific interest (SSSI) woodland along the A2 corridor, and a reduction of the impacts to the Thames Chase site, allowing for more of the woodland area to be retained.</p>

<p>Summary of what you said</p>	<p>Our response</p>
<p>You raised concerns about the potential impact of the preferred route on local communities, including comments that local residents have not been given enough consideration and are already affected by the existing crossing</p>	<p>Local people and communities have been considered throughout the design and development of the Lower Thames Crossing and consulted with at each stage of the project's development. At all times, we have sought to minimise the amount of land impacted or required for the project to reduce its effect on landowners and local people.</p> <p>Wherever possible, the new road has been designed to avoid and reduce impacts and effects on population and human health. We have included various measures to reduce the impacts of the route for local communities. For example, we added green bridges throughout the route, some of which also include routes for walkers, cyclists and horse riders.</p> <p>The provision of new routes for walkers, cyclists and horse riders would be designed to improve access to the existing network. Any footbridges, green bridges and underpasses would be accessible to all users, including those using wheelchairs, and would be designed so as to ensure the safety of vulnerable users.</p> <p>In addition to our proposals for green bridges and new routes for walkers, cyclist and horse riders, we are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>In addition, the project has sought to generate a positive legacy of green infrastructure and identified an opportunity to improve access to semi-natural open space. For example, south of the Thames, in the area of land to the north-west of the southern tunnel entrance, the project has developed a landscaping mitigation proposal that creates a wooded hill. This provides open space and creates a separation between the southern tunnel entrance and the edge of Gravesend, while also softening the edge of the settlement.</p> <p>We are continuing to identify opportunities to help local communities, which includes creating apprenticeships and jobs, as well as identifying volunteering opportunities. We are also seeking to help local businesses form part of the supply chain to build the route if the project is granted consent.</p>

Route south of the river

We asked...

“Do you support or oppose the proposed route south of the river?”

Summary of responses

- 23,174 respondents answered this question
- 22,962 respondents were members of the public and other non-statutory organisations
- 195 respondents were from people with an interest in land
- 17 respondents were from statutory bodies and local authorities
- 15,666 (68%) respondents supported or strongly supported the proposed route south of the river
- 2,661 (12%) respondents opposed or strongly opposed the proposed route south of the river

You said...

The most common reasons people support the southern route were:

- That it would improve traffic flow in the area and reduce congestion on the Dartford Crossing and local roads – and work should start as soon as possible
- Sufficient efforts have been put in place to minimise the potential disruption to local communities
- Its design would blend in with the surrounding environment
- It would offer better access to Kent from a range of locations

The most common reasons people opposed the southern route and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns that congestion on the southern route and local traffic problems would get worse because the project design is inadequate</p>	<p>Following statutory consultation, some sections of the project were revised, and additional traffic modelling was carried out. The key change to the design of the route south of the river following statutory consultation was the alteration to the A2 junction. A new direct link from the south end of Valley Drive on to the M2 was included. This change was made in response to feedback received during statutory consultation, provided direct links for key local traffic movements, and helped with the capacity of the two-way local link road and the associated connections on the south of the A2.</p>
<p>You raised concerns that local roads such as those in Shorne or Chalk would be adversely affected by increased traffic</p>	<p>The road network across the south-east of England carries a high volume of traffic on a daily basis, and is coming under increasing pressure due to economic growth across the region. As a result, there are a number of areas of severe existing congestion across the road networks. The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region would change. This would lead to some improvements and some worsening of other areas of existing congestion across the region.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p>

Summary of what you said	Our response
<p>You raised concerns about the loss of green belt land</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project’s main aims. Environmental mitigation measures have been developed to lessen the impacts of the project. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>Throughout the development of the project, we have designed junctions and other structures such as bridges and viaducts to minimise their footprint and height wherever ground conditions and the engineering requirements of the new road allow. Ground conditions south of the Thames have allowed the road to be designed in a tunnel or cutting all the way to the proposed M2/A2 junction, reducing its impact on the surrounding landscape and nearby communities.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help mitigate the impacts on the Thames Estuary and Marshes Ramsar and SPA, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p> <p>Also, in response to feedback received during statutory consultation, the proposed footprint of the upgraded section of the M2/A2 was reduced by removing the hard shoulder along the eastbound connector road and reducing the width of lane four and the central reservation. These changes lessened the impact of the road on the Kent Downs AONB, while still maintaining safety and traffic flow.</p> <p>At statutory consultation, the area of land to the west of the M2/A2 junction was comprised fully of woodland planting. However, the existing open character of the landscape, the existing Conservation Area of Thong Village and the remnants of the former RAF Gravesend Airstrip informed a new strategy of woodland mitigation. At supplementary consultation, the former airstrip was kept open in character and the existing character of Thong Village was retained as far as possible. The woodland planting instead wrapped around the edge of Gravesend, providing a visual amenity and a wooded connection between Claylane Woods and Shorne Woods via the Thong Lane Green Bridge.</p>

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Summary of what you said	Our response
	<p>In addition, at supplementary consultation the landscape mitigation proposed to the south-east of the village of Thong included extended earthworks and woodland planting for visual mitigation. The landscape mitigation proposals were further refined as part of the design refinement consultation.</p> <p>The main changes presented at supplementary consultation were further detail added on the specific type of ecological mitigation proposed across the route, such as grassland, woodland and watercourses. Changes to the extent of mitigation planting as a result of utilities co-ordination were also presented, as well as landscaping proposals around the proposed substations and switching station to show how they are integrated into the landscape.</p> <p>Furthermore, at supplementary consultation our landscaping proposals were developed to mitigate the visual impact of the crossing's permanent above-ground infrastructure. In the area to the west of the southern tunnel entrance, the development boundary was extended to the edge of Gravesend to maximise the potential for open space creation.</p> <p>An informal public space, Chalk Park, would also be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, as well as a mixture of chalk grassland, woodland and other suitable habitats to improve local biodiversity and ecological connectivity. A new landform, with woodland planting to the top, would create vantage points to the wider Thames Estuary. We presented this proposal in supplementary consultation.</p> <p>Since the design refinement consultation, south of the river a utility (gas diversion) route has been amended to go under Park Pale Lane, adjacent to the M2/A2. This results in a reduction of the loss of woodland in Brewers Wood that can now be retained. In addition, the same utility route has been amended to the west of Brewers Road Bridge, which has reduced the loss of woodland in Shorne.</p>

Summary of what you said	Our response
<p>You raised concerns about the environmental and health concerns due to increased air pollution</p>	<p>We considered the feedback regarding health and pollution, but we did not make any changes to the proposals. However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Air quality is also expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>For example, air quality is predicted to worsen on the A228, through Cuxton to the M2, and between M2 junctions 1 and 2.</p> <p>The construction phase is likely to affect air quality as a result of emissions of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p>

<p>Summary of what you said</p>	<p>Our response</p>
<p>You raised concerns about the location of the southern route, with objections to the selection of the Western Southern Link (WSL) because of its impact on the environment and communities</p>	<p>We considered the feedback regarding the location of the southern route, but we did not make any changes to the proposals.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p>

The crossing

We asked...

“Please give us your comments on the tunnel, the north and the south tunnel entrances and any other feedback you have on this part of the preferred route*.”

Summary of responses

- 10,688 respondents discussed the proposed crossing and tunnel entrances

**This was an open question and did not ask for respondents to provide levels of support or opposition. We do not, therefore, have a statistical breakdown of responses for this question.*

You said...

The most common reasons people support the proposed crossing were:

- Tunnels would have less visual impact compared to a bridge and the work should start as soon as possible
- The proposed number of lanes in the tunnels would reduce congestion in the local area
- Unlike the Queen Elizabeth II bridge at Dartford, the tunnels would not need to close in high winds
- Tunnels would be the best option for the environment

The most common reasons people opposed the proposed crossing and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about congestion at and on the approach to the tunnel, including the additional traffic generated on local roads</p>	<p>We considered the feedback regarding congestion around the tunnel and the number of lanes, but we did not make any changes to the proposals.</p>
<p>You raised concerns about the number of lanes within the tunnel, with comments suggesting three lanes in each direction would not provide sufficient capacity</p>	<p>The Lower Thames Crossing tunnels have been designed in accordance with Highways England design standards and would not have the same restrictions on dangerous goods vehicles, which contribute to congestion at the approach to the Dartford Crossing northbound. More than 2,000 HGVs have to be escorted every month at the Dartford Crossing, with convoys of restricted vehicles on average leaving every 15 minutes. Each time an HGV is escorted, a lane is closed for around 90 seconds. This adds up to five to seven minutes of closures each hour, cutting road capacity on the Dartford Crossing by 8% to 12%.</p> <p>The new road would be designed without junctions near the tunnel entrances, which reduces the need for lane changes, ensuring a smoother flow of traffic and reducing the risk of collisions.</p> <p>The proposed tunnels would be significantly larger than the existing tunnels at the Dartford Crossing. They would have three full lane widths in both directions, so it would be easier for drivers to maintain speed and pass vehicles in other lanes. This would help traffic flow faster and more freely through the tunnels.</p> <p>In addition, the proposed tunnels have been designed based on traffic modelling results in accordance with DfT guidance. The modelling is based on the current DfT traffic forecasts and includes all known large developments with a planning application or consent. Based on the modelling outputs, two tunnels providing three lanes in each direction would accommodate future traffic flows. The tunnels and their approaches are forecast to remain free flowing for the foreseeable future.</p>

Summary of what you said	Our response
<p>You raised concerns about dangerous goods vehicles using the crossing. For example, the need for an escort such as that required at the Dartford Crossing, which causes congestion</p>	<p>We considered the feedback regarding dangerous goods vehicles, but we did not make any changes to the proposals.</p> <p>The tunnels have been designed to a height that accommodates all standard vehicles, which means that all vehicles that can pass under the bridges and gantries on the roads approaching the tunnel can also pass through the tunnel. Also, they would not have the same restrictions on vehicles carrying hazardous goods that currently require escorting through the northbound Dartford Crossing. Instead, they would be able to safely travel through the tunnel unescorted, which would help maintain free-flowing traffic.</p>
<p>You raised concerns about the safety of the crossing, including in the event of collisions or breakdowns, and a fire or terrorist incident</p>	<p>Improving safety is one of the scheme objectives. Not only will the new tunnel and roads be designed and built to the highest safety standards recommended today, but we continue to adapt our design to incorporate advances in design and technology that emerge in the years ahead.</p> <p>Existing plans and agreements are in place between us and the emergency services for accessing incidents on such roads. These would be extended to the project to ensure the safety of road users in the event of an incident.</p> <p>The new road's safety features would include vehicle detection, emergency areas, variable mandatory speed limits and lane closure signals in the event of an incident, such as a vehicle breakdown or collision. Control measures across the route, including in the tunnel, would identify vehicles stopping in a live lane and allow for rapid changes of traffic management to avert danger. Vehicle recovery would also be provided in the tunnel for any stopped vehicles to escort them to a place of safety.</p> <p>It would be possible to help emergency services to access incidents in the tunnels by using technology. This includes signage that can be changed to alert road users of lane closures, speed restrictions and incidents ahead. In the case of one tunnel being blocked, emergency vehicles could access incidents using the other tunnel and the pedestrian cross-passages that connect the two tunnels at regular intervals.</p> <p>Cross-passages would also allow drivers to reach (on foot) a safe space in the event of an incident in one of the tunnels.</p>

Summary of what you said	Our response
<p>You raised concerns about the general impact of the crossing on the environment</p>	<p>Tunnels would reduce the impacts of the project on environmentally sensitive areas near the Thames and we are undertaking an environmental impact assessment to understand these impacts.</p> <p>After statutory consultation, we reviewed the location of the southern tunnel entrance and its potential impact on groundwater. We concluded that the design proposed at statutory consultation could result in potentially adverse impacts on the groundwater at the Thames Estuary and Marshes Ramsar and SPA near the southern tunnel entrance. When we revised the design of the proposed M2/A2 junction after statutory consultation, the southern tunnel entrance was moved 350 metres southwards, mitigating the impact on the Thames Estuary and Marshes Ramsar and SPA, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction. The updated design was presented during supplementary consultation.</p> <p>Some fields near Coalhouse Fort would be used for ecological mitigation and habitat creation, but it would not be impacted by construction traffic.</p> <p>Due to the local ground conditions in the south, a number of ground treatment measures would be required as part of the tunnel construction works. We identified the potential need for a ground preparation tunnel, beneath the Thames Estuary and Marshes Ramsar and SPA. This would be alongside two compounds, one located south of Lower Higham Road and one located north of the North Kent Railway Line. These works would strengthen specific areas of the ground or help control groundwater flows. This was presented in our supplementary consultation.</p> <p>At supplementary consultation, we presented proposals for an informal public space, Chalk Park, which would be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, as well as a mixture of chalk grassland, woodland and other suitable habitats to improve local biodiversity and ecological connectivity. A new landform, with woodland planting to the top, would create vantage points to the wider Thames Estuary.</p>

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Summary of what you said	Our response
	<p>Furthermore, at the northern tunnel entrance we are proposing the creation of a similar landform called Tilbury Fields, with footpaths leading up to elevated viewpoints. The landform, from which Coalhouse and Tilbury forts would be visible, would be created using excavated material from the construction works.</p> <p>Between supplementary consultation and the design refinement consultation, more advanced designs for Chalk Park and the Tilbury Fields area were developed.</p> <p>Between the design refinement consultation and this consultation, the proposed reuse of a jetty near the crossing for bringing materials by river to the northern tunnel entrance site, has been removed from the project, therefore reducing the Order Limits within the Thames and impacts to the intertidal habitats.</p> <p>In accordance with national policy on flooding, which sets out government policy on development and flood risk, the project would not increase flood risk, with the exception of some pre-designated areas known as Compensatory Flood Storage Areas. In these areas, the land would be lowered and would accommodate any flood water displaced by the new road. Our DCO application would include flood storage areas that are sufficient to offset the impacts from the project.</p> <p>As a result, earthworks have been developed around the northern tunnel entrance to offer extra protection from flooding. The southern tunnel entrance does not need extra mitigation as it does not fall in an area of flood risk.</p> <p>Detailed groundwater modelling has been completed at both the northern and southern tunnel entrance sites to understand the potential effects of construction and operation of the tunnels on groundwater flows, levels and quantity. This has enabled us to develop suitable mitigation to control groundwater movement.</p>

Route north of the river

We asked...

“Do you support or oppose the proposed route north of the river?”

Summary of responses

- 20,589 respondents answered this question
- 20,375 respondents were members of the public and other non-statutory organisations
- 199 respondents were from people with an interest in land
- 15 respondents were from statutory bodies and local authorities
- 13,211 (65%) individual respondents supported or strongly supported the proposed route north of the river
- 3,043 (15%) individual respondents opposed or strongly opposed the proposed route north of the river

You said...

The most common reasons people support the proposed route north of the river were:

- Reduced congestion, both locally and at the Dartford Crossing, and work should start as soon as possible
- Improved connectivity with local roads
- It would affect fewer local people, as the route design avoids population centres
- The consultation process was effective and responded to feedback
- It would improve local communities

The most common reasons people opposed the proposed route north of the river and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised general opposition to the location of the northern route</p>	<p>We considered the feedback regarding the location of the northern route, but we did not make any significant changes to the proposals.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p>
<p>You raised concerns about traffic congestion worsening in Thurrock and not improving the current situation at the Dartford Crossing</p>	<p>We considered the feedback regarding congestion and made some minor amendments to junctions for safety reasons.</p> <p>As we have developed our proposals we have used traffic modelling outputs to understand the predicted future changes in traffic flow and levels of congestion across the region, both with and without the project.</p> <p>Our Operations update provides information on our latest traffic modelling results, which shows that in Thurrock there are reductions in congestion on some local roads, and an increase in traffic flows on others as a result of the project. The Ward impact summaries also includes the forecast changes in traffic flows once the project is operational.</p> <p>Following statutory consultation we undertook further traffic modelling which confirmed that our proposals to have three lanes along the majority of the route was necessary but sufficient to achieve the improvements at the Dartford Crossing. However, it also enabled us to conclude that the number of lanes on the southbound section of the route between the M25 and the A13/A1089 junction could be reduced from three to two while still maintaining free-flowing traffic. As described in the supplementary consultation material, this would reduce the footprint of the new road at this location, thereby reducing its environmental impact and cost.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of increased and slow-moving traffic on people's health caused by an increase in pollution. Your comments referred to areas including Chadwell St Mary, Grays, Orsett and Thurrock</p>	<p>We considered the feedback regarding traffic and pollution, but we did not make any changes to the proposals. However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>The junctions north of the river include free-flowing connections between the project and the strategic road network, as well as links to key local roads.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality, (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update. Overall, it shows that the impact of the road on air quality is not significant when considering national and European air quality target levels. Given there are no significant adverse impacts on air quality from the project during operation, then no mitigation for air quality effects is required.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>On the M25 between junction 28 and junction 30, and the A13 and surrounding roads, air quality is predicted to be well within the air quality strategy objectives.</p> <p>Along the A13 between the M25 (junction 30) and the A13/A1089 junction with the project traffic flows are forecast to decrease, resulting in an air quality improvement. To the east of the A13/A1089 junction with the project, flows on the A13 are forecast to increase, resulting in a worsening in air quality,</p>

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Summary of what you said	Our response
	<p>however it is predicted to be well below the air quality thresholds for the key traffic related pollutants nitrogen dioxide and particulate matter.</p> <p>The construction phase is likely to affect air quality as a result of emissions of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p>
<p>You raised concerns about the impact of the northern route on local communities</p>	<p>The route presented at statutory consultation provided the best balance between minimising community and environmental impacts, combined with better transport and economic benefits. When selecting the route, a commitment was made to carry out further work to understand how best to minimise impacts on communities and the environment.</p> <p>At appropriate phases of development, we have engaged extensively with stakeholders and carried out assessments and surveys to understand the local environment and communities. The feedback received has guided the development of the northern route and the proposals to mitigate its impacts. The northern route, including the carriageways and junctions, has been designed to minimise its height and footprint, while still providing the necessary connectivity, capacity and safety for road users.</p> <p>After statutory consultation, we made changes to the northern section of the route to lessen the impact on local communities. This included a new route for walkers, cyclists and horse riders along Muckingford Road and another along North Road providing a connection between North and South Ockendon. These were presented in the supplementary consultation.</p> <p>Connectivity along all existing walking, cycling and horse-riding routes in the vicinity of the new road would be maintained, either following their existing route or diverted.</p>

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Summary of what you said	Our response
	<p>The project includes proposals to maintain, upgrade and improve the network of walking, cycling and horse riding routes in the area. In addition to Muckingford Road and North Road, at supplementary consultation we included proposals for a new walking, cycling and horse riding bridge over the M25 to improve connectivity for the southern section of the Thames Chase Community Forest. Furthermore, at the design refinement consultation we presented proposals for a further pedestrian bridge over the A127 to maintain connectivity for the A127 footway.</p> <p>In addition to our proposals for green bridges and new routes for walkers, cyclist and horse riders, we are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>To understand how we could lessen the impact of the northern route on local people and communities, we have undertaken a series of noise modelling and assessments. These assessments indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations along the route. This included at the Tilbury viaduct, near Brentwood Road, the A13/A1089 junction and east of the M25 junction. These barriers would reduce noise during the operation of the new road on properties and populations near the route, while also reducing the visual impact of the project. The barriers will be installed as part of the construction process.</p> <p>The project has also sought to reduce closure of roads and public rights of way once the new road is operational. All roads crossing the Lower Thames Crossing would be maintained, with the exception of Hornsby Lane, which would require a section near the new route to be permanently closed. This closure would avoid moving some overhead power lines closer to properties in Chadwell St Mary. Alternative routes to Hornsby Lane would be available via the A1013 and Heath Road.</p> <p>During construction, there would need to be temporary closures of public highways and public rights of way, but we would minimise these wherever practicable. Our appointed contractors would carry out a programme of communications that would ensure planned disruptions are publicised at the appropriate time.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of the proposed northern route on properties including the demolition of houses and potential impact on house prices</p>	<p>We have sought to minimise the land impacted or required for the project, while ensuring there is sufficient land to build and operate the road. Of the shortlisted options, Route 3 was the shortest and most direct.</p> <p>The configuration of each of the proposed junctions north of the River Thames is constrained by existing roads, properties, and amenities. Throughout the development of the new road, the project boundaries have been amended in line with our proposals. We have also looked to minimise the number of properties potentially affected or that would require demolition.</p> <p>At statutory consultation, north of the River Thames, there were five commercial properties within the Order Limits. There were also 68 residential properties required for the main construction works, of which 20 required demolition. In addition, there were 141 residential properties affected by overhead electricity works at M25 junction 29, Linford and at Heath Road.</p> <p>At supplementary consultation we showed changes in the impacted properties, associated with changes to our design proposals. Further updates took place as we continued to develop our proposals through the following consultations. Overall, between statutory consultation and now, the number of residential properties north of the River Thames (not those affected by overhead power lines) in the Order Limits has reduced by 10 to 58. The number of residential properties that would require demolition north of the River Thames has increased from 20 to 26. The number of residential properties north of the Thames affected by overhead power lines has reduced from 95 to 46. The number of commercial properties within the Order Limits has increased by two to a total of five.</p> <p>Since the PRA in 2017, owner-occupiers of residential properties within the Order Limits have been able to ask us to purchase their properties by serving a Blight Notice under the Town and Country Planning Act 1990 (as amended). We have received a number of Blight Notices and we have purchased a number of properties since PRA.</p> <p>We have also written to residents near the route regarding compensation that may be available to them due to the effects on their property from the new road once it is opened and has been in operation for a year.</p>

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Summary of what you said	Our response
	<p>Further information about the compensation offered to those affected by the project can be found in the following Highways England documentation: Your Property and Compulsory Purchase, Your Property and Blight, Your Property and Discretionary Purchase and How to claim for the effects on your property of a new or altered road (Part 1 Compensation).</p>
<p>You raised concerns about the negative impact of the northern route on the countryside, green spaces, and the green belt. Your comments included Orsett, the Mardyke Valley, The Wilderness (Ockendon), Tilbury Marshes, Ockendon, Thames Chase Community Forest and Bulphan Fen</p>	<p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as 'Best Most Versatile Land'.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on 'Best Most Versatile Land'. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>One of the ways we have reduced impacts on green belt is by removing the roadside facility near East Tilbury. The new road is capable of operating safely without a roadside facility, and this would also have had significant impacts on the environment, local communities and countryside. Removal of the facility also meant that the Tilbury junction was withdrawn from the project.</p> <p>At supplementary consultation the northern tunnel entrance remained in the same position, but the distance between the northbound and southbound tunnels was narrowed, reducing the footprint of the project.</p> <p>At the northern tunnel entrance we are proposing the creation of a new landform with footpaths leading up to elevated viewpoints looking out to the south, east and west, from where Coalhouse and Tilbury forts would be visible. The landform design would be created using excavated material from the construction works.</p> <p>After statutory consultation, the route east of South Ockendon was moved approximately 200 metres south-west to reduce the impact on the environment, reduce the work required to move an existing gas main and minimise impact on the landfill site. This was presented in the supplementary consultation.</p>

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Summary of what you said	Our response
	<p>After statutory consultation, the layout of the structures and their relationship to the watercourses were altered due to the route moving to the south-west. The Mardyke viaduct was shortened and the bridge component was lengthened to become Orsett Fenn viaduct with an embanked section between the two.</p> <p>Overall, viaduct lengths increased in the area by approximately 50 metres and increased the open aspect and it reduced the volume of flood compensation required. The heights of the viaducts were kept as low as possible, to reduce their visual impact and the footprint of the embanked section as far as possible.</p> <p>We were unable to make any reductions in the land required near Bulphan following statutory consultation. Following further engagement with utility companies, at supplementary consultation we proposed additional utility diversion works. Land near Bulphan (approximately 800 metres by 30 metres) is now included in the Order Limits because UK Power Networks would need to carry out temporary works to replace and upgrade the overhead power lines. This is to enable enough power to be provided to the construction sites. The land would only be required temporarily with permanent rights for maintenance.</p> <p>Our discussions with utility companies are ongoing and would continue throughout the detailed design phase of the project to ensure that, when implemented, the works are delivered in the most appropriate and efficient way. We are working with utility companies to develop a construction programme with the aim of minimising disruption on local people.</p> <p>The Wilderness Woodland would be subject to habitat loss as a result of the project. The proposed planting of species-rich grasslands and native woodland as part of our environmental mitigation would help to compensate for the land removed to build and operate the project. Ecological connectivity to the Wilderness Woodland would be maintained via the proposed planting and through installation of the green bridges at North Road and Green Lane.</p>

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Summary of what you said	Our response
	<p>At the design refinement consultation, we proposed diverting a watercourse within the Wilderness Woodland. To accommodate this, we are proposing a reduction in woodland planting in this area.</p> <p>After statutory consultation, one lane was removed from the M25 to A13 southbound section of the Lower Thames Crossing, based on evidence from the traffic model results that this would still provide sufficient capacity while reducing the land required. Three lanes are provided northbound as there is a high percentage of HGVs merging onto the project from the A13 and then to enable traffic to move safely into the correct lane to either exit at M25 junction 29 or continue on the M25.</p> <p>To improve connectivity across the area, a new bridge for walkers, cyclists and horse riders to connect the east and west side of Thames Chase Forest over the M25 was provided and a parcel of land north of Ockendon Road, which was previously identified as woodland mitigation planting was returned to the landowner for hay making. This was presented in the supplementary consultation.</p>
<p>You raised concerns about the vibration and noise the northern route would generate</p>	<p>Noise mitigation has been considered during the design of the route, with the proposed route designed at the lowest practicable height in the surrounding landscape, which includes the use of cuttings and false cuttings. Low noise surfacing would also be used. The locations for the cuttings and false cuttings include along the A13/A1089 junction, and between North Road and the M25 junction with the project.</p> <p>North of the River Thames there are some noise and vibration impacts predicted during the construction phase as a result of construction traffic and machinery. However, these impacts would be temporary, both good practice and specific mitigation measures would be implemented to reduce these impacts. Station Road in Tilbury, the A13/A1089 junction, North Road and St. Mary's Lane have all been identified as areas with the potential for significant effects in relation to construction noise and vibration. To reduce the effects of noise and vibration impacts in these areas, we will use specific mitigation measures, such as the use of acoustic barriers and timing works to avoid sensitive periods of the day.</p> <p>Noise and vibration will result from various construction activities including, piling operations, demolition works,</p>

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Summary of what you said	Our response
	<p>excavation and HGV movements. Methods of construction in sensitive areas will be selected to reduce disruption as far as reasonably practicable.</p> <p>The predicted noise and vibration resulting from construction has been assessed to highlight areas and activities that require mitigation measures such as acoustic screens. Our assessments conclude there would be no significant effects from activities such as piling caused by vibration. Detailed proposals of the planned works, noise monitoring and mitigation measures will be discussed with the relevant local authorities before construction works begin.</p> <p>Contractors will be required to notify local residents and businesses of planned works which are likely to generate high levels of noise.</p> <p>The noise impacts associated with the project have been assessed in accordance with relevant standards and guidance, adverse or beneficial impacts have been identified for residential and other sensitive locations during both the construction and operational phases of the project.</p> <p>Operational impacts from the project include increases in road traffic noise at noise sensitive receptors identified along the project route and other affected existing roads. The modelling results predict there could be adverse noise effects north of the River Thames at Brentwood Road, Baker Street and North Road during operation.</p> <p>Beneficial impacts in terms of road traffic noise (reductions in road traffic noise) at noise sensitive receptors are predicted to occur along the bypassed existing network, as traffic is diverted along the project route. These include areas along the A282 across the Dartford Crossing, the A13 between the project and junction 30 and the M25 between the project and junction 30.</p> <p>To view noise contour maps which present a graphical representation of the predicted changes in road traffic noise in the opening year of the project, please refer to the Ward impact summaries and chapter 5 of the Operations update.</p>

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Summary of what you said	Our response
	<p>Where the noise assessments indicate that additional mitigation is needed, we have included provision for noise barriers at specific points alongside the carriageway and consulted on the locations of the barriers at the A13/A1089 junction, and other locations along the route, as part of the design refinement consultation. The barriers are typically one to two metres high, although one barrier east of Brentwood Road is six metres high to lessen traffic noise levels at two properties near the project. The locations were selected after analysis of the predicted noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres. Further information on noise barriers is provided in the Ward impact summaries.</p>

Lower Thames Crossing and M2/A2 junction

We asked...

“Do you support or oppose the proposed junction between the Lower Thames Crossing and the M2/A2?”

Summary of responses

- 20,660 respondents answered this question
- 20,454 respondents were members of the public and other non-statutory organisations
- 192 respondents were from people with an interest in land
- 14 respondents were from statutory bodies and local authorities
- 14,304 (70%) individual respondents supported or strongly supported the proposed junction with the M2/A2
- 2,496 (12%) individual respondents opposed or strongly opposed the proposed junction with the M2/A2

You said...

The most common reasons people support the junction between the Lower Thames Crossing and the M2/A2 were:

- It would reduce congestion in Kent, including Dartford and remove bottlenecks
- An opportunity for new or improved access to locations such as the M2, M20, A20 and the Channel ports
- It would allow the new road to link to the existing road network
- Sufficient measures proposed to minimise disruption

The most common reasons people opposed the junction between the Lower Thames Crossing and the M2/A2 and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the flow of traffic and congestion at the M2/A2 junction, including suggestions that it would cause bottlenecks and the junction design is too complicated</p>	<p>The proposed M2/A2 junction includes free-flowing connections between the project and the strategic road network, as well as links to key local roads.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling outputs set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable.</p> <p>A clear route signing strategy would be developed to ensure that drivers understand the complexity of the interchanges and can make the right decisions based on sign information.</p> <p>Following feedback at statutory consultation, the design of the proposed M2/A2 junction was revised to simplify the route from the Gravesend East junction to the M2 eastbound. This revised junction layout, which retains the free-flowing design, was presented during supplementary consultation.</p> <p>This updated design better meets the scheme objectives, including being easier to navigate and providing a more direct route from the Gravesend East junction to the M2 eastbound, avoiding the connector links and roundabouts.</p> <p>For more information about traffic flows in this area during operation, please refer to the Operations update.</p>

Summary of what you said	Our response
<p>You raised concerns that the design of the M2/A2 junction is too complicated and would lead to longer journeys. For example, the journey from the A289 westbound to Gravesend East junction or the A2 westbound</p>	<p>In response to feedback from statutory consultation and further investigations, at supplementary consultation we consulted on a revised design for the proposed M2/A2 junction, including the connector roads. The updated design better meets the scheme objectives, including being easy to navigate and providing a more direct route from Gravesend East junction to the M2 eastbound, avoiding the new two-way local link road with roundabouts on the south of the A2. The link roads within the junction are designed to provide a fast and safe free-flowing connection from one road to another.</p> <p>The new junction design provides a more compact layout, reduces overall land take and enables the tunnel to be extended 350 metres south, reducing the impacts on Chalk and the protected sites near the Thames Estuary.</p> <p>The route from the A289 to the M2 westbound involves joining a parallel connector road (A2) running alongside the M2 to the south. This is to avoid motorists potentially crossing over when changing lanes in pursuit of different destinations. This use of a connector road would make some journeys slightly longer but would improve safety.</p> <p>For more information about traffic flows in this area during operation, please refer to the Operations update and the Ward impact summaries.</p>
<p>You raised concerns that the M2/A2 junction would disrupt local communities, and encourage drivers to use local roads, creating additional traffic</p>	<p>Local people and communities have been considered throughout the design and development of the project and consulted at appropriate stages of development. We would continue to engage with stakeholders during construction to ensure that the impacts of activity around the proposed M2/A2 junction on roads, schools, businesses, public rights of way and community assets can be minimised where possible.</p> <p>The Lower Thames Crossing would reduce congestion on some parts of the strategic road network, and support keeping longer distance traffic on the main routes with less likelihood of traffic using local roads. The project would provide connections between the strategic road network, including the M2/A2, A13/A1089 and M25, and there would only be selected links to local roads such as the Gravesend East junction.</p>

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Summary of what you said	Our response
	<p>Since statutory consultation the M2/A2 junction has been refined so it can be built in phases and ensure the A2 remains open during construction to limit disruption locally.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns that the project would encourage drivers to use unsuitable local roads, such as those through Sole Street, Cobham, Meopham, Shorne, Higham, Maidstone, Gravesend, Strood, Rochester and the roads around Dover</p>	<p>The Lower Thames Crossing would connect directly to the key points on the strategic road network (M2/A2, A13/A1089 and M25) and there would be limited connection onto the local road network, such as at Gravesend East. This approach has been taken to reduce the likelihood of motorists using local roads to access the new crossing.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with the DfT and local highways authorities to identify areas where further interventions may be suitable on the road network.</p>
<p>You raised concerns about the location of the M2/A2 junction, with suggestions that the project should link directly to the M2 junction 1, while others state the project only helps vehicles travelling to the Channel ports and east Kent</p>	<p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options, including solutions that linked directly to the M2 junction 1. In 2017 the Secretary of State for Transport announced the preferred route for the Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p>

Northern connections

This section of the response form contained three closed questions asking whether respondents support or oppose each of the junctions. The final question allowed respondents to provide reasons for their answer and any comments.

We have summarised general feedback about the northern connections followed by three closed questions, followed by what you said in relation to each junction, the A13/A1089 junction, the Tilbury junction and the M25 junction.

General feedback about the northern connections You said...

The most common reasons people support the proposed connection north of the river were:

- A reduction in local congestion and at the Dartford Crossing
Improved access, particularly to local routes that will help distribute traffic and reduce congestion
- Anticipated reduction in journey times
- It would be beneficial for local communities and cause minimal disruption

The most common reasons people opposed the proposed connection north of the river and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns that the junctions north of the River Thames will attract traffic to the area and increase congestion in Thurrock</p>	<p>We considered the feedback regarding the northern junctions attracting traffic, but we did not make any changes to the proposals.</p> <p>As described previously, traffic modelling results predict that as well as providing relief at Dartford and its approach roads, the Lower Thames Crossing would impact other parts of the strategic road network and local roads. Some roads in Thurrock are forecast to experience a decrease in traffic and others an increase.</p> <p>In order to avoid adverse impacts onto the local road network, connections between the strategic road network and the local network need to be through appropriate infrastructure. The proximity of the proposed A13/A1089 junction to the Orsett Cock junction does provide an opportunity to connect onto the local road network, while maintaining safe design. We have provided connections from the new road, both southbound and northbound, onto the Orsett Cock junction, from which there is access onto a number of local roads. Although this does lead to some increases in traffic flows in the area, this has to be considered alongside the benefit of providing this link for the local community.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns that the junctions north of the River Thames will increase traffic, thus making air quality worse. Namely at Thurrock, North and South Ockendon, Orsett and areas adjoining the M25</p>	<p>We considered the feedback regarding increased traffic and air quality, but we did not make any changes to the proposals.</p> <p>However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p>

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Summary of what you said	Our response
	<p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update. Overall, it shows that the impact of the road on air quality is not significant when considering national and European air quality target levels. Given there are no significant adverse impacts on air quality from the project during operation, then no mitigation for air quality effects is required.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>Along the A13 between M25 junction 30 and the Lower Thames Crossing, traffic flows are forecast to decrease, resulting in an air quality improvement.</p> <p>The project is forecast to increase traffic flows between M25 junctions 2 and 6, and on the A13 east of the project, leading to a worsening in air quality.</p> <p>The construction phase is likely to affect air quality as a result of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. With these mitigations in place, the air quality impacts of the project during construction are not expected to be significant. You can find out more about these measures in our Construction update and the Ward impact summaries. The Ward impact summaries also include information specific to Thurrock, Orsett, and North and South Ockendon.</p>

Summary of what you said	Our response
<p>You raised concerns that the proposed junctions north of the River Thames will negatively affect local communities, particularly with congestion during construction</p>	<p>Local people and communities have been considered throughout the design and development of the project and consulted with at appropriate stages of development. We have also engaged extensively with stakeholders and carried out studies and surveys to develop our understanding of the local environment and communities. The information collected has informed the development of the junction locations and their design, as well as the development of the proposals to mitigate their impacts.</p> <p>Throughout the development of the project, we have designed junctions to minimise their footprint and height, while still retaining the necessary connectivity. We have designed extensive mitigation into the proposed A13/A1089 junction to reduce its visual impact on local populations, including the use of cuttings, landscaped earthworks and woodland planting, which over time would partially screen this junction.</p> <p>We also made changes to the layout of the proposed A13/A1089 junction as a result of feedback received during statutory consultation. These included moving some slip roads away from residential properties, changes to improve connectivity for emergency vehicles, and improvements to routes for walking, cycling and horse riding.</p> <p>The proposed M25 junction has been developed to reduce impacts on the Thames Chase Community Forest. The junction would be designed to be as compact and low in height as reasonably possible while still being in accordance with Highways England design standards. For example, by aligning the project northbound under the M25, we have been able to limit the height of the junction and its impact on the surrounding landscape. Retaining walls would limit the amount of land needed, while embankment slopes have also been steepened to further reduce the footprint of the junction.</p> <p>At junction 29, we have kept the design as compact as possible while still providing the necessary additional road capacity and avoiding ancient woodland as much as possible. Additional work on the design carried out after statutory consultation enabled reduction of the footprint of the junction by moving the slip roads closer to the main carriageways.</p>

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Summary of what you said	Our response
	<p>Following feedback from stakeholders, local authorities and the public, construction access routes have been amended where possible, minimising the impact of the project on the local road network. Examples of the changes include the removal of some sensitive construction access routes in the Thames Chase area, and bringing forward the construction of temporary routes that provide direct access between the M25 and Lower Thames Crossing construction sites.</p> <p>We have further developed the network of internal site haul roads to provide increased connectivity within all construction sites. This will improve access to areas of sites located in rural areas and reduce the need for HGVs to use the local road network.</p> <p>In addition, changes have been made to the route and landscaping plans to reduce the need for offsite disposal of excess material. These changes significantly reduce the number of HGV movements.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>The anticipated construction traffic and temporary traffic management measures have been modelled to ensure any impact on the local road network is reduced as much as possible.</p> <p>Further information about construction in your area is provided in the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns that the proposed junctions north of the River Thames will not improve congestion at the Dartford Crossing</p>	<p>We considered the feedback regarding congestion and the northern junctions, but we did not make any changes to the proposals.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable.</p>
<p>You raised concerns that the junctions north of the River Thames will negatively affect the countryside</p>	<p>To reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as 'Best Most Versatile Land'.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on 'Best Most Versatile Land'. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>One of the ways we have been able to reduce the impacts of the project on the countryside was through the removal of the roadside facility at East Tilbury. After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility as part of the DCO application, as the project is capable of operating safely without its inclusion, and the proposed facility had significant impacts on the environment and local communities. This meant there was no longer a need for the Tilbury junction.</p> <p>As a result of these changes to the project, environmental impacts on the area, including the amount of green belt required, would be reduced.</p>

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Summary of what you said	Our response
	<p>Throughout the development of the project, we have designed junctions to minimise their footprint and height, while still retaining the necessary connectivity. After statutory consultation, we developed the principle of wooded junctions for the major junctions across the project. Wooded junctions provide screening of the structures within the junction, and also help focus views for road users within complex road layouts. These were included within our supplementary consultation.</p> <p>The landscape within the various junctions uses the areas within the islands, in cuttings, and earthworks to maximise woodland plantings. Over time, these will mature into more natural environments to help mask and integrate the road into the surrounding landscape and environment. All of our proposed mitigation measures have been refined throughout the design process, considering a variety of stakeholder feedback.</p> <p>Where possible, we have minimised impacts to farmland through the design development, for example through the use of retaining walls or steepened embankment slopes. The use of false cuttings with a gentler outer slope will help to blend them into the wider landscape, allowing for the land to be returned to agricultural use.</p> <p>For more information on the environmental impacts and mitigations around the A13/A1089 and M25 junctions, please read sections 'Connections in the A13/A1089 area' and 'Connections in the M25 junction area'.</p>

Tilbury Link Road

Between the Preferred Route Announcement and statutory consultation we considered providing a link between Tilbury and the Lower Thames Crossing, connecting at Tilbury Junction. This section of road, known as the Tilbury Link Road, was included in information submitted with our request for a scoping opinion from the Secretary of State under regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Following further consideration, this section of road was removed from our proposals prior to statutory consultation.

As we developed our design, we were able to develop the A13 junction to meet the objectives of the project without needing the Tilbury Link Road, and because of increasing development in the area a separate project was set up, also to be delivered by Highways England, to look at the connections between Tilbury and the A13.

Connections in the Tilbury junction area

We asked...

“Do you support or oppose the proposed Tilbury junction?”

Summary of responses

- 19,416 respondents answered this question
- 19,212 respondents were members of the public and other non-statutory organisations
- 190 respondents were from people with an interest in land
- 14 respondents were from statutory bodies and local authorities
- 12,195 (63%) individual respondents supported or strongly supported the proposed Tilbury junction
- 2,632 (14%) individual respondents opposed or strongly opposed the proposed Tilbury junction

You said...

The most common reasons people support the proposed Tilbury junction were:

- The beneficial effect it would have on local congestion
- Due to the access it could provide
- The positive impact the junction would have on local business
- The benefits it would bring to local communities

The most common reasons people opposed the proposed Tilbury junction and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
You raised general comments opposed to the proposed Tilbury junction	<p>In response to the concerns relating to the Tilbury junction, and after further investigation and consultation, we have made a number of changes to the proposals that aim to reduce the impacts of the junctions north of the Thames. After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility as part of the DCO application, as the project is capable of operating safely without its inclusion, and the proposed facility had significant impacts on the environment and local communities. This meant there was no longer a need for the Tilbury junction. In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.</p>
You raised concerns that the junction will attract excessive traffic volumes to the roadside facilities and worsen congestion	
You raised concerns that the junction will lead to an increase in pollution or deteriorating air quality	
You raised concerns that the junction will have a negative impact on local communities	
You raised concerns about the access provided at the junction, including restricted access to the local area from the service station, and users would have to use a roundabout	
You raised concerns that increased traffic at the junction will generate noise pollution	
You raised concerns that the design is too complex and will confuse motorists leading to congestion	
<p>We also concluded that a new maintenance depot is not required as part of the project. The services can be met by those depots serving the nearby strategic road network, either in their existing form or with expanded capacity. By removing the depot, we have reduced the impacts on the environment, and countryside. However, the area required for the maintenance depot would still be needed temporarily during construction, including for a segment factory. The segment factory would be used to make the concrete segments that form the tunnel lining. This area of land would be returned to agricultural use after construction.</p>	
<p>Removal of the roadside facility and the maintenance depot mean the Tilbury junction is no longer required. The Tilbury junction proposed at statutory consultation would not have provided any connections between local communities and the new road and, as such, its removal from the proposals after statutory consultation has not disadvantaged local communities in respect of transport access.</p>	

Connections in the A13/A1089 area

We asked...

“Do you support or oppose the proposed junction between the Lower Thames Crossing and the A13/A1089?”

Summary of responses

- 19,335 respondents answered this question
- 19,133 respondents were members of the public and other non-statutory organisations
- 188 respondents were from people with an interest in land
- 14 respondents were from statutory bodies and local authorities
- 12,055 (63%) individual respondents supported or strongly supported the proposed junction with the A13/A1089
- 2,757 (14%) individual respondents opposed or strongly opposed the proposed junction with the A13/A1089

You said...

The most common reasons people support the proposed A13/A1089 junction were:

- It would improve access to local routes which will help with the distribution of traffic and reduce congestion
- Congestion would improve locally and at the Dartford Crossing
- It would lead to more direct and efficient journeys, and reduction in journey times
- Better integration with the existing road network
- It would have a positive impact on local businesses and would stimulate regional growth and employment

The most common reasons people opposed the proposed A13/A1089 junction and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the connectivity proposed for the A13/A1089 junction, including about the lack of a link from the Lower Thames Crossing to the A13 westbound or from the A13 eastbound to the new road</p>	<p>We considered the feedback regarding connectivity at the A13/A1089 junction, but we did not make any changes to the proposals.</p> <p>The proposed A13/A1089 junction provides vital strategic and local highway connections to the new road, which is why a large and complex junction is necessary. To reduce its footprint and height and to manage the balance across the local and major routes, certain direct links between the three highways are provided.</p>
<p>You raised concerns about the design of the proposed A13/A1089 junction, including comments that it is too complex</p>	<p>During the design we identified that the priority for connections to the A13 that would deliver relief to the congested Dartford Crossing and approach roads was to:</p> <ul style="list-style-type: none"> ■ Provide connections from the A2 to the A13 section east of the A1089 into east Thurrock and Essex, thereby providing relief to the Dartford Crossing ■ Provide an alternative to the right turn from the A13 westbound onto the M25 northbound, thereby providing relief to M25 junction 30 <p>The proposed design at statutory consultation provided these key connections, providing connectivity between the new road and the A13.</p> <p>In addition, the junction provided connectivity for the M25 southbound onto the A13 eastbound, which relieved the stretch of the M25 southbound between junctions 29 and 30, and also relieved the A13 eastbound between the M25 and the A1089 junction.</p> <p>The proposals do not provide a link from the Lower Thames Crossing to the A13 westbound, or from the A13 eastbound to the Lower Thames Crossing, at the A13/A1089 junction because the predicted usage is very low.</p> <p>Although the existing connection for traffic joining the A13 at Orsett Cock junction to reach the A1089 would be removed, motorists could make this connection by re-routing along the existing local road network. To manage vehicle movements, and particularly HGV movements, to the Port of Tilbury area, motorists travelling south on the M25 from junction 29 would be directed to use the existing route via junction 30 and the A13 eastbound to reach the A1089. Providing a link from</p>

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Summary of what you said	Our response
	<p>the Orsett Cock junction to the Lower Thames Crossing would draw more traffic to the Orsett Cock junction and surrounding local roads.</p> <p>As a result of design development and in response to feedback received during consultation, the design of some slip roads at the A13/A1089 junction were refined after statutory consultation and presented during supplementary consultation. The design of the connections between the A13, the A1089 and the Lower Thames Crossing were changed to reduce the number of points where traffic following different routes would need to cross, reducing conflict between traffic movements and improve safety. These changes also reduce the complexity of the junction. We would install clear traffic signs to make sure the route performs safely and gives motorists plenty of notice of the road layout and destinations.</p> <p>To operate safely and efficiently, the A13/A1089 and its slip road roads would be designed in accordance with Highways England design standards.</p>
<p>You raised concerns about the proposed A13/A1089 junction, saying it would negatively affect local communities. Your comments included opposition to the impacts on the Orsett Showground and a nearby care home</p>	<p>By designing the proposed A13/A1089 junction so the project passes beneath the A13, we have been able to limit its height. In addition, by restricting the number of traffic movements that are possible, the need for a third level at the junction, which would make it more visually intrusive, has been avoided. We have designed extensive mitigation into the proposed A13/A1089 junction to reduce the visual impact on local populations, including the use of cuttings, landscaped earthworks and woodland planting, which over time would partially mask this junction.</p> <p>We have made changes to the layout of the proposed A13/A1089 junction as a result of feedback received during statutory consultation. These included moving some slip roads away from residential properties, changes to improve connectivity for emergency vehicles, and improvements to routes for walking, cycling and horse riding.</p> <p>The Whitecroft care home is Grade II listed. We have tried to address concerns raised by the care home owners by moving the slip road further west, and increased the amount of woodland planting between the home and the slip road. The junction layout has always been close to the Whitecroft Care home and the earthworks and landscaping design has sought to try and reduce, as far as possible, the visual impacts to the</p>

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Summary of what you said	Our response
	<p>care home through the use of embankments, false cuttings and tree planting, particularly along the western edge of the property. Discussions with the owner will continue in order to seek a resolution for their concerns.</p> <p>Because of the feedback received during statutory consultation we changed our proposals for the realignment of Rectory Road. This reduced the impact on Orsett Showground. Modifications to the connections between the A13 and the project increased the need for land north of the A13 including some of Orsett Showground. In addition we identified a gas pipeline diversion which further impacted the area.</p> <p>As well as considering the design of the highways, following comments received at supplementary consultation we have undertaken refinement of the design of the utility diversions associated with construction of this junction. These changes are set out in more detail in Chapter 3 of this document.</p> <p>With regards to the traveller community at the A13/A1089 junction, we have ensured that an alternative location and facilities at Gammonfields Way would be provided as part of the project. We have consulted on several locations during the development of the new road to date, including a proposed site adjacent to its current location, which we consulted on during the design refinement consultation.</p> <p>Following our statutory consultation, we developed the principle of wooded junctions for all the major junctions across the project. These provide visual screening of the structures within the junction, and also help focus views for road users within complex road layouts.</p> <p>Woodland planting measures have also been developed at Rainbow Wood Shaw, located between Orsett Golf Course and Linford. The project's alignment, alongside plans to construct a new green bridge at Hoford Road, has led to ancient woodland in the area being impacted. To mitigate against this loss, compensatory planting was proposed adjacent to Rainbow Wood Shaw following statutory consultation.</p> <p>The landscape within the various junctions uses the areas within the islands, in cuttings and earthworks to maximise woodland planting. Over time, these will mature into more</p>

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Summary of what you said	Our response
	<p>natural environments to help mask and integrate these to the surrounding landscape and environment. All of our proposed measures have been refined throughout the design process, taking into account a variety of stakeholder feedback.</p>
<p>You raised concerns about the proposed A13/A1089 junction and its safety. Your comments suggest the tight bends are unsafe and emergency service response times would increase</p>	<p>All the new road’s junctions would be designed in accordance with Highways England design standards. These standards specify, for example, the optimum lengths and radii for slip and link roads and the correct road and lane widths for predicted volumes of traffic. They also specify safe distances for merges and diverges. All designs are rigorously audited for safety and any departure from these standards must be justified before approval by Highways England’s safety team. Dedicated lanes for HGVs are not proposed as they would not meet operating standards and require additional signage which may confuse drivers. As with motorways, the new road would include a restriction on HGVs using lane three. Other than abnormal loads, there would be no other HGV restrictions.</p> <p>Highways England design standards also specify the technology to be used along the route to manage traffic flow, regulate speed limits dynamically when required, and ensure safe and efficient incident detection and clearance. These standards would apply at junctions such as the one proposed to connect to the A13/A1089. Where local roads cross over the new road, the bridges and structures would be designed to Highways England design standards, while the carriageway and alignment would meet local authority standards.</p> <p>The route would have a 70mph maximum speed limit, the national speed limit for this type of road. Where appropriate, such as on some A13/A1089 junction links, we would install advisory speed limit signs to encourage responsible driver behaviour. Technology would allow traffic flow to be monitored, and the mandatory speed limit varied during busy periods or in the case of incidents to help maintain safety and traffic flow. Variable messaging signs would notify motorists of changes to speed limits or lane closures. On the open road sections, enforcement is expected to be via single-point speed detection cameras.</p>

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Summary of what you said	Our response
	<p>As a result of design development and feedback received during consultation, we refined the design of some slip roads at the A13/A1089 junction to reduce visual impacts, move roads away from properties, and improve safety and connectivity. The A13 eastbound slip roads were changed to remove some of the need for vehicles to change lanes and so improves safety. On the western side of the junction, the slips taking traffic to the project from the A13 and A1089 were realigned to reduce crossing over of traffic and improve safety. The revised proposals were presented during supplementary consultation.</p> <p>The A13/A1089 and its connecting roads would be designed in accordance with Highways England design standards. We also worked closely with emergency services in developing the proposals. In response to comments received during statutory consultation, new emergency access points were provided at Brentwood Road, linking to the Lower Thames Crossing, and at Heath Road, linking to the A1089. After further design development, we added an additional emergency access from the Lower Thames Crossing to Brentwood Road and consulted on this during design refinement consultation. We will continue to work with emergency services on the development of the new road.</p>

Summary of what you said	Our response
<p>You raised concerns that the A13/A1089 junction would attract excessive volumes of traffic to the area and congestion would increase</p>	<p>We considered the feedback regarding congestion at the A13/A1089 junction, but we did not make any changes to the proposals.</p> <p>The presence of the A13/A1089 junction, and the selection of the connections made between the new road and the strategic road network and the local road network at this location brings an overall benefit as it directly contributes to the objectives of the project.</p> <p>The A13/A1089 junction would provide a connection desirable for both local and regional traffic demands. The connections to the A13 eastbound from south of the River Thames relieve the congested Dartford Crossing and the approach roads, as well as the A2 between Gravesend and Dartford. The connection from the A13 westbound to the M25 northbound, would reduce the congestion at M25 junction 30, thereby relieving the Dartford Crossing northern approach roads. Along with the connection from the M25 northbound to the A13 westbound this would also provide relief to the M25 between junctions 30 and 29, and the A13.</p> <p>There will be local increases in traffic flows on the A13 and on short sections of the A1089 as drivers take advantage of the new crossing. In addition, there will be increases in traffic on other local roads as drivers re-route following changes in the connections at the A13/A1089 junction.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the proposed A13/A1089 junction, saying it would increase traffic and make air quality worse. You mentioned locations such as Orsett and Baker Street</p>	<p>We considered the feedback regarding air quality at the A13/A1089 junction, but we did not make any changes to the proposals.</p> <p>The health of local people and communities, with regards to air quality, has been considered throughout the design and development of the project. In assessing the relative air quality impacts of the three options presented at consultation in 2016 for a northern route, it was concluded that all three would have a limited impact on air quality immediately adjacent to the route. It was also concluded that neither route would lead to non-compliance with relevant air quality targets.</p> <p>The project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys. Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update. Overall, it shows that the impact of the road on air quality is not significant when considering national and European air quality target levels.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>Along the A13 between the M25 junction 30 and the junction with the project, traffic flows are forecast to decrease, resulting in an air quality improvement. To the east of the junction with the project, flows on the A13 are forecast to increase, resulting in a worsening in air quality.</p>

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Summary of what you said	Our response
	<p>The construction phase is likely to affect air quality as a result of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p>

Connections in the M25 junction area

We asked...

“Do you support or oppose the proposed junction between the Lower Thames Crossing and the M25?”

The responses received to this question included comments on the junction between the Lower Thames Crossing and the M25, and the area around the M25 junction 29.

Summary of responses

- 19,388 respondents answered this question
- 19,185 respondents were members of the public and other non-statutory organisations
- 190 respondents were from people with an interest in land
- 13 respondents were from statutory bodies and local authorities
- 12,869 (67%) individual respondents supported or strongly supported the proposed junction with the M25
- 2,801 (15%) individual respondents opposed or strongly opposed the proposed junction with the M25

You said...

The most common reasons people support the proposed junction between the Lower Thames Crossing and the M25 were:

- The junction with the M25 would improve congestion locally and at the Dartford Crossing, as well as allowing free flowing traffic
- Comments in support of the proposals for the connections at junction 29 of the M25 on the grounds that they would improve congestion both locally and at the Dartford Crossing
- More direct and efficient routes with improved access

The most common reasons people opposed the proposed junction between the Lower Thames Crossing and the M25 and our response to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the proposed M25 junction, saying more traffic would be attracted to the area, increasing congestion</p>	<p>We considered the feedback regarding congestion at the M25 junction and junction 29, but we did not make any changes to respond to this issue.</p> <p>Providing a connection to the M25 is essential to achieve the scheme objectives, providing relief to the congested Dartford Crossing and approach roads. The changes to the road network where the new road and the M25 meet are intended to maintain safety and promote free-flowing traffic, and to increase the capacity of junction 29. The layout of the junctions has been designed to ensure the safe management of traffic, while also providing local access to the A127 to support economic growth and connectivity. Our modelling results forecast that the junctions will remain within their designed capacity for the foreseeable future. This includes the road connecting the proposed M25 junction to junction 29. Improvements are proposed at junction 29, which include increasing the number of lanes on the roundabout and providing dedicated lanes on to the M25 slip roads. We would also add more traffic lights at the roundabout to help manage traffic flow.</p> <p>There will be increases in traffic on the M25 north of junction 29, and the A127 both east of the A128 connection and west of the M25, as drivers take advantage of the new connection. There will also be reductions in traffic, such as on the A128, and the A127 between the M25 and the A128. The latest traffic modelling results are set out in the Operations update.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns about the proposals for junction 29, saying more traffic and congestion would be attracted to the area</p>	

Summary of what you said	Our response
<p>You raised concerns about the proposed M25 junction, saying it would negatively affect the local community and amenities, such as the Thames Chase Community Forest. You also raised concerns that the area would lose community land</p>	<p>To reduce the impacts on local communities, the project has been routed away from population centres as much as possible. However, this means that the project would have an impact on the surrounding countryside, including green belt land.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as 'Best Most Versatile Land'.</p>
<p>You raised concerns about the proposed M25 junction, including it would have a negative impact on the countryside and green belt</p>	<p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on 'Best Most Versatile Land'. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>Throughout the project, we have designed junctions to minimise their footprint and height, while still retaining the necessary connectivity. The junction would be designed to be as compact and low as possible while still complying with Highways England design standards. For example, by aligning the project's northbound carriageway under the M25, we have been able to limit the height of the junction and its impact on the surrounding landscape. Retaining walls would limit the amount of land needed, while embankment slopes have also been steepened to reduce the footprint further.</p> <p>Similarly, at junction 29 of the M25, we have kept the design as compact as possible while still providing the necessary additional road capacity and avoiding ancient woodland where possible.</p> <p>The proposed M25 junction has also been developed to reduce impacts on the Thames Chase Community Forest. We have engaged with the Thames Chase Trust and other stakeholders to develop the proposals and minimise any adverse effects. To compensate for the loss of part of the site, our design includes the provision of replacement land to the north and south of the Thames Chase Forest Centre which would be of similar or better quality of the existing land.</p>

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Summary of what you said	Our response
	<p>It is proposed that woodland would be planted, alongside biodiversity mitigation which would include the planting of a mixture of grassland, scrubs, and trees.</p> <p>The replacement land, which would be open to the public and designed to complement the existing forest, would be accessible through the existing site and internal footpath networks. There would also be additional access from the new footbridge over the M25 providing access from Ockendon Road and Clay Tye Road. A footbridge over the M25 would reconnect the Thames Chase Community Forest to the land of the Fanns project and wider environment. We consulted on these proposals as part of the design refinement consultation, as well as upgrades and additions to the walking, cycling and horse riding routes in the area.</p> <p>At design refinement consultation, we also included replacement land to the east of the M25, to the south of St Mary's Lane. As a result of further refinements to the design this area is no longer being proposed. The replacement land is proposed to the north and south of the existing Thames Chase Forest. This revised replacement land proposal better reflects the size of the area we are permanently impacting.</p> <p>We are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update. We have proposed an expansion of the walking, cycling and horse riding networks, with a new bridge over the M25 at Thames Chase Community Forest. We would also maintain, upgrade and, in certain locations, improve the wider walking, cycling and horse riding networks in the areas close to the new road. In addition, we would provide overpasses to maintain road connectivity between communities on either side of the route. For example, the new footbridge over the M25 will provide access from Ockendon Road and Clay Tye Road, reconnecting the Thames Chase Community Forest to the Land of the Fanns project and wider environment.</p> <p>After statutory consultation, we also proposed three additional green bridges in the supplementary consultation. In the vicinity of the M25 junction we proposed a green bridge at North Road which also included facilities for walkers, cyclists and horse riders.</p>

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Summary of what you said	Our response
	<p>There is ancient woodland to the north-west of junction 29 that would be affected by works to widen the M25 southbound slip road and earthworks. Since our statutory consultation we have proposed to use woodland planting to compensate against this loss. We have identified three parcels of land to the north-west of junction 29 and one parcel to the north of junction 29 around the drainage pond east of the Lower Thames Crossing route. These have been refined during the development of the new road and after all consultation periods, taking into account stakeholder comments.</p> <p>At statutory consultation, Hobbs Hole ancient woodland to the south-east of M25 junction 29 was impacted by utilities and highways works. However, between statutory consultation and supplementary consultation this area was removed due to change in design, but Codham Hall ancient woodland and an unnamed ancient woodland (north east and north west of M29 junction 29 respectively) would be affected by the widening of the slip road. Between supplementary consultation and design refinement consultation no changes were made to the impact on ancient woodland. Since the design refinement consultation, the impacts on these ancient woodlands has marginally reduced due to changes to construction working areas.</p> <p>Between statutory and supplementary consultation, the areas for woodland planting were amended following stakeholder engagement. This included the addition of new areas of woodland planting, mitigation measures for Great Crested Newts and replacement open space provision at Folkes Lane.</p> <p>Following design refinement consultation however, all ecological mitigation measures at Folkes Lane have been amended and largely moved to the east of the M25 at Hole Farm. This decision was made to provide a more cohesive woodland replanting area avoiding impacts on nearby agricultural land, reducing impacts on a local business. A forest will also be created on Hole Farm, which was recently purchased by Highways England.</p>

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Summary of what you said	Our response
	<p>Furthermore, since design refinement consultation further changes have been made to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction linking to Coombe Wood ancient woodland. In the south, we have also reviewed the proposed mitigation following further engagement with stakeholders and landowners. As part of this, we have identified potential locations within some proposed areas of compensatory woodland planting, to recover and reuse ancient woodland soils.</p>

Public rights of way

We asked...

“Do you support or oppose our proposals in relation to public rights of way?”

Summary of responses

- 20,080 respondents answered this question
- 19,872 respondents were members of the public and other non-statutory organisations
- 193 respondents were from people with an interest in land
- 15 respondents were from statutory bodies and local authorities
- 10,719 (54%) individual respondents supported or strongly supported our proposals in relation to public rights of way
- 2,313 (12%) individual respondents opposed or strongly opposed our proposals in relation to public rights of way

You said...

The most common reasons people support the proposals in relation to public rights of way were:

- A belief that the proposals are adequate or sufficient
- Maintaining public rights of way or footpaths is important
- The consideration given to all road users, in particular the needs of walkers, cyclists and horse riders
- The emphasis given to minimising the disruption to public rights of way during construction
- An opportunity to improve public rights of way
- Comments which support the proposal that non-motorised users would not be allowed to use the crossing

The most common reasons people opposed the proposals in relation to public rights of way and our responses to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the loss of public rights of way</p>	<p>Highways England aims to minimise the effects on public rights of way. Wherever possible, our proposals maintain existing public rights of way once the new road is operational. Where this is not practical, diverted public rights of way have been proposed, with a view to making them as attractive as possible. We have tried to maintain directness where relevant for commuter cycling routes, while also keeping connections between recreational amenities such as public parks and stables.</p> <p>At statutory consultation, we presented proposals to maintain, upgrade and expand the network of footpaths, cycling and horse riding routes in the vicinity of the new road. We considered all responses and carried out additional design development for walking, cycling and horse riding routes.</p> <p>Further detailed proposals were presented during supplementary consultation. The proposals included more than 40 kilometres of new or upgraded routes, including routes that link Grays, Chadwell St Mary, Orsett, East Tilbury, South Ockendon, as well as Gravesend and Thong. Other routes provide connections between Jeskyns Community Woodland and Shorne Woods Country Park, and between Thames Chase Community Forest and Belhus Woods Country Park. The footpath linking Tilbury Fort and Coalhouse Fort would remain unaffected.</p> <p>To alleviate the concern about the loss of public rights of way, following supplementary consultation, we resolved the severance caused by the project at junction 29 of the M25, as the new free-flowing slips to the south of the junction were cutting off the existing crossing through the south of the junction. At the design refinement consultation, a new bridge was proposed to allow those using the southern pathway alongside the A127 to cross to the north pathway and pass beneath the M25 on the north side of the junction before crossing back to the south using a crossing further west. This part of this route, and the new bridge were redesigned to be used by cyclists following the design refinement consultation.</p> <p>There is only one public right of way across the route which is being permanently stopped up, a short public right of way off Henhurst Road, close to the A2, as there is no reasonable diversion.</p>

Summary of what you said	Our response
<p>You raised concerns about non-motorised users being allowed to use the tunnel</p>	<p>We have considered various options during the development of the new road to improve river crossings for walkers and cyclists, however we did not make changes to the proposals.</p> <p>The options investigated include using the tunnel, upgrading the existing ferry, relocating the ferry, building a separate bridge or cable car, and providing a shuttle service through the tunnel. All of these have been rejected for reasons that include: lack of technical feasibility, operational issues, lack of commercial viability, cost, environmental impacts and poor safety. Nevertheless, the existing ferry across the Thames between Gravesend and Tilbury, which is used by pedestrians and cyclists, would be unaffected by the new road.</p> <p>The potential demand for walking and cycling across the Thames at the new crossing point is low, and therefore unlikely to generate enough trips to make the infrastructure for a shuttle service economically viable. The most suitable collection and drop-off points would be near the proposed M2/A2 junction and near the proposed A13/A1089 junction in the north.</p>
<p>You raised concerns about the proposals, including the view that public rights of way are not important, and the road aspects are a higher priority</p>	<p>The government's National Policy Statement for National Networks requires applicants for development consent to use reasonable attempts to address the needs of cyclists and pedestrians in the design of new road schemes. We share the government's aim to make the strategic road network and the area around it more accessible, connected and integrated for sustainable modes of transport. This includes proposals to maintain, upgrade and improve the existing network for walking, cycling and horse riding.</p> <p>Highways England Cycling Strategy highlights the benefits of encouraging cycling, and these apply broadly to other forms of active travel. Encouraging sustainable transport removes some local motor vehicles from the network, meaning fewer delays, better journey reliability, less impact on the environment and improved public health.</p> <p>Implementing the proposals for walkers, cyclists and horse riders would not compromise the new road's objectives, including reducing congestion at the Dartford Crossing and providing a new free-flowing crossing over the Thames.</p> <p>Our proposals include significant lengths of footpaths upgraded to bridleway, new bridleways, and new roadside routes. These include more than 40 kilometres of new or</p>

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Summary of what you said	Our response
	<p>upgraded routes. Some of these new routes are over two kilometres long and will help increase access, while some of the shorter links will bring new connections to existing public rights of way, allowing new circular routes that do not currently exist such as between footpath 135 and footpath 136 near Orsett Fen and Ockendon.</p> <p>Non-motorised interest groups such as Sustrans, Ramblers and Campaign to Protect Rural England have been contacted and invited to respond to each phase of our public consultation. We have also engaged with non-motorised groups outside of the formal consultation process to provide updates on the new road. Decisions about the amenities for walking, cycling and horse riding have taken into account design standards and best practice, consultation and feedback from ongoing engagement with local authorities and user groups, including local parish councils.</p>
<p>You raised concerns about the safety of walking, cycling or horse riding routes, including how they cross roads, the route width and lighting; and the proposal for a footbridge crossing over the new road near the southern tunnel entrance</p>	<p>Our proposals for public rights of way in areas close to the new road would increase safety for walkers, cyclists and horse riders. We propose to do this by implementing new routes, filling in missing connections in the existing network, and upgrading existing facilities at key locations.</p> <p>All new routes would be designed to the latest standards, for example, where we propose new cycle routes that follow the alignment of an existing road, the cycle track would be separated from motor traffic. Where walkers, cyclists and horse riders share routes, we would make sure they can do so safely, by providing suitable width and segregation where possible. The proposals were drafted following engagement with stakeholder groups including local authorities, Sustrans, Cycling UK, Ramblers and The British Horse Society.</p> <p>For example, currently, people using the public rights of way network between North and South Ockendon do not have a safe connection between footpath 151 and footpath 135. The North Road links the two ends of these footpaths and those wishing to cross need to walk 375 metres along North Road which has fast moving traffic and in places there is no verge. This is dangerous, and by linking the end of these two footpaths with a shared track, users will be able to safely make the connection between these two footpaths. Additionally, by extending this track to South Ockendon it allows residents to access both of these footpaths safely and with greater ease.</p>

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Summary of what you said	Our response
	<p>Low level bollard lighting will be considered in areas where usage requires, for example where National Cycling Route 177 is diverted through Ashenbank Woods. However, as is the case for the vast majority of the national public rights of way network, most of the upgrades will not have specific lighting.</p> <p>Widths of the public rights of way away from the road network and the routes alongside the roads network have been designed to meet the appropriate standards. In some instances, routes alongside the road network may need to be narrowed locally to avoid impacting on neighbouring properties or causing a section of otherwise unaffected road to be realigned. Where these new roadside routes tie into existing provision and the existing is narrower, the new path will taper down to meet the existing.</p> <p>The walking and cycling bridge over the new road just south of the southern tunnel entrance has been removed from the design as a result of moving the tunnel entrance 350 metres southwards. The public right of way now circles behind the southern tunnel entrance without the need for a bridge. We consulted on this revised proposal at supplementary consultation.</p>

<p>Summary of what you said</p>	<p>Our response</p>
<p>You raised concerns that public rights of ways would be negatively affected by the increase in air pollution</p>	<p>We considered the feedback regarding air quality, but we did not make any changes to the public rights of ways proposals.</p> <p>However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Although there will be some worsenings in air quality along the length of the alignment, including where the route is crossed by public rights of way, the air quality in these areas remain compliant with air quality standards.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is also expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles becomes more widespread. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>Further information on air quality impacts associated with the operation of the new road are provided in the Operations update.</p>

Summary of what you said	Our response
<p>You raised concerns about the project, including that the surrounding landscape, countryside and green belt would be spoiled</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project’s main aims. Environmental mitigation measures have been developed to minimise the impacts of the new road. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>At the design refinement consultation, we made some minor changes to footpaths 61 and 200 to minimise impacts on land use.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise, restore and compensate’ to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of adverse effect they are intended to offset.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as ‘Best Most Versatile Land’.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on ‘Best Most Versatile Land’. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>The project is designed to provide benefits for walkers, cyclists and horse riders through the creation of green bridges to maintain and enhance connectivity, as well as creating habitat corridors, reducing existing public rights of way severance and where practicable, improving existing access. New facilities as part of the project would help to improve connectivity and increase opportunities for active travel and levels of physical activity.</p>

Environmental impacts and how we plan to reduce them

We asked...

“Do you agree or disagree with the proposed measures to reduce the impacts of the project?”

Summary of responses

- 19,713 respondents answered this question
- 19,499 respondents were members of the public and other non-statutory organisations
- 200 respondents were from people with an interest in land
- 14 respondents were from statutory bodies and local authorities
- 12,700 (65%) individual respondents agreed or strongly agreed with the proposed measures to reduce the impacts of the project
- 2,681 (14%) individual respondents disagreed or strongly disagreed with the proposed measures to reduce the impacts of the project

You said...

The most common reasons people support the measures to reduce the impacts of the project were:

- Support of the proposals for environmental mitigation
- Support for reducing the projects impact on the environment and the mitigations proposed
- Improvements to air quality, specifically at Dartford
- The proposed biodiversity mitigation measures
- The landscape mitigation measures, such as the use of tunnelling, lowering the road where possible, and the use of screening and planting

The most common reasons people opposed the measures to reduce the impacts of the project and our responses to the issues raised are summarised in the following table.

Further information on environmental land impacts associated with this project are provided in chapter 3.2 Special category land in the Operations update.

Summary of what you said	Our response
<p>You raised concerns about the loss of woodland, countryside, farmland, and marshland</p>	<p>The project has been developed to minimise the amount of land needed for its construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland. The roads and junctions that comprise the project would have the minimum height and footprint possible, while still providing the necessary capacity, safety and connectivity that road users and operation require.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as 'Best Most Versatile Land'.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on 'Best Most Versatile Land'. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of 'avoid, minimise, restore and compensate' to protect the environment in which the new road is constructed. Where required, any adverse effects on sensitive areas would be reduced. All mitigation proposals have been designed to be "appropriate and proportionate" to the type and extent of impact they are intended to offset.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help mitigate the impacts on the Thames Estuary and Marshes Ramsar and SPA site, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility near East Tilbury as part of the DCO application. The new road is capable of operating safely without a roadside facility, and this would also have had significant impacts on the environment, local communities and countryside. Removal of the facility also meant that the Tilbury junction was withdrawn from the project.</p>

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Summary of what you said	Our response
	<p>Also, in response to feedback received during statutory consultation, the proposed footprint of the upgraded section of the M2/A2 has been reduced by removing the hard shoulder along the eastbound parallel connector road, reducing the width of lane four, and reducing the width of the central reservation. These changes have reduced the impact of the road on the Kent Downs AONB compared with the proposals promoted during statutory consultation, while still maintaining safety and traffic flow.</p> <p>The project has been designed to reduce the effects on habitats within the area as far as possible. Where land would be affected, either permanently lost or adversely affected in other ways, we have tried to avoid designated sites, irreplaceable habitats and areas of semi-natural habitats such as woodland and marshland. However, it is recognised that completely avoiding such impacts whilst still meeting the engineering and safety requirements of the project has not been possible, and some of these habitats are affected.</p> <p>To offset these adverse effects, the ecological mitigation and the landscape designs focus on providing habitats of greater biodiversity value than those that would be affected. The design also works to join up these areas of newly created habitat as well as linking to areas of established and retained habitats such as the areas of ancient woodland in both Essex and Kent.</p> <p>In Kent, new woodland would be designed to strengthen connectivity between existing retained woodland within the area, particularly around Claylane Wood, Shorne and Ashenbank Wood Site of Special Scientific Interest (SSSI), Great Crabbles Wood SSSI and, south of the A2, Jeskyns Community Woodland. This would include woodland planting either side of the project and to the west of Jeskyns Country Park.</p> <p>These areas would be linked via two proposed green bridges on Thong Lane, one over the M2/A2 and the other over the project, along with another green bridge carrying Brewers Road over the M2/A2. Although the design for the proposed M2/A2 junction impacts a section of Claylane Wood, the junction's overall footprint would be smaller than the proposal presented during statutory consultation, having been revised at supplementary consultation and design refinement consultation.</p> <p>Following the design refinement consultation, changes have been made to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction linking to Coombe Wood ancient woodland.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of the project on air quality, including the impact of construction traffic and activity, and the existing poor air quality in Thurrock</p>	<p>The project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update. Overall, it shows that the impact of the road on air quality is not significant when considering national and European air quality target levels. Given there are no significant adverse impacts on air quality from the project during operation, then no mitigation for air quality effects is required.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>Air quality is predicted to worsen on the A228, through Cuxton to the M2, and between M2 junctions 1 and 2.</p> <p>To the east of the A13/A1089 junction with the project, flows on the A13 are forecast to increase, resulting in a worsening in air quality, however it is predicted to be well below the air quality thresholds for the key traffic related pollutants nitrogen dioxide and particulate matter.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery.</p>

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Summary of what you said	Our response
	<p>Measures to reduce emissions from construction traffic and machinery would include instructions to switch off engines when they are not in use and making sure all vehicles using public highways comply with the emissions standards set for London Low Emission Zone for London Non-Road Mobile Machinery.</p> <p>In addition, wherever possible during construction we will reuse materials onsite, reducing the number of HGVs using the road network. This will also cut the distance and duration of the journeys, and reduce the overall impact on air quality.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>As a result of public consultation and stakeholder feedback, we have refined the proposed construction access routes. Vehicles would access construction sites mainly using the strategic road network to avoid sending HGVs through residential areas.</p> <p>With these mitigations in place, the air quality impacts of the project during construction are not expected to be significant.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of the project on climate change, including additional traffic during construction and operation</p>	<p>We have assessed the carbon emissions associated with both the construction and the operation of the project.</p> <p>The assessed carbon emissions have been compared to the government set carbon budgets relevant to the periods in which the activities are taking place. This assessment has been undertaken prior to the statutory consultation in 2018, for the DCO application submission in October 2020 and again for this consultation. The assessment found that the carbon emissions associated with the project would not have a material impact on the government's ability to meet its carbon reduction targets.</p> <p>In 2021 the government has committed to the 6th Carbon Budget, covering the period between 2033 and 2037. A further assessment of the project's impact on the ability to achieve these new carbon reduction targets will be completed for the planned DCO application.</p> <p>The government has passed legislation that requires the UK to achieve net zero carbon emissions by 2050. In order to achieve this, a series of individual carbon budgets and decarbonisation plans are being developed and published by the relevant government departments.</p> <p>The Lower Thames Crossing assessments reflect the current policy and guidance available. The DfT will be publishing a Transport Decarbonisation Plan, which will set out the policies that will be put in place to reduce transport emissions and ensure we reach net zero transport emissions by 2050. As this information is released, we will continue to review our proposals to ensure they meet the requirements set out in the relevant policies.</p> <p>Despite the overall assessment conclusion, we have outlined what we are doing to reduce the carbon footprint of the project.</p> <p>We would minimise our greenhouse gas emissions through careful design, such as specifying the use of low-emission materials, using these efficiently, and reducing the distance they would be transported.</p>

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Summary of what you said	Our response
	<p>During construction, our appointed contractors would have to develop a compliant approach about how they plan to deal with greenhouse gas emissions and also procure renewable energy from respected providers to supply the construction compounds.</p> <p>Following statutory consultation, we carefully considered feedback and worked closely with stakeholders to put together a set of proposals to encourage low-carbon, sustainable transport suitable for commuting and leisure purposes. The proposals would maintain, upgrade and improve the walking, cycling and horse riding network in the vicinity of the project.</p> <p>Wherever possible during construction we will reuse materials onsite, reducing the number of HGVs using the road network. This will also cut the distance and duration of the journeys, and reduce the overall impact on air quality.</p> <p>An example of this is an informal public space, Chalk Park, that would be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, and we presented this proposal in supplementary consultation.</p>
<p>You raised concerns that the environmental mitigation measures proposed are inadequate or lack detail, including air and noise pollution, loss of ancient woodland, habitat destruction and impacts on the landscape</p>	<p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme of engagement with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>At statutory consultation, we used information from desk-based and initial field research to identify the mitigation measures that may be required. After statutory consultation, we had a more detailed understanding of the potential impacts following the completion of most field surveys and the updated project design. Some elements of the design were changed to help avoid significant impacts, for example moving the southern tunnel entrance further south to reduce risk of impacts to the Thames Estuary and Marshes Ramsar and SPA. We also proposed three additional green bridges north of the River Thames providing environmental benefits such as improved ecological connectivity. These changes were presented in the supplementary consultation.</p>

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Summary of what you said	Our response
	<p>Following analysis of the predicted traffic noise, we included provision for noise barriers at 17 specific points alongside the carriageway where noise assessments indicated that it would be beneficial, and consulted on the locations of these, as part of the design refinement consultation. The locations were selected after analysis of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres.</p> <p>The landscape within the various junctions uses the areas within the islands, in cuttings, and earthworks to maximise woodland plantings. Over time, these will mature into more natural environments to help mask and integrate the road into the surrounding landscape and environment. All of our proposed mitigation measures have been refined throughout the design process, considering a variety of stakeholder feedback.</p> <p>Where possible, we have minimised impacts to farmland through the design development, for example through the use of retaining walls or steepened embankment slopes.</p> <p>The use of false cuttings with a gentler outer slope will help to blend them into the wider landscape, allowing for the land to be returned to agricultural use.</p> <p>To read about mitigations in relation to air quality and ancient woodland please see our responses above. To read about mitigations in relation to loss of wildlife habitats and noise pollution please see our responses below.</p>
<p>You raised concerns about the impact of the project on the health and wellbeing of local communities, including the loss of open space, the impacts of construction and increased traffic</p>	<p>Local people and communities have been considered throughout the design of the new road, including several phases of public consultation aimed at the communities most likely to be affected by it.</p> <p>The project has been designed to avoid and reduce impacts and effects on the local population and human health by embedding mitigation within its design. Examples of embedded mitigation include reducing land take from private properties and community assets, providing replacement land, and the creation of a series of green bridges along the route. The junctions have been designed to minimise their height and footprint as far as reasonably possible, while still providing the necessary capacity, safety, and connectivity to the strategic road network.</p>

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Summary of what you said	Our response
	<p>We have also included other measures, for example, the addition of green bridges, some of which also include routes for walkers, cyclists and horse riders.</p> <p>In addition to our proposals for green bridges and new routes for walkers, cyclist and horse riders, we are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>During construction, we would seek to minimise impacts on public rights of way as much as possible. Where one is affected, we would consider options that would include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. Where a reasonable alternative is not possible, these public rights of way would be closed during construction. More information about the impacts on footpaths and bridleways in specific wards, including proposals to improve and maintain local connectivity, can be found in the Ward impact summaries.</p> <p>Construction compound locations have also been refined to reduce impacts, in some cases moving the compound further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are being included within the CoCP and REAC.</p> <p>The CoCP also includes further mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours.</p> <p>We will develop a communications and engagement strategy (CES) to outline the objectives and communications with all stakeholders. Our appointed contractors would then develop a communications and engagement plan in support of the CES, to ensure that stakeholders are informed of all work activities and to maintain good relationships with other parties.</p>

Summary of what you said	Our response
<p>You raised concerns about the potential impact of the project on local wildlife and biodiversity</p>	<p>A project wide approach has been taken for the assessment of impacts and provision of mitigation for protected species.</p> <p>At statutory consultation we used information from desk-based and initial field research to identify core areas of habitat creation and the mitigation measures that would be required for protected species.</p> <p>After statutory consultation, we had a more detailed understanding of potential impacts following the completion of most field surveys and the updated project design. The design was refined to help avoid some significant impacts, for example moving the southern tunnel entrance further south to reduce risk of impacts to the Thames Estuary and Marshes Ramsar and SPA. In addition, areas of habitat creation were identified as part of the mitigation.</p> <p>Mitigation measures include green bridges, as well as large culverts with features to allow mammals to pass through them safely. These would help to link adjacent wildlife habitats once they are separated by the new road. Where replacement habitats for species are required, these would be put in place to allow sufficient time to establish before any animals are released into them.</p> <p>After supplementary consultation and in the design refinement consultation we presented amendments to mitigation measures, following engagement with stakeholders and updates to the construction and utilities impacts for the project.</p> <p>An example of how we have developed mitigation measures since the design refinement consultation includes making changes to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction linking to Coombe Wood ancient woodland. In the south, we have also reviewed the proposed mitigation following further engagement with stakeholders and landowners. As part of this, we have identified potential locations within some proposed areas of compensatory woodland planting, to recover and reuse ancient woodland soils.</p> <p>Similarly, following the design refinement consultation, ecological mitigation for water voles has been moved from Coalhouse Point to the Mardyke Valley. A new provision for</p>

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Summary of what you said	Our response
	<p>coastal grazing marsh/wetland habitats has been proposed at Coalhouse Point to provide permanent habitat for wetland birds, replacing areas of land that would be lost by the footprint of the project.</p> <p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15%. We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p>
<p>You raised concerns about the potential impacts of noise and vibration produced by the new road during its construction and operation, including at Riverview Park in Gravesend, Chalk, Thong and Singlewell</p>	<p>We have ensured that suitable measures are in place to mitigate the new road's impact on noise pollution. We would use low-noise road surfacing, and where additional mitigation is considered necessary and effective, noise barriers alongside the carriageway have been specified, as set out in the REAC.</p> <p>Overall, there are some noise and vibration impacts predicted during the construction phase as a result of construction traffic and machinery. However, these impacts would be temporary, both good practice and specific mitigation measures would be implemented to reduce these impacts, also set out in the REAC.</p> <p>Noise and vibration will result from various construction activities including, piling operations, demolition works, excavation and HGV movements. Methods of construction in sensitive areas will be selected to reduce disruption as far as reasonably practicable.</p> <p>The predicted noise and vibration resulting from construction has been assessed to highlight areas and activities that require mitigation measures such as acoustic screens. Detailed proposals of the planned works, noise monitoring and mitigation measures will be discussed with the relevant local authorities before construction works begin.</p> <p>Contractors will be required to notify local residents and businesses of planned works which are likely to generate high levels of noise.</p>

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Summary of what you said	Our response
	<p>Noise mitigation has been considered during the design of the route, which has been designed at the lowest practicable height in the surrounding landscape, which includes the use of cuttings and false cuttings. The locations for the cuttings and false cuttings include from the A2 junction with the project to the southern tunnel entrance, along the A2 junction slip roads to Thong village, along the A13/A1089 junction and between North Road and the M25 junction with the project.</p> <p>At statutory consultation, we proposed a false cutting between Thong and the A2 junction which has been refined during project development. At supplementary consultation, the false cutting between Claylane Wood and the A2 junction was removed to reduce woodland loss within Claylane ancient woodland.</p> <p>The noise impacts associated with the project have been assessed in accordance with relevant standards and guidance, adverse or beneficial impacts have been identified for residential and other sensitive locations during both the construction and operational phases of the project.</p> <p>Operational impacts from the project include increases in road traffic noise at noise sensitive receptors identified along the project route and other affected existing roads. The modelling results predict there would be adverse noise effects in the South of the River Thames in the northern parts of Riverview Park, Thong Lane and Shorne Ifield Road during operation. Road traffic noise increases are predicted in the North of the River Thames at Brentwood Road, Baker Street and North Road during operation.</p> <p>Beneficial impacts in terms of road traffic noise (reductions in road traffic noise) at noise sensitive receptors are predicted to occur along the bypassed existing network, as traffic is diverted along the project route. These include areas along the A282 across the Dartford Crossing, the A13 between the project and junction 30 and the M25 between the project junction and the A282.</p> <p>To view noise contour maps which present a graphical representation of the predicted changes in operation road traffic noise in the opening year of the project, please refer to the Ward impact summaries and chapter 5 of the Operations update.</p>

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Summary of what you said	Our response
	<p>Our noise assessments indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations, and include noise barriers at either side of some identified viaducts and bridges along the project. The barriers are typically one metre to two metres high, although one barrier east of Brentwood Road is six metres high to reduce road traffic noise levels at two properties near the project. To mitigate any adverse noise impacts during operation on properties to the west of the A13/A1089 junction, a noise barrier was proposed along a slip road connecting to the project northbound. To mitigate any adverse noise impacts during operation on properties near the route in Riverview Park north and Thong Lane, noise barriers were proposed along the project route approaching Thong Lane over the Lower Thames Crossing.</p> <p>The heights and locations of noise barriers were determined through modelling of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres. We consulted on the locations of these and other noise barriers during the design refinement consultation.</p>

Development boundary / Order Limits

We asked...

“Do you support or oppose the proposed area of land we require to build the Lower Thames Crossing?”

Summary of responses

- 18,789 respondents answered this question
- 18,571 respondents were members of the public and other non-statutory organisations
- 205 respondents were from people with an interest in land.
- 13 respondents were from statutory bodies and local authorities
- 10,993 (59%) individual respondents supported or strongly supported the proposed area of land required to build the project
- 2,762 (15%) individual respondents opposed or strongly opposed the proposed area of land required to build the project

You said...

The most common reasons people support the proposed area of land required to build the crossing were:

- It is necessary if the project is to be implemented
- The impacts on local communities have been minimised
- The land would be used efficiently
- The benefits of the new road would outweigh the impacts
- It currently has little value
- The environmental impact has been minimised

The most common reasons people opposed the proposed area of land required to build the crossing and our responses to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of the proposed land use on local communities, including the view that communities would be divided or severely disrupted, with locations mentioned such as Grays and East Tilbury</p>	<p>We have tried to minimise the land affected or required for the Lower Thames Crossing to lessen the impact on landowners and local people.</p> <p>Where possible, we have tried to reduce severance of roads and public rights of way once the new road is operational. All roads crossing the Lower Thames Crossing would be maintained, with the exception of Hornsby Lane, which would require a section near the new route to be permanently closed. This closure avoids having to move overhead power lines closer to properties in Chadwell St Mary. Alternative routes to Hornsby Lane would be available via the A1013 and Heath Road.</p> <p>Connections along all walking, cycling and horse riding routes near the new road would be maintained, either following their existing routes or diverted to maintain the quality of the route.</p> <p>In addition, we maintained connectivity between communities by adding green bridges throughout the route, some of which also include routes for walkers, cyclists and horse riders.</p> <p>Seven green bridges, with public rights of way, have been proposed. At statutory consultation, five green bridges were proposed: at Green Lane north of the river, and over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed at: Hoford Road, North Road and Muckingford Road. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p> <p>The provision of new routes for walkers, cyclists and horse riders would be designed to improve access to the existing network. Any footbridges, green bridges and underpasses would be accessible to all users, including those using wheelchairs, and would be designed so as to ensure the safety of vulnerable users.</p> <p>As part of the efforts to generate benefits for local communities, we intend to provide opportunities for local people to work on the construction of the route. We are also helping local businesses to form part of the supply chain to build the route. We are working with stakeholders to develop these plans and put them into action, should development consent be granted.</p>

Summary of what you said	Our response
<p>You raised concerns about the amount of land used by the project, including that it is too great</p>	<p>The project has been developed to minimise the amount of land needed for its construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland.</p> <p>Following statutory consultation, we developed a more detailed understanding of the diversion routes utility companies would need to divert their assets. We also further developed our environmental mitigation proposals. This led to an expansion of the Order Limits presented at supplementary consultation (26.3 square kilometres) which was 24% larger than that presented at statutory consultation (20 square kilometres).</p> <p>Following further design development coupled with the findings from site investigations and stakeholder feedback we were able to amend the design of utility diversions. Overall, these changes meant the Order Limits were reduced by 15% and presented during design refinement consultation (22.9 square kilometres).</p> <p>We have now reduced the Order Limits by a further 3% (22.2 square kilometres for this consultation), which means between statutory consultation and now, it has increased by 10%. The further 3% reduction since the design refinement consultation has been possible by the further detailed design work we have done. We have also been able to reduce the amount of land within the Order Limits over which we are seeking permanent rights. This means there is higher proportion of land required temporarily, (shown as green in the Land Use Map Book) compared to previous consultations. This land will be returned to its previous use and ownership following construction.</p> <p>We are in the process of carrying out an environmental impact assessment to look at the impact of the Lower Thames Crossing on the landscape. This assessment examines the impact of the project on the landscape, including land designated as green belt, woodland (including ancient woodland) and open spaces.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise, restore and compensate’ to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of adverse effect they are intended to offset.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of the proposed land use on the environment</p> <p>You raised concerns about the impact of the proposed land use on the countryside, green belt and woodland. Areas mentioned include Thames Chase Community Forest, the area around Coalhouse Fort, East Tilbury and West Tilbury</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project's main aims. Environmental mitigation measures have been developed to lessen the impacts of the new road. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>We are in the process of carrying out an environmental impact assessment to look at the impact of the Lower Thames Crossing on the landscape. This assessment examines the impact of the project on the landscape, including land designated as green belt, woodland (including ancient woodland) and open spaces.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of 'avoid, minimise, restore and compensate' to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be "appropriate and proportionate" to the type and extent of adverse effect they are intended to offset.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility near East Tilbury as part of our DCO application. The new road is capable of operating safely without a roadside facility, and this would also have had significant impacts on the environment, local communities and countryside. Removal of the facility also meant that the Tilbury junction was withdrawn from the project.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help mitigate the impacts of the project on local sensitive areas, including the Thames Estuary, Kent Downs AONB and the Marshes Ramsar and SPA Ramsar site, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p>

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Summary of what you said	Our response
	<p>Furthermore, at the northern tunnel entrance we are proposing the creation of a landform called Tilbury Fields, with footpaths leading up to elevated viewpoints. The landform, from which Coalhouse and Tilbury forts would be visible, would be created using excavated material from the construction works.</p> <p>The project has been designed to reduce the effects on habitats within the area as far as possible. Where land would be affected, either permanently lost or adversely affected in other ways, we have tried to avoid designated sites, irreplaceable habitats and areas of semi-natural habitats such as woodland and marshland. However, it is recognised that completely avoiding such impacts whilst still meeting the engineering and safety requirements of the project has not been possible, and some of these habitats are affected.</p> <p>To offset these adverse effects, the ecological mitigation and the landscape designs focus on providing habitats of greater biodiversity value than those that would be affected. The design also works to join up these areas of newly created habitat as well as linking to areas of established and retained habitats such as the areas of ancient woodland in both Essex and Kent.</p> <p>We have worked closely with Thames Chase Trust to create a mitigation plan for the effect of the route on the Thames Chase Community Forest. This includes compensatory planting and an expansion of the walking, cycling and horse riding networks, with a new bridge over the M25 at Thames Chase Community Forest. We would also maintain, upgrade and, in certain locations, improve the wider walking, cycling and horse riding networks in the areas close to the new road. In addition, we would provide overpasses to maintain road connectivity between communities on either side of the route. For example, the new footbridge over the M25 will provide access from Ockendon Road and Clay Tye Road, reconnecting the Thames Chase Community Forest to the Land of the Fanns project and wider environment.</p> <p>The design refinement consultation provided some further information about how the new road would affect existing areas of special category land and the proposals for each site. This included Thames Chase Community Forest and Tilbury Green.</p> <p>Thames Chase Community Forest and Shorne Woods Country Park are directly affected by the project. At these locations, land is required permanently to construct and operate the project, with additional land needed temporarily (with permanent rights) to carry out essential utility diversions. In both instances, we have proposed replacement land, which would be next to the affected site, with planting, landscaping and public rights of way designed to integrate the new land into the existing site.</p>

Summary of what you said	Our response
<p>You raised concerns about the new road's compulsory land purchase or the displacement of people from properties being demolished</p>	<p>We have sought to minimise the land impacted or required for the project, while ensuring there is sufficient land to build and operate the road. Throughout the development of the new road, the project boundaries have been amended in line with our proposals. We have also looked to minimise the number of properties potentially affected or that would require demolition.</p> <p>At statutory consultation, there were 15 commercial properties within the Order Limits. There were also 77 residential properties required for the main construction works, of which 24 required demolition. In addition, there were 141 residential properties affected by overhead electricity works at M25 junction 29, Linford and at Heath Road.</p> <p>At supplementary consultation we showed changes in the impacted properties, associated with changes to our design proposals. Further updates took place as we continued to develop our proposals through the following consultations. Overall, between statutory consultation and now, the number of residential properties (not those affected by overhead power lines) in the Order Limits has reduced by seven to a total of 70. The number of residential properties that would require demolition has increased from 24 to 30. The number of residential properties affected by overhead power lines has reduced from 95 to 46. The number of commercial properties requiring demolition within the Order Limits has increased by two to a total of five.</p> <p>Since the preferred route announcement in 2017, owner-occupiers of residential properties within the Order Limits have been able to ask Highways England to purchase their properties. Our booklet 'Your property and blight' sets out the eligibility criteria and the process.</p> <p>Those affected by the project would also be entitled to make a claim for compensation where relevant. Any claims would be assessed in accordance with the Compensation Code. Where the land needed for the new road directly affects businesses, we have worked closely with those businesses to lessen the impacts wherever possible.</p> <p>There may be situations where the owners of properties outside of the development boundary have a pressing need to sell their property and are unable to do so except at a significant reduction to the market value as a result of</p>

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Summary of what you said	Our response
	<p>our proposed road project. In exceptional circumstances we may exercise our discretion and offer to purchase the property. Further information on the eligibility criteria and how applications are assessed can be found in our booklet 'Your Property and Discretionary Purchase'.</p> <p>The legal power to compulsory purchase land and property would be included in the DCO once it has been granted by the Secretary of State. Further information on the process can be found in our booklet 'Your property and Compulsory Purchase'.</p> <p>Once the road has been open for over a year, property owners may be eligible to apply for compensation if their property has reduced in value by more than £50 due to the physical factors caused by the use of the new, or altered road. This is commonly referred to as a 'Part I claim' as it is made under Part I of the Land Compensation Act 1973. More information can be found in our Guide to Part I Compensation: How to claim for the effects on your property of a new or altered road.</p>

Compensation code

'Compensation code' is a term for the principles, derived from Acts of Parliament and case law, relating to compensation for compulsory acquisition. Highways England's policies are in line with these principles.

Summary of what you said	Our response
<p>You raised concerns about the quality of communications between the project and those whose land interests are affected, including changes to the proposed land use over time as this has created uncertainty and confusion</p>	<p>As the design of the route has developed, there have been changes to the proposed land use. We acknowledge that this can cause uncertainty for those affected, but this design development process is unavoidable for a project of this size and complexity. At all times, we have tried to minimise the land impacted and whenever plans have changed, we have communicated this during consultation to those affected and their feedback has been sought.</p> <p>At the launch of each consultation, including this one, we issued letters to those with an interest in land affected by the project, and measures were put in place to ensure these notification letters were accurate and timely.</p> <p>Each person with an interest in land has been provided with at least the statutory minimum of 28 days to consider and provide comments on the consultation proposals.</p> <p>We also have a dedicated team of land and property specialists who work directly with those with an interest in land affected by the project. A phone number has been provided for property owners to contact the team to discuss any issues they may have.</p>
<p>You raised concerns that the proposed land use would result in the area becoming too urbanised</p>	<p>The relevant local planning authorities are responsible for planning for future developments and these details are included in their local plans. To understand future expectations for housing growth we have considered the areas for proposed housing within those local plans that are relevant and sufficiently advanced, during the development of our proposals.</p> <p>Any proposed land take by Highways England is either required permanently for the development of the new road and associated infrastructure or required on a temporary basis for construction.</p>

Rest and service area and maintenance depot

We asked...

“Do you support or oppose our proposals for a rest and service area in this location?”

and

“Do you support or oppose our proposals for the maintenance depot in this location?”

Summary of responses

Rest and service area question:

- 19,113 respondents answered this question
- 18,901 respondents were members of the public and other non-statutory organisations
- 198 respondents were from people with an interest in land
- 14 respondents were from statutory bodies and local authorities
- 12,694 (67%) individual respondents supported or strongly supported the proposals for a rest and service area in this location
- 2,234 (12%) individual respondents opposed or strongly opposed the proposals for a rest and service area in this location

Maintenance depot question:

- 18,949 respondents answered this question
- 18,739 respondents were members of the public and other non-statutory organisations
- 196 respondents were from people with an interest in land
- 14 respondents were from statutory bodies and local authorities
- 11,313 (60%) individual respondents supported or strongly supported the proposals for a maintenance depot in this location
- 2,434 (13%) individual respondents opposed or strongly opposed the proposals for a maintenance depot in this location

Rest and service area

In our statutory consultation we proposed a rest and service area, located near East Tilbury. After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the rest and service area as part of our DCO application.

However, we acknowledge that it would be beneficial for road users if there were additional rest and service areas on this part of the strategic road network.

Therefore, Highways England will work with rest and service area operators, the haulage industry and road user groups to consider further the need for roadside facilities and, if necessary, the most appropriate location for them.

Any future rest and service area would be developed, funded and operated by a service area operator and would need planning consent from the local planning authority.

You said...

The most common reasons people supported the rest and service area, and maintenance depot were:

- They are needed as part of the project
- There is a lack of these types of facilities within the local network
- That the joint location chosen for both facilities would minimise land use

The most common reasons people opposed the rest and service area and maintenance depot and our responses to the issues raised are summarised in the following table.

Summary of what you said	Our response
You raised concerns about the impact of the roadside facilities and maintenance depot on the local community	After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the rest and service area near East Tilbury as part of our DCO application.
You raised concerns over potential pollution or deteriorating air quality associated with the roadside facility and the maintenance depot	The project would operate safely without it and the proposed facility had significant impacts on the environment and local communities. In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.
You raised opposition due to the fact both facilities exist nearby	However, we acknowledge that it would be beneficial for road users if there were additional rest and service areas on this part of the strategic road network. Therefore, Highways England will work with rest and service area operators, the haulage industry and road user groups to consider further the need for roadside facilities and, if necessary, the most appropriate location for them.
You raised concerns about the impact the facilities will have on the countryside, green spaces or the green belt	Any future rest and service area would be developed, funded and operated by a service area operator and would need planning consent from the local planning authority.
You raised concerns about the location of the facilities	We also concluded that a new maintenance depot is not required as part of the project. The services can be met by those depots serving the nearby strategic road network, either in their existing form or with expanded capacity. By removing the depot, we have reduced the impacts on the environment, and countryside. However, the area required for the maintenance depot would still be needed temporarily during construction, including for a segment factory. The segment factory would be used to make the concrete segments that form the tunnel lining. This area of land will be returned to agricultural use after construction.
You raised concerns over the size of the land take for the facilities	It is standard practice for rest and service areas to be provided and managed by the private sector.
You raised concerns that the facilities offered by the roadside facility would be commercialised and overpriced	

Forecast traffic conditions with the project

We asked...

“Do you agree or disagree with the view that the Lower Thames Crossing would improve traffic conditions on the surrounding road network?”

Summary of responses

- 22,487 respondents answered this question
- 22,243 respondents were members of the public and other non-statutory organisations
- 223 respondents were from people with an interest in land
- 21 respondents were from statutory bodies and local authorities
- 14,223 (64%) individual respondents supported or strongly supported the view that the project would improve traffic conditions on the surrounding road network
- 3,588 (25%) individual respondents disagreed or strongly disagreed with the view that the project would improve traffic conditions on the surrounding road network

You said...

The most common reasons people support the view that the Lower Thames Crossing would improve traffic conditions were:

- It would reduce delays and congestion
- The predicted improvements at the Dartford Crossing
- That certain roads, such as sections of the A13, A127 and M25, would improve

The most common reasons people opposed the view that the Lower Thames Crossing would improve traffic conditions and our responses to the issues raised are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns that congestion will get worse, including on the A13, A2, A228, M25, and in Cranham, Thurrock and Upminster</p>	<p>The road network across the south-east of England carries a high volume of traffic on a daily basis, and is coming under increasing pressure due to economic growth across the region. As a result, there are a number of areas of severe existing congestion across the road networks. The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region would change. This would lead to some improvements and some worsening of other areas of existing congestion across the region.</p>
<p>You raised concerns that congestion will simply be moved to other areas</p>	<p>As well as providing relief at Dartford and its approach roads, traffic modelling results predict that the Lower Thames Crossing would affect other parts of the strategic road network and local roads, with some forecast to experience a decrease in traffic and others an increase. Overall, the transport benefits of the project outweigh the negative impacts on the road network.</p> <p>Concerns raised during statutory consultation regarding the impact of the new road on congestion led us to develop our design.</p> <p>Following feedback from our statutory consultation, the A2 junction was altered to help with the capacity of the two-way link road and the associated connections on the south of the A2. We provided more direct connectivity between Gravesend and the M2/A2 eastbound, and redesigned the Gravesend East junction and link roads to improve journey times.</p> <p>The work along the A2 corridor included the provision of two one-way link roads, north and south of the A2. These connect to the existing A289 and the old A2 at the eastern end, helping to improve the traffic flows and safety. This removed conflicting traffic flows and the same arrangement is proposed at the M25 junction with the inclusion of the northbound link road to junction 29.</p> <p>As drivers take advantage of the Lower Thames Crossing, on the A2 traffic is forecast to reduce to the west of the junction with the new road, and increase in the westbound direction between M2 junction 1 and the junction with the project road.</p>

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Summary of what you said	Our response
	<p>The A13/A1089 junction would provide a connection desirable for both local and regional traffic demands. The connections to the A13 eastbound from south of the River Thames relieve the congested Dartford Crossing and the approach roads, as well as the A2 between Gravesend and Dartford. The connection from the A13 westbound to the M25 northbound, would reduce the congestion at M25 junction 30, thereby relieving the Dartford Crossing northern approach roads. Along with the connection from the M25 northbound to the A13 westbound this would also provide relief to the M25 between junctions 30 and 29, and the A13.</p> <p>There will be local increases in traffic flows on the A13 and on short sections of the A1089 as drivers take advantage of the new crossing. In addition, there will be increases in traffic on other local roads as drivers re-route following changes in the connections at the A13/A1089 junction.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p>

Summary of what you said	Our response
<p>You raised concerns about the project on the grounds that it would not deliver satisfactory improvements in traffic levels</p>	<p>Traffic modelling results presented in this consultation has assessed the project in four future years: 2029, 2036, 2044 and 2051. The forecasts predict that the new road would remain free-flowing for the foreseeable future, and that there would be improvements at the Dartford Crossing that would not be realised unless the Lower Thames Crossing was built.</p>
<p>You raised concerns that additional road capacity created by the new road will not be enough to deal with future demands</p>	<p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable. This would provide substantial benefits to road users by cutting congestion on the Dartford Crossing and its approach roads, resulting in faster journeys and fewer delays. The improved connectivity would boost local economic growth and employment by making it easier for local businesses to interact with their customers and suppliers, and for them to retain and attract workers.</p> <p>We have considered the need to design the project based on forecasts of future traffic levels, including the optimal number of lanes in each direction to keep the route free-flowing.</p> <p>Following statutory consultation we reduced the number of lanes on the project road southbound between the junctions with the M25 and the A13, from three lanes to two. Our modelling results show that the reduced capacity remains sufficient to meet demand and keep this section free-flowing.</p>

<p>Summary of what you said</p>	<p>Our response</p>
<p>You raised concerns that the project's traffic modelling forecasts are unreliable or inaccurate. Some people were concerned the modelling does not take into consideration one of the crossings being closed</p>	<p>Our traffic modelling has been carried out according to the latest DfT guidance and is as reliable and accurate as possible within the limits of the discipline. The model has been assessed by a specialist outside of the project team throughout its development. This specialist concluded that the model is suitable to assess the project.</p> <p>The impact of one of the crossings being closed has not been explored as traffic modelling is not effective at predicting scenarios of this type. These scenarios do not lend themselves to being modelled to provide reliable data that can be used effectively. This is because there are many variables that make up any single incident, or set of incidents, that can affect the operation of the road network. These include the severity of the incident, its precise location, the length of carriageway and number of lanes affected, as well as the time of day and the duration of the incident.</p> <p>Currently at the Dartford Crossing when incidents do occur, the fact that the Crossing is often operating at, or above, capacity means that it has little resilience and users experience further flow breakdown, resulting in greater delays and even poorer levels of service. The project would reduce traffic flows at the Dartford Crossing by 21% on average in the opening year. As a result, journey times across the existing Dartford Crossing would become more reliable. Due to the lower volumes of traffic, the Dartford Crossing and approach roads would recover more rapidly from minor incidents on the crossing.</p>

Our approach to road user charging

We asked...

“Please give us your views on our proposed approach to charging users of the crossing*.”

Summary of responses

- 19,144 respondents answered this question

**This was an open question and did not ask for respondents to provide levels of support or opposition. We do not, therefore, have a statistical breakdown of responses for this question.*

You said...

The most common reasons people supported our approach to charging were:

- By using free-flow charging without payment booths, traffic flow would be improved
- It would be necessary to cover the costs of the new road
- A variable charging model based on time of travel, offers users a choice with peak-time travel carrying higher charges than off-peak time
- The more polluting vehicles would pay a higher rate due based on their emissions
- Depending on vehicle type, larger vehicles would pay a higher rate
- It would deter unnecessary journeys, reducing congestion and air pollution

The most common reasons people opposed our approach to charging and our response to the issues raised are summarised in the following table.

Road user charging

At statutory consultation, our proposals for road charging aligned the charge with the existing Dartford Crossing – the Dart Charge – but proposed that we would have flexibility to change the charging regime to help manage demand. We modified these proposals following statutory consultation to remove the proposed flexibility, linking the charge fully to the charge at the Dartford Crossing. This included the provision of a local residents discount scheme, which for the Lower Thames Crossing would apply to residents of both Thurrock and Gravesham.

<p>Summary of what you said</p>	<p>Our response</p>
<p>You raised general opposition to the charges at the Lower Thames Crossing, including concern that charging would discourage use of the crossing, negating its purpose</p>	<p>It is government policy that river crossings will normally be funded by tolls or road user charges. To align with this policy and to help the project meet its objectives, it is proposed that vehicles would be charged for using the crossing.</p> <p>There are no plans to operate the Lower Thames Crossing without a road user charge. It is expected that by lowering or removing the proposed charges more traffic would use the new route, increasing congestion at the crossing and its approaches. If granted, the DCO would include powers for the Secretary of State for Transport to impose road user charges equal to those at the Dartford Crossing.</p> <p>At statutory consultation, we intended to seek ‘flexible’ charging powers. Further modelling and assessments demonstrated that making the charges for the project the same as for the Dartford Crossing would be the most beneficial option. Therefore, our approach evolved and at supplementary consultation we proposed to align charges and other details of the charging regime with those at the Dartford Crossing, such as hours in which the charges apply, discounts and exemptions.</p> <p>Throughout the development of the new road, our traffic modelling has assumed equal charging across the project and Dartford Crossing. This is used as the ‘base case’ for traffic and environmental assessments.</p> <p>A road user charge is likely to discourage some people from using the crossing. However, our modelling results indicate that, with the charge, there will still be significant demand for the crossing, and the project will achieve the scheme objectives of relieving the congested Dartford Crossing.</p>

Summary of what you said	Our response
<p>You raised concerns that the project is following a precedent set at Dartford Crossing where charges were intended to be temporary</p>	<p>It is government policy that river crossings will normally be funded by tolls or road user charges. To align with this and to help the project meet its objectives of providing value for money, it is proposed that vehicles would be charged for using the new road.</p> <p>If granted, the DCO would therefore provide powers for the Secretary of State for Transport to impose road user charges under the DCO at the new crossing equal to the charges that are in force at the Dartford Crossing.</p>
<p>You raised concerns that the current Dartford Crossing charges are too expensive and that the Lower Thames Crossing charges would be as well</p>	<p>Toll charges were levied at the Dartford Crossing until 2003 when the debts associated with the Queen Elizabeth II Bridge had been repaid. Road user charges have been applied since then to manage traffic flow. Without the charges, vehicle volumes would rise and the economic benefits from the crossing would reduce significantly due to increased congestion.</p>
<p>You raised concerns about charges because other crossings are free to use. Examples given include river crossings within Greater London and the Severn Bridge</p>	<p>Charges at the Dartford Crossing are used to manage congestion. Other crossings, such as those within Greater London and the Severn Bridge, are operated under different circumstances and are a matter for Transport for London, not Highways England.</p> <p>There are no plans in the foreseeable future to operate the project without road user charges. It is expected that by lowering or removing the charges more traffic would be likely to use the new route, with the potential for increased congestion at the crossing and its approaches.</p> <p>The traffic modelling results and other assessments show that the approach to road user charging would provide congestion relief at the Dartford Crossing while making the new road affordable to government and road users.</p> <p>It is expected that discounts will be offered to account holders, on the same terms as the account discounts that apply at the Dartford Crossing. The discount scheme would be in line with the system in place at the Dartford Crossing. The DCO will also include powers enabling the Secretary of State for Transport to apply a local resident discount for charges imposed under the DCO to residents of the local authorities in which the tunnel entrances would be situated, which would mean those living in Gravesham and Thurrock.</p>

Summary of what you said	Our response
<p>You raised concerns about charges because drivers are already paying for road infrastructure through road tax and fuel duty</p>	<p>To help the project meet its objectives of providing value for money, it is proposed that vehicles would be charged for using the new road.</p> <p>Vehicle Excise Duty and fuel duty are collected by the Driver and Vehicle Licensing Agency and HM Revenue and Customs, with revenue going to the Treasury.</p> <p>Highways England is proposing to charge users of the crossing in line with government policy that river crossings will normally be funded by tolls or road user charges.</p>
<p>You raised concerns about the possibility of private companies profiting from the charges payable by users of the new crossing</p>	<p>The Dartford Crossing is a government asset managed by Highways England. The company, Emovis, that currently collects the Dart Charge on behalf of the Secretary of State for Transport is a specialist company that provides toll and road user charging services.</p> <p>The Dart Charge road user charges and the Lower Thames Crossing road user charges would be collected by Highways England on behalf of the Secretary of State for Transport. All revenue, after collection costs, would continue to be given to the government. We would have no responsibility for how the revenue is used by government following collection.</p> <p>The payment that Emovis receives for providing the charging and enforcement services for Dart Charge was agreed by Highways England and was approved by DfT and the Treasury. Highways England currently manages the operation of the Dartford Crossing road user charging scheme and enforcement on behalf of the Secretary of State for Transport under a protocol arrangement. A similar arrangement would be in place for the Lower Thames Crossing charges.</p>
<p>You raised concerns that drivers of vehicles registered in other countries would avoid paying the charges</p>	<p>Non-UK based drivers are required to pay for their crossings in the same way as UK based drivers. The Dart Charge compliance rates show that the overwhelming majority of journeys are correctly paid for within the required timescales, by UK and non-UK drivers. However, free-flow road user charging schemes are subject to non-compliance, both unintentional and deliberate, and by UK and non-UK based drivers. Therefore enforcement measures are necessary for the scheme to be credible.</p> <p>The DCO would, if granted, include powers to enforce the project road user charges in the same way as the Dartford charges are enforced.</p>

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Summary of what you said	Our response
	<p>As with domestic customers, Highways England encourages compliance among non-UK customers and is serious about tackling cases of evasion. Highways England uses an Automatic Number Plate Recognition system which is capable of capturing both UK and non-UK vehicle registration marks. Where there is any doubt about the country of the registration, the image would be reviewed manually.</p> <p>If it is confirmed that a road user charge has not been paid, enforcement measures would be used to recover outstanding charges. Such measures include effective penalty and recovery processes and the use of a European debt recovery agency to support recovery of outstanding charges from non-UK vehicles. This approach has proven to be successful on existing charged roads, including the Dartford Crossing, and would be replicated at the Lower Thames Crossing.</p>
<p>You raised concerns about a variable charging model where charges are set according to vehicle emissions. Some of you thought this would discourage some motorists from using the new road and puts those who cannot afford a lower-emission vehicle at a disadvantage</p>	<p>If granted, the DCO would provide powers for the Secretary of State for Transport to impose road user charges under the DCO at the new crossing equal to the charges that are in force at the Dartford Crossing.</p> <p>This means that road user charging at the Lower Thames Crossing would be based on the vehicle classifications in place at Dartford, which are linked to size of vehicle, rather than emissions.</p> <p>Vehicles using the Dartford Crossing are grouped into four classifications, including motorcycles (not charged), cars, large goods vehicles and HGVs.</p> <p>As the intention is to match the charges and other details of the Lower Thames Crossing charging regime with those at the Dartford Crossing, emissions-based charging is not proposed.</p>

Plans for building the Lower Thames Crossing

We asked...

“Do you support or oppose our initial plans for how to build the Lower Thames Crossing?”

Summary of responses

- 18,523 respondents answered this question
- 18,314 respondents were members of the public and other non-statutory organisations
- 194 respondents were from people with an interest in land
- 15 respondents were from statutory bodies and local authorities
- 11,557 (63%) individual respondents supported or strongly supported our plans for how to build the project
- 2,411 (13%) individual respondents disagreed or strongly disagreed with our plans for how to build the project

You said...

The most common reasons people supported our plans for how to build the Lower Thames Crossing were:

- The proposed building approach or methods in general
- The proposed approach is necessary because of the benefits the new road would deliver
- Sufficient mitigation measures have been put in place to minimise the impact on local communities
- The approach is based on certain conditions, such as minimal disruption to communities and adherence to the proposed timeline
- It would create jobs and employment opportunities, especially for locals
- By building the different sections of the new road at the same time, it would be completed faster
- The proposed tunnelling working hours are in line with expectations

The most common reasons people opposed our plans for how to build the Lower Thames Crossing and our response to these are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the duration of construction, saying construction would go on for too long and could overrun like other major infrastructure projects</p>	<p>If our DCO is granted, we intend to start construction in 2024, with the new road opening in 2029. Construction is estimated to take five years but, as with all large projects, there is a level of uncertainty over the construction programme, which will be refined once contractors are appointed and the detailed design is developed. The anticipated opening date for the new road is in 2029.</p> <p>We have developed the new road timescale and budget using industry-standard planning methods. These are supported by realistic development, design and construction times verified against other schemes of similar scale and complexity. Internal and external budget and timescale reviews would continue throughout the lifetime of the project.</p> <p>Highways England has a good record of delivering projects on time, such as the A14 Cambridge to Huntingdon upgrade and the same or enhanced standards would be applied to the Lower Thames Crossing.</p>
<p>You raised concerns about the community impact of building the Lower Thames Crossing, with feedback saying it would be severely disruptive to local schools, businesses, public rights of way and community assets. Locations mentioned include the area around Thames Rugby Football Club, Higham, Riverview Park, Brentwood, Thong and Chalk</p>	<p>Local people, communities and community assets have been considered throughout the design and development of the new road. We have consulted with local people and stakeholders at appropriate stages of the project's development, with feedback influencing how the impacts on local people, schools, businesses, public rights of way and community assets would be mitigated.</p> <p>During construction, we would seek to minimise impacts on public rights of way as much as possible. Where one is affected, we would consider options that would include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. Where a reasonable alternative is not possible, these public rights of way would be closed during construction.</p> <p>We have identified a list of public rights of way which are likely to be impacted during the works, and have undertaken preliminary counts of several across the project, with the intention to prioritise avoiding closures of heavily used route where possible. How the public rights of way are affected would depend on factors such as the type of works in the area and the safety implications. The impact on footpaths, including roadside footways, cycleways and bridleway links along the route of the project has been reduced, as much as reasonably practicable, through the design process.</p>

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Summary of what you said	Our response
	<p>The general approach to mitigation includes constructing new public rights of way prior to the closure of any existing ones, where it is reasonably practicable. Where site haul roads created adjacent to the route of the project would cross the existing public rights of way network, active control measures would be implemented to manage the safety of users and could include staffed crossings and the provision of temporary gates or signals, which would be removed on completion of the works. Construction works would be planned to reduce the durations of time which footpaths, cycleways and bridleways would need to be closed.</p> <p>More information about the impacts on footpaths and bridleways in specific wards, including proposals to improve and maintain local connectivity, can be found in the Ward impact summaries.</p> <p>We have continued to amend the design of the project to reduce its impacts. Having engaged with local authorities, businesses and the public, we have been able to focus on key areas of concern and refine the design and construction proposals to reduce the need for mitigations, such as preventing, reducing or offsetting any adverse effects created by the new road.</p> <p>We developed an approach to construction which reduces risks and minimises the construction period. Since statutory consultation and the feedback received from the public, local authorities and local businesses, the construction approach has been further refined and a number of mitigations have been incorporated into our plans. Some examples of these include, minimising the use of local roads (particularly around the M25 and A13) by creating offline haul roads directly off the strategic road network. We would also, introduce landscaping, (for example Chalk Park) to reduce traffic using the network, and minimise the carbon footprint by reusing material onsite, as well as providing green space for the local communities.</p> <p>Construction compound locations have also been refined to reduce their impacts, in some cases moving the compound further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds.</p>

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Summary of what you said	Our response
	<p>Fencing would also be provided for security purposes. Commitments to this effect are included within the CoCP and REAC.</p> <p>The CoCP also includes further mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours.</p> <p>Access to community facilities, such as leisure centres, would be maintained during construction, with mitigation measures relating to construction traffic management and community engagement as set out in the CoCP. The effects of traffic disruption to businesses located in close proximity to the project would be reduced or avoided through measures in the OTMPfC, which is included as part of this consultation. These include restrictions on the routes taken by construction traffic and careful design and timing of temporary road closures or diversions.</p>
<p>You raised concerns about congestion caused by construction traffic, including on Heath Road, Brewers Road, Shorne Village, the A12 in Havering, the A127 and the M25</p>	<p>The number of HGV journeys on the local road network associated with construction of the project has continued to fall as the design has been further refined to reduce the amount of earthworks imported and exported. The numbers have also been reduced by refining the haul roads locations and connection to the strategic road network, further limiting the need to use the strategic and local road network.</p> <p>We have followed a thorough process to identify mitigation measures to manage construction traffic. This means in some areas the proposals have been changed to reduce or eliminate the need for traffic management during construction, for example the need for narrowed lanes, speed restrictions, temporary diversions, and temporary traffic lights. The process has been iterative between design, traffic and construction and involved reviewing the design and identifying where traffic measures have been assessed. Where issues have been identified, we have refined the construction approach and/or design to eliminate or minimise traffic management.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the</p>

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Summary of what you said	Our response
	<p>numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>An OTMPfC has been developed in collaboration with local authorities and stakeholders which details traffic management measures and the outline approach.</p>
<p>You raised concerns about the cost of the proposed building approach due to expectations that costs would rise above forecasts due to delays and other issues</p>	<p>We considered the feedback regarding the cost to build the project, but we did not make any changes to the proposals.</p> <p>Highways England has a good record of delivering projects on time and to budget, such as the A14 Cambridge to Huntingdon upgrade, and the lessons learned would be applied to the new road.</p> <p>We have developed the Lower Thames Crossing timescale and budget using industry-standard planning methods. These are supported by realistic development, design and construction timescales verified against other schemes of similar scale and complexity. Internal and external budget and timing reviews would continue throughout the lifetime of the project.</p> <p>We would follow government guidelines for procurement to achieve value, while ensuring all commitments and obligations arising from the DCO would be met.</p>
<p>You raised concerns that the Lower Thames Crossing would not be constructed according to the methods presented at statutory consultation. For example, contractors may have different approaches, and may implement cost-cutting measures which could affect the environment and communities</p>	<p>We have produced a draft CoCP which includes mitigation measures and guidance to our contractors on a number of several environmental considerations. These include dust, noise, light and working hours. We have presented the draft CoCP as part of this consultation and it will also form part of our DCO application.</p> <p>Our appointed contractors would be required to submit plans for the construction work in accordance with the CoCP. These plans would be reviewed and approved by Highways England to ensure that they meet the specifications and expectations.</p> <p>We would follow government guidelines for procurement to achieve value, while ensuring all commitments and obligations arising from the DCO are met.</p>

Summary of what you said	Our response
<p>You raised concerns about the environmental impacts of the proposed building approach, including on noise, air, light pollution and local wildlife.</p> <p>Locations included Upminster, East Tilbury, Linford, Orsett, Gravesend, Thong Lane, and Shorne Woods Country Park</p>	<p>We have taken steps to mitigate the potential impacts of construction on the local environment, including on wildlife, noise, light pollution and air quality. Minimising impacts on health and the environment is one of the objectives of the project.</p> <p>Our construction approach aims to reduce risks and minimise the construction period and to implement mitigation where possible. Using feedback from statutory consultation, our construction approach has been further refined with many embedded mitigations adopted. For example, we are introducing landscaping (such as Chalk Park) to reduce traffic using the network, and will reduce the carbon footprint by reusing material onsite as well as providing green space for the local communities.</p> <p>Construction compound locations have also been refined to reduce their impacts, in some cases moving the compound further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are included within the CoCP and REAC.</p> <p>The CoCP also includes further mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery.</p> <p>Further information about construction in your area is provided in the Ward impact summaries.</p>

Changes to utilities infrastructure

We asked...

“Please let us know any views you have on the proposed changes to utilities infrastructure*.”

Summary of responses

- 6,463 respondents answered this question

**This was an open question and did not ask for respondents to provide levels of support or opposition. We do not, therefore, have a statistical breakdown of responses for this question.*

You said...

The most common reasons people supported the proposed changes to the utilities infrastructure were:

- Supplies would be maintained and works carried out safely
- The new road would deliver benefits that would offset short-term inconvenience
- Changes to gas mains would be needed for the safe construction and operation of the Lower Thames Crossing

The most common reasons people opposed the proposed changes to the utilities infrastructure and our response to these are summarised in the following table.

Further information on the environmental impacts of the new road's utility works are provided in chapter 3 of the Operations update.

Summary of what you said	Our response
<p>You raised general concerns about the environmental impacts of the new road's utility works</p>	<p>The works to divert existing utilities infrastructure have developed iteratively through close engagement with the relevant utility companies, further investigations, and consideration of feedback from organisations and residents of the affected areas. In a number of instances, this process has resulted in further changes to the utility proposals from statutory consultation, due to a better understanding of existing conditions and constraints.</p> <p>We were able to reduce the extent of overhead power line diversion works presented at statutory consultation in the Chadwell St Mary area by moving the Lower Thames Crossing route approximately 60 metres to the north east.</p> <p>North of the Thames proposals for utilities infrastructure included in our supplementary consultation included developing designs and options. For example, significant high-pressure pipeline works were identified at Folkes Lane, Warley Street, north of Ockendon Landfill, Green Lane, Orsett, the Orsett Showground and Brentwood Road.</p> <p>South of the Thames, works to utilities infrastructure identified potential impacts to Claylane Wood, Brewers Road Wood, Shorne Woods Country Park, Ashenbank Wood and Jeskyns Community Forest.</p> <p>Following supplementary consultation, we refined the proposals for utilities near the M2/A2, reducing the amount of land needed. This has reduced the effects on Shorne and Ashenbank Woods SSSI and other environmentally sensitive locations including Jeskyns Community Woodland and Claylane Wood, where there is ancient woodland.</p> <p>We were also able to remove works in the Mardyke, as confirmed by the relevant utility provider, because some of the existing infrastructure and associated high-pressure pipelines were no longer impacted by the new road. This presented a reduction in the amount of steel pipework required by the project.</p> <p>These changes were consulted on during the design refinement consultation.</p> <p>Shorne Woods switching station was proposed to be relocated to the western side of Thong Lane, north of the Thong Lane bridge over the A2. Following feedback from the design</p>

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Summary of what you said	Our response
	<p>refinement consultation, and after engagement with utility companies, it is now proposed to move the equipment to the proposed A226 primary substation. By amending the cable type supplying the A226 substation and reconfiguring the local network, it is possible to remove around 2.8 kilometres of the existing overhead electricity network (and associated wooden poles that currently run from the A2/Thong Lane north to the A226). This would allow these areas to be managed as woodland, which avoids potential conflict of use with the cable network. More information about this change is included in the Operations update.</p> <p>We continue to develop proposals through consultation that promote safety to the workforce, local residents and stakeholders, the assets themselves and the utility networks. This process has resulted in a refined scope of utility works, coordinated as far as reasonably possible with other necessary works, while taking into account existing conditions and constraints such as local wildlife, vegetation, local populations and cultural heritage.</p>

Assets

the physical element owned by a third party whether that be a cable, duct, pipe, compound, pylon, fence, cabinet, chamber or valve. To protect our workforce and to make sure there are no unplanned disruptions in supply, we work closely with utility companies to make sure works on or near existing utilities can be undertaken safely.

Summary of what you said	Our response
<p>You raised concerns about the community impacts of the proposals. Specifically, in regard to utility works causing disruption near residential areas, such as overhead power lines moving too close to properties and residential areas, and concern over the disruption of local supplies of electricity and gas</p>	<p>Works to the existing utility infrastructure would only be carried out where necessary to implement the project, either to divert utilities, to accommodate the route or to provide essential services to compounds during construction. We have engaged with utility companies throughout the development of the new road, ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities, businesses and road users.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead electricity lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p> <p>After statutory consultation, we altered a diversion to overhead electricity lines near Heath Road because the diversion would have resulted in overhead lines passing directly over some properties. The design was changed to move the overhead electricity lines into a cleared area further south. This was presented during supplementary consultation.</p> <p>Between statutory consultation and supplementary consultation, the proposals around M25 junction 29 were modified to avoid impacts to the existing National Grid Electricity Transmission (NGET) electricity pylons. This ensured that the diversion to the NGET assets was no longer required, and therefore a section of works to the overhead electricity lines at Roseberry Gardens (Cranham) was also no longer required.</p> <p>In some instances, it has been necessary to move pylons and transmission lines closer to properties due to design constraints. For example, near Thong Lane over the Lower Thames Crossing we amended the overhead electricity lines diversion following stakeholder feedback. It also impacted changes to the Thong Lane green bridge. The amended diversion to the overhead electricity line meant that pylons were moved south, closer to Thong residents. This was presented in the design refinement consultation.</p>

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Summary of what you said	Our response
	<p>Across the Lower Thames Crossing area, however, upon completion there would be a net reduction in the number of pylons.</p> <p>We were able to reduce the extent of overhead electricity cable diversion works presented at statutory consultation in the Chadwell St Mary area by moving the Lower Thames Crossing route approximately 60 metres to the north east, further away from the Chadwell St Mary community. However, moving the route to the north east would result in the project being closer to Linford.</p> <p>To reduce the impacts of utilities on local communities, we propose reducing the number of pylons near the route between Chadwell St Mary and Tilbury. In this area, at supplementary consultation, we proposed removing 17 existing pylons and installing 10 new ones, resulting in seven fewer pylons. Since the design refinement consultation, we have amended our proposals and would retain the pylon at Muckingford Road. Therefore, 16 would be removed resulting in six fewer pylons.</p> <p>In accordance with relevant utility policies and regulations, planned works would not normally include interruptions of customer supply. Utility companies would communicate any planned impacts on their networks to customers in advance and would account for vulnerable customers' needs.</p> <p>We will develop a communications and engagement strategy (CES) to outline the objectives and communications with all stakeholders. Our appointed contractors would then develop a communications and engagement plan in support of the CES, to ensure that stakeholders are informed of all work activities and to maintain good relationships with other parties.</p>
<p>You raised concerns about the impact of the utility proposals on the local landscape, countryside and green belt. Locations mentioned included Riverview Park, Thong and Thames Chase Community Forest</p>	<p>Where land is required for works to the existing utility infrastructure, we have generally tried to secure powers to use the land needed temporarily, with permanent rights (as opposed to outright acquisition) sought for future operation and maintenance of the diverted utilities. This means that, in most areas, occupation of the land will be returned to the owner following the completion of utility works.</p> <p>Where possible we have also developed proposals to avoid built-up areas, such as Heath Road and Chadwell St Mary.</p>

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Summary of what you said	Our response
	<p>At statutory consultation, we proposed moving some overhead electricity lines and pylons in between Riverview Park and Thong village. We also proposed moving two further sets of power lines and pylons near Linford: those west of Low Street Lane and those near Muckingford Road. In addition, we had identified a trunk water main in the Thames Chase Community Forest area that would be affected.</p> <p>Following statutory consultation, we continued to work with our stakeholders, including the utility companies, to progress plans and to ensure the new road can be built safely and with minimum disruption. We developed a more detailed understanding of the diversion routes utility companies would need to take to divert their assets.</p> <p>The development of designs to divert utilities infrastructure and environmental mitigation led to an expansion of the Order Limits which were presented during supplementary consultation. The Order Limits increased by 24% between statutory consultation and supplementary consultation.</p> <p>We proposed to divert multi-utilities in the Thames Chase Community Forest area, which was consulted on during supplementary consultation. We have also committed to limit traffic within the area by using a shared corridor for the main construction works, which would minimise interface with the Thames Chase Community Forest access road and car park.</p> <p>After supplementary consultation, we refined proposals and reduced the land required for works. We also proposed to move the pylon diversion near Thong Lane over the new road, approximately 235 metres south of that proposed at supplementary consultation (90 metres south of the existing route of the overhead line). This means it would move away from Riverview Park and closer to Thong. This proposal was consulted on during the design refinement consultation.</p>
<p>You raised concerns that the cost of the new road’s utility works would be too high</p>	<p>Both cost and value for money have been important considerations throughout our options selection and design development of the Lower Thames Crossing. The costs of works to the existing utilities infrastructure are an integral part of the overall project budget.</p>

3

Supplementary consultation

Developing the project after statutory consultation

We used feedback from our statutory consultation and engagement with stakeholders to make a number of changes to the design, including plans for construction and diversions to existing utilities infrastructure.

A supplementary consultation was held between 29 January and 2 April 2020. Its main purpose was to obtain people's views about the changes made as a result of feedback from statutory consultation and technical engagement with stakeholders, further design development and new information.

The proposed changes to the project after statutory consultation and presented in the supplementary consultation are summarised here:

- We developed detailed proposals for walkers, cyclists and horse riders across the whole route, including improving existing connections and providing new recreational routes
- The A2/M2 junction with the project was reduced in width and the central reservation was narrowed to minimise the overall footprint of the corridor and junction. It also reduced the impact on Shorne Woods Country Park and the Kent Downs Area of Outstanding Natural Beauty
- Several changes were made to connector roads and local junctions to make it easier for residents to make local journeys. This included a change to the Gravesend East junction and a new connection between the Valley Drive roundabout to the M2
- We changed the access from Brewers Road onto the A2. Our proposals at supplementary consultation retained the connections on and off the A2 at this location, but no longer

allow people coming onto the A2 eastbound at this point to then travel directly onto the M2. Drivers wanting to take the M2 would have to re-route via the A289

- The southern tunnel entrance was moved 350 metres south to reduce the risk of impacts on the Thames Estuary and Marshes Ramsar site, a wetland of international importance for bird species
- The maintenance and emergency access to and from the tunnels were designed based on the location of the northern tunnel entrance. Flood bunding earthworks were also incorporated into the design to mitigate flood risk in this area
- The rest and service area, maintenance depot and Tilbury junction were removed from the project. This allowed the Tilbury viaduct to be lowered, reducing its visual impact
- Three additional green bridges were proposed across the route north of the River Thames at Hoford Road, Muckingford Road and North Road
- Between Tilbury and the A13 the route was moved approximately 60 metres north-east to avoid moving some pylons and overhead power lines closer to residential areas
- The junction between the Lower Thames Crossing and the A13, A1089 and the A1013 was amended in several places, primarily to move it further from properties, reduce the visual impact and improve safety
- The number of lanes on the southbound section of the Lower Thames Crossing between the M25 and the A13 was reduced from three lanes to two. The traffic modelling results predicted that fewer vehicles would use the route in this section, therefore the design would meet the predicted capacity required. By lessening the amount of permanent land needed, we reduced the associated impacts on ecology, farmland and land needed for flood risk compensation.
- The structures crossing the Mardyke River and Golden Bridge Sewer were redesigned by increasing the overall length by approximately 50 metres. We also moved the route south-west to avoid existing gas mains and an associated compound and minimise the impact on a nearby landfill site. Retaining walls were added to the route around

the Wilderness woodland, to the east of North Road, which reduced the impact on this area

- Between North Ockendon and South Ockendon the height of the road was lowered to minimise visual impact. At M25 junction 29, the slip roads to and from the A127 were moved closer to the roundabout to avoid diverting overhead power lines and pylons.

Some areas of additional land were identified where services and utilities potentially would be impacted by the project and need to be diverted. This resulted in the Order Limits increasing from what we proposed during statutory consultation, from 20 squared kilometres to 26.3 squared kilometres.

Updated plans for construction and the diversion of utilities

In response to feedback received from statutory consultation and engagement with our stakeholders we further developed our plans for the construction of the new road and the utility diversions required for the project.

To maximise the amount of daylight hours during construction, we increased our assumed core working hours from those presented during statutory consultation.

Based on further understanding of the scale and nature of works, as well as the development of the preliminary design, we started to develop outline routes that HGVs would be likely to take to and from our construction compounds. This in turn provided an estimation of the average number of HGV journeys to be made each month to our five construction areas. In some cases, the locations of these were changed or reshaped as a result of feedback. Plans to reuse material on our construction sites meant we could significantly cut the number of potential HGV journeys. We also amended some routes that construction traffic would use, aiming to identify those that were most practicable and would minimise the impact on local roads and communities, following assessments and talking to local highway authorities.

The utility companies provided us with more data about their networks, giving us a greater understanding of their complexity, and the project's impact on them. Preliminary design proposals had progressed, and site walkovers had continued to confirm the locations of existing utility networks.

Many of the changes presented in the supplementary consultation were in response to utilities design and resulted in a greater impact on a number of environmental features.

Some of the additional land within the Order Limits at this stage was proposed to enable a series of utility diversion options to be developed. In some cases, we had to assess the cost of works as well as the impact on our construction programme, local residents, and other parties during construction.

Updating our traffic assessments

Following statutory consultation, some changes were made to the Lower Thames Area Model (the project's strategic transport model). These refreshed the list of proposed developments and road schemes that would happen regardless of whether the project was built or not, following discussions with local planning and highway authorities.

In addition, updated data from the DfT on the trip patterns of HGVs was available and was incorporated into the transport model. We also made some minor changes to how the existing road network and the project were represented in the transport model, and updated the years in which the forecast impacts of the project on the road network was assessed. The updated design proposals were reflected in the traffic model.

Overview of supplementary consultation

The supplementary consultation was during the emergence of the COVID-19 pandemic, which meant that some of the activities we had planned needed to change. As a result, we had to cancel four events, which are excluded from the number quoted below.

The consultation

We asked for feedback on:

- proposed changes south of the river
- removal of a dedicated rest and service area, maintenance depot and the junction at Tilbury
- changes in the area around the A13/A1089 junction
- changes in the area around M25 junction 29
- changes to the area of land required to build the Lower Thames Crossing

- proposals for walkers, cyclists and horse riders
- changes to the environmental impacts
- revised proposals to build the Lower Thames Crossing
- revised proposals for utility works
- the updated traffic information

We also asked for any other comments about the Lower Thames Crossing and the consultation.

How we carried out the supplementary consultation

We conducted an extensive publicity campaign aimed at the local communities potentially affected by the development and encouraged participation in the consultation process.

To support this, we:

- sent a leaflet to 135,000 addresses within two kilometres of the development boundary
- sent around 900 personalised letters to landowners and occupiers of properties within the development boundary
- held 15 consultation events to provide opportunities for people to talk to the project team and ask questions about the proposals
- attended approximately 80 meetings with stakeholders including local authorities, statutory environmental bodies, business representatives and locally elected representatives including MPs and ward councillors
- sent emails to 230,000 registered Dart Charge accounts within two kilometres of the development boundary
- sent nearly 45,000 emails to subscribers on our customer database
- placed notices and informal advertising in local, national and trade newspapers
- organised eight deposit locations where people could view the supplementary consultation materials and take away leaflets, the guide to supplementary consultation and response form
- organised 10 information points with take away leaflets, the guide to supplementary consultation and response forms
- created a dedicated website to ensure all information relating to the consultation was accessible

Consultation materials

We produced a suite of consultation documents and maps to help participants understand more detail about the proposed changes to the project. These included:

- Guide to supplementary consultation
- Environmental impacts update
- Utilities update
- Traffic modelling update
- Map Book 1 – General Arrangements
- Map Book 2 – Land Use Plans
- Map Book 3 – Engineering Plans

Consultation responses

We received 6,576 responses to our supplementary consultation. The majority were from individuals, while 316 were from statutory organisations, local authorities and people with an interest in land.

The Woodland Trust organised an online email campaign with a pre-printed message and space for respondents to add their own comments. In total, we received 3,378 responses through the Woodland Trust campaign, 1,365 of which were slightly tailored.

Breakdown of response type



What you said about our proposals and our response

Key themes

Overall, a substantial number of people who responded to our supplementary consultation supported the proposals. We asked you to help shape our solutions and below are some key feedback themes that you raised in your responses:

- Traffic on the surrounding road network, including congestion in local areas and whether the project would solve congestion at the Dartford Crossing
- Disruption to local communities, including moving the route closer to Linford and impacts to amenities
- Removal of the rest and service area and Tilbury junction
- The complexity of the junctions, including safety of the roads and crossing, and smart technology
- Impact of construction on communities and on local roads
- Removal of one lane southbound between the M25 and A13
- Increase in land required to build or operate the project
- Utilities proposals including works to gas mains near the A2/M2 and in Orsett
- Environmental impacts such as air quality, visual impact and climate change
- Issues relating to the proposals for walkers, cyclists and horse riders, including that existing paths would be lost, and safety and concern about shared paths

Our response to these issues are covered where they are raised under each question within the following sections of this document.

Summary of feedback received in supplementary consultation

The following sections provide a summary of your views and the feedback we received during the supplementary consultation. It also outlines our response to your feedback and explains where, in some cases, we made changes and in others why changes were not made.

Firstly, we have summarised the 25 most common suggestions we received to the supplementary consultation and our response to them.

We then summarise the feedback for all questions about the project proposals. Most of the questions included asking respondents to what extent they support or oppose an element of the proposals. There were also questions giving respondents an opportunity to explain why they held a certain view. We have followed the questions as they were asked in the response form.

Chapter 5 of this document provides a series of maps and images to show how the feedback you provided has helped to develop the project.

Signposting to other documentation

Throughout the following sections we have signposted to other documents within this consultation where you can find more information about our proposals. A list of these documents and a short description of each are included below:

- Operations update – provides a summary of how the new road and its features will look when it opens. It also details the impacts, associated mitigation measures and the changes made to it since the design refinement consultation in 2020.
- Construction update – sets out our plans for constructing the Lower Thames Crossing, building on the feedback we have received from previous consultations.
- Ward impact summaries – describes how the construction of the project and operation of the road would affect each local authority ward area. It also describes the mitigation measures that we would make use of in each area to manage the effects of construction.

We also refer to the control documents that will form part of our DCO application. These documents describe how we would manage any impacts associated with construction. Where indicated, drafts of those documents are also provided as part of this consultation, offering more information on specific aspects of our plans. Documents mentioned in the following sections include:

- Code of Construction Practice (CoCP)
- Register of Environmental Actions and Commitments (REAC)
- Outline Traffic Management Plan for Construction (OTMPfC)
- Wider Network Impacts Management and Monitoring Plan

Our target date for the road opening is 2029/30, but for the purposes of construction and traffic modelling the opening date is assumed to be 2029 throughout this consultation.

Most common suggestions received in supplementary consultation feedback

We received a number of suggestions about the proposals set out in the supplementary consultation materials.

Based on the methodology explained in chapter 1, we have summarised the 25 most common suggestions across all questions, and provide a response to how your feedback has been used and whether any changes were made or not.

Summary of what you said	Our response
<p>You suggested that disruption to local residents should be minimised as much as possible during construction</p>	<p>We have reviewed and considered the individual suggestions regarding how impacts on the community could be minimised and, where practicable, these have been included in the project. Some of these range from design changes or commitments made in documents for the contractor to adhere to.</p> <p>Given the scale of the project, it would inevitably have some impacts on the surrounding area. However, we would carry out appropriate mitigation, as set out in the Code of Construction Practice (CoCP). In addition, much of the construction would take place away from densely populated areas or heavily used roads. Where there is a direct interface with the public that cannot be avoided, these works would be finished as quickly as possible.</p> <p>The CoCP sets out the controls and mitigation measures that would be used to limit or avoid impacts on communities, including local roads. It also sets out general environmental management principles and information about construction site management and traffic management.</p> <p>Wherever possible, we would use designs and construction techniques that minimise the need to close roads, particularly those that are part of the strategic road network. Where temporary closure of all or part of a road is required, we would seek to minimise the length of time it is in place and ensure there are appropriate diversions.</p> <p>We developed an approach to construction which reduces risks and minimises the construction period. Since statutory consultation and the feedback received from the public, local authorities and local businesses, the construction approach has been further refined with many mitigation measures being adopted. Some examples of these include, minimising the use of local roads (particularly around the M25 and A13) by creating offline haul roads directly off the strategic road network. We would also introduce landscaping (for example Chalk Park) to reduce traffic using the network, and minimise the carbon footprint by reusing the material onsite, as well as providing green space for the local communities.</p> <p>Construction compound locations have also been refined to reduce the impacts, in some cases moving them further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are included within the CoCP and REAC which are part of this consultation.</p>

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Summary of what you said	Our response
	<p>At supplementary consultation, we presented revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused, we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>We are exploring options to minimise impacts on schools during construction, for example potentially avoiding deliveries during school drop off and pick up times. Please see the OTMPfC, which is also part of this consultation. Access to community facilities, such as leisure centres, would be maintained during construction, with mitigation measures relating to construction traffic management and community engagement as set out in the CoCP. The effects of traffic disruption to businesses located in close proximity to the project would be reduced or avoided through measures in the OTMPfC. These include restrictions on the routes taken by construction traffic and careful design and timing of temporary road closures or diversions.</p> <p>We expect to maintain accesses throughout construction. If there were any impacts, we would engage with affected parties and, where possible, give them advance notice about any temporary impacts. However, in the case of an emergency, such as a burst pipe, we would work to address any harmful impacts immediately for the benefit of all parties, even if this meant temporarily closing access.</p>

Summary of what you said	Our response
<p>You suggested that work on the Lower Thames Crossing should start as soon as possible and that construction should be completed in as short a time as possible</p>	<p>If our DCO is granted, we intend to start construction in 2024, with the new road opening in 2029. Construction is estimated to take five years but, as with all large projects, there is a level of uncertainty over the construction programme, which will be refined once contractors are appointed and the detailed design is developed. The anticipated opening date for the new road is in 2029.</p> <p>We have developed the new road timescale and budget using industry-standard planning methods. These are supported by realistic development, design and construction times verified against other schemes of similar scale and complexity. Internal and external budget and timescale reviews would continue throughout the lifetime of the project.</p> <p>Highways England has a good record delivering projects on time – such as the A14 Cambridge to Huntingdon upgrade – and the same or enhanced standards would be applied to the Lower Thames Crossing.</p>
<p>You suggested that rest and service facilities should be placed in an alternative location</p>	<p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility near East Tilbury as part of the DCO application. The project is capable of operating safely without its inclusion, and the proposed facility had significant impact on the environment and local communities.</p>
<p>You suggested that services should be placed in a specified alternative location, such as Clacket, South Mimms or Upminster, or in a specified area, such as Kent</p>	<p>In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.</p> <p>However, we acknowledge that it would be beneficial for road users if there were additional rest and service areas on this part of the strategic road network. Therefore, Highways England will work with rest and service area operators, the haulage industry and road user groups to consider further the need for roadside facilities and, if necessary, the most appropriate location for them.</p> <p>Any future rest and service area would be developed, funded and operated by a service area operator and would need planning consent from the local planning authority.</p>

Summary of what you said	Our response
<p>You suggested that the environmental impacts of the Lower Thames Crossing should be minimised as far as possible</p>	<p>Minimising impacts on the environment is one of the scheme objectives agreed between Highways England and the DfT. The project's proposals have been designed to provide an appropriate balance between the need to reduce environmental impacts during construction and operation and still fulfilling the other scheme objectives, including the need to reduce congestion at the Dartford Crossing and complying with the relevant legislation.</p> <p>The project has also been developed to minimise the amount of land needed for construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland. The roads and junctions that comprise the project would have the minimum height and footprint possible, while still providing the necessary capacity, safety and connectivity that road users and operation require. We are currently carrying out an environmental impact assessment to understand the impacts on the environment and set out plans to mitigate them.</p>
<p>You suggested that environmental impacts should be mitigated or minimised</p>	<p>In keeping with industry best practice, we have followed the mitigation hierarchy of 'avoid, minimise, restore and compensate' to protect the environment in which the new road is constructed. Where required, adverse effects on sensitive areas would be reduced. All mitigation proposals have been designed to be "appropriate and proportionate" to the type and extent of impact they are intended to offset.</p> <p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme of engagement with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>The CoCP also includes further mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours.</p>
<p>You made suggestions about mitigation and minimisation of impacts on wildlife and biodiversity</p>	<p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>A project wide approach has been taken for the assessment of impacts and provision of mitigation for protected species.</p>

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Summary of what you said	Our response
	<p>At statutory consultation we used information from desk-based and initial field research to identify core areas of habitat creation and the mitigation measures that would be required for protected species.</p> <p>After statutory consultation, we had a more detailed understanding of potential impacts following the completion of most field surveys and the updated project design. The design was refined to help avoid some significant impacts, for example moving the southern tunnel entrance further south to reduce risk of impacts to the Thames Estuary and Marshes Ramsar and SPA. In addition, areas of habitat creation were identified as part of the mitigation.</p> <p>Mitigation measures include green bridges, as well as large culverts with features to allow mammals to pass through them safely. These would help to link adjacent wildlife habitats once they are separated by the new road. Where replacement habitats for species are required, these would be put in place to allow sufficient time to establish before any animals are released into them.</p> <p>After supplementary consultation and presented in the design refinement consultation we presented amendments to mitigation measures, following engagement with stakeholders and updates to the construction and utilities impacts for the project.</p> <p>An example of how we have developed mitigation measures since the design refinement consultation includes making changes to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction linking to Coombe Wood ancient woodland. In the south, we have also reviewed the proposed mitigation following further engagement with stakeholders and landowners. As part of this, we have identified potential locations within some proposed areas of compensatory woodland planting, to recover and reuse ancient woodland soils. Similarly, following the design refinement consultation, ecological mitigation for water voles has been moved from Coalhouse Point to the Mardyke Valley. A new provision for coastal grazing marsh/wetland habitats has been proposed at Coalhouse Point to provide permanent habitat for wetland birds, replacing areas of land that would be lost by the footprint of the project.</p> <p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15%.</p>

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Summary of what you said	Our response
	<p>We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p>
<p>You made suggestions that land take, especially permanently acquired land, should be minimised as much as possible without jeopardising the construction or operation of the crossing</p>	<p>The project has been developed to minimise the amount of land needed for its construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland.</p> <p>Following statutory consultation, we developed a more detailed understanding of the diversion routes utility companies would need to divert their assets. We also further developed our environmental mitigation proposals. This led to an expansion of the Order Limits presented at supplementary consultation (26.3 square kilometres) which was 24% larger than that presented at statutory consultation (20 square kilometres).</p> <p>Following further design development coupled with the findings from site investigations and stakeholder feedback we were able to amend the design of utility diversions. Overall, these changes meant the Order Limits were reduced by 15% and presented during design refinement consultation (22.9 square kilometres).</p> <p>We have now reduced the Order Limits by a further 3% (22.2 square kilometres for this consultation), which means between statutory consultation and now, it has increased by 10%. The further 3% reduction since the design refinement consultation has been possible due to further detailed design work we have done with utility providers to refine the routes of their diversions. We have also been able to reduce the amount of land within the Order Limits over which we are seeking permanent rights. This means there is a higher proportion of land required temporarily (shown as green in the Land Use Map Book) compared to previous consultations. This land will be returned to its previous use and ownership following construction.</p> <p>We are in the process of carrying out an environmental impact assessment to look at the impact of the Lower Thames Crossing on the landscape. This assessment examines the impact of the project on the landscape, including land designated as green belt, woodland (including ancient woodland) and open spaces.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise, restore and compensate’ to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of adverse effect they are intended to offset.</p>

Summary of what you said	Our response
<p>You made suggestions for specific new paths for walkers, cyclists and horse riders in addition to those proposed, including paths that consultees believe would connect existing or proposed routes</p>	<p>Highways England aims to minimise the effects on public rights of way. Wherever possible, our proposals maintain existing public rights of way once the new road is operational. Where this is not practical, diverted public rights of way have been proposed, with a view to making them as attractive as possible. We have tried to maintain directness where relevant for commuter cycling routes, while also keeping connections between recreational amenities such as public parks and stables.</p> <p>The proposed provision for walking, cycling and horse riding has been informed by assessments of existing and predicted levels of demand in the vicinity of the project. We have also carried out a cross-boundary strategic review of existing walking, cycling and horse riding provision and potential need. This review has been shared with the relevant local authorities so they can use it to support local funding plans.</p> <p>The proposals have also been informed by careful consideration of the feedback received during consultations, as well as numerous site visits and meetings with stakeholders including landowners, local authorities and user groups. We have reviewed the sometimes-competing demands of users and landowners, and ensured the proposed facilities meet appropriate technical, economic, safety and need tests.</p> <p>Following statutory consultation we proposed more than 40 kilometres of new or upgraded routes, including routes that link Grays, Chadwell St Mary, Orsett, East Tilbury, South Ockendon, as well as Gravesend and Thong. Other routes provide connections between Jeskyns Community Woodland and Shorne Woods Country Park, and between Thames Chase Community Forest and Belhus Woods Country Park. The footpath linking Tilbury Fort and Coalhouse Fort would remain unaffected.</p> <p>To alleviate the concern about the loss of public rights of way, following supplementary consultation, we resolved the severance caused by the project at junction 29 of the M25, as the new free-flowing slips to the south of the junction were cutting off the existing crossing through the south of the junction. At the design refinement consultation, a new bridge was proposed to allow those using the southern pathway alongside the A127 to cross to the north pathway and pass beneath the M25 on the north side of the junction before crossing back to the south using a crossing further west. This part of this route, and the new bridge were redesigned to be used by cyclists following the design refinement consultation.</p>

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Summary of what you said	Our response
	<p>There is only one public right of way across the route which is being permanently stopped up, a short public right of way off Henhurst Road, close to the A2, as there is no reasonable diversion.</p> <p>If the project is approved, the Highways England design standards set out that another review of the walking, cycling and horse riding provision would take place during detailed design. As such, there would be another opportunity to refine the proposals based on further consideration of any feedback and in line with design standards.</p>
<p>You suggested that there should be provisions for walkers, horse riders and especially cyclists to access the new tunnel, or that the project should include a cyclist shuttle service similar to provisions at the Dartford Crossing</p>	<p>We have considered various options during the development to provide improved river crossings for walkers and cyclists, however after careful consideration we have not included a new crossing of the River for walkers, cyclists and horse riders within our proposals.</p> <p>The options investigated include using the tunnel, upgrading the existing ferry, relocating the ferry, building a separate bridge or cable car, and providing a shuttle service through the tunnel. All of these options have been rejected for reasons that include: lack of technical feasibility, operational issues, lack of commercial viability, cost, environmental impacts and poor safety. Nevertheless, the existing ferry across the Thames between Gravesend and Tilbury, which is used by pedestrians and cyclists, would be unaffected by the new road.</p> <p>The potential demand for walking and cycling across the Thames at the new crossing point is low, and therefore unlikely to generate enough trips to make the infrastructure for a shuttle service economically viable. In addition, journey times and distances for a shuttle would be excessive. The most suitable collection and drop-off points would be near the proposed M2/A2 junction and near the proposed A13/A1089 junction in the north.</p>

Summary of what you said	Our response
<p>You suggested that any disruption resulting from the utilities proposals, including disruptions to supply, should be minimised</p>	<p>In accordance with relevant utility policies and regulations, planned works would not normally include interruptions of customer supply. Utility companies would communicate any planned impacts on their networks to customers in advance and would account for vulnerable customers' needs.</p>
<p>You suggested that we should work with utilities providers to increase efficiency, improve safety and minimise disruption to supply</p>	<p>Works to the existing utility infrastructure would only be carried out where necessary to implement the project, either to divert utilities, to accommodate the route or to provide essential services to compounds during construction. We have engaged with utility companies throughout the development of the new road, ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities, businesses and road users.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead electricity lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p>
<p>You suggested that the project should be fully or partially built in cut and cover tunnels to minimise air pollution. This includes using cut and cover tunnels to protect Chadwell St Mary, South Ockendon, Tilbury, and Linford</p>	<p>The project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys. This has resulted in approximately 80% of the road in cutting, false cutting or tunnel.</p> <p>North of the river, the route passes through flood zones, which means the road would have to be elevated for much of the route between the Tilbury Loop railway and the M25. As such, it would not be possible to put this section in a tunnel.</p>
<p>You suggested that the tunnel should be extended to reduce the environmental impacts of the project. You specifically mentioned the positive impact that would have on the area between the A2 and the project, East Tilbury, Chadwell, Orsett Heath and South Ockendon</p>	<p>We have investigated extending the tunnel northwards to pass under the railway and Station Road which would locate the northern tunnel entrance two kilometres north of where it is currently proposed. Extending the tunnel that far would present significant engineering challenges due to the geology of the area and the need to adapt the existing tunnel design to account for the increased length. Both these factors would have added significantly to costs. In addition, extending the tunnel beyond the location of the previously proposed Tilbury junction would limit any future connection to the route.</p> <p>Extending the tunnel further south is not possible due to the need to maintain a safe distance between the southern tunnel entrance and the proposed M2/A2 junction.</p>

Summary of what you said	Our response	
You suggested that trees should be planted to mitigate potential impacts on the environment in general	<p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme of engagement with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>Tree-planting for the purposes of screening and environmental mitigation would typically make use of immature trees because transplanting larger and more established trees tends to be less successful. We recognise that such planting takes time to establish, which is why our ongoing environmental impact assessment considers the design after 15 years. At sensitive locations, more mature trees would be considered if the assessment shows that this would help to significantly reduce impacts. If some of the more mature trees failed to transplant successfully, replanting would be done at a later date. The choice of species would be chosen to provide the least disruption to the existing biodiversity.</p> <p>Existing woodland and new areas of tree planting can provide significant environmental benefits, not least the ability to absorb carbon dioxide from the atmosphere, reducing carbon emissions. However, trees cannot absorb particulate matter nor other causes of air pollution such as nitrogen oxide.</p> <p>In response to feedback, the proposal for tree-planting near the Thong Lane green bridge close to Riverview Park was revised after statutory consultation to account better for the existing chalk landscape, with fewer trees overall while providing a visual screen between the project and properties to the west of the new road. The proposals presented during design refinement consultation retained this design, while also including some additional planting on the east side of the project between the new road and Thong.</p> <p>We are planning to implement tree planting, including at Shorne, around the M2/A2 and near Park Pale. These new areas of woodland are intended to reduce the adverse impacts of woodland being removed to accommodate the new road and associated utilities. They would also provide visual screening and new habitats for translocated species.</p> <p>In Kent, new woodland would be designed to strengthen connectivity between existing retained woodland within the area, particularly around Claylane Wood, Shorne and Ashenbank Wood Site of</p>	
You suggested that trees should be planted to mitigate increased air pollution		
You suggested that trees and hedges should be planted to minimise the visual impact of the Lower Thames Crossing on the environment, including the planting of semi-mature trees so that the benefits will be realised sooner		

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Summary of what you said	Our response
	<p>Special Scientific Interest (SSSI), Great Crabbles Wood SSSI and, south of the A2, Jeskyns Community Woodland. This would include woodland planting either side of the project and to the west of Jeskyns Country Park.</p>
<p>You made specific suggestions about how any potential impacts to the landscape could be minimised or mitigated, including through use of screening, landscaping and vegetation</p>	<p>The project has been designed to reduce, where possible, the visual impact on the landscape. Design decisions have been taken that have reduced the visual impact of the project, such as allowing only essential connectivity at major junctions to reduce their height and footprint. This has resulted in approximately 80% of the road in cutting, false cutting or tunnel.</p> <p>Across the route, earthworks would be carefully designed to help make the route less obtrusive. Where false cuttings and embankments meet other landscape earthworks or landscape features, the earthworks would be integrated or terminated in as naturalistic a way as possible. Earthworks would maintain a consistent level of screening if appropriate to the location.</p> <p>We are carrying out an environmental impact assessment to assess the impact on the landscape, including land designated as Green Belt, woodland (including ancient woodland) and open spaces.</p> <p>Some examples of changes we have made to minimise impacts on the landscape are described below.</p> <p>One of the ways we have been able to reduce the impacts of the project on the landscape was through the removal of the roadside facility at East Tilbury. After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility as part of the DCO application, as the project is capable of operating safely without its inclusion, and the proposed facility had significant impacts on the environment and local communities. This meant there was no longer a need for the Tilbury junction.</p> <p>The tunnel entrances would be set into the landscape, with the road below ground level. Each entrance would be designed, as far as practicable, to sit sympathetically within its surrounding landscape. Since statutory consultation, the landscaping proposals near the entrances have been revised, with earthworks behind each one. These would offer extensive views and would be open to the public with access via new public rights of way.</p>

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Summary of what you said	Our response
	<p>Another example of reducing the impacts of utilities on local communities and the landscape is reducing the number of pylons near the route between Chadwell St Mary and Tilbury. In this area, at supplementary consultation, we proposed removing 17 existing pylons and installing 10 new ones, resulting in seven fewer pylons. Since the design refinement consultation, we have amended our proposals and would retain the pylon at Muckingford Road. Therefore, 16 would be removed resulting in six fewer pylons.</p> <p>For further information about works to existing utilities infrastructure in your area, please see the Ward impact summaries.</p>
<p>You suggested we should move the junction with the M25 to a point further north. Specific suggestions include a connection at junction 28 of the M25 or a connection with the M11</p>	<p>We considered the feedback regarding the location of the M25 junction, but we did not make any significant changes to the proposals.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p> <p>Alternative connections and routes, such as suggestions to connect the route directly to the M11, were ruled out following the options consultation in 2016 and the subsequent Preferred Route Announcement in 2017.</p>

Summary of what you said	Our response
<p>You made suggestions relating to green bridges, including comments that they should be widened and that their design should enable biodiversity</p>	<p>Wildlife crossings, including green bridges, as well as large culverts with features to enable mammals to safely pass through them, are some of the measures proposed to reduce the impacts on terrestrial biodiversity. These would help to link adjacent wildlife habitats once they are separated by the new road. Green bridges are an established method of providing effective and valuable wildlife corridors where new infrastructure is implemented.</p> <p>Seven green bridges, with public rights of way, have been proposed. At statutory consultation, five green bridges were proposed: at Green Lane north of the river, and over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed at: Hoford Road, North Road and Muckingford Road. In addition, the green bridge carrying Thong Lane over the project was widened as part of design revisions presented during supplementary consultation. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p> <p>Where replacement habitats for species are required, these would be put in place to allow sufficient time to fully establish before any animals are released into them.</p> <p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15%. We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p>

Summary of what you said	Our response
<p>You made suggestions regarding compensation including timing and amount of compensation for affected landowners and businesses, and specific mitigation that could be funded by Highways England. This also included suggestions from consultees that agreements should be made to avoid compulsory purchase of their land and requests for Highways England to consider compulsory purchase</p>	<p>Since the PRA in 2017, owner-occupiers of residential properties within the Order Limits have been able to ask us to purchase their properties by serving a Blight Notice under the Town and Country Planning Act 1990 (as amended). We have received a number of blight notices and we have purchased a number of properties since PRA.</p> <p>We have also written to residents near the route regarding compensation that may be available to them due to the effects on their property from the new road once it is opened and has been in operation for a year.</p> <p>Further information about the compensation offered to those affected by the project can be found in the following Highways England documentation: Your Property and Compulsory Purchase, Your Property and Blight, Your Property and Discretionary Purchase and How to claim for the effects on your property of a new or altered road (Part 1 Compensation).</p>
<p>You suggested that green space should be protected, replaced or provided as compensation, including at locations such as Chalk Park</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project's main aims. Environmental mitigation measures have been developed to minimise the impacts of the new road. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of 'avoid, minimise, restore and compensate' to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be "appropriate and proportionate" to the type and extent of adverse effect they are intended to offset.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help to lessen the impacts on the Thames Estuary and Marshes Ramsar and SPA site, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p>

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Summary of what you said	Our response
	<p>The proposed footprint of the upgraded section of the M2/A2 was reduced by removing the hard shoulder along the eastbound connector road and reducing the width of lane four and the central reservation. These changes have lessened the impact of the road on the Kent Downs Area of Outstanding Natural Beauty (AONB), while still maintaining safety and traffic flow.</p> <p>North of the Thames, at supplementary consultation the northern tunnel entrance remained in the same position, but the distance between the northbound and southbound tunnels was narrowed, reducing the footprint of the project.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the rest and service area near East Tilbury. The project would operate safely without it and the proposed facility had significant impacts on the environment and local communities.</p> <p>The Lower Thames Crossing route east of South Ockendon was moved 200 metres south-west to reduce the impact on the environment, utilities and landfill works in the area. Due to the realignment of this link, the layout of the structures over the Mardyke river and nearby Orsett Fen Sewer and Golden Bridge Sewer rivers were altered.</p> <p>Overall, the Mardyke viaduct and Orsett Fen viaduct lengths were increased by approximately 50 metres, which increased the open aspect and reduced the volume of flood compensation required in this area. The heights of the viaducts were kept as low as possible, to reduce their visual impact and the footprint of the embanked section as far as possible.</p> <p>In addition, at supplementary consultation, we presented proposals for an informal public space, Chalk Park, which would be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, as well as a mixture of chalk grassland, woodland and other suitable habitats to improve local biodiversity and ecological connectivity. A new landform, with woodland planting to the top, would create vantage points to the wider Thames Estuary.</p> <p>Furthermore, at the northern tunnel entrance we are proposing the creation of a similar landform called Tilbury Fields, with footpaths leading up to elevated viewpoints. The landform, from which Coalhouse and Tilbury forts would be visible, would be created using excavated material from the construction works.</p>

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Summary of what you said	Our response
	<p>Seven green bridges, with public rights of way, have been proposed as part of the project. At statutory consultation, five green bridges were proposed: at Green Lane north of the river, and over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed at: Hoford Road, North Road and Muckingford Road. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p>
<p>You made suggestions for an alternative location for the proposed A13/A1089 junction. This includes the suggestion that the Lower Thames Crossing could link to the Orsett Cock roundabout or to a different location on the A1089</p>	<p>We considered the feedback regarding the location of the A13/A1089 junction, but we did not make any significant changes to the proposals.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p> <p>As part of the options consultation in 2016, we consulted on alternative alignments for the project, intersecting with the A13 at different locations. Route 3 – following the same alignment as the proposed northern route – was more popular at consultation and provided the best transport outcomes, including providing free-flowing north-south capacity, as well as high economic benefits.</p> <p>Due to constraints on the space available, the project has not been able to provide direct connectivity from the Orsett Cock junction to the A1089, although this journey could be made using other routes. By restricting the number of overall traffic movements that are possible, we have avoided the need for a third level at the junction, which would make it more visually intrusive.</p>

Summary of what you said	Our response
<p>You made suggestions for measures that could be put in place to minimise congestion</p>	<p>We considered the feedback regarding congestion, but we did not make any changes to the proposals.</p> <p>The road network across the south-east of England carries a high volume of traffic on a daily basis, and is coming under increasing pressure due to economic growth across the region. As a result, there are a number of areas of severe existing congestion across the road networks. The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region would change. This would lead to some improvements and some worsening of other areas of existing congestion across the region.</p> <p>As well as providing relief at Dartford and its approach roads, traffic modelling results predict that the Lower Thames Crossing would affect other parts of the strategic road network and local roads, with some forecast to experience a decrease in traffic and others an increase. Overall, the transport benefits of the project outweigh the negative impacts on the road network.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable. This would provide substantial benefits to road users by cutting congestion on the Dartford Crossing and its approach roads, resulting in faster journeys and fewer delays. The improved connectivity would boost local economic growth and employment by making it easier for local businesses to interact with their customers and suppliers, and for them to retain and attract workers.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>

In the following sections we have summarised the feedback for all questions about the project proposals. We have followed the order of questions as they were asked in the supplementary consultation response form.

South of the river in Kent

We asked...

“Do you support or oppose the proposed changes south of the river?”

Summary of responses

- 2,465 respondents in total answered this question
- 2,296 respondents that answered this question were members of the public and other non-statutory organisations
- 161 respondents were people with interest in land
- Eight respondents were from statutory bodies and local authorities
- 1,156 of individual respondents (50%) supported or strongly supported the proposed changes south of the river
- 642 individual respondents (30%) opposed or strongly opposed the proposed changes south of the river

You said...

The most common reasons people support the proposed changes south of the river were:

- An improvement in environmental and community impact
- An improvement in traffic congestion at the existing crossing
- An improvement to the existing route
- An improvement to local connections and links
- The relocation of the tunnel further south, and improvements to Chalk Church and local communities

The most common reasons people opposed the proposed changes south of the river and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the increase of traffic on the surrounding network during operation, especially the A228, A229 and Blue Bell Hill junction. Some people were concerned that there would be congestion in local areas including Gravesend, Shorne, Higham and Cobham, and further traffic on the already busy A2</p>	<p>We considered the feedback regarding congestion, but we did not make any changes to the proposals.</p> <p>The road network across the south-east of England carries a high volume of traffic on a daily basis, and is coming under increasing pressure due to economic growth across the region. As a result, there are a number of areas of severe existing congestion across the road networks. The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region will change. This will lead to some improvements and some worsening of other areas of existing congestion across the region.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with the DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p>
<p>You raised concerns about safety when using smart motorway technology, including concern that having no hard shoulder on link roads would increase the likelihood of collisions or delays to traffic from vehicles blocking a lane</p>	<p>Improving safety is one of the scheme objectives. Not only will the new tunnel and roads be designed and built to the highest safety standards recommended today, but we continue to adapt our design to incorporate advances in design and technology that emerge in the years ahead.</p> <p>The new road's safety features would include vehicle detection, emergency areas, variable mandatory speed limits and lane closure signals in the event of an incident, such as a vehicle breakdown or collision. Control measures across the route, including in the tunnel, would identify vehicles stopping in a live lane and allow for rapid changes of traffic management to avert danger. Vehicle recovery would also be provided in the tunnel for any stopped vehicles to escort them to a place of safety.</p> <p>It would be possible to help emergency services to access incidents in the tunnels by using technology. This includes signage that can be changed to alert road users of lane closures, speed restrictions and incidents ahead. In the case of one tunnel being blocked, emergency vehicles could access incidents using the other tunnel and the pedestrian cross-passages that connect the two tunnels at regular intervals.</p>

Summary of what you said	Our response
<p>You raised concerns about the safety of the proposed M2/A2 junction link road to the tunnel and other local connector roads, including whether they are suitable for the expected traffic volumes. Also, concern was raised about the speed of vehicles passing through the junction, sharp turns on local roads and the impact of adverse weather conditions</p>	<p>All the new road's junctions and connector roads would be designed in accordance with Highways England design standards. These standards specify, for example, the optimum lengths and radii for slip and link roads and the correct road and lane widths for predicted volumes of traffic. They also specify safe distances for merges and diverges, and the correct signage to help motorists to find their destinations safely. All designs are rigorously audited for safety and any departure from these standards must be justified before approval by Highways England's safety team.</p> <p>The route, including the proposed M2/A2 junction, would operate with a variable mandatory speed limit, with the default limit being 70mph. Speed limits would be adjusted depending on conditions at the time. Where appropriate, such as links at some junctions, advisory speed limit signs would be installed to encourage responsible driver behaviour.</p> <p>The route from the A289 to the M2 westbound involves joining a parallel connector road (A2) running alongside the M2. This is to avoid motorists potentially crossing over when changing lanes in pursuit of different destinations. The use of a connector road would make some journeys slightly longer but would improve safety.</p> <p>The road would be designed and managed to function safely with all potential weather conditions, including snow and fog. We have worked with the Met Office to understand the above-average incidence of fog in the vicinity of the route. Proposals already include technology that allows variable mandatory speed limits to be set, so that speeds could be restricted during bad weather. We are also investigating weather-monitoring technology to provide additional warnings and minimise potential impacts on road users.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling outputs set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable.</p> <p>For more information about traffic flows in this area during operation, please refer to the Operations update and the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the removal of the link between the A2 local connector road and the M2, including that motorists accessing the M2 eastbound, such as from Brewers Road, would have to join the A289 before turning back on themselves</p>	<p>The connection between the A2 eastbound parallel link road and the M2 eastbound was removed following statutory consultation. This has been replaced by the new link road connecting the Gravesend East junction to the M2 eastbound.</p> <p>The link between the A2 and M2 eastbound was removed to improve safety, preventing potentially unsafe lane-changing manoeuvres as motorists merge or diverge to and from the A2 and M2. Space constraints at the proposed M2/A2 junction do not allow an additional direct connection from Gravesend East to the A2 eastbound parallel connector road. This journey is possible by using the local connector roads south of the M2/A2 to access Brewers Road, from where it is possible to join the A2 eastbound slip road.</p> <p>To better manage traffic demand, we propose to add traffic signals to the Brewers Road junction with the A2 eastbound slip road. Connecting from the A2 eastbound parallel connector road to the M2 would be via the A289.</p>
<p>You raised concerns that the M2/A2 junction and southern route would cause disruption, including from traffic noise, to local communities</p>	<p>Local people and communities have been considered throughout the design and development, and consulted at appropriate stages of development. We would continue to engage with stakeholders during construction to ensure that the impacts of activity around the proposed M2/A2 junction on roads, schools, businesses, public rights of way and community assets can be minimised where possible.</p> <p>The Lower Thames Crossing would reduce congestion on some parts of the strategic road network, and support keeping longer distance traffic on the main routes with less likelihood of traffic using local roads. The project would provide connections between the strategic road network, including the M2/A2, A13/A1089 and M25, and there would only be selected links to local roads such as the Gravesend East.</p> <p>Although we have not modified this section of the project following supplementary consultation, consideration of the impact on local communities has been considered throughout the design process.</p> <p>For example, after statutory consultation the M2/A2 junction was refined so it can be built in phases and ensure the A2 remains open during construction to limit disruption locally.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>

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Summary of what you said	Our response
	<p>Noise mitigation has been considered during the design of the route, which has been designed at the lowest practicable height in the surrounding landscape, which includes the use of cuttings and false cuttings. The locations for the cuttings and false cuttings include from the A2 junction with the project to the southern tunnel entrance, along the A2 junction slip roads to Thong village.</p> <p>At statutory consultation, we proposed a false cutting between Thong and the A2 junction which has been refined during project development. At supplementary consultation, the false cutting between Claylane Wood and the A2 junction was removed to reduce woodland loss within Claylane ancient woodland.</p> <p>The noise impacts associated with the project have been assessed in accordance with relevant standards and guidance, adverse or beneficial impacts have been identified for residential and other sensitive locations during both the construction and operational phases of the project.</p> <p>Operational impacts from the project include increases in road traffic noise at noise sensitive receptors identified along the project route and other affected existing roads. The modelling results predict there would be adverse noise effects in the South of the River Thames in the northern parts of Riverview Park, Thong Lane and Shorne Ifield Road during operation.</p> <p>Beneficial impacts in terms of road traffic noise (reductions in road traffic noise) at noise sensitive receptors are predicted to occur along the bypassed existing network, as traffic is diverted along the project route. These include areas along the A2 between the project and the A282 junction (junction 2) and the A282 across the Dartford Crossing.</p> <p>To view noise contour maps which present a graphical representation of the predicted changes in operation road traffic noise in the opening year of the project, please refer to the Ward impact summaries and chapter 5 of the Operations update.</p> <p>Our noise assessments indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations and include noise barriers placed at either side of some identified viaducts and bridges along the project. The barriers would be typically one metre to two metres high, although one barrier North of The River Thames would be six metres high. To mitigate any adverse noise impacts during operation on properties south of the River Thames, we proposed four noise barriers. Two were proposed along the route approaching Thong Lane over the Lower Thames Crossing, and two along the northern edge of the M2/A2 section of the route.</p>

Previously proposed Tilbury Junction

We asked...

“Do you support or oppose the removal of a dedicated rest and service area and maintenance depot for the Lower Thames Crossing, the junction at Tilbury and changes that result from this?”

Summary of responses

- 2,357 respondents answered this question
- 2,168 were members of the public or other non-statutory organisations
- 180 respondents were people with an interest in land
- Nine respondents were from statutory bodies or local authorities
- 883 (41%) supported or strongly supported the the removal of a dedicated rest and service area, maintenance depot, the junction at Tilbury and changes that result from this
- 674 (31%) opposed or strongly opposed the removal of a dedicated rest and service area, maintenance depot, the junction at Tilbury and changes that result from this

You said...

The most common reasons people supported the removal of the rest and service area and maintenance depot, and the junction at Tilbury were:

- The rest and service area is not needed as there are existing facilities nearby, and it will remove the impacts on local communities
- The maintenance depot and junction are not needed
- Removal would reduce the impact on the environment and landscape
- Removal would prevent impacts to cultural heritage assets, and lessen air and noise pollution, and crime

The most common reasons people opposed the removal of the rest and service area and maintenance depot, and the junction at Tilbury, and our responses to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the safety implications of removing the roadside facility, including feedback that it is needed for drivers to make rest stops and for HGVs to park safely</p>	<p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility as part of the DCO application, as the project is capable of operating safely without its inclusion, and the proposed facility had significant impacts on the environment and local communities.</p> <p>In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.</p>
<p>You raised concerns about a lack of existing roadside facilities, including comments saying they're too far away and in poor condition, and concerns about the removal of the maintenance depot because existing provision is not sufficient to support anticipated requirements</p>	<p>However, we acknowledge that it would be beneficial for road users if there were additional rest and service areas on this part of the strategic road network. Therefore, Highways England will work with rest and service area operators, the haulage industry and road user groups to consider further the need for roadside facilities and, if necessary, the most appropriate location for them.</p> <p>Any future rest and service area would be developed, funded and operated by a service area operator and would need planning consent from the local planning authority.</p> <p>We also concluded that a new maintenance depot is not required as part of the project. The services can be met by those depots serving the nearby strategic road network, either in their existing form or with expanded capacity. By removing the depot, we have reduced the impacts on the environment and countryside. However, the area required for the maintenance depot would still be needed temporarily during construction, including for a segment factory. The segment factory would be used to make the concrete segments that form the tunnel lining. This area of land will be returned to agricultural use after construction.</p>
<p>You raised concerns that the roadside facility has been removed for cost savings, and other concerns that the removal is only temporary, meaning it could be reinstated in the future</p>	<p>The rest and service area was not removed for cost savings as it would have been developed by a private company. For the maintenance depot, Highways England would still need to bear a similar cost by upgrading the capacity of its existing ones.</p> <p>With regard to HGVs using local roads, we have designed the project with high-quality, largely free-flowing links to key points on the strategic road network, including the M25, A13/A1089 and M2/A2, with only limited direct links to local roads. Freight traffic using the crossing to travel between channel ports and destinations to the north would not need to use the local road network near the project, and opportunities to do so would be limited.</p>
<p>You raised concerns that the removal of the roadside facility would lead to HGVs parking inappropriately, impacting local roads and communities</p>	<p>However, it is recognised that there is a shortage of suitable lorry parking in the region. Highways England will work to explore supporting the provision of lorry parking in the right locations to help address shortages as is outlined in the Strategic Business Plan 2020-2025 and the Road Investment Strategy 2: 2020-2025 (RIS2).</p>
<p>You raised general concerns about the removal of the junction</p>	<p>However, it is recognised that there is a shortage of suitable lorry parking in the region. Highways England will work to explore supporting the provision of lorry parking in the right locations to help address shortages as is outlined in the Strategic Business Plan 2020-2025 and the Road Investment Strategy 2: 2020-2025 (RIS2).</p>

Summary of what you said	Our response
<p>You raised concerns that the lack of a Tilbury link road would mean Thurrock residents would not benefit from the project. Some people said that the link road is needed to support economic growth in the area, particularly for the Port of Tilbury, and without one there will be longer journey times causing more pollution</p>	<p>The removal of the junction at Tilbury would not affect local access or journeys between Kent and Thurrock or Essex because no local access from this junction was proposed at statutory consultation. The design at this location would not preclude the construction of a junction at Tilbury, should that option be pursued in future. If a Tilbury link road and junction were proposed in the future, these would require appropriate planning consents. Similarly, the removal of the junction will not impact on the access to the Tilbury Port.</p> <p>With regard to economic benefits to the area, the project aligns with the South East Local Enterprise Partnership (SELEP) strategy for tackling housing shortages, encouraging infrastructure and improving workforce skills to increase productivity and regional economic growth. The majority of the project's economic, social and environmental benefits accrue from trips that begin and/or end in local authorities within the SELEP area. SELEP local authorities north of the River Thames are forecast to receive substantial transport user benefits, which are mainly journey time savings and productivity benefits.</p>
<p>You raised concerns about the impact of the project around Tilbury, including some feedback that it would have a negative impact on traffic flows</p>	<p>Traffic in Tilbury is forecast to see both increases and decreases when the project becomes operational. In general, these changes relate to traffic re-routing as a result of the improved connectivity that the project would bring to Thurrock.</p> <p>Traffic in East Tilbury is forecast to be largely unaffected by the project, with flows forecast to remain unchanged or reduced in some locations.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with the DfT and local highway authorities to identify areas where further interventions may be required on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>

A13/A1089 Junction

We asked...

“Do you support or oppose the proposed changes in the area around the A13/A1089 junction?”

Summary of responses

- 2,287 respondents answered this question
- 2,104 respondents were members of the public and other non-statutory organisations
- 175 respondents were from people with an interest in land
- Eight respondents were from statutory bodies and local authorities
- 860 of individual respondents (38%) supported or strongly supported the proposed changes in the area around the A13/A1089 junction
- 644 of individual respondents (28%) opposed or strongly opposed the proposed changes in the area around the A13/A1089 junction

You said...

The most common reasons people support the proposed changes in the area around the A13/A1089 junction were:

- The proposed changes would reduce the project’s impact
- An improvement in journey times and smoother traffic in the area
- Less impact on local residents and populated areas, particularly in Orsett
- An improvement to the overall safety of the route

The most common reasons people opposed the proposed changes in the area around the A13/A1089 junction and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the lack of direct connectivity between local roads and the project, particularly from the project to the A13 westbound, the project southbound to the A1089, and the loss of the Orsett Cock to A1089 connection which is used to access local amenities</p>	<p>We considered the feedback regarding connectivity at the A13/A1089 junction, but we did not make any changes to the proposals.</p> <p>The proposed A13/A1089 junction provides vital strategic and local highway connections to the new road, which is why a large and complex junction is necessary. To reduce its footprint and height and to manage the balance across the local and major routes, certain direct links between the three highways are provided.</p> <p>During the design we identified that the priority for connections to the A13 that would deliver relief to the congested Dartford Crossing and approach roads was to:</p> <ul style="list-style-type: none"> ■ Provide connections from the A2 to the A13 section east of the A1089 into east Thurrock and Essex, thereby providing relief to the Dartford Crossing ■ Provide an alternative to the right turn from the A13 westbound onto the M25 northbound, thereby relieving the M25 junction 30 <p>The proposed design at statutory consultation provided these key connections, providing connectivity between the new road and the A13.</p> <p>In addition, the junction provided connectivity for the M25 southbound onto the A13 eastbound, which relieved the stretch of the M25 southbound between junctions 29 and 30, and also relieved the A13 eastbound between the M25 and the A1089 junction.</p> <p>Although the existing connection for traffic joining the A13 at Orsett Cock junction to reach the A1089 would be removed, motorists could make this connection by re-routing along the existing local road network. To manage vehicle movements, and particularly HGV movements, to the Port of Tilbury area, motorists travelling south on the M25 from junction 29 would be directed to use the existing route via junction 30 and the A13 eastbound to reach the A1089.</p> <p>Providing a link from the Orsett Cock junction to the Lower Thames Crossing would draw more traffic to the Orsett Cock junction and the surrounding local roads.</p> <p>The introduction of the project is forecast to result in a reduction in traffic on local roads and the A13 to the west of Orsett. Providing a link from the Orsett Cock junction to the Lower Thames Crossing is forecast to draw more traffic to the Orsett Cock junction and the surrounding local roads.</p> <p>To operate safely and efficiently, the A13/A1089 and its slip roads would be designed in accordance with Highways England design standards.</p>

Summary of what you said	Our response
<p>You raised concerns about the complexity of the A13/A1089 junction, saying it would lead to confusion, collisions as motorists changed lanes and navigational errors. Some comments raised concerns that the tight bends in the junction design would be dangerous</p>	<p>All the project's junctions, including the A13/A1089, would be designed in accordance with the standards set out in the Highways England design standards. These standards specify, for example, the optimum lengths and radii for slip and link roads, and the correct road and lane widths for predicted volumes of traffic. They also specify safe distances for merges and diverges, and the correct signage to help motorists reach their destinations safely. The preliminary design of the new road including all link roads, affected side roads, structures and the tunnel has been subject to a detailed road safety audit. Further safety audits will be carried out during the detailed design stage.</p> <p>Highways England design standards also specify the technology to be used along the route to manage traffic flow, regulate speed limits dynamically when required, and ensure safe and efficient incident detection and clearance. These standards would apply at junctions such as the one proposed to connect to the A13/A1089. Where local roads cross over the new road, the bridges and structures would be designed to Highways England design standards, while the carriageway and alignment would meet local authority standards.</p> <p>The route would have a 70mph maximum speed limit, the national speed limit for this type of road. Where appropriate, such as on some A13/A1089 junction links, we would install advisory speed limit signs to encourage responsible driver behaviour. Technology would allow traffic flow to be monitored, and the mandatory speed limit varied during busy periods or in the case of incidents to help maintain safety and traffic flow. Variable messaging signs would notify motorists of changes to speed limits or lane closures. On the open road sections, enforcement is expected to be via single-point speed detection cameras.</p> <p>Variable messaging signage would notify motorists of changes to speed limits or lane closures. On the open road sections of the route, enforcement is expected to be via speed and red-X detection cameras.</p> <p>As a result of design development and in response to feedback received during consultation, the design of some slip roads at the A13/A1089 junction were refined after statutory consultation and presented during supplementary consultation. The design of the connections between the A13, the A1089 and the Lower Thames Crossing were changed to reduce the number of points where traffic following different routes would need to cross, reducing conflict between traffic</p>

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Summary of what you said	Our response
	<p>movements and improve safety. These changes also reduce the complexity of the junction. We would install clear traffic signs to make sure the route performs safely and gives motorists plenty of notice of the road layout and destinations.</p> <p>We also worked closely with emergency services in developing the proposals. In response to comments received during statutory consultation, new emergency access points were provided at Brentwood Road, linking to the Lower Thames Crossing, and at Heath Road, linking to the A1089. After further design development, we added an additional emergency access from the Lower Thames Crossing to Brentwood Road and consulted on this during design refinement consultation. We will continue to work with emergency services on the development of the new road.</p> <p>After statutory consultation, we developed the principle of wooded junctions for the major junctions across the project. Wooded junctions provide screening of the structures within the junction, and also help focus views for road users within complex road layouts. These were included within our supplementary consultation.</p>
<p>You raised concerns that two southbound lanes between the M25 and A13 are insufficient to support future traffic volumes, causing bottlenecks, and could require a third lane to be built in future</p>	<p>The number of lanes along the route has been adjusted over time as part of the design development process. While it was originally expected that two lanes in each direction would be enough to accommodate predicted traffic flows, after carrying out further traffic modelling in 2017 this was increased to three lanes in each direction for the statutory consultation proposals.</p> <p>A subsequent phase of traffic modelling results confirmed the decision to have three lanes along the majority of the route, but enabled Highways England to conclude that the number of lanes on the southbound section of the route between the M25 and the A13/ A1089 junction could be reduced from three lanes to two while still maintaining free-flowing traffic.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road.</p> <p>Average speeds on that part of the network would rise, and journey times would decrease and become more reliable. This would provide substantial benefits to road users by cutting congestion on</p>

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Summary of what you said	Our response
	<p>the Dartford Crossing and its approach roads, resulting in faster journeys and fewer delays. The improved connectivity would boost local economic growth and employment by making it easier for local businesses to interact with their customers and suppliers, and for them to retain and attract workers.</p> <p>For more information about traffic impacts during operation south of the river, including traffic flow diagrams, please refer to the Operations update.</p>
<p>You raised concerns about an increase in traffic on the A13 and connecting routes, including the Stanford-le-Hope roundabout, and that HGVs will use local roads in Thurrock to rat run</p>	<p>We considered the feedback regarding congestion at the A13/A1089 junction, but we did not make any changes to the proposals.</p> <p>The presence of the A13/A1089 junction, and the selection of the connections made between the new road and the strategic road network and the local road network at this location brings an overall benefit as it directly contributes to the scheme objectives.</p> <p>The A13/A1089 junction would provide a connection desirable for both local and regional traffic demands. The connections to the A13 eastbound from south of the River Thames relieve the congested Dartford Crossing and the approach roads, as well as the A2 between Gravesend and Dartford. The connection from the A13 westbound to the M25 northbound, would reduce the congestion at M25 junction 30, thereby relieving the Dartford Crossing northern approach roads. Along with the connection from the M25 northbound to the A13 westbound this would also provide relief to the M25 between junctions 30 and 29, and the A13.</p> <p>There will be local increases in traffic flows on the A13 and on short sections of the A1089 as drivers take advantage of the new crossing. In addition, there will be increases in traffic on other local roads as drivers re-route following changes in the connections at the A13/A1089 junction.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p>

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Summary of what you said	Our response
	<p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>With regard to HGVs using local roads, we have designed the project with high-quality, largely free-flowing links to key points on the strategic road network, including the M25, A13/A1089 and M2/A2, with only limited direct links to local roads. Freight traffic using the crossing to travel between channel ports and destinations to the north would not need to use the local road network near the project, and opportunities to do so would be limited.</p>
<p>You raised concerns about the impact of construction on local roads, including the A128, A13, Long Lane, Brentwood Road, Heath Road and Baker Street. Also, concern about the impact of road closures on local access and journey times, such as at Hornsby Lane</p>	<p>The number of HGV journeys on the local road network associated with construction of the project has continued to fall as the design has been further refined to reduce the amount of earthworks imported and exported. The numbers have also been reduced by refining the haul roads locations and connection to the strategic road network, further limiting the need to use the strategic and local road network.</p> <p>We have followed a thorough process to identify mitigation measures to manage construction traffic. This means in some areas the proposals have been changed to reduce or eliminate the need for traffic management during construction, for example the need for narrowed lanes, speed restrictions, temporary diversions, and temporary traffic lights. The process has been iterative between design, traffic and construction and involved reviewing the design and identifying where traffic measures have been assessed. Where issues have been identified, we have refined the construction approach and/or design to eliminate or minimise traffic management.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>An OTMPfC has been developed in collaboration with local authorities and stakeholders which details traffic management measures and the outline approach.</p> <p>For further information about how your area may be affected, including the A128, A13 Long Lane, Brentwood Road, Heath Road and Baker Street, see the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the proximity of the project to residential properties, including Linford, Chadwell St Mary and Orsett, with some comments expressing concern about the movement of the route closer to Linford being driven by cost saving rather than local people’s health and wellbeing</p>	<p>We have designed extensive mitigation into the proposed A13/A1089 junction to reduce the visual impact on local populations, including the use of cuttings, landscaped earthworks and woodland planting, which over time would partially mask this junction.</p> <p>Following statutory consultation, we made a number of changes to the layout of the proposed A13/A1089 junction. These included moving some slip roads away from residential properties, changes to improve connectivity for emergency vehicles, and improvements to routes for walking, cycling and horse riding.</p> <p>The impacts of the project on communities such as Chadwell St Mary, Linford and Orsett have been assessed and reduced where practicable. Details of the impacts are set out in the Ward impact summaries. Despite the use of tree-planting and earthworks where appropriate, it is not possible to fully mitigate the visual impacts of the project at these locations due to its scale, and structures would be visible from these populated areas once operational. The impact of lighting on nearby populations during construction and operation would be reduced as much as possible while maintaining the safety of construction workers and road users.</p> <p>As proposed during supplementary consultation, moving the route closer to Linford by up to 60 metres, combined with stopping up Hornsby Lane, avoids the need to make major changes to the nearby overhead line network. This means power lines would not need to be relocated south towards Chadwell St Mary between Horford Road and Hornsby Lane, closer to those properties. Moving these power lines would also have increased costs and construction complexity.</p>

Lower Thames Crossing and its junction with the M25

We asked...

“Do you support or oppose the proposed changes in the area around the Lower Thames Crossing and its junction with the M25?”

Summary of responses

- 2,316 respondents answered this question
- 2,136 respondents were members of the public and other non-statutory organisations
- 172 respondents were from people with an interest in land
- Eight respondents were from statutory bodies and local authorities
- 1,004 individual respondents (47%) supported or strongly supported the proposed changes in the area around the project’s junction with the M25
- 643 individual respondents (30%) opposed or strongly opposed the proposed changes in the area around the junction with the M25

You said...

The most common reasons people support the proposed changes in the area around the Lower Thames Crossing and its junction with the M25 were:

- Keeping the existing Ockendon Bridge Road would have a positive impact on the project’s completion time
- The decision to remove one lane on the M25/Lower Thames Crossing southbound link would be a welcome reduction in land take
- The proposed changes have environmental, connectivity and accessibility benefits
- There would be a reduced impact on construction time and local communities

The most common reasons people opposed the proposed changes in the area around the Lower Thames Crossing and its junction with the M25 and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the reduction from three lanes to two on the Lower Thames Crossing southbound, between the M25 and A13/A1089 junctions. Some feedback included that the extra lane would help provide more capacity for future increases in traffic</p>	<p>We considered the feedback regarding the number of lanes, but we did not make any changes to the proposals.</p> <p>The number of lanes along the route has been determined over time as part of the design development process. While it was originally expected that two lanes in each direction would be enough to accommodate predicted traffic flows, after carrying out further traffic modelling in 2017 this was increased to three lanes in each direction for the statutory consultation proposals.</p> <p>A subsequent phase of traffic modelling results confirmed the decision to have three lanes along the majority of the route, but enabled Highways England to conclude that the number of lanes on the southbound section of the route between the M25 and the A13/A1089 junction could be reduced from three lanes to two while still maintaining free-flowing traffic. As described in the supplementary consultation material, this would reduce the footprint of the new road at this location, thereby reducing its environmental impact and cost.</p>
<p>You raised concern that the M25 junction is too complex, with too many lanes and slip roads, making it difficult to navigate and unsafe</p>	<p>All the project's junctions, including the M25 junction, would be designed in accordance with the standards set out in the Highways England design standards. These standards specify, for example, the optimum lengths and radii for slip and link roads, and the correct road and lane widths for predicted volumes of traffic. They also specify safe distances for merges and diverges, and the correct signage to help motorists reach their destinations safely. The preliminary design of the new road including all link roads, affected side roads, structures and the tunnel has been subject to a detailed road safety audit. Further safety audits will be carried out during the detailed design stage.</p> <p>Highways England design standards also specify the technology to be used along the route to manage traffic flow, regulate speed limits dynamically when required, and ensure safe and efficient incident detection and clearance. These standards would apply at junctions such as the one proposed to connect to the M25. Where local roads cross over the new road, the bridges and structures would be designed to Highways England design standards, while the carriageway and alignment would meet local authority standards.</p> <p>The route would have a 70mph maximum speed limit, the national speed limit for this type of road. Where appropriate, we would instal advisory speed limit signs to encourage responsible driver behaviour. Technology would allow traffic flow to be monitored, and the mandator speed limit varied during busy periods or in the case of incidents to help maintain safety and traffic flow. Variable messaging signs would notify motorists of changes to speed limits or lane closures.</p>

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Summary of what you said	Our response
	<p>On the open road sections, enforcement is expected to be via single-point speed detection cameras.</p> <p>Variable messaging signage would notify motorists of changes to speed limits or lane closures. On the open road sections of the route, enforcement is expected to be via speed and red-X detection cameras.</p> <p>The design of the M25 junction has been developed to minimise its height and footprint as far as reasonably practicable, while still providing the necessary capacity, safety and connectivity to the strategic road network. For example, after the Preferred Route Announcement, we amended the project’s northbound carriageway to go under the M25, which has helped to limit the height of the junction and its impact on the surrounding landscape.</p> <p>The proposed M25 junction has been designed to function efficiently with the proposed upgrades to junction 29 of the M25. These upgrades include dedicated slip roads from the M25 and the project, an increased number of lanes on the junction’s roundabout, and additional traffic lights to improve traffic management.</p> <p>After statutory consultation, we developed the principle of wooded junctions for the major junctions across the project. Wooded junctions provide screening of the structures within the junction, and also help focus views for road users within complex road layouts. These were included within our supplementary consultation.</p>
<p>You raised concerns that the junction with the M25 would exacerbate congestion on the M25, create a bottleneck in the area and impact Lakeside Shopping Centre</p>	<p>We considered the feedback regarding congestion at the M25 junction, but we did not make any changes to respond to this issue.</p> <p>Providing a connection to the M25 is essential to achieve the scheme objectives, providing relief to the congested Dartford Crossing and approach roads. The changes to the road network where the new road and the M25 meet are intended to maintain safety and promote free-flowing traffic.</p> <p>Traffic modelling results predict there would be a decrease in traffic on the M25 south of the project as far as its junction with the M20. The approaches to Lakeside Shopping Centre would see a reduction in traffic, making the centre more accessible by car.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p>

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Summary of what you said	Our response
	<p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with the DfT and local highways authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns that the M25 junction would cause disruption to communities due to its proximity to residents, care homes and schools, such as in Ockendon. Some feedback also included concern about the disruption to communities during construction near North Road</p>	<p>Local people and communities have been considered throughout the design and development of the project and consulted at appropriate stages of development. We would continue to engage with stakeholders during construction to ensure that the impacts of activity around the proposed junction on roads, schools, businesses, public rights of way and community assets can be minimised where possible.</p> <p>For example, by designing the new road northbound under the M25, we limited the height of the junction and its impact on the surrounding landscape. The use of retaining walls limits the amount of land needed, and embankment slopes have been steepened to reduce the footprint further. The slip roads off the Lower Thames Crossing would also screen noise from the M25 and would be specified to use low-noise surfacing material.</p> <p>After statutory consultation, we made changes to the northern section of the route to lessen the impact on local communities. This included a new route for walkers, cyclists and horse riders along Muckingford Road, and another along North Road providing a connection between North and South Ockendon. These were presented in the supplementary consultation.</p> <p>Connectivity along all existing walking, cycling and horse riding routes in the vicinity of the new road would be maintained, either following their existing route or diverted. The project includes proposals to maintain, upgrade and improve the network of walking, cycling and horse riding routes in the area. In addition to Muckingford Road and North Road, at supplementary consultation we included proposals for a new walking, cycling and horse riding bridge over the M25 to improve connectivity for the southern section of the Thames Chase Community Forest.</p> <p>Furthermore, at the design refinement consultation we presented proposals for a further pedestrian bridge over the A127 to maintain connectivity for the A127 footway.</p>

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Summary of what you said	Our response
	<p>In addition to our proposals for green bridges and new routes for walkers, cyclist and horse riders, we are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>Since statutory consultation, we revised our construction access routes in the area, which has allowed a reduction in HGV construction traffic using North Road. A section of North Road was originally proposed to be used as a route for the duration of construction and this has now been reduced to a period of up to two years at the start of the construction programme.</p> <p>Noise mitigation has been considered during the design of the route, with the proposed route designed at the lowest practicable height in the surrounding landscape, which includes the use of cuttings and false cuttings. Low noise surfacing would also be used. The locations for the cuttings and false cuttings include along the A13/ A1089 junction, and between North Road and the M25 junction with the project.</p> <p>There are some noise and vibration impacts predicted during the construction phase as a result of construction traffic and machinery. However, these impacts would be temporary, both good practice and specific mitigation measures would be implemented to reduce these impacts. North Road and St. Mary's Lane have been identified as areas with the potential for significant effects in relation to construction noise and vibration. To reduce the effects of noise and vibration impacts in these areas, we will use specific mitigation measures, such as the use of acoustic barriers and timing works to avoid sensitive periods of the day.</p> <p>Noise and vibration will result from various construction activities including, piling operations, demolition works, excavation and HGV movements. Methods of construction in sensitive areas will be selected to reduce disruption as far as reasonably practicable.</p> <p>The predicted noise and vibration resulting from construction has been assessed to highlight areas and activities that require mitigation measures such as acoustic screens. Our assessments conclude there would be no significant effects from activities such as piling caused by vibration. Detailed proposals of the planned works, noise monitoring and mitigation measures will be discussed with the relevant local authorities before construction works begin.</p>

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Summary of what you said	Our response
	<p>Additionally, during construction there would be some short-term disruption associated with diverting North Road on to the new bridge that carries North Road over the project route and the associated utility works. A crossing point on North Road would be required for construction traffic until the new bridge is constructed. The bridge would largely be built while North Road remains open, with traffic management in place. Specific works requiring a closure of North Road would take place at weekends, with advance notification provided to local residents. Any temporary traffic management arrangements would be consulted on with the relevant local highway authority before implementation.</p> <p>Following construction of the new bridge over the project, traffic would be diverted on to the new road. Additionally, work underneath the bridge would involve excavation and road construction.</p> <p>We have set out our plans to mitigate against the impacts of construction in the CoCP and the OTMPfC. These include reducing the number of construction vehicles on the main road network, using bunding and low noise surfacing, carrying out dust-generating activities away from local communities, and planning the layout of sites to minimise any impacts on nearby properties where possible. To find out more about how we would manage impacts during construction, please see the Construction update and the OTMPfC.</p>
<p>You raised concerns about impact on the Thames Chase Community Forest, including the impact on biodiversity and paths within the forest, and loss of green space</p>	<p>The proposed M25 junction has been developed to avoid unnecessary impacts on the Thames Chase Community Forest. The junction would be designed to be as compact and low in height as reasonably possible while still being in accordance with Highways England design standards. For example, by aligning the project's northbound under the M25, we have been able to limit the height of the junction and its impact on the surrounding landscape. Retaining walls would limit the amount of land needed, while embankment slopes have also been steepened to reduce the footprint further.</p> <p>We have engaged with the Thames Chase Trust and other stakeholders to develop the proposals and minimise any adverse effects on the Thames Chase Community Forest. To compensate for the loss of part of the site, our design includes the provision of replacement land to the north and south of the Thames Chase Forest Centre which would be of similar or better quality of the existing land. It is proposed that woodland would be planted, alongside biodiversity mitigation measures which would include the planting of a mixture of grassland, scrubs, and trees.</p>

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Summary of what you said	Our response
	<p>The replacement land, which would be open to the public and designed to complement the existing forest, would be accessible through the existing site and internal footpath networks. There would also be additional access from the new footbridge over the M25 providing access from Ockendon Road and Clay Tye Road. A footbridge over the M25 would reconnect the Thames Chase Community Forest to the land of the Fanns project and wider environment. We consulted on these proposals as part of the design refinement consultation, as well as upgrades and additions to the walking, cycling and horse riding routes in the area.</p> <p>At design refinement consultation, we also included replacement land to the east of the M25, to the south of St Mary's Lane. As a result of further refinements to the design this area is no longer being proposed. The replacement land is proposed to the north and south of the existing Thames Chase Forest. This revised replacement land proposal better reflects the size of the area we are permanently impacting.</p> <p>We are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>We proposed to divert multi-utilities in the Thames Chase Community Forest area, which was consulted on during supplementary consultation. We have also committed to limit traffic within the area by using a shared corridor for the main construction works, which would minimise interface with the Thames Chase Community Forest access road and car park.</p>

Summary of what you said	Our response
<p>You raised concerns about the changes made to the M25 junction since statutory consultation, including that they are not an improvement or are unnecessary</p>	<p>After further investigations, stakeholder engagement and consideration of the issues raised at statutory consultation we refined a number of our proposals at the M25 junction. We considered the feedback received at supplementary consultation, but did not make changes to the proposals.</p> <p>After statutory consultation and following further traffic modelling results, we reduced the number of lanes on the southbound section of the new road, between the proposed M25 and A13/A1089 junctions from three lanes to two, while still maintaining free-flowing traffic. This would reduce the footprint of the route at this location, thereby reducing its environmental impact and cost.</p> <p>The Lower Thames Crossing route east of South Ockendon was moved 200 metres south-west to reduce the impact on the environment, utilities and landfill works in the area. Due to the realignment of this link, the layout of the structures over the Mardyke river and nearby Orsett Fen Sewer and Golden Bridge Sewer rivers were altered.</p> <p>Overall, the Mardyke viaduct and Orsett Fen viaduct lengths were increased by approximately 50 metres, which increased the open aspect and reduced the volume of flood compensation required in this area. The heights of the viaducts were kept as low as possible, to reduce their visual impact and the footprint of the embanked section as far as possible.</p> <p>Furthermore, we reduced the height of the project by two metres and, as a result, North Road was also lowered by two metres, helping to reduce the visual impact of the new road on the local environment.</p> <p>We also presented proposals to maintain, upgrade and expand the network of footpaths, cycling and horse riding routes in the vicinity of the project. The proposals included new connections between Thames Chase Community Forest and Belhus Country Park.</p>

Summary of what you said	Our response
<p>You raised concerns about the use of smart motorway technology, including the safety of the road due to the absence of a hard shoulder</p>	<p>Improving safety is one of the scheme objectives. Not only will the new tunnel and roads be designed and built to the highest safety standards recommended today, but we continue to adapt our design to incorporate advances in design and technology that emerge in the years ahead.</p> <p>Existing plans and agreements are in place between us and the emergency services for accessing incidents on such roads. These would be extended to the project to ensure the safety of road users in the event of an incident.</p> <p>The new road’s safety features would include vehicle detection, emergency areas, variable mandatory speed limits and lane closure signals in the event of an incident, such as a vehicle breakdown or collision. Control measures across the route, including in the tunnel, would identify vehicles stopping in a live lane and allow for rapid changes of traffic management to avert danger. Vehicle recovery would also be provided in the tunnel for any stopped vehicles to escort them to a place of safety.</p> <p>It would be possible to help emergency services to access incidents in the tunnels by using technology. This includes signage that can be changed to alert road users of lane closures, speed restrictions and incidents ahead. In the case of one tunnel being blocked, emergency vehicles could access incidents using the other tunnel and the pedestrian cross-passages that connect the two tunnels at regular intervals.</p>

M25 Junction 29

We asked...

“Do you support or oppose the proposed changes in the area around the M25 junction 29?”

Summary of responses

- 2,186 respondents answered this question
- 2,011 were members of the public or other non-statutory organisations
- 166 respondents were people with interest in land
- Nine respondents were from statutory bodies or local authorities
- 911 (45%) supported or strongly supported the proposed changes in the area around the M25 junction 29
- 546 (27%) opposed or strongly opposed the proposed changes in the area around the M25 junction 29

You said...

The most common reasons people support the proposed changes around the M25 junction 29 were:

- The M25 needs major improvements
- The changes would improve traffic flows, relieve congestion and reduce emissions
- The revisions since statutory consultation are an improvement and address concerns
- The impact to local residents has been reduced
- The improved layout would reduce congestion in the area
- Safety has been improved at the junction

The most common reasons people opposed the proposed changes around the M25 junction 29 and our responses to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about increased congestion on junction 29 of the M25</p>	<p>We considered the feedback regarding congestion at junction 29, but we did not make any changes to respond to this issue.</p> <p>Providing a connection to the M25 is essential to achieve the scheme objectives, providing relief to the congested Dartford Crossing and approach roads. The changes to the road network where the new road and the M25 meet are intended to maintain safety and promote free-flowing traffic, and to increase the capacity of junction 29. The layout of the junctions have been designed to ensure the safe management of traffic, while also providing local access to the A127 to support economic growth and connectivity. Our modelling results forecast that the junctions will remain within their designed capacity for the foreseeable future. This includes the road connecting the proposed M25 junction to junction 29.</p> <p>There will be increases in traffic on the M25 north of junction 29, and the A127 both east of the A128 connection and west of the M25, as drivers take advantage of the new connection. There will also be reductions in traffic, such as on the A128, and the A127 between the M25 and the A128. The latest traffic modelling results are set out in the Operations update.</p>
<p>You raised concerns about the potential for increased traffic on the A127 as a result of the new M25 junction, including because the road is already congested and would not be able to accommodate increased traffic</p>	<p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the complicated design of junction 29 of the M25, including for drivers wanting to access the A127 roundabout via the northbound slip road from the M25, which would be a long way to the south. Some feedback expressed concerns that this aspect of the design increases the size of the junction and land required</p>	<p>Improvements are proposed at junction 29, which include increasing the number of lanes on the roundabout and providing dedicated lanes on to the M25 slip roads. We would also add more traffic lights at the roundabout to help manage traffic flow.</p> <p>The proposed M25 southbound slip roads have also been shortened, which means it would no longer be necessary to make changes to the footbridge over the M25 near Folkes Lane.</p> <p>We have kept the design as compact while still providing the necessary additional road capacity and avoiding ancient woodland as much as possible. Additional work on the design carried out after statutory consultation enabled reduction of the footprint of the junction by moving the slip roads closer to the main carriageways.</p> <p>As part of the project, northbound traffic on the M25 would access junction 29 using a new slip road south of the new junction of the project with the M25. If the off-slip for junction 29 were left in its current location, with the two junctions designed separately, then traffic joining the M25 from the project and traffic leaving the M25 to join junction 29 would come into conflict. We have reduced the amount of land required for junction 29 from what was proposed at statutory consultation by bringing the slip roads closer to the main carriageway. This was presented in the supplementary consultation.</p>
<p>You raised general concerns about the proposals for junction 29 of the M25, including its safety and the proposals to shorten the southbound slip roads on the M25 and reduce the road width, which would increase congestion and collisions</p>	<p>Signage would be installed to ensure the route performs safely and provides motorists with timely notifications of road layouts and destinations. Digital signage would enable the route to make use of variable speed limits to manage traffic flow and maintain safety. They would also provide real-time journey information on the approaches to the route, including details of any incidents and journey times for the Dartford Crossing and the Lower Thames Crossing, so motorists could make informed decisions about their route.</p>

Summary of what you said	Our response
<p>You raised general opposition to the proposals for junction 29 of the M25</p>	<p>We considered the feedback regarding opposition to the proposals for junction 29, but we did not make any changes to the proposals.</p> <p>The proposed M25 junction and upgrades to junction 29 would be designed in accordance with Highways England design standards and include appropriate signage to guide motorists. All slip roads, merges and demerges would be designed for safe manoeuvring in line with the predicted volumes of traffic, while the connections at each junction have been limited to those that are essential, which helps to reduce the complexity, footprint and cost of the junctions.</p> <p>Due to the proximity of the two junctions, we have designed a slip road that extends from the project's proposed M25 junction all the way to junction 29, joined by M25 northbound traffic for junction 29 part-way along its length. This would avoid the conflict that might arise if traffic were joining the M25 and leaving along the same stretch of motorway.</p>

Revised development boundary

We asked...

“Do you support or oppose the changes to the proposed area of land that would be required to build the Lower Thames Crossing?”

Summary of responses

- 2,223 respondents answered this question
- 2,032 were members of the public or other non-statutory organisations
- 181 respondents were people with an interest in land
- 10 respondents were from statutory bodies or local authorities
- 867 (43%) supported or strongly supported the changes to the proposed area of land that would be required to build the Lower Thames Crossing
- 689 (34%) opposed or strongly opposed the changes to the proposed area of land that would be required to build the Lower Thames Crossing

You said...

The most common reasons people support the changes to the proposed area of land that would be required to build the Lower Thames Crossing were:

- That the updated proposals were an improvement and land take was appropriate for the size of the project
- The proposed land take would minimise disruption to properties and the public
- The proposals are necessary to build the Lower Thames Crossing
- Following statutory consultation, the land take was minimised, particularly permanently acquired land

The most common reasons people opposed the changes to the proposed area of land that would be required to build the Lower Thames Crossing and our response to these issues are summarised in the following table.

Further information on the Order Limits are provided in chapter 3.1 Changes since our last consultation in the Operations update.

Summary of what you said	Our response
<p>You raised concerns that the scale of land use for the project is too large, including concerns about the increased land use compared with previous proposals</p>	<p>The project has been developed to minimise the amount of land needed for its construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland.</p> <p>Following statutory consultation, we developed a more detailed understanding of the diversion routes utility companies would need to divert their assets. We also further developed our environmental mitigation proposals. This led to an expansion of the Order Limits presented at supplementary consultation (26.3 square kilometres) which was 24% larger than that presented at statutory consultation (20 square kilometres).</p>
<p>You raised general concerns about the revised Order Limits</p>	<p>Following further design development coupled with the findings from site investigations and stakeholder feedback we were able to amend the design of utility diversions. Overall, these changes meant the Order Limits were reduced by 15% and presented during design refinement consultation (22.9 square kilometres).</p> <p>We have now reduced the Order Limits by a further 3% (22.2 square kilometres for this consultation), which means between statutory consultation and now, it has increased by 10%. The further 3% reduction since the design refinement consultation has been possible by the further detailed design work we have done. We have also been able to reduce the amount of land within the Order Limits over which we are seeking permanent rights. This means there is higher proportion of land required temporarily, (shown as green in the Land Use Map Book) compared to previous consultations. This land will be returned to its previous use and ownership following construction.</p>

Summary of what you said	Our response
<p>You raised concerns about specific areas of land needed by the project, including feedback that it is unnecessary or would be disruptive to local businesses and residents. Locations mentioned included South Ockendon, Orsett, Thong and Chalk. In addition, some comments mentioned the need behind the land acquisition, or that the length of time land would be needed was not fully explained</p>	<p>During each consultation, we have published information showing the proposed land use, and notified each person who was identified as having land interests that may be affected by the project, offering them the opportunity to respond to a consultation.</p> <p>We have engaged with people with an interest in land within the Order Limits as well as previous versions of the project's land use plans, writing to them at each stage of the consultation process. This has included individual landowners and business owners. Consultation responses from people with an identified interest in land affected by the proposals have been reviewed. The issues they contained – in particular, the issues concerning potential impacts on their land and property – have informed our engagement with the relevant individuals and organisations.</p> <p>The impacts of the project on population centres such as Chalk, Thong, Orsett and South Ockendon have been assessed and reduced where practicable. Once the project is operational, tree-planting and earthworks would reduce the project's visual impacts, giving the route low prominence from Chalk, but the project would be visible from parts of Thong and Tilbury due to its scale.</p> <p>We have made a number of changes to our utility proposals which has reduced the amount of land within the Order Limits and minimised impacts.</p> <p>At supplementary consultation, we consulted on three locations for an electricity substation near the southern tunnel entrance. Having considered responses to the consultation, we decided to progress option two, which is located away from residential areas and St Mary's Church, Chalk. This was the preferred option of the utility company and was chosen as a result of consideration of several factors, including safety, access and ease of mitigating its visual impact.</p> <p>In response to further design development and discussions with National Grid, we revised proposals for the gas pipeline diversions under the project near Thong. The revised pipeline diversions would follow an amended alignment compared to that consulted on during the design refinement consultation, reducing the complexity and cost of the works, while minimising impacts.</p> <p>Near Riverview Park in Gravesend, construction of the proposed M2/A2 junction would require the relocation of three electricity pylons at Westwood Farm, which would bring a pylon and transmission lines closer to properties in Thong but move them away from Riverview Park. This revised proposal was consulted on during the design refinement consultation.</p>

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Summary of what you said	Our response
	<p>Part of the Orsett Showground would be required permanently for the construction of link roads to the Orsett Cock roundabout and the A13. We also propose to divert a gas pipeline along the southern boundary of the site, and permanent rights would be required over a limited corridor of land to operate and maintain the gas pipeline. In the design refinement consultation, we consulted on the provision of an area of land to compensate for the impacts on the Orsett Showground site, but we noted that discussions about this were ongoing with the owner of the Orsett Showground. We have now agreed with the owner that the area of compensatory land is not required. The Order Limits have also been reduced in this area.</p> <p>After the design refinement consultation, the alignment of the high-pressure gas pipeline around Rectory Road has been revised to locate it closer to the earthworks for the new road. This has been done keeping in mind the setting of the area and the restrictions and risks associated with a pipeline of this classification. The relocated pipeline aims to minimise the disruption in a temporary and permanent sense on the Orsett Showground and the Orsett Park Royals Football Club pitches as well as any future proposed development within the area. We are working with the Orsett Park Royals Football Club to find a suitable site so that they can continue to function during construction.</p> <p>At statutory consultation, we said that any land that is not needed permanently would be restored to the reasonable satisfaction of the landowner wherever possible, and this remains the intention. Before returning land which has been temporarily possessed to construct the project, we would be required to restore it to the reasonable satisfaction of the owner. This obligation is subject to any contrary agreement with a landowner and also the exceptions set out in the DCO application, which include the right to retain any permanent works constructed on the land, such as diverted utilities, as well the right to leave mitigation in place.</p> <p>Due to the scale of the project, construction is estimated to take five years. Not all temporary land would be needed for the duration of the construction period. As the construction programme is progressed, we would continue to engage with people with an identified interest in land to inform them how and when temporarily acquired land would be required.</p>

Summary of what you said	Our response
<p>You raised concerns about the disruption construction and operation of the crossing would have on local communities from congestion, noise, road closures and construction vehicles</p>	<p>We have tried to minimise the land affected or required for the Lower Thames Crossing to lessen the impact on landowners and local people.</p> <p>We would continue to engage with stakeholders during construction to ensure that the impacts of activity on roads, schools, businesses, public rights of way and community assets can be minimised where possible.</p> <p>The CoCP includes mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours. The number of HGV journeys on the local road network associated with construction of the project has continued to fall as the design has been further refined to reduce the amount of earthworks imported and exported. The numbers have also been reduced by refining the haul roads locations and connection to the strategic road network, further limiting the need to use the strategic and local road network.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>The anticipated construction traffic and temporary traffic management measures have been modelled to ensure any impact on the local road network is reduced as much as possible.</p> <p>Access to community facilities, such as leisure centres, would be maintained during construction, with mitigation measures relating to construction traffic management and community engagement as set out in the CoCP. The effects of traffic disruption to businesses located in close proximity to the project would be reduced or avoided through measures in the OTMPfC. These include restrictions on the routes taken by construction traffic and careful design and timing of temporary road closures or diversions.</p> <p>Noise and vibration will result from various construction activities including, piling operations, demolition works, excavation and HGV movements. Methods of construction in sensitive areas will be selected to reduce disruption as far as reasonably practicable.</p>

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Summary of what you said	Our response
	<p>The predicted noise and vibration resulting from construction has been assessed to highlight areas and activities that require mitigation measures such as acoustic screens. Our assessments conclude there would be no significant effects from activities such as piling caused by vibration. Detailed proposals of the planned works, noise monitoring and mitigation measures will be discussed with the relevant local authorities before construction works begin.</p> <p>Contractors will be required to notify local residents and businesses of planned works which are likely to generate high levels of noise.</p> <p>Noise mitigation has been considered during the design of the route, with the proposed route designed at the lowest practicable height in the surrounding landscape, which includes the use of cuttings and false cuttings. Low noise surfacing would also be used.</p> <p>The noise impacts associated with the project have been assessed in accordance with relevant standards and guidance, adverse or beneficial impacts have been identified for residential and other sensitive locations during both the construction and operational phases of the project. To view noise contour maps which present a graphical representation of the predicted changes in operation road traffic noise in the opening year of the project, please refer to the Ward impact summaries and chapter 5 of the Operations update.</p> <p>Where the noise assessments indicate that additional mitigation is needed, we have included provision for noise barriers at specific points alongside the carriageway and consulted on the locations of the barriers. The locations were selected after analysis of the predicted noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres. Further information on noise barriers is provided in Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the compulsory purchase of property and land, including the impact on businesses and homeowners, and the demolition of properties and listed buildings. You also raised concern that the project could affect development opportunities through the acquisition, severance or devaluation of land that could be used for house building or property growth</p>	<p>We have sought to minimise the land impacted by or required for the project, while ensuring there is sufficient land to build and operate the road. Throughout the development of the new road, the project boundaries have been amended in line with our proposals. We have also looked to minimise the number of properties potentially affected or that would require demolition.</p> <p>At statutory consultation, there were 15 commercial properties within the Order Limits. There were also 77 residential properties required for the main construction works, of which 24 required demolition. In addition, there were 141 residential properties affected by overhead electricity works at M25 junction 29, Linford and at Heath Road.</p> <p>At supplementary consultation we showed changes in the impacted properties, associated with changes to our design proposals. Further updates took place as we continued to develop our proposals through the following consultations. Overall, between statutory consultation and now, the number of residential properties (not those affected by overhead power lines) in the Order Limits has reduced by seven to a total of 70. The number of residential properties that would require demolition has increased from 24 to 30. The number of residential properties affected by overhead power lines has reduced from 95 to 46. The number of commercial properties requiring demolition within the Order Limits has increased by two to a total of 5.</p> <p>Out of the 35 properties that would require demolition, this includes three Grade II listed properties, which would need to be demolished to enable construction of the proposed A13/A1089 junction and its associated link roads.</p> <p>Since the preferred route announcement in 2017, owner-occupiers of residential properties within the Order Limits have been able to ask Highways England to purchase their properties. Our booklet 'Your property and blight' sets out the eligibility criteria and the process.</p> <p>Those affected by the project would also be entitled to make a claim for compensation where relevant. Any claims would be in accordance with the Compensation Code. Where the land needed for the new road directly affects businesses, we have worked closely with those businesses to lessen the impacts wherever possible.</p> <p>There may be situations where the owners of properties outside of the development boundary have a pressing need to sell their property and are unable to do so except at a significant reduction to the</p>

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Summary of what you said	Our response
	<p>market value as a result of our proposed road project. In exceptional circumstances we may exercise our discretion and offer to purchase the property. Further information on the eligibility criteria and how applications are assessed can be found in our booklet 'Your Property and Discretionary Purchase'.</p> <p>The legal power to compulsory purchase land and property would be included in the DCO once it has been granted by the Secretary of State. Further information on the process can be found in our booklet 'Your property and Compulsory Purchase'.</p> <p>Once the road has been open for over a year, property owners may be eligible to apply for compensation if their property has reduced in value by more than £50 due to the physical factors caused by the use of the new, or altered road. This is commonly referred to as a 'Part I claim' as it is made under Part I of the Land Compensation Act 1973. More information can be found in our Guide to Part I Compensation: How to claim for the effects on your property of a new or altered road.</p> <p>The relevant local planning authorities are responsible for planning for future developments, details of which are included in their local plans. To understand future aspirations for housing growth we have considered the areas for proposed housing within those local plans that are relevant and sufficiently advanced, during the development of our proposals.</p> <p>The improved connectivity that would be provided by the project would also benefit local economic growth and employment by making it easier for local businesses to interact with their customers and suppliers, and for them to retain and attract workers.</p> <p>Road users in Kent, Thurrock and Essex who travel along parts of the A2, A13, A127, M25, and M20 and who use the Dartford Crossing and its approach roads are forecast to experience reduced journey times and congestion as a result of the project. These business benefits would boost employment and economic growth, with significant long-term benefits from the project for businesses.</p>

Summary of what you said	Our response
<p>You raised concerns that part of the land used for the project would later be used for commercial/residential development or the construction of new roads, resulting in a reduction of Green Belt and urbanisation of the local area</p>	<p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project’s main aims. Environmental mitigation measures have been developed to minimise the impacts of the new road. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an unavoidable impact on the surrounding countryside, including green belt land.</p> <p>Any land that we acquire would only be used for this project and we do not have powers to use the land for any further development.</p> <p>At statutory consultation, we said that any land that is not needed permanently would be restored to the reasonable satisfaction of the landowner wherever possible, and this remains the intention. Before returning land which has been temporarily possessed to construct the project, we would be required to restore it to the reasonable satisfaction of the owner. Our DCO application would have a clause stipulating this. This obligation is subject any contrary agreement with a landowner and also the exceptions set out in the DCO application, which include the right to retain any permanent works constructed on the land, such as diverted utilities, as well the right to leave mitigation in place.</p>
<p>You raised concerns about whether land temporarily acquired for construction of the project would be restored to its original use and quality after construction has finished, including concern it would not always be possible to return land to its former use</p>	<p>Where land is required for works to the existing utility infrastructure, we have generally tried to secure powers to use the land needed temporarily, with permanent rights (as opposed to outright acquisition) sought for future operation and maintenance of the diverted utilities. This means that, in most areas, occupation of the land will be returned to the owner following the completion of utility works.</p> <p>Any future proposals for local development outside the Green Belt would be decided by the relevant local planning authority in accordance with the relevant policy and guidance. For more information about local authority aspirations for future development in the area around the project, refer to their local plans.</p>

Walkers, cyclists, horse riders

We asked...

“Do you support or oppose our proposals for walkers, cyclists and horse riders?”

Summary of responses

- 2,239 respondents in total answered this question
- 2,055 respondents that answered this question were members of the public and other non-statutory organisations
- 176 respondents that answered this question were from people with interest in land
- Eight respondents that answered this question were from statutory bodies and local authorities
- 966 individual respondents (43%) strongly supported or supported the proposals for walkers, cyclists and horse riders
- 481 individual respondents (23%) opposed or strongly opposed the proposals for walkers, cyclists and horse riders

You said...

The most common reasons people support the proposals for walkers, cyclists and horse riders were:

- Favourable changes have been introduced to the proposals and consideration given to the feedback received from earlier consultations
- An increased provision for walkers and additional foot and cycle paths
- The importance of safety and access to the countryside
- Supported the aim to improve active travel and healthy lifestyles

The most common reasons people opposed the proposals for walkers, cyclists and horse riders and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns that priority has incorrectly been given to walkers, cyclists and horse riders in the proposal over road users</p>	<p>The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region will change.</p> <p>The government's National Policy Statement for National Networks requires applicants for development consent to use reasonable endeavours to address the needs of cyclists and pedestrians in the design of new road schemes. We share the government's ambition to make the strategic road network and the area around it more accessible, connected and integrated for sustainable modes of transport. This includes proposals to maintain, upgrade and improve the existing network for walking, cycling and horse riding.</p> <p>Highways England's Cycling Strategy highlights the benefits of encouraging cycling, and these apply broadly to other forms of active travel. Encouraging sustainable transport removes some local motor vehicle journeys from the network, meaning fewer delays, better journey reliability, reduced environmental impacts and improved public health.</p> <p>Implementing the proposals for walkers, cyclists and horse riders would not compromise the new road's objectives, including reducing congestion at the Dartford Crossing and a new free-flowing crossing over the Thames.</p> <p>Our proposals include significant lengths of footpaths upgraded to bridleway, new bridleways, and new roadside routes. These include more than 40 kilometres of new or upgraded routes. Some of these new routes are over two kilometres long and will help increase access, while some of the shorter links will bring new connections to existing public rights of way, allowing new circular routes that do not currently exist such as between footpath 135 and footpath 136 near Orsett Fen and Ockendon.</p> <p>Non-motorised interest groups such as Sustrans, Ramblers and Campaign to Protect Rural England have been contacted and invited to respond to each phase of our public consultation. We have also engaged with non-motorised groups outside of the formal consultation process to provide updates on the new road. Decisions about the amenities for walking, cycling and horse riding have taken into account design standards and best practice, consultation and feedback from ongoing engagement with local authorities and user groups, including local parish councils.</p>

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Summary of what you said	Our response
	<p>While the new route would be designated as an A road, there will be prohibitions on pedestrians, low-powered motorcycles, learner drivers, cyclists, horse riders and agricultural vehicles. As the Lower Thames Crossing has been designed with a 70mph speed limit to provide fast and reliable journeys, it would not be safe for slower users to share the road.</p>
<p>You raised concerns about the safety of the proposed facilities for walking, cycling and horse riding, including that encouraging these modes of transport in the vicinity of HGVs or fast-moving traffic is dangerous</p>	<p>Our proposals for public rights of way in areas close to the new road would increase safety for walkers, cyclists and horse riders. We propose to do this by implementing new routes, filling in missing connections in the existing network and upgrading existing facilities at key locations.</p> <p>All new routes would be designed to latest standards, for example, where we propose new cycle routes that follow the alignment of an existing road, the cycle track would be separated from motor traffic. Where walkers, cyclists and horse riders share routes, we would ensure they are able to do so safely by providing appropriate width and segregation where possible. The proposals were drafted following engagement with stakeholder groups, including local authorities, Sustrans, Cycling UK, The Ramblers Association and the British Horse Society.</p>
<p>You raised concerns about having walkers, cyclists and horse riders on the same shared paths and that it would cause safety issues</p>	<p>In line with design standards, it is suitable to have routes for walkers, cyclists and horse riders on the same shared paths.</p>

Summary of what you said	Our response
<p>You raised concerns that the proposed facilities are inadequate and existing routes would be lost, severed or impacted by the project</p>	<p>Highways England aims to minimise impacts on public rights of way. Wherever possible, our proposals maintain existing public rights of way once the new road is operational. Where this is not practical, diverted public rights of way have been proposed with a view to making them as attractive as possible. We have tried to maintain directness where relevant for commuter cycling routes, while also keeping connections between recreational amenities such as public parks and stables.</p> <p>At statutory consultation, we presented proposals to maintain, upgrade and expand the network of footpaths, cycling and horse-riding routes in the vicinity of the new road. We considered all responses and carried out additional design development for walking, cycling and horse riding routes.</p> <p>Further detailed proposals were presented during supplementary consultation. The proposals included more than 40 kilometres of new or upgraded routes, including routes that link Grays, Chadwell St Mary, Orsett, East Tilbury, South Ockendon, as well as Gravesend and Thong. Other routes provide connections between Jeskyns Community Woodland and Shorne Woods Country Park, and between Thames Chase Community Forest and Belhus Woods Country Park. The footpath linking Tilbury Fort and Coalhouse Fort would remain unaffected.</p> <p>Decisions about the provisions for walking, cycling and horse riding have been made through consideration of design standards and best practice, consultation responses and ongoing engagement with local authorities and user groups.</p> <p>To alleviate the concern about the loss of public rights of way, following supplementary consultation, we resolved the severance caused by the project at junction 29 of the M25, as the new free-flowing slips to the south of the junction were cutting off the existing crossing through the south of the junction. At the design refinement consultation, a new bridge was proposed to allow those using the southern pathway alongside the A127 to cross to the north pathway and pass beneath the M25 on the north side of junction before crossing back to the south using a crossing further west. This part of the route, and the new bridge were redesigned to be used by cyclists following the design refinement consultation.</p> <p>After supplementary consultation, we also made changes to several other public rights of way. South of the River Thames, we realigned two green bridges and their connecting paths. North of the river,</p>

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Summary of what you said	Our response
	<p>we made changes to sections of footpath 61 and footpath 200 near Tilbury, removed a previously proposed footpath under the A13 between Stifford Clays Road and Long Lane, realigned footpath 136 and footpath 252 near Ockendon, and connected two existing paths where the M25 and the C2C railway line meet.</p> <p>During construction, we would seek to minimise impacts on public rights of way as much as possible. Where one is affected, we would consider options that would include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. Where a reasonable alternative is not possible, these public rights of way would be closed during construction. More information about the impacts on footpaths and bridleways in specific wards, including proposals to improve and maintain local connectivity, can be found in the Ward impact summaries.</p> <p>There is only one public right of way across the route which is being permanently stopped up, a short public right of way off Henhurst Road, close to the A2, as there is no reasonable diversion.</p>
<p>You raised concerns that the project would have a detrimental impact on the walking, cycling and horse-riding facilities, including whether facilities would be attractive to users if noise levels, air quality and the landscape were negatively affected by their proximity to the project</p>	<p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise restore and compensate’ to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of adverse effect they are intended to offset.</p> <p>The project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Although there will be some worsenings in air quality along the length of the alignment, including where the route is crossed by public rights of way, the air quality in these areas remain compliant with air quality standards.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars.</p>

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Summary of what you said	Our response
	<p>Air quality is also expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles becomes more widespread. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>Further information on air quality impacts associated with the operation of the new road are provided in the Operations update.</p> <p>Public rights of way are included in the noise modelling as a receptor and are assessed. Noise levels during the construction phase would be managed through the use of best available techniques as set out in the REAC and agreed with the local authorities.</p> <p>Operationally, measures have been included within the design to reduce noise levels through the use of screening features such as cuttings, bunds and where required noise barriers. The use of a low noise road surface would also reduce the traffic noise once the road is in use.</p> <p>The landscape within the various junctions uses the areas within the islands, in cuttings, and earthworks to maximise woodland plantings. Over time, these will mature into more natural environments to help mask and integrate the road into the surrounding landscape and environment. All of our proposed mitigation measures have been refined throughout the design process, considering a variety of stakeholder feedback.</p> <p>Some of the proposed walking, cycling and horse riding routes are near the route of the project and other parts of the existing strategic road network such as the A2 and M25. Other proposed routes are near the local road network.</p> <p>We have aimed to realign and upgrade routes and crossings in such a way as to provide a high-quality experience for walking, cycling and horse riding, and sought to maintain the directness of public rights of way where it is most suitable, such as for commuter cycling routes. For leisure routes, we have sometimes routed public rights of way away from major roads where that appears to provide a better experience for users.</p>

Summary of what you said	Our response
<p>You raised doubts about whether the proposals for walking, cycling and horse riding would be implemented</p>	<p>The government's National Policy Statement for National Networks requires applicants for development consent to use reasonable attempts to address the needs of cyclists and pedestrians in the design of new road schemes. We share the government's aim to make the strategic road network and the area around it more accessible, connected and integrated for sustainable modes of transport. This includes proposals to maintain, upgrade and improve the existing network for walking, cycling and horse riding.</p> <p>If consent is given for the project to be built, then implementing the walking, cycling and horse riding proposals would be a legally binding requirement of that consent and therefore will be implemented unless otherwise agreed by the Secretary of State.</p>
<p>You raised concerns that construction would disrupt existing walking, cycling and horse riding routes, including some feedback that routes would be negatively impacted by noise and traffic</p>	<p>During construction, we would seek to minimise impacts on public rights of way as much as possible. Where one is affected, we would consider options that would include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. Where a reasonable alternative is not possible, these public rights of way would be closed during construction.</p> <p>More information about the impacts on footpaths and bridleways in specific wards, including proposals to improve and maintain local connectivity, can be found in the Ward impact summaries. Information on construction impacts on footpaths and bridleways is also available in chapter 7 of the Construction update.</p> <p>There is only one public right of way across the route which is being permanently stopped up, a short public right of way off Henhurst Road, close to the A2, as there is no reasonable diversion.</p>

Environmental impacts and how we plan to reduce them

We asked...

“Do you support or oppose the change to the environmental impacts of the Lower Thames Crossing?”

Summary of responses

- 2,254 respondents in total answered this question
- 2,060 respondents that answered this question were members of the public and other non-statutory organisations
- 186 respondents that answered this question, were people with interest in land
- Eight respondents that answered this question, were from statutory bodies and local authorities
- 958 individual respondents (46.5%) support or strongly support the change to the environmental impacts of the Lower Thames Crossing
- 672 of individual respondents (32.6%) disagreed or strongly disagreed with the change to the environmental impacts of the Lower Thames Crossing

You said...

The most common reasons given in support of the change to the environmental impacts of the Lower Thames Crossing were:

- More consideration was given to the environment than in the previous consultation, with particular emphasis on landscape, health and wellbeing benefits
- The project creates a balance between cost, function and environmental impact
- There would be less land required in Thames Community Forest, and agree with the mitigation proposals for Thong Lane, Riverview Park and facilities for walkers and cyclists
- The inclusion of green bridges and the widening of Thong Lane green bridge to cater for the safe crossing of species
- The project would improve the environment considerably by reducing slow moving and stationary traffic

The most common reasons people opposed the change to the environmental impacts of the Lower Thames Crossing and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the potential impact of the proposals on climate change as a result of increased vehicle use. Comments included that the project needs to take into account the need to reach net zero emissions by 2050 and the removal of woodland and green areas is inappropriate at a time of climate emergency</p>	<p>We have assessed the carbon emissions associated with both the construction and the operation of the project.</p> <p>The assessed carbon emissions have been compared to the government set carbon budgets relevant to the periods in which the activities are taking place. This assessment has been undertaken prior to the statutory consultation in 2018, for the DCO application submission in October 2020 and again for this consultation. The assessment found that the carbon emissions associated with the project would not have a material impact on the government's ability to meet its carbon reduction targets.</p> <p>In 2021 the government has committed to the 6th Carbon Budget, covering the period between 2033 and 2037. A further assessment of the project's impact on the ability to achieve these new carbon reduction targets will be completed for the planned DCO application.</p> <p>The government has passed legislation that requires the UK to achieve net zero carbon emissions by 2050. In order to achieve this, a series of individual carbon budgets and decarbonisation plans are being developed and published by the relevant government departments.</p> <p>The Lower Thames Crossing assessments reflect the current policy and guidance available. The DfT will be publishing a Transport Decarbonisation Plan, which will set out the policies that will be put in place to reduce transport emissions and ensure we reach net zero transport emissions by 2050. As this information is released, we will continue to review our proposals to ensure they meet the requirements set out in the relevant policies.</p> <p>Despite the overall assessment conclusion, we have outlined below what we are doing to reduce the carbon footprint of the project.</p> <p>We would minimise our greenhouse gas emissions through careful design, such as specifying the use of low-emission materials, using these efficiently, and reducing the distance they would be transported.</p> <p>During construction, our appointed contractors would have to develop a compliant approach about how they plan to deal with greenhouse gas emissions and also procure renewable energy from respected providers to supply the construction compounds.</p> <p>Following statutory consultation, we carefully considered feedback and worked closely with stakeholders to put together a set of proposals to encourage low-carbon, sustainable transport suitable for commuting and leisure purposes. The proposals would maintain, upgrade and improve the walking, cycling and horse riding network in the vicinity of the project.</p>

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Summary of what you said	Our response
	<p>Wherever possible during construction we will reuse materials onsite, reducing the number of HGVs using the road network. This will also cut the distance and duration of the journeys, and reduce the overall impact on air quality.</p> <p>An example of this is an informal public space, Chalk Park, that would be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, and we presented this proposal in supplementary consultation.</p> <p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15%. We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p> <p>For more information on woodlands and green areas, please see our responses to the sections of the route, as well as the responses below.</p>
<p>You raised general concerns about a negative impact on the environment</p>	<p>Minimising adverse impacts on the environment is one of the scheme objectives, with the new road being developed accordingly. Our proposals have been designed to provide an appropriate balance between the need to reduce environmental impacts during construction and operation, while still fulfilling the other scheme objectives, including the need to reduce congestion at the Dartford Crossing, and complying with the relevant legislation.</p> <p>We are in the process of carrying out an environmental impact assessment to understand the project's impacts on the environment and to set out actions and commitments to mitigate them. We have also consulted with regulatory bodies during its development. The assessment will consider effects on a number of topics including air quality, noise and vibration, and population and human health.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as 'Best Most Versatile Land'.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on 'Best Most Versatile Land'. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p>

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Summary of what you said	Our response
	<p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility and maintenance depot near East Tilbury as part of the DCO application, as the new road is capable of operating safely without its inclusion, and the proposed facilities would also have had significant impacts on the environment and local communities.</p> <p>Also, in response to feedback received during statutory consultation, the proposed footprint of the upgraded section of the M2/A2 has been reduced by removing the hard shoulder along the eastbound parallel connector road, reducing the width of lane four, and reducing the width of the central reservation. These changes have reduced the impact of the road on the Kent Downs AONB compared with the proposals promoted during statutory consultation, while still maintaining safety and traffic flow.</p> <p>Following further traffic modelling results, we reduced the number of lanes on the southbound section of the new road, between the proposed M25 and A13/A1089 junctions from three lanes to two, while still maintaining free-flowing traffic. This would reduce the footprint of the route at this location, thereby reducing its environmental impact and cost. This was presented at supplementary consultation.</p> <p>After supplementary consultation and presented in the design refinement consultation we presented amendments to mitigation measures, following engagement with stakeholders and updates to the construction and utilities impacts for the project.</p> <p>An example of how we have developed mitigation measures since the design refinement consultation includes making changes to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction Linking to Coombe Wood ancient woodland. In the south, we have also reviewed the proposed mitigation following further engagement with stakeholders and landowners. As part of this, we have identified potential locations within some proposed areas of compensatory woodland planting, to recover and reuse ancient woodland soils.</p> <p>Similarly, following the design refinement consultation, ecological mitigation for water voles has been moved from Coalhouse Point to the Mardyke Valley. A new provision for coastal grazing marsh/wetland habitats has been proposed at Coalhouse Point to provide permanent habitat for wetland birds, replacing areas of land that would be lost by the footprint of the project.</p>

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Summary of what you said	Our response
	<p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15%. We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p>
<p>You raised concerns about the impact of the project on air quality, including the impact on the health of residents living close to the project, specifically mentioned by some people in Thurrock</p>	<p>We considered the feedback regarding pollution and air quality, but we did not make any changes to the proposals. However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>Along the A13 between the M25 (junction 30) and the A13/A1089 junction with the project traffic flows are forecast to decrease, resulting in an air quality improvement. To the east of the A13/A1089 junction with the project, flows on the A13 are forecast to increase, resulting in a worsening in air quality, however it is predicted to be well below the air quality thresholds for the key traffic related pollutants nitrogen dioxide and particulate matter.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p>

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Summary of what you said	Our response
	<p>Measures to reduce emissions from construction traffic and machinery would include instructions to switch off engines when they are not in use and making sure all vehicles using public highways comply with the emissions standards set for London Low Emission Zone for London Non-Road Mobile Machinery.</p> <p>In addition, wherever possible during construction we will reuse materials onsite, reducing the number of HGVs using the road network. This will also cut the distance and duration of the journeys, and reduce the overall impact on air quality.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>As a result of public consultation and stakeholder feedback, we have refined the proposed construction access routes. Vehicles would access construction sites mainly using the strategic road network to avoid sending HGVs through residential areas.</p> <p>With these mitigations in place, the air quality impacts of the project during construction are not expected to be significant.</p>

Summary of what you said	Our response
<p>You raised concerns about the visual impact of the project on the landscape</p>	<p>The project has been designed to reduce, where possible, the visual impact on the landscape. Design decisions have been taken that have reduced the visual impact of the project, such as allowing only essential connectivity at major junctions to reduce their height and footprint. This has resulted in approximately 80% of the road in cutting, false cutting or tunnel.</p> <p>Across the route, earthworks would be carefully designed to help make the route less obtrusive. Where false cuttings and embankments meet other landscape earthworks or landscape features, the earthworks would be effectively integrated or terminated in as naturalistic a way as possible. Earthworks would maintain a consistent level of screening if appropriate to the location.</p> <p>South of the river, the route would be in cutting as far as the proposed M2/A2 junction. The surrounding landscaping would provide a balance between screening the route and retaining the open landscape character of the area. Hedgerows, fields and occasional trees are characteristic features of this area. This open landscape character is important to the setting of the Kent Downs Area of Outstanding Natural Beauty, which features wooded hills and a prominent ridgeline visible from within this landscape.</p> <p>The tunnel entrances would be set into the landscape, with the road below ground level. Each entrance would be designed, as far as practicable, to sit sympathetically within its surrounding landscape. Since statutory consultation, we have revised the landscaping proposals near the entrances, so they would have earthworks behind each one. These would offer extensive views and be open to the public with access via new public rights of way.</p> <p>An informal public space, Chalk Park, would be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, as well as a mixture of chalk grassland, woodland and other suitable habitats to improve local biodiversity and ecological connectivity. A new landform, with woodland planting to the top, would create vantage points to the wider Thames Estuary.</p> <p>At the northern tunnel entrance, we are proposing to create a new landform with footpaths leading up to elevated viewpoints looking out to the south, east and west, from where Coalhouse and Tilbury forts would be visible. The landform design would be created using excavated material from the construction works.</p>

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Summary of what you said	Our response
	<p>North of the river, the route passes through significant flood zones or existing infrastructure, e.g. railway lines. However, for a significant length north of the River Thames, the route would sit within a false cutting between 2 metres and 5 metres high, which would help it blend with the surrounding landscape. The route would pass under rather than over the existing A13/A1089 junction, helping to reduce the height of the junction, before being elevated on embankments and viaducts across the Mardyke Valley. The route would pass under rather than over the M25, reducing the overall height of this junction, before joining the motorway south of junction 29.</p> <p>In some instances, it has been necessary to move pylon and transmission lines closer to properties due to design constraints. However, across the project area there would be a net reduction in the number of pylons as the proposed realignment of some overhead electricity line routes do not require them.</p> <p>One example is where there are proposed changes to pylons and power lines that are to the west of Linford and east of the project route. These are not envisaged to move overhead lines closer to homes in Linford and a section of existing network would be undergrounded. We consulted on these proposals during supplementary consultation.</p> <p>For further information about works to existing utilities infrastructure in your area, please see the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the proposed environmental mitigation measures, including changes to proposed tree planting, whether the mitigation proposals are suitable or extensive enough to be effective, and if measures such as tree planting take time to establish before they are effective. Some comments also included that there is no way to mitigate for the loss of ancient woodland</p>	<p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>At statutory consultation, we used information from desk -based and initial field research to identify the mitigation measures that may be required. After statutory consultation, we had a more detailed understanding of the potential impacts following the completion of most field surveys and the updated project design. Some elements of the design were changed to help avoid significant impacts, for example moving the southern tunnel entrance further south to reduce risk of impacts to the Thames Estuary and Marshes Ramsar and SPA. We also proposed three additional green bridges north of the River Thames providing environmental benefits such as improved ecological connectivity. These changes were presented in the supplementary consultation.</p> <p>Following analysis of the predicted traffic noise, we included provision for noise barriers at 17 specific points alongside the carriageway and consulted on the locations of these, as part of the design refinement consultation. The locations were selected after analysis of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres.</p> <p>The landscape within the various junctions uses the areas within the islands, in cuttings, and earthworks to maximise woodland plantings. Over time, these will mature into more natural environments to help mask and integrate the road into the surrounding landscape and environment. All of our proposed mitigation measures have been refined throughout the design process, considering a variety of stakeholder feedback.</p> <p>Where possible, we have minimised impacts to farmland through the design development, for example through the use of retaining walls to limit the amount of land needed or steepened embankment slopes to reduce the footprint of junctions.</p> <p>The use of false cuttings with a gentler outer slope will help to blend them into the wider landscape, allowing for the land to be returned to agricultural use.</p>

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Summary of what you said	Our response
	<p>Tree-planting for the purposes of screening and environmental mitigation would typically make use of immature trees because transplanting larger and more established trees tends to be less successful. We recognise that such planting takes time to establish, which is why our ongoing environmental impact assessment considers the design after 15 years. At sensitive locations, more mature trees would be considered if the assessment shows that this would help to significantly reduce impacts. If some of the more mature trees failed to transplant successfully, replanting would be done at a later date. The choice of species would be chosen to provide the least disruption to the existing biodiversity.</p> <p>In Kent, new woodland would be designed to strengthen connectivity between existing retained woodland within the area, particularly around Claylane Wood, Shorne and Ashenbank Wood Site of Special Scientific Interest (SSSI), Great Crabbles Wood SSSI and, south of the A2, Jeskyns Community Woodland. This would include woodland planting either side of the project and to the west of Jeskyns Country Park.</p> <p>Since the design refinement consultation, south of the river a utility (gas diversion) route has been amended to go under Park Pale Lane, adjacent to the M2/A2. This results in a reduction of the loss of woodland in Brewers Wood that can now be retained. In addition, the same utility route has been amended to the west of Brewers Road Bridge, which has reduced the loss of woodland in Shorne.</p>

Building the Lower Thames Crossing

We asked...

“Do you support or oppose our revised proposals for how we plan to build the Lower Thames Crossing?”

Summary of responses

- 2,268 respondents in total answered this question
- 2,073 respondents that answered this question were members of the public and other non-statutory organisations
- 186 respondents that answered this question were people with interest in land
- Nine respondents that answered this question were from statutory bodies and local authorities
- 993 individual respondents (48%) support or strongly support proposals for how we plan to build the project
- 714 individual respondents (34%) oppose or strongly opposed proposals for how we plan to build the project

You said...

The most common reasons given in support of the revised proposals for how we plan to build the Lower Thames Crossing were:

- The proposals have been developed since statutory consultation and incorporate feedback from stakeholders
- It is inevitable that construction will cause disruption, but support and acknowledgement is noted
- Feedback from consultation and other forums have been included in the construction proposals which have been improved

The most common reasons given against the revised proposals for how we plan to build the Lower Thames Crossing and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of construction on local communities, including an increase in traffic from construction vehicles, road closures, noise and pollution, and other health impacts including stress. Comments also referred to disruption caused by the A13 and A2 widening schemes, including impacts specifically in Orsett and Chadwell St Mary</p>	<p>We have considered the suggestions raised during consultation in the development of the plans and these have informed how the project would be built. During construction, we would continue to engage with stakeholders, including local authorities, emergency services, landowners, businesses and communities.</p> <p>We have continued to amend the design of the project to reduce its impacts. Having engaged with local authorities, businesses and the public, we have been able to focus on key areas of concern and refine the design and construction proposals to reduce the need for mitigations, such as preventing, reducing or offsetting any adverse effects created by the new road.</p> <p>We developed a construction approach to reduce risks and minimise the construction period. Since statutory consultation and the feedback received from the public, local authorities and local businesses, the construction approach has been further refined and a number of mitigations have been incorporated into our plans. Some examples of these include, minimising the use of local roads (particularly around the M25 and A13) by creating offline haul roads directly off the strategic road network. We would introduce landscaping, (for example Chalk Park) to reduce traffic using the network, and minimise the carbon footprint by reusing material onsite, as well as providing green space for the local communities.</p> <p>Construction compound locations have also been refined to reduce their impacts, in some cases moving the compound further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are included within the CoCP and REAC.</p> <p>The CoCP also includes further mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours.</p> <p>Access to community facilities, such as leisure centres, would be maintained during construction, with mitigation measures relating to construction traffic management and community engagement as set out in the CoCP. The effects of traffic disruption to businesses located in close proximity to the project would be reduced or avoided through measures in the OTMPfC, which is included as part of this consultation. These include restrictions on the routes taken by construction traffic and careful design and timing of temporary road closures or diversions.</p>

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Summary of what you said	Our response
	<p>Road closures and traffic management would be required in some cases to construct elements of the project safely and quickly. A balanced approach has been taken through discussions with stakeholders to avoid closures where possible, which would reduce the impact on road users but would extend the duration of the programme and introduce safety risks. Therefore, in some cases we have opted for closures and in other areas we would opt for traffic management measures.</p> <p>Road closures would be required around Orsett, including longer term closures such as sections of Baker Street and Rectory Road. There would be short term (night and weekend) closures of other roads to carry out specific works. Utility works in the area would also be required. We have refined our proposals since statutory consultation to minimise the traffic management measures and closures required by ensuring both utility and main works can be conducted in the same window where possible, thereby avoiding traffic management measures coming on and off. Access to nearby communities including Chadwell St Mary and Orsett have been maintained by ensuring alternative routes are not closed at the same time.</p> <p>To construct the A2, Brewers Road would have a long term closure. For further information about how your area may be affected, including Orsett, Chadwell St Mary and near the A2, see the Ward impact summaries.</p> <p>The construction phase is likely to affect air quality as a result of emissions of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p> <p>A programme of communications and engagement would be planned to ensure local people are aware of how construction might affect them.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of construction on local roads, including concerns about congestion, delays and road closures. Specific concerns were raised about the closure of Brewers Road bridge and Gravesend East junction, as well as the specific impacts on the M2, A2, A226, Gravesend, Chalk, Thong Lane, Brentwood Road and Baker Street</p>	<p>The number of HGV journeys on the local road network associated with construction of the project has continued to fall as the design has been further refined to reduce the amount of earthworks imported and exported. The numbers have also been reduced by refining the haul roads locations and connection to the strategic road network, further limiting the need to use the strategic and local road network.</p> <p>We have followed a thorough process to identify mitigation measures to manage construction traffic. This means in some areas the proposals have been changed to reduce or eliminate the need for traffic management during construction, for example the need for narrowed lanes, speed restrictions, temporary diversions, and temporary traffic lights. The process has been iterative between design, traffic and construction and involved reviewing the design and identifying where traffic measures have been assessed. Where issues have been identified, we have refined the construction approach and/or design to eliminate or minimise traffic management.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>As a result of public consultation and stakeholder feedback, we have refined the proposed construction access routes. Vehicles would access construction sites mainly using the strategic road network to avoid sending HGVs through residential areas.</p> <p>Nevertheless, there will be some construction impacts on local roads. Some roads will be impacted for short durations whilst specific pieces of work are completed. Other roads will be impacted for the duration of construction. We have provided more information on how local roads, including Brewers Road, will be impacted during construction in our Ward impact summaries.</p> <p>The effects of traffic disruption would be reduced or avoided through measures in the OTMPfC, which is included as part of this consultation. These include restrictions on the routes taken by construction traffic and careful design and timing of temporary road closures or diversions. A communications programme will ensure planned disruptions are publicised at the appropriate time.</p>

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Summary of what you said	Our response
	Mitigation measures relating to construction traffic management and community engagement are also set out in the CoCP.
You raised concerns that the proposed working hours are too long, including the summer working hours and 24-hour tunnel boring	<p>Our supplementary consultation proposals included increasing our core hours to maximise the use of daylight. This would allow us to construct the project in a shortened time frame, reducing the impact on local communities. Core working hours would be between 7am and 7pm on weekdays (excluding bank holidays), and between 7am and 4pm on Saturdays. We also increased the earthworks construction hours from 7am to 10pm on Monday to Saturday as this would help complete the large volume of earthworks in a shorter time.</p> <p>The CoCP sets out the planned construction times, including information about preventing disturbance to local areas.</p> <p>Tunnelling works would be carried out 24/7. We would operate the tunnel boring machines and line the tunnels continuously as this reduces the risks of ground movement and water ingress. Out of hours working would also be necessary for some works on the existing utility, road and rail networks to reduce disruption. Prior notice and information would be given for planned works outside of core hours.</p> <p>Further information about construction in your area is provided in the Ward impact summaries.</p>
You raised concerns that construction would impact the quality of life for local residents, including comments that construction could start sooner than planned or the proposed 74-week period for ground preparation works for the tunnel is too long	<p>The project is identified as a Nationally Significant Infrastructure Project under the Planning Act 2008. Before we can start construction, we would need approval of a permission called a DCO. The DCO will be examined by the Planning Inspectorate, who will report its findings to the Secretary of State for Transport to aid decision making. More information about the DCO process is available on our project website or the National Infrastructure Planning website.</p> <p>We have been carrying out a number of investigation works on site. These have included archaeological surveys, ground condition surveys and checking the location and condition of existing utilities. These works will help inform our detailed designs, and will continue until we start construction.</p> <p>We have consulted with local communities and stakeholders at appropriate stages of the project's development, with feedback influencing how the impacts on local people, schools, businesses, public rights of way and community assets would be mitigated.</p> <p>We have considered the suggestions raised during consultation in the development of our plans and these have guided how the new road would be built. During construction, we would continue to work with stakeholders, including local authorities, emergency services, landowners, businesses and communities.</p>

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Summary of what you said	Our response
	<p>Wherever possible during construction we will reuse materials onsite, reducing the number of HGVs using the road network. This will also cut the distance and duration of the journeys, and reduce the overall impact on air quality.</p> <p>The construction phase is likely to affect air quality as a result of emissions of dust from construction activities and because of the changes in traffic associated with construction vehicles and traffic management measures.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p> <p>Having engaged with local authorities and businesses, as well as the public, we have been able to focus on key concern areas and refine design and construction proposals to reduce the need for mitigations, such as preventing, reducing or offsetting any adverse effects created by the new road. We would introduce landscaping (for example Chalk Park) to reduce traffic using the network, and minimise the carbon footprint by reusing the material onsite, as well as providing green space for the local communities.</p> <p>Construction compound locations have also been refined to reduce their impacts, in some cases moving the compound further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are included within the CoCP and REAC.</p> <p>The proposed construction programme for the ground protection tunnel is based on industry good practice and the current understanding of the geology and conditions of the area. The location of the ground protection tunnel has been determined after analysis of the geology of the area and is considered to be appropriate to its purpose, which is to strengthen some of the ground above where the two main tunnels would be bored. Once the strengthening work is complete, the ground preparation tunnel and associated shafts would be filled in and the surface area reinstated to its original condition. The assessments show there would be no likely significant negative impacts on the marine environment as a result of the project.</p>

Utilities infrastructure

We asked...

“Do you support or oppose our revised proposals for utility works required to build the Lower Thames Crossing?”

Summary of responses

- 2,110 respondents in total answered this question
- 1,921 respondents that answered this question were members of the public and other non-statutory organisations
- 182 respondents that answered this question were people with interest in land
- Seven respondents that answered this question were from statutory bodies and local authorities
- 833 individual respondents (39%) supported or strongly supported the revised proposals for utility works
- 512 individual respondents (24%) opposed or strongly opposed the revised proposals for utility works

You said...

The most common reasons given in support of the revised proposals for utility works required to build the Lower Thames Crossing were:

- The proposals are well planned and include an increased reduction of impacts and disruption
- No longer a requirement to use land of the Condoval Scout Campsite
- The upgrading and modernisation of infrastructure as it should allow for expansion in the area

The most common reasons given against the revised proposals for utility works required to build the Lower Thames Crossing and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the potential visual, noise and health impacts of moving pylons and overhead lines closer to residential areas</p>	<p>Works to the existing utility infrastructure would only be carried out where necessary to implement the project, either to divert utilities, to accommodate the route or to provide essential services to compounds during construction. We have engaged with utility companies throughout the development of the new road, ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities, businesses and road users.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead power lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p> <p>After statutory consultation we altered a diversion to overhead power lines near Heath Road because the diversion would have resulted in overhead lines passing directly over some properties. The design was changed to move the overhead power lines into a cleared area further south. This was presented during supplementary consultation.</p> <p>Between statutory consultation and supplementary consultation, the proposals around M25 junction 29 were modified to avoid impacts to the existing National Grid Electricity Transmission (NGET) electricity pylons. This ensured that the diversion to the NGET assets was no longer required, and therefore a section of works to the overhead electricity lines at Roseberry Gardens (Cranham) was also no longer required.</p> <p>In some instances, it has been necessary to move pylon and transmission lines closer to properties due to design constraints. For example, near Thong Lane over the Lower Thames Crossing we amended the overhead electricity lines diversion following stakeholder feedback. It also impacted changes to the Thong Lane green bridge. The amended diversion to the overhead electricity line meant that pylons were moved south, closer to Thong residents. This was presented in the design refinement consultation.</p> <p>Across the Lower Thames Crossing area, however, upon completion, there would be a net reduction in the number of pylons. We were able to reduce the extent of overhead electricity cable diversion works presented at statutory consultation in the Chadwell St Mary area by moving the Lower Thames Crossing route approximately 60 metres to the north east, further away from the Chadwell St Mary community. However, moving the route to the north east would result in the project being closer to Linford.</p>

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Summary of what you said	Our response
	<p>To reduce the impacts of utilities on local communities, we propose reducing the number of pylons near the route between Chadwell St Mary and Tilbury. In this area, at supplementary consultation, we proposed removing 17 existing pylons and installing 10 new ones, resulting in seven fewer pylons. Since the design refinement consultation, we have amended our proposals and would retain the pylon at Muckingford Road. Therefore, 16 would be removed resulting in six fewer pylons.</p> <p>As far as possible, we have reduced the impact of the project, including the utility works on local communities. This includes any potential health and noise effects from overhead transmission lines.</p> <p>National Grid have carried out an assessment of the proposals to divert overhead lines. The assessment concludes that the modifications to existing overhead lines necessary to accommodate the project would comply with the current public exposure guidelines for electromagnetic fields (EMFs) documented in the National Policy Statement for Electricity Networks Infrastructure (EN-5). Therefore, there would be no significant EMF effects resulting from the proposals. National Grid has also carried out an assessment of the potential impacts on nearby properties from noise due to these proposed changes. Its assessment concludes that there would be no significant negative noise impacts on these properties due to realignment of the overhead lines.</p> <p>As we have outlined in the CoCP, we will put in place a series of measures to inform and engage with the local community throughout the duration of the works. Wherever possible, at least two weeks before works are carried out, we would distribute information sheets detailing the expected disruptions and measures being taken to avoid, minimise or mitigate the adverse impacts. We have presented the draft CoCP as part of this consultation and it will also form part of our DCO application.</p> <p>Contractors will be required to notify local residents and businesses of planned works which are likely to generate high levels of noise.</p>
<p>You raised concern about the potential disruption to communities as a result of the utility works, including the impacts on North Road, Ockendon, and the area around the A13/A1089 junction</p>	<p>We have engaged with utility companies throughout the development of the project with a view to ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities. This includes minimising any interruption to supply during any work affecting utilities infrastructure.</p> <p>There are a large number of existing utility services in the vicinity of the A13/A1089, including gas pipelines, electricity power lines and pylons, and multi-utilities (which may include water, communications and electricity cables). To accommodate the proposed A13/A1089 junction, some utilities would need to be diverted.</p>

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Summary of what you said	Our response
	<p>Some will need to be relocated to an area where they, the project and the local road network can operate and be maintained with minimum disruption to each other. They are designed in compliance with their own design and operating standards, guidelines, and policies. The project develops, manages and coordinates the proposals keeping in mind its obligations under the Construction Design and Management Regulations and the utility companies' primary objective of maintaining customer supplies.</p> <p>After the design refinement consultation, the alignment of the high-pressure gas pipeline around Rectory Road has been revised to locate it closer to the earthworks for the new road. This has been done keeping in mind the setting of the area and the restrictions and risks associated with a pipeline of this classification. The relocated pipeline aims to minimise the disruption in a temporary and permanent sense on the Orsett Showground and the Orsett Park Royals Football Club pitches as well as any future proposed development within the area. We are working with the Orsett Park Royals Football Club to find a suitable site so that they can continue to operate during construction.</p> <p>Permanent rights over land near the proposed A13/A1089 junction would be required to divert and relocate existing utilities to allow the project to be built with minimal interruption of supply to customers. We would use the land temporarily for construction and then transfer permanent rights over the land to allow the utilities company to maintain the infrastructure in the future. Changes to this land use were consulted on during supplementary consultation. The area required for these works has increased slightly since supplementary consultation to accommodate the proposed route and the construction of the viaduct in this area. These changes were presented as part of design refinement consultation.</p> <p>Due to the number of utilities affected, and the space required to carry out the works safely, there is the potential for some road diversions and lane closures in this area – for example, at Baker Street, the A1013 and other local roads.</p> <p>An OTMPfC has been developed in collaboration with local authorities and stakeholders which details traffic management measures and the outline approach. It is published as part of this community impacts consultation and includes measures aimed at maintaining safety for road users and reducing the impacts of construction traffic, as well as setting out the timing of construction activities, including utility works.</p>

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Summary of what you said	Our response
	<p>In addition to works around the A13/A1089 junction, some above and below-ground utilities within the vicinity of the B186 North Road (Ockendon) would need to be diverted to facilitate the proposed project route. Where practicable, we would explore opportunities to place overhead electricity lines underground in this location to reduce the impacts of works on the local community, following further discussion with utility companies, stakeholders and additional design investigation.</p> <p>Since the design refinement consultation, we have made changes to proposals in the Ockendon area. Church Lane would no longer require sewerage works, and the proposals of installing sewerage networks from Ockendon Road to St Mary's Lane along the B186 have also been removed from proposals.</p> <p>For more information about utility works in your area, please refer to the Ward impact summaries.</p>
<p>You raised concerns about changes made to the proposed utility works and the project moving closer to Linford residents. Comments included that the changes have been made to cut costs and the overhead power lines and pylons should be moved instead</p>	<p>Works to the existing utility infrastructure would only be carried out where necessary to implement the project, either to divert utilities, to accommodate the route or to provide essential services to compounds during construction. We have engaged with utility companies throughout the development of the new road, ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities, businesses and road users.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead electricity lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p> <p>In some instances, it has been necessary to move pylons and transmission lines closer to properties due to design constraints. We were able to reduce the extent of overhead electricity line diversion works presented at statutory consultation in the Chadwell St Mary area by moving the Lower Thames Crossing route approximately 60 metres to the north east, further away from the Chadwell St Mary community. However, moving the route to the north east would result in the project being closer to Linford.</p> <p>Without these design changes, the electricity lines and pylons that are being diverted from Hornsby Lane west would have begun on the eastern side of Chadwell St Mary, potentially as far south as</p>

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Summary of what you said	Our response
	<p>Muckingford Road. The relocated overhead line network would have routed south of the existing alignment, moving it closer to the residents of Chadwell St Mary.</p> <p>Construction of these works would have taken longer and increased costs. The relocation of these assets is critical to the A13/A1089 junction and therefore presented a greater risk to the overall works being completed on time.</p> <p>Across the project area, however, upon completion there would be a net reduction in pylons. This is because the proposed realignment of some overhead power line routes would require fewer pylons and we are undergrounding some of the existing overhead line networks.</p>
<p>You raised concerns about the proposals to divert gas mains near the M2/A2 and at Orsett, with concerns about the amount of land needed, the impact on woodland and local amenities, and safety. Some feedback also included concern about the impact on Shorne Woods Country Park</p>	<p>At each stage of design development, we have sought to minimise the impact of utility works on the environment, while still allowing for construction and operation of the project. The utility works plans have developed through close engagement with the relevant utility companies, further investigations and consideration of feedback from those organisations, as well as residents of the affected areas. In a number of instances, this process has resulted in further changes to the utility proposals from statutory consultation, informed by a better understanding of existing conditions and constraints.</p> <p>Following supplementary consultation, we were able to refine the proposals for utilities near the M2/A2, reducing the amount of land needed. This has reduced the impacts on Shorne and Ashenbank Woods Site of Special Scientific Interest and other environmentally sensitive locations such as Jeskyns Community Woodland and Claylane Wood, where there is ancient woodland.</p> <p>During the design refinement consultation, we also presented a proposal to acquire permanent rights over a small area of Shorne Woods Country Park for the diversion of a gas pipeline. This would help the realignment of Thong Lane and the new road north of the A2. Some vegetation would need to be removed as part of these works, but this would be managed in line with the relevant gas industry standards and vegetation removal would be limited as far as practicable. The pipeline would require a permanent corridor to remain free from vegetation to maintain access for management of the pipeline.</p>

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Summary of what you said	Our response
	<p>The proposed alignment of the pipeline from Marling Cross to Park Pale Lane has been modified; west of the Inn On The Lake the alignment has been modified in line with our developing designs and understanding of how the project will be carried out. East of the Inn On The Lake, the permissible location of the pipeline alignment and utilities corridor north of the A2 has been restricted to reduce its impact on operation and maintenance. From Brewers Road east, the pipeline alignment has been relocated from heading east through the existing vegetation and A2 Park Pale screening to head north along Brewers Road and then east along Park Pale Lane within the carriageway. This will reduce the impact on existing vegetation and allow for the replanting proposals proposed as part of the project's design.</p> <p>Brewers Wood, which is part of Shorne Woods Country Park, would also be affected by gas pipeline diversion works, with some woodland needing to be removed. The woodland would be managed in line with the relevant gas industry standards and vegetation removal would be limited only to what is necessary to carry out the works. The pipeline would require a permanent corridor to remain free from trees to allow for utilities management.</p> <p>Following consultation with asset owners, several utility proposals have been modified. These include mitigating impact on existing vegetation by locating assets in proposed structures to cross the highway, which will remove the need to clear further land. In other areas the corridors in which the utilities can be located have been refined to ensure the asset can be constructed, operated and maintained without the need for excessive clearing of existing vegetation.</p>

Using the Lower Thames Crossing

We asked...

“Taking into account the updated traffic information included within the supplementary consultation, do you support or oppose the view that the Lower Thames Crossing would improve traffic conditions on the surrounding road network?”

Summary of responses

- 2,275 respondents answered this question
- 2,081 were members of the public or other non-statutory organisations
- 185 respondents were people with interest in land
- Nine respondents were statutory consultees
- 1,111 individual respondents (53%) supported or strongly supported the view that the project would improve traffic conditions on the surrounding road network
- 764 individual respondents (37%) opposed or strongly opposed the view that the project would improve traffic conditions on the surrounding road network

You said...

The most common reasons people support the view that the Lower Thames Crossing would improve traffic conditions on the surrounding road network are:

- The project will lead to more reliable journeys, less congestion and quicker journey times, as well as playing a vital role in the movement of freight around the country
- It will provide relief and an alternative route to the Dartford Crossing, reduce accidents at Dartford and support the movement of goods and other economic benefits bring benefits to local roads in the area by reducing traffic when there are incidents on the Dartford Crossing, especially in areas such as Dartford Town Centre, Greenhithe, Northfleet, Swanley North Kent Villages and Thurrock
- Will improve emergency response times in the local area

The most common reasons people oppose the view that the Lower Thames Crossing would improve traffic conditions on the surrounding road network and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns that the project would not solve existing congestion issues, with some comments expressing concern the project would cause congestion, increase journey times and fail to deliver benefits in relation to impact and cost</p>	<p>The road network across the south-east of England carries a high volume of traffic on a daily basis, and is coming under increasing pressure due to economic growth across the region. As a result, there are a number of areas of severe existing congestion across the road networks. The Lower Thames Crossing, by relieving the congested Dartford Crossing and approach roads, addresses a significant area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region will change. This would lead to some improvements and some worsening of other areas of existing congestion across the region.</p> <p>As well as providing relief at Dartford and its approach roads, traffic modelling results predicts that the Lower Thames Crossing would affect other parts of the strategic road network and local roads, with some forecast to experience a decrease in traffic and others an increase. Overall, the transport benefits of the project outweigh the negative impacts on the road network.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads. The economic value of these adverse traffic impacts are included in the economic appraisal of the project.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highways authorities to identify areas where further interventions may be suitable on the road network.</p> <p>While the Lower Thames Crossing would result in more vehicle mileage, this would largely be owing to longer trips – particularly those across the River Thames. The number of new trips predicted because of the new road is relatively low.</p> <p>Achieving value for money is one of the scheme objectives. The project represents positive value for money because its expected benefits exceed the costs. Costs of construction and operation are considered at every stage of the design process, and the project carries out periodic reviews to ensure costs are controlled. The budget is also subject to close scrutiny by the DfT.</p>

Summary of what you said	Our response
<p>You raised concerns about whether the project solves existing issues at the Dartford Crossing, including that it would not significantly improve congestion on the Dartford Crossing by the time the project is built</p>	<p>The objectives for the project were agreed with DfT and include the requirement to relieve the congested Dartford Crossing and its approach roads.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable. This would provide substantial benefits to road users by cutting congestion on the Dartford Crossing and its approach roads, resulting in faster journeys and fewer delays. The improved connectivity would boost local economic growth and employment by making it easier for local businesses to interact with their customers and suppliers, and for them to retain and attract workers.</p> <p>The proposed tunnels would be significantly larger than the existing tunnels at the Dartford Crossing. They would have three full lane widths in both directions, so it would be easier for drivers to maintain speed and pass vehicles in other lanes. This would help traffic flow faster and more freely through the tunnels. Additionally, they would not have the same restrictions on dangerous goods vehicles, which contribute to congestion at approach to the Dartford Crossing northbound. The project would be designed without junctions near the entrances, which reduces the need for lane changes around the entrances, ensuring a smoother flow of traffic and reducing the risk of collisions.</p> <p>Furthermore, the proposed tunnels have been designed based on traffic modelling results in accordance with DfT guidance. The modelling is based on the current DfT traffic forecasts and includes all known large developments with a planning application or consent. Based on the modelling outputs, two tunnels providing three lanes in each direction would accommodate future traffic flows. The tunnels and their approaches are forecast to remain free flowing for the foreseeable future.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of the project on local roads, including the creation of rat runs, and concern that there has not been proper assessment of the impact on the local roads, or appropriate mitigation proposed</p>	<p>The Lower Thames Crossing would connect directly to the key points on the strategic road network (M2/A2, A13/A1089 and M25) and there would be limited connection onto the local road network. This approach has been taken to reduce the likelihood of motorists using local roads to access the new crossing.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would be monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with the DfT and local highways authorities to identify areas where further interventions may be suitable on the road network.</p>
<p>You raised concerns about the project attracting new traffic to the area, and the impact increased traffic would have on local roads and pollution</p>	<p>We considered the feedback regarding congestion and pollution, but we did not make any changes to the proposals.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>The project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p>

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Summary of what you said	Our response
	<p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update.</p> <p>For further information about air quality in your area, please see the Ward impact summaries.</p>
<p>You raised concerns about the safety of smart technology with the omission of hard shoulders, including whether the recent DfT review into smart motorways has been accounted for</p>	<p>Improving safety is one of the scheme objectives. Not only will the new tunnel and roads be designed and built to the highest safety standards recommended today, but we continue to adapt our design to incorporate advances in design and technology that emerge in the years ahead.</p> <p>Existing plans and agreements are in place between us and the emergency services for accessing incidents on such roads. These would be extended to the project to ensure the safety of road users in the event of an incident.</p> <p>The new road's safety features would include vehicle detection, emergency areas, variable mandatory speed limits and lane closure signals in the event of an incident, such as a vehicle breakdown or collision. Control measures across the route, including in the tunnel, would identify vehicles stopping in a live lane and allow for rapid changes of traffic management to avert danger. Vehicle recovery would also be provided in the tunnel for any stopped vehicles to escort them to a place of safety.</p> <p>It would be possible to help emergency services to access incidents in the tunnels by using technology. This includes signage that can be changed to alert road users of lane closures, speed restrictions and incidents ahead. In the case of one tunnel being blocked, emergency vehicles could access incidents using the other tunnel and the pedestrian cross-passages that connect the two tunnels at regular intervals.</p>

Summary of what you said	Our response
<p>You raised concerns that the project would not provide traffic benefits for local people, including that although the project passes through their local area they would not be able to access it easily</p>	<p>We are responsible for managing the strategic road network in England. The objectives for the new road were agreed between Highways England and the DfT and are recorded in the objectives of the scheme.</p> <p>These objectives include the need to relieve the congested Dartford Crossing and approach roads. The proposals for the new road have been assessed as the best response to the set objectives.</p> <p>A further objective is to improve the resilience of the River Thames crossings and the strategic road network. In the past Highways England has had to implement longer-term closures of critical infrastructure on the strategic road network. By providing an additional crossing of the River Thames, the project would improve the resilience of the road network in the unlikely event of a longer-term closure of part of the existing Dartford Crossing or approach roads. In addition, the provision of an alternative crossing of the River Thames would provide increased flexibility for undertaking maintenance works while continuing to maintain connectivity across the strategic road network. This would result in shorter and less-complex diversion routes for certain closures, particularly for larger vehicles.</p> <p>We have thoroughly assessed and, where appropriate, carried out consultations on the locations for junctions and the connections they should provide.</p> <p>The Lower Thames Crossing would connect directly to the key points on the strategic road network (M2/A2, A13/A1089 and M25) and there would be limited connection onto the local road network. This approach has been taken to reduce the likelihood of motorists using local roads to access the new crossing. However, the desire to provide more local connections to and from the project route has to be balanced against the need to ensure free-flowing connections with the strategic road network, as well as safety for all road users. It also has to be balanced against the potential for increased traffic on local roads that could arise if additional direct local connections were provided, as well as increased environmental effects associated with building larger and higher junctions capable of accommodating multiple traffic movements, which would also impact further on the green belt (in which the project is located).</p> <p>Where direct local connections are not provided, it would generally be possible to connect to the project by first joining roads on the strategic road network that are served by the proposed junctions. This is the case for the major population centres in Thurrock and Gravesend.</p>

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Summary of what you said	Our response
	<p>The project has been designed to make a positive contribution to the local economy and communities. For example, it aligns with the South East Local Enterprise Partnership (SELEP) strategy for tackling housing shortages, encouraging infrastructure and improving workforce skills to increase productivity and regional economic growth. The majority of the project’s economic, social and environmental benefits accrue from trips that begin or end in local authorities within the SELEP area. SELEP local authorities are forecast to receive significant transport user benefits – mainly journey time savings – and productivity benefits. Road users in Kent, Thurrock and Essex who travel along parts of the A2, A13, A127, M25, and M20 and who use the Dartford Crossing and its approach roads are forecast to experience reduced journey times and congestion as a result of the project. The improved connectivity would boost the productivity of local businesses by making it easier for them to interact with customers and suppliers and to retain and attract workers. These business benefits would boost employment and economic growth, with significant long-term benefits from the project for businesses.</p> <p>As part of the efforts to generate benefits for local communities, we intend to provide opportunities for local people to work on the construction of the route. We are also helping local businesses to form part of the supply chain to build the route. We are working with stakeholders to develop these plans and put them into action, should development consent be granted.</p> <p>Furthermore, the draft DCO will include powers enabling the Secretary of State for Transport to apply a local resident discount for charges to residents in the local authority areas of Gravesham and Thurrock, where the tunnel entrances would be situated. It is also expected that discounts will be offered to account holders, on the same terms as the account discounts that apply at the Dartford Crossing.</p>

4

Design refinement consultation

Developing the project after supplementary consultation

The changes between supplementary consultation and design refinement consultation were comparatively small. They were based on feedback received from the supplementary consultation, continued engagement with key stakeholders, further design work and a greater understanding of technical constraints. The process fed into changes to the diversion of utilities and additional detail on the location of bridges and structures.

This resulted in further refinements to the design proposals and reduced the land required for the works. We were able to reduce the number of properties within our Order Limits (previously referred to as the development boundary) from approximately 270 properties presented in supplementary consultation, to approximately 150 in the design refinement proposals. At supplementary consultation, the Order Limits comprised over 26 squared kilometres of land and this reduced to slightly below 23 squared kilometres in the design refinement proposals.

Between the supplementary consultation and design refinement consultation, the following changes were proposed to the project:

- The setting of both the southern and northern tunnel entrances were developed to include the landscaping.
- At the northern tunnel entrance the maintenance access tracks were realigned to minimise the footprint of the area, reducing the impact on the flood plain. A new landform at the northern entrance was proposed to provide views over the Thames Estuary.

- Changes were made to the new road, where it crosses Brentwood Road, to allow access to and from the route for emergency services.
- Further detail of woodland planting and access was provided, including compensation planting for areas of ancient woodland lost due to the project.
- Noise barriers included to provide protection for local communities.
- Further detail on landscaping proposals aimed at reducing the visual impact of the new road.
- Alterations to green bridges and foot bridges, aimed at keeping communities connected.
- Further development of footpaths, connecting communities.
- A new structure over the A127 to allow east-west pedestrian movement. This required a new section of footpath within junction 29 and a pedestrian crossing at the roundabout.
- We defined land uses required within the Order Limits as a result of the design changes and stakeholder requirements. This was presented in our consultation materials and set out in detail in Map Book 2.

For a full list of the changes made between supplementary consultation and the design refinement consultation, please refer to the [Guide to design refinement consultation](#).

Refinements to construction plans and the diversion of utilities

We continued to develop the construction phasing, the construction programme and temporary traffic management plans using feedback from the supplementary consultation and through ongoing engagement with local authorities – all aimed at minimising construction impacts as much as possible.

We continued to explore additional measures to further reduce the impacts of the works such as: providing temporary diversions, upgrading existing routes and reviewing options to provide access to new routes for walkers, cyclists and horse riders earlier in the programme to shorten the period of disruption.

We also further developed the construction access routes plan and haul road network to reduce HGVs using the local road network. Following feedback from stakeholders, we made amendments to construction routes to limit, and in some cases remove, the need for HGVs to access sensitive areas.

The design refinement proposals included one change to a construction compound north of the Thames, after the route passes through the Mardyke.

Our engagement with utility companies was ongoing and our assumptions being verified via site investigations and trial holes. We used ground investigation data to further refine the utility proposals and we engaged with impacted parties to refine the proposals.

Coupled with developments to the project design and feedback to the supplementary consultation from local residents and stakeholders, the Order Limits were refined to mitigate the impacts as far as reasonably possible whilst ensuring the project was deliverable with all parties assets being operational post construction.

Further details of the requirements of the utility networks were provided in the design refinement consultation materials. These included the need for a permanent gas compound at Stanford Road, the relocation of Shorne Woods switching station at Thong Lane, a new primary substation along the A226 and the relocation of multiple local substations.

Traffic assessments

No changes were made to the Lower Thames Area Model (the projects strategic transport model), and as a result our traffic forecasts between supplementary consultation and the design refinement consultation remained the same.

Overview of design refinement consultation

Our design refinement consultation was held between 14 July and 12 August 2020. Its main purpose was to seek feedback on the refinements to the project presented in the consultation materials.

The consultation

We asked for feedback on:

- changes south of the river
- changes in the area around Tilbury
- changes in the area around the A13/A1089 junction
- changes in the area around the M25 junction
- changes in the area around the M25 junction 29
- changes to the area of land required to build the Lower Thames Crossing
- proposals regarding special category land and sports clubs
- changes to the environmental impacts of the project

We also asked for any other comments about the Lower Thames Crossing and about the consultation.

How we carried out the design refinement consultation

This consultation took place when restrictions on gatherings were in place due to the COVID-19 pandemic. Because of this, we carried out a mainly digital consultation and put measures in place to ensure it was as accessible, interactive and engaging as possible. To support this, we:

- sent leaflets to 135,000 addresses within 2 kilometres of the development boundary two weeks ahead of the consultation launch
- sent around 900 personalised letters to landowners and/or occupiers of properties within the development boundary two weeks ahead of the consultation launch
- provided a telephone service, where people could ask a project representative questions and provide consultation feedback
- held four public webinars where people could learn more about the main proposals and ask questions

- offered pre-ordering and home delivery of consultation materials, free of charge
- attended more than 40 meetings with stakeholders including local authorities, statutory environmental bodies, business representatives and locally-elected representatives, including MPs and ward councillors
- sent almost 45,000 emails to subscribers on our database
- placed notices and advertising in local, national and trade newspapers
- organised one deposit location, where people could view the design refinement consultation materials and/or take-away leaflets, the guide to design refinement consultation and response form
- organised five information points, with take-away leaflets, the guide to design refinement consultation and response form
- created a dedicated website to make sure all consultation information was easily accessible, with improved online material and a virtual exhibition. This included:
 - an interactive map where people could search by address or postcode to see the proposals in their area
 - videos which covered the project proposals
 - summary information from the consultation print materials

Consultation materials

We produced a suite of consultation documents and maps to help participants understand more detail about the proposed changes to the project. These included:

- Guide to design refinement consultation
- Environmental Impacts Update
- Map Book 1 – General Arrangements
- Map Book 2 – Land Use Plans
- Map Book 3 – Engineering Plans

Consultation responses

We received 1,206 responses to our design refinement consultation. The majority of these were received from individual members of the public, with 207 responses from statutory organisations, local authorities and people with an interest in the land.

Breakdown of response type



871

Response form:
online



216

Email/letter



112

Response form:
hardcopy



7

Response form:
email

What you said about our proposals and our response

Key themes

Overall, there were some common themes from the feedback we received during design refinement consultation and these were as follows:

- Increased traffic on the surrounding road network, including congestion in local areas
- Disruption to local communities, including impacts on amenities, public open spaces, common land, recreational areas, sports clubs and Orsett Showground
- The complexity of junctions, including limited connectivity to local roads
- Noise barriers and their effectiveness at reducing road noise
- Utilities proposals, including sewer diversions in the M25 area
- Impact of construction on communities and on local roads, including construction compounds and working hours
- Landscaping proposals, including at the tunnel entrances
- Proposals for walkers, cyclists and horse riders, including that green bridges would not be wide enough
- The amount of land required to build and operate the project
- Environmental impacts such as on local wildlife and habitats, air quality, ancient woodland and visual impact
- Removal of the rest and service area and Tilbury junction
- Removal of one lane southbound between the M25 and A13

Our response to these issues are covered where they are raised under each question within the following sections of this document.

Summary of feedback received in the design refinement consultation

The following sections provide a summary of your views and the feedback we received during the design refinement consultation. It also outlines our response to your feedback and explains where, in some cases, we made changes and in others why changes were not made.

Firstly, we have summarised the 25 most common suggestions we received to the design refinement consultation and our response to them.

We then summarise the feedback for all questions about the project proposals. Most of the questions included asking respondents to what extent they support or oppose an element of the proposals. There were also questions giving respondents an opportunity to explain why they held a certain view. We have followed the questions as they were asked in the response form.

Chapter 5 of this document provides a series of maps and images to show how the feedback you provided has helped to develop the project.

Our target date for the road opening is 2029/30, but for the purposes of construction and traffic modelling the opening date is assumed to be 2029 throughout this consultation.

Signposting to other documentation

Throughout the following sections we have signposted to other documents within this consultation where you can find more information about our proposals. A list of these documents and a short description of each are included below:

- Operations update – provides a summary of how the new road and its features will look when it opens. It also details the impacts, associated mitigation measures and the changes made to it since the design refinement consultation in 2020.
- Construction update – sets out our plans for constructing the Lower Thames Crossing, building on the feedback we have received from previous consultations.
- Ward impact summaries – describes how the construction of the project and operation of the road would affect each local authority ward area. It also describes the mitigation measures that we would make use of in each area to manage the effects of construction.

Design refinement consultation feedback

We also refer to the control documents that will form part of our DCO application. These documents describe how we would manage any impacts associated with construction. Where indicated, drafts of those documents are also provided as part of this consultation, offering more information on specific aspects of our plans. Documents mentioned in the following sections include:

- Code of Construction Practice (CoCP)
- Register of Environmental Actions and Commitments (REAC)
- Outline Traffic Management Plan for Construction (OTMPfC)
- Wider Network Impacts Management and Monitoring Plan

Most common suggestions received in design refinement consultation feedback

We received a number of suggestions about the proposals set out in the design refinement consultation materials.

Based on the methodology explained in Chapter 1, we have summarised the 25 most common suggestions across all questions, and provide a response to how your feedback has been used and whether any changes were made or not.

Summary of what you said	Our response
<p>You suggested that the project should be replaced with investment in alternative schemes, including public transport, sustainable means of transport and schemes to reduce road usage. Some consultees said that the investment should be allocated towards increasing capacity at the Dartford Crossing, for example, by putting in place an additional crossing at that site</p>	<p>We have worked closely with stakeholders to put together a set of proposals to encourage low-carbon, sustainable transport suitable for commuting and leisure purposes. Our proposals include significant lengths of footpaths upgraded to bridleway, new bridleways, and new roadside routes. More information about these upgrades can be found in the Ward impact summaries.</p> <p>We are responsible for managing the strategic road network in England. The objectives for the new road were agreed between Highways England and the DfT and are recorded in the objectives of the scheme. These objectives include the need to relieve the congested Dartford Crossing and approach roads. The proposals for the new road have been assessed as the best response to the set objectives.</p> <p>Strategic development of national transport infrastructure is the responsibility of the DfT.</p> <p>The new road could be used by public transport operators running bus or coach services. Existing bus routes using the Dartford Crossing, or for many other routes affected by its current performance would see improved journey times as a result of the new road.</p> <p>An assessment was carried out by the DfT in 2009 which considered provision of rail. This study found that provision of a rail solution alone would not relieve the congested Dartford Crossing, and also found that after accounting for passengers and freight that would use the rail crossing, the inclusion of rail infrastructure within the Lower Thames Crossing would not provide value for money.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p> <p>Many alternatives, including those involving upgrades to the Dartford Crossing, were considered before announcing the preferred route for the Lower Thames Crossing in 2017.</p>

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Summary of what you said	Our response
	<p>Highways England monitor and regularly review the operation of the Dartford Crossing to identify whether further efficiencies can be made. This includes, regularly reviewing incidents and responses and updates being made to the control systems that reduce the time taken to release escorts and to remove oversized vehicles from the approaches.</p> <p>Other improvements have also been developed, which include:</p> <ul style="list-style-type: none"> ■ In December 2020, enforcement cameras were installed at A282 junction 1b to deter the misuse of the yellow boxes at the junction. The aim of this was to prevent motorists blocking the roundabout gyratory in order to allow local traffic to continue to flow through the junction, this should reduce the impact on local roads during periods of congestion on the approach to the Dartford Crossing. ■ In August 2019, a number of improvements to the A282 M25 junction 2 were implemented to improve and manage traffic flows. This included: <ul style="list-style-type: none"> ▪ upgrading of traffic signals and revised timings ▪ addition of an extra lane to the roundabout ▪ extension of the A2 London bound exit slip onto the M25 link road ▪ improvements to road signs and markings on the roundabout ▪ installation of red light traffic enforcement <p>Due to the existing constraints at the Dartford Crossing, improvements to the existing infrastructure and management, while improving traffic flow, would not provide the additional capacity needed to relieve the congested Dartford Crossing and its approach roads.</p>

Summary of what you said	Our response
<p>You suggested that the project should mitigate against its environmental impacts, including using noise barriers and visual screening</p>	<p>Minimising adverse impacts on the environment is one of the scheme objectives, with the new road being developed accordingly. Our proposals have been designed to provide an appropriate balance between the need to reduce environmental impacts during construction and operation, while still fulfilling the other scheme objectives, including the need to reduce congestion at the Dartford Crossing, and complying with the relevant legislation.</p> <p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme of engagement with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>We have ensured that suitable measures are in place to mitigate the new road’s impact on noise pollution. We would use low-noise road surfacing, and where additional mitigation is considered necessary and effective, noise barriers alongside the carriageway have been specified, as set out in the REAC.</p> <p>The noise impacts associated with the project have been assessed in accordance with relevant standards and guidance, adverse or beneficial impacts have been identified for residential and other sensitive locations during both the construction and operational phases of the project.</p> <p>Our noise assessments indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations, and include noise barriers at either side of some identified viaducts and bridges along the project. The barriers are typically one metre to two metres high, although one barrier east of Brentwood Road is six metres high to reduce road traffic noise levels at two properties near the project. To mitigate any adverse noise impacts during operation on properties to the west of the A13/A1089 junction, a noise barrier was proposed along a slip road connecting to the project northbound. To mitigate any adverse noise impacts during operation on properties near the route in Riverview Park north and Thong Lane, noise barriers were proposed along the project route approaching Thong Lane over the Lower Thames Crossing.</p> <p>The heights and locations of noise barriers were determined through modelling of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres. We consulted on the locations of these and other noise barriers during the design refinement consultation.</p>

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Summary of what you said	Our response
	<p>Further information on noise barriers is provided in the Ward impact summaries.</p> <p>Design decisions have been taken that have reduced the visual impact of the project, such as allowing only essential connectivity at major junctions to reduce their height and footprint. This has resulted in approximately 80% of the road in cutting, false cutting or tunnel.</p> <p>Throughout the development of the project, we have designed junctions to minimise their footprint and height, while still retaining the necessary connectivity. After statutory consultation, we developed the principle of wooded junctions for the major junctions across the project. Wooded junctions provide screening of the structures within the junction, and also help focus views for road users within complex road layouts. These were included within our supplementary consultation.</p> <p>Across the route, earthworks would be carefully designed to help make the route less obtrusive. Where false cuttings and embankments meet other landscape earthworks or landscape features, the earthworks would be effectively integrated or terminated in as naturalistic a way as possible. Earthworks would maintain a consistent level of screening if appropriate to the location.</p>
<p>You suggested that environmental assessments should be carried out, or suggested how they should be carried out, as well as recommendations for permits required for the project, such as a Flood Risk Activity Permit</p>	<p>We are in the process of carrying out an environmental impact assessment to understand the project's impacts on the environment and to set out actions and commitments to mitigate them. We have also consulted with regulatory bodies during its development. The assessment will consider effects on a number of topics including air quality, noise and vibration, and population and health. In keeping with industry best practice, we have followed the mitigation hierarchy of 'avoid, minimise, restore and compensate' to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be "appropriate and proportionate" to the type and extent of adverse effect they are intended to offset.</p> <p>Our draft DCO will include permissions equivalent to a Flood Risk Activity Permit, which would allow construction in a flood plain, within eight metres of a main river, or within 16 metres of a tidal river. If the project is granted development consent, there would be no need to apply for the permit, though there would be a mechanism for approval of activities by the Environment Agency within the draft DCO.</p>

Summary of what you said	Our response
<p>You suggested that the route for the project should be changed, either at certain locations or in its entirety. Some consultees said that the project should be moved closer to the Dartford Crossing, to Purfleet, or further east to Canvey Island</p>	<p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p>
<p>You made suggestions about what the design of the project should include. You said there should be more lanes or a hard shoulder, and that a rest and service area and electric vehicle charging points should be provided</p>	<p>At each stage of the project the predicted flows from the traffic model results have been used to identify the number of lanes required on each section of the route and link roads. As the project has developed, each design was run in the traffic model to assess the impact on traffic flows. The route mostly has three lanes in each direction, which would be sufficient for the forecast traffic levels.</p> <p>Following statutory consultation we undertook further traffic modelling which confirmed that our proposals to have three lanes along the majority of the route was necessary but sufficient to achieve the improvements at the Dartford Crossing. However, it also enabled us to conclude that the number of lanes on the southbound section of the route between the M25 and the A13/A1089 junction could be reduced from three to two while still maintaining free-flowing traffic. As described in the supplementary consultation material, this would reduce the footprint of the new road at this location, thereby reducing its environmental impact and cost.</p> <p>Improving safety is one of the scheme objectives. Not only will the new tunnel and roads be designed and built to the highest safety standards recommended today, but we continue to adapt our design to incorporate advances in design and technology that emerge in the years ahead.</p> <p>Existing plans and agreements are in place between us and the emergency services for accessing incidents on such roads. These would be extended to the project to ensure the safety of road users in the event of an incident.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility near East Tilbury as part of our DCO application, as the</p>

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Summary of what you said	Our response
	<p>project is capable of operating safely without its inclusion, and the proposed facility had significant impacts on the environment and local communities. This also means we are not proposing to provide electric vehicle charging points.</p> <p>In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.</p> <p>However, we acknowledge that it would be beneficial for road users if there were additional rest and service areas on this part of the strategic road network. Therefore, Highways England will work with rest and service area operators, the haulage industry and road user groups to consider further the need for roadside facilities and, if necessary, the most appropriate location for them.</p> <p>Any future rest and service area would be developed, funded and operated by a service area operator and would need planning consent from the local planning authority.</p>
<p>You requested that we engage further with consultees, or with other groups and organisations, about aspects of the project</p>	<p>Throughout the design development of the project, we have engaged extensively with landowners, statutory bodies and other interested parties. This has involved face-to-face meetings and other channels at each stage of the project's development and where appropriate, we have taken views into account when developing the project. We are committed to continuing to engage with key groups and affected parties should the project proceed.</p> <p>Feedback from organisations and individuals that may wish to be involved or who may have a professional interest in our project is very useful to us.</p>
<p>You suggested that the project should be accompanied by upgrades to the strategic road network in the region. Roads mentioned include the A13, the A2/M2, and the link roads between the M2 and M20</p>	<p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p>

Summary of what you said	Our response
<p>You made suggestions in relation to charging users of the project, including that there should be no charge, that the money raised should be ringfenced for local use, and that the Local Residents Discount Scheme should cover certain areas, in particular Gravesend and Havering, or all residents within a certain radius</p>	<p>It is government policy that river crossings will normally be funded by tolls or road user charges. To align with this policy and to help the project meet its objectives, it is proposed that vehicles would be charged for using the crossing.</p> <p>There are no plans to operate the Lower Thames Crossing without a road user charge. It is expected that by lowering or removing the proposed charges more traffic would use the new route, increasing congestion at the crossing and its approaches. If granted, the DCO would therefore provide powers for the Secretary of State for Transport to impose road user charges under the DCO at the new crossing equal to the charges that are in force at the Dartford Crossing.</p> <p>At statutory consultation, we intended to seek 'flexible' charging powers. Further modelling and assessments demonstrated that making the charge for the project the same as for the Dartford Crossing would be the most beneficial option. Therefore, our approach evolved and at supplementary consultation we proposed to align charges and other details of the charging regime with those at the Dartford Crossing, such as hours in which the charges apply, discounts and exemptions.</p> <p>Throughout the development of the new road, our traffic modelling has always assumed equal charging across the project and Dartford Crossing. This is used as the 'base case' for traffic and environmental assessments.</p> <p>The traffic modelling results and other assessments results show that the approach to road user charging would provide congestion relief at the Dartford Crossing while making the new road affordable to government and road users.</p> <p>It is expected that discounts will be offered to account holders, on the same terms as the account discounts that apply at the Dartford Crossing. The discount scheme would be in line with the system in place at the Dartford Crossing. The DCO will also include powers enabling the Secretary of State for Transport to apply a local resident discount for charges imposed under the DCO to residents of the local authorities in which the tunnel entrances would be situated, which would mean those living in Gravesham and Thurrock.</p> <p>The Dart Charge road user charges and the Lower Thames Crossing road user charges would be collected by Highways England on behalf of the Secretary of State for Transport. All revenue, after collection costs, would continue to be given to the government. We would have no responsibility for how the revenue is used by government following collection.</p>

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Summary of what you said	Our response
	<p>The payment that Emovis receives for providing the charging and enforcement services for Dart Charge was agreed by Highways England and was approved by DfT and the Treasury. Highways England currently manages the operation of the Dartford Crossing road user charging scheme and enforcement on behalf of the Secretary of State for Transport under a protocol arrangement. A similar arrangement would be in place for the Lower Thames Crossing charges.</p>
<p>You made suggestions relating to the impact of the project on amenities such as special category land, including suggestions that we should provide compensation for affected amenities</p>	<p>We have sought to minimise the amount of land impacted or required for the project to reduce its effect on landowners and local people. The design refinement consultation provided some further information about how the new road would affect existing areas of special category land and the proposals for each site.</p> <p>Wherever possible, the new road has been designed to avoid and reduce impacts and effects on population and human health. We have included various measures to reduce the impacts of the route for local communities. For example, we added green bridges throughout the route, some of which also include routes for walkers, cyclists and horse riders.</p> <p>During construction, we would seek to minimise impacts on public rights of way as much as possible. Where one is affected, we would consider options that would include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. Where a reasonable alternative is not possible, these public rights of way would be closed during construction. More information about the impacts on footpaths and bridleways in specific wards, including proposals to improve and maintain local connectivity, can be found in the Ward impact summaries.</p> <p>We are also proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>Where the land needed for the project directly affects businesses, we have worked closely with those businesses to lessen the impacts wherever possible.</p>

Summary of what you said	Our response
<p>You suggested that the project should include further provisions for walkers, cyclists and horse riders, including a cross-river service</p>	<p>Decisions about the provisions for walking, cycling and horse riding have been made through consideration of design standards and best practice, consultation responses and ongoing engagement with local authorities and user groups.</p> <p>We have considered various options during the development to provide improved river crossings for walkers and cyclists, however after careful consideration we have not included a new crossing of the River for walkers, cyclists and horse riders within our proposal.</p> <p>The options investigated include using the tunnel, upgrading the existing ferry, relocating the ferry, building a separate bridge or cable car, and providing a shuttle service through the tunnel. All of these options have been rejected for reasons that include: lack of technical feasibility, operational issues, lack of commercial viability, cost, environmental impacts and poor safety. Nevertheless, the existing ferry across the Thames between Gravesend and Tilbury, which is used by pedestrians and cyclists, would be unaffected by the new road.</p> <p>The potential demand for walking and cycling across the Thames at the new crossing point is low, and therefore unlikely to generate enough trips to make the infrastructure for a shuttle service economically viable. In addition, journey times and distances for a shuttle would be excessive. The most suitable collection and drop-off points would be near the proposed M2/A2 junction and near the proposed A13/A1089 junction in the north.</p>
<p>You made suggestions that we should mitigate the potential impact of traffic associated with the project on the area around the A2/M2 junction. Roads mentioned include the A2/M2, and the roads linking the M2 and the M20</p>	<p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>DfT's Road Investment Strategy (RIS) 2: 2020-2025 acknowledges the potential impacts of the Lower Thames Crossing on the road networks in Kent, Thurrock and Essex. It includes funding to investigate linked improvements on the A2 into Kent as part of the pipeline of work for the next RIS.</p>

Summary of what you said	Our response
<p>You made suggestions for design changes in the area around the A13/A1089 junction. These included moving the construction compound, utility infrastructure and the corridor of the project itself. Other suggestions include providing additional routes for walkers, cyclists and horse riders, and better connectivity between the project and the A13 and A1089</p>	<p>We considered the feedback regarding design changes in the area around the A13/A1089 junction, but we did not alter the design. However, we have made some refinements to the utilities proposals around the A13/A1089 junction and you can read about these in the Operations update.</p> <p>There are four construction compounds near the proposed A13/A1089 junction. The proposed location for each is based on a number of criteria, including access to site, proximity to works, environmental considerations, proximity to residents, traffic impacts and utilities works. To read more about construction compounds in this area please see the Ward impact summaries.</p> <p>The proposed walking, cycling and horse riding facilities have also been informed by careful consideration of the feedback received during consultations, as well as numerous site visits and meetings with stakeholders including landowners, local authorities and user groups. We have reviewed the sometimes competing demands of users and landowners, and ensured the proposed facilities strike the best balance.</p> <p>We considered the feedback regarding connectivity at the A13/A1089 junction, but we did not make any changes to the proposals.</p> <p>The proposed A13/A1089 junction provides vital strategic and local highway connections to the new road, which is why a large and complex junction is necessary. To reduce its footprint and height and to manage the balance across the local and major routes, certain direct links between the three highways are provided.</p> <p>During the design we identified that the priority for connections to the A13 that would deliver relief to the congested Dartford Crossing and approach roads was to:</p> <ul style="list-style-type: none"> ■ provide connections from the A2 to the A13 section east of the A1089 into east Thurrock and Essex, thereby providing relief to the Dartford Crossing ■ provide an alternative to the right turn from the A13 westbound onto the M25 northbound, thereby relieving the M25 junction 30 <p>The proposed design at statutory consultation provided these key connections, providing connectivity between the LTC and the A13.</p> <p>In addition, the junction provided connectivity for the M25 southbound onto the A13 eastbound, which relieved the stretch of the M25 southbound between junctions 29 and 30, and also relieved the A13 eastbound between the M25 and the A1089 junction.</p>

Summary of what you said	Our response
<p>You suggested that additional features could be added to the project, including adding more tunnels or a bridge, or providing cross-river public transport</p>	<p>Structures such as bridges have only been proposed where they are essential for the operation of the route or to maintain existing local roads.</p> <p>The project could be used by public transport operators running bus or coach services and would improve journey times for existing bus routes using the Dartford Crossing or for local bus routes affected by the current performance of the Dartford Crossing.</p>
<p>You made suggestions for design changes in the area around the M25 junction, including moving the junction itself or proposed utility works, or allowing traffic to join the M25 southbound from the project</p>	<p>We considered the feedback regarding the design and location of the M25 junction, but we did not make any significant changes to the proposals.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Alternative connections and routes, were ruled out following the options consultation in 2016 and the subsequent Preferred Route Announcement in 2017.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p> <p>The works to divert existing utilities infrastructure have developed iteratively through close engagement with the relevant utility companies, further investigations, and consideration of feedback from organisations and residents of the affected areas. In a number of instances, this process has resulted in further changes to the utility proposals from statutory consultation, due to a better understanding of existing conditions and constraints.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead electricity lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p>

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Summary of what you said	Our response
	<p>We have removed works in the Mardyke area, as confirmed by the relevant utility provider, because some of the existing infrastructure and associated high-pressure pipelines were no longer impacted by the new road. This presented a reduction in the amount of steel pipework required by the project. This change was consulted on during the design refinement consultation.</p> <p>Since the design refinement consultation, we have refined some more of the works. In the Ockendon area, Church Lane would no longer require sewerage works, and the proposals of installing sewerage networks from Ockendon Road to St Mary's Lane along the B186 have also been removed from proposals.</p>
<p>You made suggestions relating to the construction of the project, which included that using rail and river transport for materials and spoil should be considered, reducing impacts on the local area, and hiring local workers</p>	<p>We have considered the suggestions raised during consultation in the development of our plans and these have guided how the new road would be built. We have continually engaged with local authorities and statutory environmental stakeholders on our proposals for the reuse of spoil which have been refined since statutory consultation.</p> <p>As a result of public consultation and stakeholder feedback, we have refined the proposed construction access routes. Vehicles would access construction sites mainly using the strategic road network, to avoid sending HGVs through residential areas.</p> <p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>In addition to the measures proposed above to reuse materials and reduce HGV trips, stockpiling of chalk south of the River Thames would lessen the impact on the existing road network during the construction phase because the HGV journeys needed to remove the spoil would be spread out over an extended period. The removal of the stockpile material is expected to take up to three years after the road has opened. This was consulted on during the design refinement consultation.</p>

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Summary of what you said	Our response
	<p>Spoil from the tunnels would be in the form of slurry, which would be treated and then used in land forming at Goshems Farm, near to the proposed northern tunnel entrance. Most of the other spoil, such as from cuttings, would be used on site, with the rest (for example, any contaminated material) removed by road or river, via the nearby ports. The percentage transported by river would be decided by the appointed contractor within relevant constraints. We would be unable to remove spoil or bring in materials to the construction sites by rail because of a lack of suitable infrastructure.</p> <p>As part of the efforts to generate benefits for local communities, we intend to provide opportunities for local people that might enable them to work on the construction of the route. We are also helping local businesses to form part of the supply chain to build the route. We are working with stakeholders to develop these plans and put them into action, should development consent be granted.</p>
<p>You made suggestions for the classification of the project. Suggestions include that it should be a motorway, that it should have an entirely new designation, and that certain types of users, such as motorcyclists, should be allowed to use it</p>	<p>Whilst the project would have restrictions on HGVs using lane three, there would be no other restrictions on HGV movements along the route. While the new route would be designated as an A road, there will be prohibitions on pedestrians, low-powered motorcycles, learner drivers, cyclists, horse riders and agricultural vehicles. As the Lower Thames Crossing has been designed with a 70mph speed limit to provide fast and reliable journeys, it would not be safe for slower users to share the road. Standard motorcycles would be allowed to use the road.</p> <p>The route would be designed in accordance with Highways England design standards, including design features to encourage safe lane changes and adequate capacity for predicted traffic levels. It would include a maximum 70mph speed limit, which could be adjusted depending on conditions. There are no plans to increase the speed limit above what is the standard for this type of road because that would compromise safety.</p>
<p>You made suggestions for managing traffic using the project, such as limiting HGV access, increasing the speed limit, and ensuring that clear signposting is used</p>	<p>We would install clear traffic signs to make sure the route performs safely and gives motorists plenty of notice of the road layout and destinations. Signage would include variable speed limits to manage traffic flow and maintain safety, along with real-time journey information on the approaches to the route. Signage would also include details of any incidents and journey times for the Dartford Crossing and Lower Thames Crossing, so motorists could make informed decisions about their route.</p>

Summary of what you said	Our response
<p>You made suggestions for changes to the proposals for the southern tunnel entrance, including the suggestion that it should be moved further south</p>	<p>Following the Options consultation in 2016 and Preferred Route Announcement in 2017, significant development of the new road's design was carried out before it was presented in our statutory consultation. South of the River Thames, the A226 junction was removed, which allowed the southern tunnel entrance to be redesigned and moved 600 metres south.</p> <p>The southern tunnel entrance was moved 350 metres south after statutory consultation and its new location was consulted on during supplementary consultation, meaning that the southern tunnel entrance has been moved 950 metres in total. The location of the southern entrance has been determined by the need to mitigate negative environmental impacts, such as changes to groundwater levels, on the Thames Estuary and Marshes Ramsar and SPA. Extending the tunnel further south is not possible due to the need to maintain a safe distance between the tunnel entrance and the proposed M2/A2 junction to allow for the appropriate signage and to give motorists enough time to make safe lane changes.</p>

Summary of what you said	Our response
<p>You suggested that there should be more green bridges, and made design suggestions for the proposed bridges, including comments about width and use of screening</p>	<p>We considered suggestions for more green bridges, however we believe the current proposals are appropriate and strike the right balance between ecological considerations and connectivity for walkers, cyclists and horse riders.</p> <p>Wildlife crossings, including green bridges, as well as large culverts with features to enable mammals to safely pass through them, are some of the measures proposed to reduce the impacts on terrestrial biodiversity. These would help to link adjacent wildlife habitats once they are separated by the new road. Green bridges are an established method of providing effective and valuable wildlife corridors where new infrastructure is implemented.</p> <p>Seven green bridges, with public rights of way, have been proposed. At statutory consultation, five green bridges were proposed: at Green Lane north of the river, and over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed at: Hoford Road, North Road and Muckingford Road. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p> <p>Following our statutory consultation, we developed the principle of wooded junctions for all the major junctions across the project. These provide visual screening of the structures within the junction, and also help focus views for road users within complex road layouts.</p> <p>For example, we are planning to use tree-planting, at Shorne, around the M2/A2 and near Park Pale. These new areas of woodland are intended to reduce the adverse impacts of areas of woodland being removed to accommodate the new road and its associated utilities, and would also provide visual screening and new habitats for translocated species.</p> <p>The width of the green bridges will be identified in the DCO application.</p>

Summary of what you said	Our response
<p>You suggested that the Tilbury junction or rest and service area previously proposed in the statutory consultation should be reinstated, or a Tilbury link road included, as part of the project</p>	<p>After further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the rest and service area near East Tilbury as part of our DCO application, as the project is capable of operating safely without its inclusion and the proposed facility had significant impacts on the environment and local communities.</p> <p>In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.</p> <p>However, we acknowledge that it would be beneficial for road users if there were additional rest and service areas on this part of the strategic road network. Therefore, Highways England will work with rest and service area operators, the haulage industry and road user groups to consider further the need for roadside facilities and, if necessary, the most appropriate location for them.</p> <p>Any future rest and service area would be developed, funded and operated by a service area operator and would need planning consent from the local planning authority.</p> <p>We also concluded that a new maintenance depot is not required as part of the project. The services can be met by those depots serving the nearby strategic road network, either in their existing form or with expanded capacity. By removing the depot, we have reduced the impacts on the environment, and countryside. However, the area required for the maintenance depot would still be needed temporarily during construction, including for a segment factory. The segment factory would be used to make the concrete segments that form the tunnel lining. This area of land will be returned to agricultural use after construction.</p> <p>In 2017, we developed proposals to provide a direct link road between the then-proposed Tilbury junction and the Port of Tilbury. This link was removed from the Lower Thames Crossing before statutory consultation and is now being investigated separately by Highways England.</p> <p>The design of the new road does not preclude the construction of a junction at Tilbury should this option be pursued in future. If a Tilbury link road and junction were proposed, these would require appropriate planning consent.</p>

Summary of what you said	Our response
<p>You suggested we make changes to the revised proposals for the A2/M2 junction, including widening the green bridges, repositioning or lowering the road, and moving the proposed car park</p>	<p>We considered suggestions for changes to the proposals for the A2/M2 junction, but we did not make any further changes to the green bridges or position of the new road. We feel our proposals for green bridges are appropriate and have the right balance based on ecological mitigation requirements and proposed updates and changes to public rights of ways, footpaths, cycle routes and bridleways.</p> <p>The maximum height of the proposed M2/A2 junction presented at statutory consultation was 88 metres. The revised design presented at supplementary consultation has a maximum height of 91 metres, with no subsequent change at the design refinement consultation. This includes an increase in the height of the link from the Lower Thames Crossing southbound to the M2 eastbound from 85 metres to 91 metres. The maximum proposed height of the junction has been determined by engineering factors, including the gradients of link roads and the required height clearance for roads passing underneath.</p> <p>Seven green bridges, with public rights of way, have been proposed. At statutory consultation, five green bridges were proposed, including over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p> <p>Wildlife crossings, including green bridges and large culverts with features to enable wildlife to safely pass through, are some of the measures proposed to reduce the impacts of the project on terrestrial biodiversity.</p> <p>The provision of new routes for walkers, cyclists and horse riders would be designed to improve access to the existing network. Any footbridges, green bridges and underpasses would be accessible to all users, including those using wheelchairs, and would be designed so as to ensure the safety of vulnerable users.</p> <p>The width of the green bridges will be identified in the DCO application.</p> <p>At design refinement consultation we proposed a new car park to the east of the new Thong Lane green bridge over the new road. This was designed to be a starting point for those wishing to access the public rights of way network and a new entry point into Shorne Woods</p>

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Summary of what you said	Our response
	<p>Country Park to relieve pressure on the Brewers Road car park. Requests were made for the project to relocate this facility further south and to provide dedicated horse box parking as well as toilets.</p> <p>Following discussions with Kent County Council, we have relocated the car park further to the south. The relocated car park will be still be accessed from Thong Lane. The new location coincides with one of our proposed construction compounds. This means that the water and power supplies that we put in for the construction works can potentially be used to supply facilities at this site in the future. The final design of this car park will be agreed with the relevant stakeholders prior to construction.</p>
<p>You made suggestions for design changes in the Tilbury area. Suggestions included increasing the tunnel length, and making specific changes to the provisions for walkers, cyclists and horse riders</p>	<p>We considered suggestions for design changes in the Tilbury Area, but we did not make any further changes.</p> <p>We investigated extending the tunnel northwards to pass under the railway and Station Road which would locate the northern tunnel entrance two kilometres north of where it is currently proposed. Extending the tunnel that far would present significant engineering challenges due to the geology of the area and the need to adapt the existing tunnel design to account for the increased length. Both these factors would have added significantly to the project costs. In addition, extending the tunnel beyond the location of the previously proposed Tilbury junction would limit any future connection to the route.</p> <p>The design of the project in the area around the Tilbury viaduct precludes maintaining the current alignment of Coal Road. The revised alignment, using Low Street Lane and a new section of public right of way, was consulted on during supplementary consultation. This would maintain the existing connection, but with a diversion under the proposed Tilbury viaduct. The realignment of footpath 61 proposed during the design refinement consultation would allow more of the existing footpath to be used compared with the proposal put forward at supplementary consultation. There are no plans currently to upgrade footpath 61 to a bridleway.</p>

Summary of what you said	Our response
<p>You suggested that the visual impact of the project would be mitigated if associated utilities components like electricity lines were to be placed underground</p>	<p>The works to divert existing utilities infrastructure have developed iteratively through close engagement with the relevant utility companies, further investigations, and consideration of feedback from organisations and residents of the affected areas.</p> <p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead electricity lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p> <p>Since the design refinement consultation, we have continued to explore putting utilities underground where practicable and this is set out in the Operations update.</p> <p>Undergrounding power lines is not possible at all locations because of factors including impacts on land, the need to maintain network resilience, local geology, accessibility for maintenance, cost, and the needs of the relevant utilities company.</p> <p>For further information about works to existing utilities infrastructure in your area, please see the Ward impact summaries.</p>
<p>You made suggestions about changes to connectivity in the area around the A2/M2 junction, most of which are suggestions for proposals to increase connectivity between the A2/M2 and local roads</p>	<p>Space around the proposed M2/A2 junction is highly constrained, including by HS1 and areas of environmental importance. As such, it would be difficult to provide an additional direct link from Gravesend East to the A2. However, this movement is possible by using the local link roads south of the M2/A2 to join the A2 eastbound via the Brewers Road slip road.</p> <p>The proposed connections at the M2/A2 junction are those that would provide the best combination of free-flowing links to the strategic road network and local links that would generate sustainable economic growth in the area.</p>

Summary of what you said	Our response
<p>You made suggestions for further information or clarification about proposed aspects of the project</p>	<p>For the design refinement consultation, we published over 400 pages of information about the proposed changes to the project. The Guide to design refinement consultation was the main document describing the proposals. It included maps, photographs, timelines, infographics, visualisations, illustrations and tables intended to make the proposals easy to understand by non-technical readers and those with limited time to consider the proposals.</p> <p>In-line with accessibility guidelines and the wishes of local authorities, we also produced an Easy Read version of the Guide to design refinement consultation, which was aimed at those with learning difficulties. Other documents included a 208-page Environmental Impact Update that included tables outlining the predicted environmental effects of the proposals, in comparison with those presented in the Preliminary Environmental Information Report published at statutory consultation, what we were doing and why. Furthermore, technical documents were also produced, including map books that covered the project's General Arrangements, Engineering and Land Use plans. These were relatively complex because of the need to convey information about the design, utilities and topography of the land affected.</p> <p>There were also a number of ways people could find out more information if required. This included a dedicated consultation website, a telephone service where people could speak to a project representative and public webinars where people could learn more about the key proposals and ask questions during moderated question and answer sessions with project team representatives.</p>

In the following sections we have summarised the feedback for all questions about the project proposals. We have followed the order of questions as they were asked in the design refinement consultation response form.

South of the river in Kent

We asked...

“Do you support or oppose the proposed changes south of the river?”

Summary of responses

- 844 respondents answered this question
- 754 respondents were members of the public and other non-statutory organisations
- 83 respondents were from people with interest in land
- Seven respondents were from statutory bodies and local authorities
- 308 (41%) respondents supported or strongly supported the proposed changes south of the river
- 295 (39%) respondents opposed or strongly opposed the proposed changes south of the river

You said...

The most common reasons given in support of the proposed changes south of the river were:

- The changes around the A2/M2 junction are logical, better or necessary
- Provision of a car park and noise barriers, which will reduce environmental impacts
- General support as they will improve traffic conditions
- Reduced amount of land required for the project

The most common reasons given against the proposed changes south of the river and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of the A2/M2 junction on traffic and congestion, including the number of lanes through the junction and the upgraded section of the junction</p>	<p>We considered feedback about traffic and congestion, but we did not make any changes after the design refinement consultation.</p> <p>The proposed M2/A2 junction includes free-flowing connections between the project and the strategic road network, as well as links to key local roads.</p> <p>The modelling results presented at supplementary consultation showed that, compared to the situation without the new road, the overall level of traffic using the Dartford Crossing was forecast to fall by 22% in 2027. The updated modelling results set out in this consultation shows that in 2029, the forecast reduction in traffic would be 21% compared to the situation without the new road. Average speeds on that part of the network would rise, and journey times would decrease and become more reliable.</p>
<p>You raised concerns about the impact of the A2/M2 junction on traffic and congestion in the surrounding road network. The areas mentioned included Valley Drive, Hever Court Road, Wouldham, Cobham and Shorne</p>	<p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p>
<p>You raised concerns about the impact of the project on traffic congestion on the link roads between the M2 and M20, including the A227, A228, A229 and A249</p>	<p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The number of lanes along the route and through each junction has been decided as part of the design development process, including the outputs of various phases of our traffic modelling.</p> <p>The number of lanes along the section of the M2/A2 that would be upgraded is greater than the current number of lanes. The road would have a total of between nine and 12 lanes, compared with eight currently.</p> <p>The proposals include eastbound and westbound parallel local connector roads, each with two lanes, which would be designated as part of the A2. These would run between the Gravesend East junction and junction 1 of the M2, carrying A2 traffic separately from the M2, where currently this traffic is combined on the M2/A2.</p>

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Summary of what you said	Our response
	<p>The proposal for the M2 through the Gravesend East junction and the junction with the Lower Thames Crossing is to have two lanes eastbound and three lanes westbound. When the A2 parallel connector roads are included, this makes a total of four eastbound lanes and five westbound lanes, which is one more lane than the current configuration, which has four lanes in each direction.</p> <p>East of the proposed M2/A2 junction, the proposal for the M2 is to have four lanes in each direction, which amounts to a total of six lanes in each direction when the A2 parallel connector roads are added. This makes two lanes more in each direction than are currently provided for the combined M2/A2 traffic.</p> <p>In addition, the proposed local connector road south of the M2/A2 would also have one additional lane in each direction, which would provide additional extra capacity for local journeys, some of which currently use the M2/A2.</p>
<p>You raised concerns about the M2/A2 junction including that raising the height of the junction will increase noise levels and the noise barriers would not be effective. Also, your concerns included that the green bridges would not be wide enough to accommodate different requirements, for example for wildlife crossing. Some of your comments raised concerns that the proposed parking area on Thong Lane is not needed and would give rise to antisocial behaviour</p>	<p>We considered feedback about the M2/A2 junction, but we did not change the height of the junction or amend our proposals for green bridges.</p> <p>The maximum proposed height of the junction has been determined by various engineering factors, including the gradients of link roads and the required height clearance for roads passing underneath.</p> <p>Following analysis of the predicted traffic noise, we included provision for noise barriers at 17 specific points alongside the carriageway where noise assessments indicated that it would be beneficial to, and consulted on the locations of these, as part of the design refinement consultation. The locations were selected after analysis of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres.</p> <p>Further information on noise barriers is provided in the Ward impact summaries.</p> <p>Wildlife crossings, including green bridges and large culverts with features to enable wildlife to safely pass through, are some of the measures proposed to reduce the project's impacts on land biodiversity. Green bridges would help to link nearby wildlife habitats once they are separated by the new road and are an established method of providing effective and valuable wildlife corridors where new infrastructure is built.</p>

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Summary of what you said	Our response
	<p>Seven green bridges, with public rights of way, have been proposed. At statutory consultation, five green bridges were proposed: at Green Lane north of the river, and over the Lower Thames Crossing/A2 junction, Brewers Road and two green bridges along Thong Lane south of the river. At supplementary consultation, three further green bridges were proposed at: Hoford Road, North Road and Muckingford Road. As a consequence of moving the southern tunnel entrance, the green bridge over the Lower Thames Crossing was revised, and the green bridge through the Lower Thames Crossing/A2 junction was removed.</p> <p>In addition, the green bridge carrying Thong Lane over the project was widened as part of design revisions presented during supplementary consultation. All the proposed green bridges would be suitable for motor traffic, with four also accommodating walkers, cyclists and horse-riders, while still linking wildlife habitats.</p> <p>At design refinement consultation we proposed a new car park to the east of the new Thong Lane green bridge over the new road. This was designed to be a starting point for those wishing to access the public rights of way network and a new entry point into Shorne Woods Country Park to relieve pressure on the Brewers Road car park. Requests were made for the project to relocate this facility further south and to provide dedicated horse box parking as well as toilets.</p> <p>Following discussions with Kent County Council, we have relocated the car park further to the south. The relocated car park will be still be accessed from Thong Lane. The new location coincides with one of our proposed construction compounds. This means that the water and power supplies that we put in for the construction works can potentially be used to supply facilities at this site in the future. The final design and future management requirements of this car park will be agreed with the relevant stakeholders prior to construction.</p>

Summary of what you said	Our response
<p>You raised concerns that the A2/M2 junction is complicated and there is limited connectivity between local roads and the A2/M2. Your comments also included concerns that journeys from Gravesend East to the A2 eastbound would be overly complicated, as would accessing the A2 from Shorne and the M2 from Brewers Road</p>	<p>We considered the feedback regarding connectivity and the design of the M2/A2 junction; however we have not made any changes to the proposals since the design refinement consultation.</p> <p>The proposed M2/A2 junction includes free-flowing connections between the project and the strategic road network, as well as links to key local roads.</p> <p>A clear route signing strategy would be developed to ensure that drivers understand the complexity of the interchanges and can make the right decisions based on sign information.</p> <p>The design of the proposed M2/A2 junction was revised after statutory consultation to simplify the route from the Gravesend East junction to the M2 eastbound. This revised junction layout, which retains the free-flowing design, was presented during supplementary consultation. This updated design better meets the scheme project, including being easier to navigate and providing a more direct route from the Gravesend East junction to the M2 eastbound, avoiding the connector links and roundabouts.</p> <p>While the proposed M2/A2 junction does not provide direct connections to all points on the strategic road network, it is possible to link to all destinations by using the proposed local link roads to access the Gravesend East and Brewers Road junctions. Motorists travelling to the A2 eastbound from the Gravesend East junction would use the local link road via the Brewers Road eastbound slip road.</p> <p>This slip road would also provide a connection for traffic from Shorne to join the A2 eastbound. Those wishing to join the M2/A2 eastbound from Shorne would use the local roads to go via the Gravesend East junction. Motorists travelling to the M2 eastbound from Brewers Road would either use the local link roads to connect to the Gravesend East junction's direct link to the M2, or they would access the A2 eastbound via the Brewers Road slip road and then connect to the M2 via the A289, turning around at the A226 roundabout.</p>

Tilbury area

We asked...

“Do you support or oppose the proposed changes in the Tilbury area?”

Summary of responses

- 783 respondents answered this question
- 695 respondents were members of the public and other non-statutory organisations
- 82 respondents were from people with interest in land
- Six respondents were from statutory bodies and local authorities
- 271 (39%) individual respondents supported or strongly supported the proposed changes in the Tilbury area
- 262 (38%) individual respondents opposed or strongly opposed the proposed changes in the Tilbury area

You said...

The most common reasons people support the proposed changes in the Tilbury area are:

- Changes are logical and necessary
- The landscaping, realignment of Muckingford Road, and the re-establishment of the Tilbury watercourse will enhance the area, providing a place to look out over the river
- Improve traffic conditions in the area

The most common reasons given against the proposed changes south of the river and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of the project on traffic and congestion in the Tilbury area, including the that it already experiences high volumes of traffic such as traffic associated with the Port of Tilbury</p>	<p>Traffic in Tilbury is forecast to see both increases and decreases when the project becomes operational. In general, these changes relate to traffic re-routing as a result of the improved connectivity that the project would bring to Thurrock.</p> <p>Traffic in East Tilbury is forecast to be largely unaffected by the project, with flows forecast to remain unchanged or reduced in some locations.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns about the removal of design features previously proposed at Tilbury, including the removal of rest and service area, maintenance depot and Tilbury Junction and link road</p>	<p>In 2017, we developed proposals to provide a direct link road between the then-proposed Tilbury junction and the Port of Tilbury. This link was removed from the Lower Thames Crossing before statutory consultation and is now being investigated separately by Highways England.</p> <p>After further investigation and consideration of the issues raised during statutory consultation, we also decided not to progress the rest and service area near East Tilbury as part of our DCO application.</p> <p>The project would operate safely without it and the proposed facility had significant impacts on the environment and local communities. This meant there was no longer a need for the Tilbury junction.</p> <p>In addition, as set out in the latest Highways England design standards, the spacing of roadside facilities is considered on a regional basis rather than on a project-specific basis. Therefore, there is no requirement to include a rest and service area within our proposals.</p> <p>The removal of Tilbury junction (as presented in statutory consultation) from the proposals that were presented at supplementary consultation, would not affect local access or journeys between</p>

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Summary of what you said	Our response
	<p>Kent and Thurrock or Essex because no local access from this junction was proposed at consultation. The design of the new road does not preclude the construction of a junction at Tilbury should this option be pursued in future. If a Tilbury link road and junction were proposed, these would require appropriate planning consents. Similarly, the removal of the junction will not impact on the access to the Tilbury Port.</p>
<p>You raised concerns about the revised proposals for utilities in the Tilbury area, including impact on the local water supply due to the tunnel boring machine, and a suggestion to realign the overhead electricity line diversion near the Tilbury loop railway</p>	<p>We have engaged with utility companies throughout the development of the project, ensuring works would be carried out to minimise disruption to local people and communities, businesses and road users.</p> <p>We have amended proposals for the overhead electricity line diversion near the Tilbury Loop railway as a result of feedback, further design development and discussions with National Grid. The revised diversion would follow an altered alignment compared to that presented in the design refinement consultation, reducing the impact on nearby properties and simplifying ongoing maintenance.</p> <p>The tunnel boring machine (TBM) would need water and electricity supplies for the excavation as would the construction compound near the northern tunnel entrance. We consulted on some additional land required to connect the Linford borehole and the mains water and electricity supplies to the construction compound and TBM during the design refinement consultation. Our assessments, including discussions with the relevant utility companies (UK Power Networks and Essex and Suffolk Water), show that these works are not expected to affect water or electricity supplies to the local area.</p>
<p>You raised concerns about construction of the project in the Tilbury area, including multi-utility, road and tunnel works. Your concerns included that this would cause an increase in congestion and pollution and road closures would make local journeys difficult</p>	<p>We have considered and consulted with local people and communities throughout the design and development of the project, and we would continue to engage stakeholders to ensure any works, including utilities works and the tunnel construction, would have as minimal an impact as possible on local people and roads.</p> <p>Nevertheless, there will inevitably be disruption associated with the construction works in the Tilbury area. For more information, please refer to our Ward impact summaries.</p> <p>Following feedback from stakeholders, local authorities and the public, construction access routes have been amended where possible, minimising the impact of the project on the local road network.</p>

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Summary of what you said	Our response
	<p>We have further developed the network of internal site haul roads to provide increased connectivity within all construction sites. This will improve access to areas of sites located in rural areas and reduce the need for HGVs to use the local road network.</p> <p>In addition, changes have been made to the route and landscaping plans to reduce the need for offsite disposal of excess material. These changes significantly reduce the number of HGV movements.</p>
<p>You raised concerns about the revised proposals in the Tilbury area, including the landscaping at the northern tunnel entrance, the height of the structure and its safety. You also raised some concerns about the project moving closer to Linford</p>	<p>At the northern tunnel entrance we are proposing to create a new landform called Tilbury Fields, with footpaths leading up to elevated viewpoints looking out to the south, east and west, from where Coalhouse and Tilbury forts would be visible. The new landform would be higher than the current ground level and designed with gentle gradients to ensure they can be reached safely via dedicated footpaths. The area would be open to the public and provide a recreational area for local people. Within this consultation we set out two options for the design of this area, with different elevations for the landforms. Please see the Operations update for further information.</p> <p>The proposed reuse of spoil north and south of the river would reduce the amount that would need to be removed by road. At supplementary consultation, we presented revised plans showing an overall reduction in the volume of HGV traffic needed to build the new road. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>As proposed during supplementary consultation, moving the route of the project closer to Linford by up to 60 metres, combined with stopping up Hornsby Lane, avoids the need to make major changes to the nearby overhead line network. This means power lines between Hoford Road and Hornsby Lane would not need to be relocated south towards Chadwell St Mary, closer to those properties. Moving these power lines would also have increased costs and construction complexity.</p> <p>To lessen the impact of the route on local people and communities, we have undertaken a series of noise modelling and assessments. These assessments indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations along the route. This included one along the route where it passes by Linford. The barriers would reduce noise during the operation of the</p>

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Summary of what you said	Our response
	<p>new road on properties and populations near the route, while in some locations, also reducing the visual impact of the project. The barriers will be installed as part of the construction process. The project route would be in false cuttings as it passes nearby to Linford, this is to reduce visual and noise impacts from the project.</p> <p>Further information on noise barriers is provided in the Ward impact summaries.</p>
<p>You raised general comments opposing the revised proposals for the Tilbury area, including the project is in the wrong location</p>	<p>We have considered feedback about the revised proposals in the Tilbury area however, we have not made any significant changes.</p> <p>A structured process has been followed by the DfT and Highways England to identify and assess potential options for the project. Public consultations were undertaken in 2013 and 2016 to inform the development of route options. In 2017 the Secretary of State for Transport announced the preferred route Lower Thames Crossing, on the current alignment.</p> <p>Throughout the development of our proposals, we have undertaken re-appraisals of key decisions made in the development of the preferred route, checking that the process which led to the preferred route and to the current proposals remains valid.</p> <p>In selecting the alignment of the proposed route, and the location of the junctions and their design, we have sought to balance the scheme objectives agreed with the DfT.</p> <p>We aim to relieve congestion at the Dartford Crossing, support sustainable local development and regional economic growth, improve road safety and reduce the project's impacts on people's health and the environment. We must also control costs and provide value for money.</p> <p>During development of the project, we have chosen options and designs that have been rigorously tested against the scheme objectives We have also worked closely with stakeholders to understand their needs and incorporate their feedback into the designs, where possible, while fulfilling the scheme objectives.</p> <p>Having carried out and documented this design process, we believe that the proposed route and its junctions are the most appropriate to achieve the scheme objectives, and we are proposing the most suitable measures to reduce any negative impacts on local people and the environment.</p>

The area around the A13/ A1089 junction

We asked...

“Do you support or oppose the proposed changes in the area around the A13/A1089 junction?”

Summary of responses

- 784 respondents in total answered this question
- 693 respondents were members of the public and other non-statutory organisations
- 85 respondents were from people with interest in land
- Six respondents were from statutory bodies and local authorities
- 249 (32%) individual respondents supported or strongly supported the proposed changes in the area around the A13/A1089 junction
- 268 (34%) individual respondents opposed or strongly opposed the proposed changes in the area around the A13/A1089 junction

You said...

The most common reasons given in support of the proposed changes in the area around the A13/A1089 junction were:

- The improved connectivity
- The proposed changes are logical and necessary
- The relocation of the traveller site
- Improved traffic conditions

The most common reasons given against the proposed changes in the area around the A13/A1089 junction and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of the A13/A1089 junction on traffic and congestion on the strategic road network and local roads in the area. Your comments included concerns that the project would hinder the current improvement works on the A13, and that the London Resort development would bring more vehicles into the area, creating more congestion</p>	<p>The presence of the A13/A1089 junction, and the selection of the connections made between the new road and the strategic road network and the local road network at this location brings an overall benefit as it directly contributes to objectives of the project.</p> <p>The A13/A1089 junction would provide a connection desirable for both local and regional traffic demands. The connections to the A13 eastbound from south of the River Thames relieve the congested Dartford Crossing and the approach roads, as well as the A2 between Gravesend and Dartford. The connection from the A13 westbound to the M25 northbound, would reduce the congestion at M25 junction 30, thereby relieving the Dartford Crossing northern approach roads. Along with the connection from the M25 northbound to the A13 westbound this would also provide relief to the M25 between junctions 30 and 29, and the A13.</p> <p>There will be local increases in traffic flows on the A13 and on short sections of the A1089 as drivers take advantage of the new crossing. In addition, there will be increases in traffic on other local roads as drivers re-route following changes in the connections at the A13/A1089 junction.</p> <p>As a result of the new developments within the area that the project is proposed, there is now a need for increased capacity on the roads linking the project road to the A13 eastbound and Orsett Cock roundabout. We are therefore proposing a modification to the junction in this area, comprising an extra lane on the link road extending from where the road passes Baker Street through to the Orsett Cock roundabout. Please see chapter 3 of the Operations update for more detail.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p> <p>The project proposals do not impact Thurrock Council's A13 widening works. These works would be complete before the construction of the project is planned to begin, and the design has been developed to tie into the finished A13 works.</p>

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Summary of what you said	Our response
	<p>London Resort submitted its DCO application in early 2021, which sets out their proposals in detail. We have reviewed the impacts set out in the London Resort DCO application, and set out where there would be cumulative impacts with the Lower Thames Crossing within Chapter 4 of the Operations update. The traffic modelling set out in this consultation does not include the London Resort development (formerly the Paramount Pictures Theme Park). We will set out the cumulative impacts of the Lower Thames Crossing with other projects in the region, including the London Resort proposals, within our DCO application later this year.</p>
<p>You made general comments opposing the revised proposals for the A13/A1089 junction</p>	<p>We have considered the feedback about revised proposals and connectivity at the A13/A1089 junction, however we did not make any significant changes after the design refinement consultation.</p> <p>The proposed A13/A1089 junction provides vital strategic and local highway connections to the new road, which is why a large and complex junction is necessary. To reduce its footprint and height and to manage the balance across the local and major routes, certain direct links between the three highways are provided.</p> <p>During the design we identified that the priority for connections to the A13 that would deliver relief to the congested Dartford Crossing and approach roads was to:</p>
<p>You raised concerns about the A13/A1089 junction due to limited connectivity, including to the A1089, and that the junction is too complex</p>	<ul style="list-style-type: none"> ■ Provide connections from the A2 to the A13 section east of the A1089 into east Thurrock and Essex, thereby providing relief to the Dartford Crossing ■ Provide an alternative to the right turn from the A13 westbound onto the M25 northbound, thereby relieving the M25 junction 30 <p>The proposed design at statutory consultation provided these key connections, providing connectivity between the LTC and the A13.</p> <p>In addition, the junction provided connectivity for the M25 southbound onto the A13 eastbound, which relieved the stretch of the M25 southbound between junctions 29 and 30, and also relieved the A13 eastbound between the M25 and the A1089 junction.</p> <p>Although the existing connection for traffic joining the A13 at Orsett Cock junction to reach the A1089 would be removed, motorists could make this connection by re-routing along the existing local road network. To manage vehicle movements, and particularly HGV movements, to the Port of Tilbury area, motorists travelling south on the M25 from junction 29 would be directed to use the existing route via junction 30 and the A13 eastbound to reach the A1089.</p>

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Summary of what you said	Our response
	<p>Providing a link from the Orsett Cock junction to the Lower Thames Crossing would draw more traffic to the Orsett Cock junction and surrounding local roads.</p> <p>By designing the proposed A13/A1089 junction so the project passes beneath the A13, we have been able to limit its height. In addition, by restricting the number of traffic movements that are possible, the need for a third level at the junction, which would make it more visually intrusive, has been avoided. We have designed extensive mitigation into the proposed A13/A1089 junction to reduce the visual impact on local populations, including the use of cuttings, landscaped earthworks and woodland planting, which over time would partially mask this junction.</p> <p>To operate safely and efficiently, the A13/A1089 and its slip road roads would be designed in accordance with Highways England design standards.</p> <p>Following statutory consultation, we made a number of changes to the layout of the proposed A13/A1089 junction. These included redesigning some slip roads at the junction between the new road, A13, A1089 and A1013 to reduce the visual impact of the junction and remove some crossing over of traffic. We also moved roads away from properties, and improved safety and connectivity at the junctions.</p> <p>In addition, to mitigate any adverse noise impacts during operation on properties to the west of the A13/A1089 junction, a noise barrier was proposed along a slip road connecting to the project northbound. This was presented in the design refinement consultation.</p>

Summary of what you said	Our response
<p>You raised concerns about the relocation of the traveller site near the A13/A1089 junction, including that the travellers were not consulted on the proposed location of the new site, it is too close to residential homes, and the proposals are unsuitable because it is between the new road and a construction compound which will cause noise and air pollution</p>	<p>Throughout the design and development of the project, we have engaged with the traveller community at Gammonfields Way, the local authority, and local people. This has included meetings with the travellers to understand their needs and preferences for a new site. Following further design work and consideration of feedback from the supplementary consultation, we proposed a new location for the Gammonfields Way Traveller Site. This would be next to its current position, with access off Gammonfields Way. This revised location for the traveller site was presented in the design refinement consultation.</p> <p>The traveller site would be close to the proposed A13/A1089, but this would not be significantly different from its location next to the current A13/A1089 junction. We carried out noise and air quality assessments that showed there would be no significant impacts on air or noise in the local area.</p> <p>There would be no major impacts on air quality during construction in this location. Measures to reduce the impact of construction on air quality, such as dust suppression and introducing minimum emission standards to cut emissions from vehicles and construction machinery, are included in the Code of Construction Practice (CoCP). The CoCP includes information about how the impacts of construction compounds would be reduced for nearby residents.</p> <p>In addition, we have refined our proposals for construction compounds. The addition of Long Lane compound B included moving certain aspects of the compound further away from the traveller's site, therefore slightly reducing its impact.</p> <p>The nearby utilities and mains works remain the same, but the scope and detail have been developed and are better understood.</p>

Summary of what you said	Our response
<p>You raised concerns about the revised proposals for utilities near the proposed A13/A1089 junction, including that works to divert utilities would disrupt communities</p>	<p>Works to the existing utility infrastructure would only be carried out where necessary to implement the project, either to divert utilities, to accommodate the route or to provide essential services to compounds during construction. We have engaged with utility companies throughout the development of the new road, ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities, businesses and road users.</p>
<p>You raised concerns about the construction of the project, including about multi-utility works and construction compounds near the A13/A1089 junction. Your comments expressed concerns that there would be increased congestion and pollution in the area around Orsett because of construction, as well as road closures that would make local journeys difficult</p>	<p>In developing the proposals, we have tried to minimise the need for works but, where these cannot be avoided, a design has been sought that seeks to lessen environmental and community impacts – for example, by reducing the number of pylons across the route and undergrounding of overhead power lines in key locations (where this is possible and following further discussions with utility companies and stakeholders).</p> <p>There are many utilities services near the proposed A13/A1089 junction, including gas pipelines, overhead power lines and pylons, and multi-utilities (which may include water, gas, communications and power lines). Some utilities would need to be diverted.</p> <p>We have considered feedback received about proposals for utilities near the A13/A1089 junction and where practicable we have made some changes since the design refinement consultation.</p> <p>After the design refinement consultation, the alignment of the high-pressure gas pipeline around Rectory Road has been revised to locate it closer to the earthworks for the new road. This has been done keeping in mind the setting of the area and the restrictions and risks associated with a pipeline of this classification. The relocated pipeline aims to minimise the disruption in a temporary and permanent sense on the Orsett Showground and the Orsett Park Royals Football Club pitches as well as any future proposed development within the area. We are working with the Orsett Park Royals Football Club to find a suitable site so that they can continue to operate during construction.</p> <p>Due to the number of utilities affected, and the space required to carry out the works safely, there is the potential for some road diversions and lane closures in this area – for example, at Baker Street, the A1013 and other local roads. The compounds near the proposed A13/A1089 junction are needed for construction of the junction and for the rest of the project. More information about the compounds and the measures to reduce their impacts on the surrounding area are presented in the CoCP.</p>

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Summary of what you said	Our response
	<p>National Grid have carried out an assessment of the proposals to divert overhead lines. The assessment concludes that the modifications to existing overhead lines necessary to accommodate the project would comply with the current public exposure guidelines for electromagnetic fields (EMFs) documented in the National Policy Statement for Electricity Networks Infrastructure (EN-5).</p> <p>Therefore, there would be no significant EMF effects resulting from the proposals. National Grid has also carried out an assessment of the potential impacts on nearby properties from noise due to these proposed changes. Its assessment concludes that there would be no significant negative noise impacts on these properties due to realignment of the overhead lines.</p> <p>As we have outlined in the CoCP, we will put in place a series of measures to inform and engage with the local community throughout the duration of the works. Wherever possible, at least two weeks before works are carried out, we would distribute information sheets detailing the expected disruptions and measures being taken to avoid, minimise or mitigate the adverse impacts. We have presented the draft CoCP as part of this consultation and it will also form part of our DCO application.</p> <p>Contractors will be required to notify local residents and businesses of planned works which are likely to generate high levels of noise.</p>

The area around the M25 junction

We asked...

“Do you support or oppose the proposed changes in the area around the Lower Thames Crossing and its junction with the M25?”

Summary of responses

- 784 respondents answered this question
- 693 respondents that answered this question were members of the public and other non-statutory organisations
- 85 respondents were from people with interest in land
- Six respondents were from statutory bodies and local authorities
- 249 (36%) individual respondents supported or strongly supported the proposed changes in the area around the Lower Thames Crossing and its junction with the M25
- 268 (39%) individual respondents opposed or strongly opposed the proposed changes in the area around the Lower Thames Crossing and its junction with the M25

You said...

The most common reasons given in support of the proposed changes in the area around the M25 junction were:

- The changes are logical and necessary
- The relocation of a construction site and the placing of power lines underground
- Improved traffic conditions

The most common reasons given against the proposed changes in the area around the M25 junction and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of congestion around the M25 junction, including that the strategic road network and local roads. Your comments included that the M25 is regularly over capacity and would not be able to support additional traffic</p>	<p>We considered the feedback regarding congestion at the M25 junction, but we did not make any changes to respond to this issue.</p> <p>Providing a connection to the M25 is essential to achieve the scheme objectives, providing relief to the congested Dartford Crossing and approach roads. The changes to the road network where the new road and the M25 meet are intended to maintain safety and promote free-flowing traffic.</p> <p>The layout of the junction has been designed to ensure the safe management of traffic, while also providing local access to the A127 to support economic growth and connectivity. Our modelling results forecasts that the junction will remain within their designed capacity for the foreseeable future. This includes the road connecting the proposed M25 junction to junction 29.</p> <p>There will be increases in traffic on the M25 north of junction 29, and the A127 both east of the A128 connection and west of the M25, as drivers take advantage of the new connection. There will also be reductions in traffic, such as on the A128, and the A127 between the M25 and the A128. The latest traffic modelling results are set out in the Operations update.</p> <p>Traffic modelling results also predicts there would be a decrease in traffic on the M25 south of the project as far as its junction with the M20. The approaches to Lakeside Shopping Centre would see a reduction in traffic, making the centre more accessible by car.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the number of southbound lanes between the M25 and A13/A1089 junctions, including that an additional lane would be needed in future and adding this would be expensive and disruptive</p>	<p>We considered the feedback regarding the number of southbound lanes between the M25 and A13/A1089 junctions, but we did not make any changes to the proposals.</p> <p>The number of lanes along the route has been determined over time as part of the design development process. While it was originally expected that two lanes in each direction would be enough to accommodate predicted traffic flows, after carrying out further traffic modelling in 2017 this was increased to three lanes in each direction for the statutory consultation proposals.</p> <p>A subsequent phase of traffic modelling results confirmed the decision to have three lanes along the majority of the route, but enabled Highways England to conclude that the number of lanes on the southbound section of the route between the M25 and the A13/ A1089 junction could be reduced from three lanes to two while still maintaining free-flowing traffic.</p> <p>Following the design refinement consultation, we did not change our proposals for the number of lanes on this section of road. Our latest traffic modelling results, as set out in the Operations update, shows that the number of southbound lanes in this location is appropriate and we are not proposing to increase lane provision.</p>

Summary of what you said	Our response
<p>You raised concerns about the multi-utility works and construction on North Road in the area around the M25 junction, including that there would be increased pollution as a result of construction activity, as well as road closures that would make journeys difficult. Your comments also expressed concern that construction compound 13 would now be closer to local residents than previously</p>	<p>We have considered and consulted with local people and communities throughout the project's design and development and would continue to do so during construction and operation of the M25 junction.</p> <p>We have engaged with utility companies throughout the development of the project with a view to ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities. This includes minimising any interruption to supply during any work affecting utilities infrastructure.</p> <p>The existing utility networks need to be relocated into an area where they, the new road and the local road network can operate and be maintained with minimum disruption to each other.</p> <p>We are proposing to install two small substations (up to 5 metres by 5 metres in size within a total area of 7 metres by 7 metres), one located south of the project road, and west of North Road, and the other located near the access to Clay Tye farm, with maintenance access tracks off Clay Tye Road. We have modified both of these sites to integrate them better into our proposals and reduce the impact on adjacent land, as set out in the General Arrangements.</p>
<p>You raised concerns about the revised proposals for utilities around the M25 junction, including their maintenance and operation. Your comments referred to sewer works along the B186 and the electrical substation near Clay Tye Farm impacting residents</p>	<p>During construction, there would be some short-term disruption associated with diverting North Road on to the new bridge that carries it over the project and the associated utilities works. We may also need to create a temporary crossing where North Road meets the new road, and we would agree any temporary traffic management arrangements with the relevant local highway authority.</p> <p>Since the design refinement consultation, we have made changes to proposals in the Ockendon area. Church Lane would no longer require sewerage works, and the proposals of installing sewerage networks from Ockendon Road to St Mary's Lane along the B186 have also been reduced within our proposals.</p> <p>Regarding concerns over increased pollution as a result of construction activity, we have taken steps to mitigate the potential impacts of construction on the local environment, including on wildlife, noise, light pollution and air quality. Minimising environmental impacts wherever possible is one of the scheme objectives.</p> <p>We have produced a CoCP, which includes mitigations and guidance to our contractors on environmental considerations. These include dust, noise, light and working hours. We have presented the CoCP as part of this consultation and it will form part of our DCO application.</p>

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Summary of what you said	Our response
	<p>Our appointed contractors would be required to submit plans for the construction work in accordance with the CoCP. These plans would be reviewed and approved by Highways England to ensure that they meet the specifications and expectations.</p> <p>Specific construction activities, such as night-time working, noisy work and air quality related work, would all need to be submitted to, and approved by, local authorities before works can take place.</p> <p>During the design refinement consultation, we presented the movement of our Medebridge construction compound (construction compound 13) 200 metres west from the location shown at supplementary consultation. This was due to a number of reasons, including moving it away from potentially sensitive archaeological areas, flood considerations, utility requirements and nearby development plans.</p> <p>Since design refinement consultation, we have developed further mitigation measures for our construction compounds such as hoarding or earth bunds in some locations to lessen the noise and visual impact. At the Medebridge construction compound, we propose including a bund along the western edge and part of northern edge to lessen its impact, as set out in the REAC.</p>
<p>You raised concerns about the M25 junction, including the design and location of slip roads and the North Road bridge. Your comments expressed concern about the reduction in tree planting and compensatory flood storage areas</p>	<p>Throughout the development of the new road, we have aimed to minimise its overall footprint and height, while still satisfying the scheme objectives. The M25 junction has been developed to reduce the impacts on the Thames Chase Community Forest. The design makes the junction as compact and low as possible, while still complying with the required highway standards. For example, by positioning the new road northbound under the M25, we were able to limit the height of the junction and its impact on the surrounding landscape. Retaining walls would limit the amount of land needed, while embankment slopes have also been steepened to reduce the footprint further.</p> <p>We would also design the North Road green bridge to the required highways standards, while the carriageway over the bridge and its alignment would meet local authority standards. The bridge would be designed and built to complement the local landscape so that its visual impact is reduced. The green bridge would include provision for walking, cycling and horse riding.</p> <p>We have engaged with the Thames Chase Trust and other stakeholders to develop the proposals and minimise adverse effects. To compensate for the loss of part of the site, our design includes the</p>

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Summary of what you said	Our response
	<p>provision of replacement land to the north and south of the Thames Chase Forest Centre which would be of similar or better quality of the existing land. It is proposed that woodland would be planted, alongside biodiversity mitigation which would include the planting of a mixture of grassland, scrubs, and trees.</p> <p>The replacement land, which would be open to the public and designed to complement the existing forest, would be accessible through the existing site and internal footpath networks. There would also be additional access from the new footbridge over the M25 providing access from Ockendon Road and Clay Tye Road. A footbridge over the M25 would reconnect the Thames Chase Community Forest to the land of the Fanns project and wider environment. We consulted on these proposals as part of the design refinement consultation, as well as upgrades and additions to the walking, cycling and horse riding routes in the area.</p> <p>At the design refinement consultation, we also included replacement land to the east of the M25, to the south of St Mary’s Lane. As a result of further refinements to the design this area is no longer being proposed. The replacement land is proposed to the north and south of the existing Thames Chase Forest. This revised replacement land proposal better reflects the size of the area we are permanently impacting.</p> <p>We have slightly reduced the flood mitigation zones in the area around the proposed M25 junction after further investigations at the Orsett Fen Sewer and Golden Bridge Sewer. We were able to do this following discussions with the Environment Agency regarding flood risk, and refining the flood risk models based on the latest information available. The change would reduce any flood impacts on nearby land and property.</p>

M25 junction 29 area

We asked...

“Do you support or oppose the proposed changes in the area around the M25 junction 29?”

Summary of responses

- 773 respondents answered this question
- 681 respondents were members of the public and other non-statutory organisations
- 85 respondents were from people with interest in land
- Seven respondents were from statutory bodies and local authorities
- 265 (34%) individual respondents supported or strongly supported the proposed changes in the area around the M25 junction 29
- 263 (34%) individual respondents opposed or strongly opposed the proposed changes in the area around the M25 junction 29

You said...

The most common reasons given in support of the proposed changes in the area around the M25 junction 29 were:

- The changes are logical, better and necessary
- Will improve traffic flow
- Better placing of power lines underground and the use of a signalised pedestrian crossing at the A127 junction

The most common reasons against the proposed changes in the area around the M25 junction 29 and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the impact of the junction 29 on traffic and congestion, including on the strategic road network and local roads, referencing specifically Upminster and Cranham</p>	<p>We considered the feedback regarding congestion at junction 29, but we did not make any changes to respond to this issue.</p> <p>Providing a connection to the M25 is essential to achieve the scheme objectives, providing relief to the congested Dartford Crossing and approach roads. The changes to the road network where the new road and the M25 meet are intended to maintain safety and promote free-flowing traffic, and to increase the capacity of junction 29.</p> <p>The layout of the junctions has been designed to ensure the safe management of traffic, while also providing local access to the A127 to support economic growth and connectivity. Our modelling results forecast that the junctions will remain within their designed capacity for the foreseeable future. This includes the road connecting the proposed M25 junction to junction 29.</p> <p>Whilst the project is expected to provide wide-reaching benefits to the road network, it is recognised that some of the junctions and links which experience increased traffic flows do not currently have sufficient capacity to cater for this additional traffic without adversely affecting the network speeds experienced by others on these roads.</p> <p>The Wider Network Impacts Management and Monitoring Plan, included as part of this consultation, sets out how we would monitor traffic flows across the road network prior to and following opening of the Lower Thames Crossing. It also details how we would work with DfT and local highway authorities to identify areas where further interventions may be suitable on the road network.</p> <p>Forecast changes in traffic flows once the project is operational are set out in the Operations update and the Ward impact summaries.</p>
<p>You raised concerns about the impact on the solar farm near junction 29</p>	<p>Throughout the project we have sought to minimise the land impacted or required for the project, while ensuring there is sufficient land to build and operate the road.</p> <p>We would need to acquire Cranham Solar Farm to enable construction and operation of the project and we are discussing a compensation package with the owner. Where land needed for the project directly affects businesses, we have worked closely with those businesses to lessen impacts wherever possible. Where businesses would be unable to continue operating either during construction or after completion, then appropriate compensation may be payable, in accordance with the Compensation Code.</p>

Summary of what you said	Our response
<p>You raised concerns about junction 29 including whether it would have sufficient capacity. Your comments included concern about the design of the southbound slip roads on the M25, connectivity for walkers, cyclists and horse-riders, and increased land take</p>	<p>We considered the feedback regarding capacity and the design of slip roads at junction 29, but we did not make any changes after the design refinement consultation to respond to these issues.</p> <p>Our proposals at junction 29 include increasing the number of lanes on the roundabout and providing dedicated lanes on to the M25 slip roads. We would also provide additional traffic lights at the roundabout to help manage traffic flow. Traffic modelling results forecast that these upgrades would allow junction 29 and the widened section of the M25 to operate within capacity for the foreseeable future.</p> <p>We shortened the proposed M25 southbound slip roads after statutory consultation, which means we would no longer need to change the footbridge over the M25 near Folkes Lane. The addition of free-flowing slip roads at junction 29 of the M25 would make the current east-west walking route through the south side of the junction unworkable.</p> <p>We are proposing a new dedicated pedestrian bridge to the east of junction 29, linking the existing east-west paths that run next to the A127 on the north and south sides. This would maintain continuity for the footway along the A127, and allow users of the southern route to take a new route through the junction 29 roundabout using new traffic signals, before crossing back south at the crossing to the north of Cranham. This was presented in the design refinement consultation.</p> <p>We have continued to assess the extent of land needed to build and operate the new road. The amount of land needed for the upgrades to junction 29 was reduced after statutory consultation by moving the proposed new slip roads closer to the main carriageway. These relocated slip roads are the ones linking the M25 and the project northbound to the A127 westbound, plus the slip road connecting the A127 westbound to the M25 southbound.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact of utilities around junction 29, including the use of additional land. Some comments expressed concern about the impact of works near the B186 including sewer diversions</p>	<p>We have engaged with utility companies throughout the development of the project, ensuring it would be possible for works to be carried out in a way that would minimise disruption to local people and communities. This includes minimising any interruption to supply during any work affecting utilities infrastructure.</p> <p>Since the design refinement consultation, we have made changes to proposals in the Ockendon area. Church Lane would no longer require sewerage works, and the proposals of installing sewerage networks from Ockendon Road to St Mary's Lane along the B186 have also been reduced within our proposals.</p> <p>Our discussions with utility companies are ongoing and would continue throughout the detailed design phase of the project to ensure that, when implemented, the works are delivered in the most appropriate and efficient way. We are working with utility companies to develop a construction programme with the aim of minimising disruption to local people. Following discussions with utility companies, we have also removed two access routes located to the south-west of the M25 junction 29 roundabout, which were previously proposed for utility maintenance. One was through an area of ancient woodland and the other via Laburnham Gardens. The maintenance access is now proposed directly from the new junction 29 connector road and is presented in this community impacts consultation. For more information please see the Operations update.</p> <p>An OTMPfC has been developed in collaboration with local authorities and stakeholders which details traffic management measures and the outline approach. It is published as part of this community impacts consultation and includes measures aimed at maintaining safety for road users and reducing the impacts of construction traffic, as well as setting out the timing of construction activities, including utility works.</p>

Revised development boundary

We asked...

“Do you support or oppose the changes to the proposed area of land that would be required to build the Lower Thames Crossing?”

Summary of responses

- 777 respondents answered the question on the proposed area of land that would be required to build the Lower Thames Crossing
- 674 respondents were members of the public and other non-statutory organisations
- 96 respondents were from people with interest in land
- Seven respondents were from statutory bodies and local authorities
- 254 (38%) individual respondents supported or strongly supported the proposed changes to the proposed area of land that would be required to build the project
- 293 (44%) individual respondents opposed or strongly opposed changes to the proposed area of land that would be required to build the project

You said...

The most common reasons people support the proposed area of land that would be required to build the Lower Thames Crossing are:

- The changes are logical, better, or necessary.
- The amount of developed land is less than previously proposed.
- A reduced impact on local properties and businesses.
- The project's benefits outweigh concerns about any impact on land or property.
- Some of the development of the land is temporary.

The most common reasons people oppose the proposed area of land that would be required to build the Lower Thames Crossing and our response to these issues are summarised in the following table.

Summary of what you said	Our response
<p>You raised concerns about the development boundary including that the land use is excessive and is larger than previously proposed at statutory consultation</p>	<p>The project has been developed to minimise the amount of land needed for its construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland.</p> <p>Following statutory consultation, we developed a more detailed understanding of the diversion routes utility companies would need to divert their assets. We also further developed our environmental mitigation proposals. This led to an expansion of the Order Limits presented at supplementary consultation (26.3 square kilometres) which was 24% larger than that presented at statutory consultation (20 square kilometres).</p> <p>Following further design development coupled with the findings from site investigations and stakeholder feedback we were able to amend the design of utility diversions. Overall, these changes meant the Order Limits were reduced by 15% and presented during design refinement consultation (22.9 square kilometres).</p> <p>We have now reduced the Order Limits by a further 3% (22.2 square kilometres for this consultation), which means between statutory consultation and now, it has increased by 10%. The further 3% reduction since the design refinement consultation has been possible by the further detailed design work we have done with utility providers to refine the routes of their diversions. We have also been able to reduce the amount of land within the Order Limits over which we are seeking permanent rights. This means there is higher proportion of land required temporarily, (shown as green in the Land Use Map Book) compared to previous consultations. This land will be returned to its previous use and ownership following construction.</p>
<p>You raised concerns about the development boundary due to the impact on local land, including that it would result in the loss of farmland and affect further developments</p>	<p>We have engaged with people with an interest in land within the Order Limits and previous versions of the development boundary. This included writing to them at each stage of the consultation process and reviewing all the responses. The issues raised, in particular those concerning potential impacts on their land and property, have informed our engagement with the relevant individuals and organisations.</p> <p>Reducing the effect of the Lower Thames Crossing on the environment is one of the project's main aims. Environmental mitigation measures have been developed to minimise the impacts of the new road. However, to reduce the impacts on local communities, the project has been routed away from population centres as much as possible. This means that it would have an impact on the surrounding countryside, including green belt land.</p>

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Summary of what you said	Our response
	<p>We are in the process of carrying out an environmental impact assessment to look at the impact of the Lower Thames Crossing on the landscape. This assessment examines the impact of the project on the landscape, including land designated as green belt, woodland (including ancient woodland) and open spaces.</p> <p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise, restore and compensate’ to protect the environment in which the new road is constructed. Where required, any negative impacts on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of adverse effect they are intended to offset.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as ‘Best Most Versatile Land’.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on ‘Best Most Versatile Land’. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p> <p>The relevant local planning authorities are responsible for planning for future developments, details of which are included in their local plans. To understand future aspirations for housing growth, we have considered the areas for proposed housing within those local plans that are relevant and sufficiently advanced, during the development of our proposals.</p>
<p>You raised concerns about how land would be used during and after construction, including how it would be reinstated and returned to landowners. You also raised concerns that the local area would be used for new development once the new road opens</p>	<p>We would only acquire land permanently when there is a compelling reason to do so. Where possible, we have sought to minimise land use or use land temporarily, while still being able to build, operate and maintain the project.</p> <p>Any land that we acquire would only be used for this project and we do not have powers to use the land for any further development.</p> <p>Due to the project’s scale, construction is estimated to take five years. Not all temporary land would be needed for the duration of construction, and as we progress we would continue to engage with people with an identified interest in the land to inform them how and when temporarily acquired land would be required.</p>

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Summary of what you said	Our response
	<p>At statutory consultation, we said that any land that is not needed permanently would be restored to the reasonable satisfaction of the landowner wherever possible, and this remains the intention. Before returning land which has been temporarily possessed to construct the project, we would be required to restore it to the reasonable satisfaction of the owner. This obligation is subject to any contrary agreement with a landowner and also the exceptions set out in the DCO application, which include the right to retain any permanent works constructed on the land, such as diverted utilities, , as well the right to leave mitigation in place.</p> <p>Where land is required for works to the existing utility infrastructure, we have generally tried to secure powers to use the land needed temporarily, with permanent rights (as opposed to outright acquisition) sought for future operation and maintenance of the diverted utilities. This means that, in most areas, occupation of the land will be returned to the owner following the completion of utility works.</p> <p>Any future proposals for local development outside the green belt would be decided by the relevant local planning authority in accordance with the relevant policy and guidance. For more information about local authority aspirations for future development in the area around the project, refer to their local plans.</p>
<p>You raised concerns about land use on the grounds that waste materials from construction should not be stored and instead removed by rail or river. You raised particular concern about the stockpiling of chalk having both a visual and health impact on residents</p>	<p>We would introduce a waste management strategy that prioritises eliminating sources of waste, reusing site-derived waste without removing it from the area, and reducing the volume of waste needed to be taken from the site for recycling, recovery and disposal. This would include material excavated from the bored tunnels.</p> <p>Spoil from the tunnels would be in the form of slurry, which would be treated and then used in land forming at Goshems Farm, near to the proposed northern tunnel entrance. Most of the other spoil, such as from cuttings, would be used on site, with the rest (for example, any contaminated material) removed by road or river, via the nearby ports. The percentage transported by river would be decided by the appointed contractor within relevant constraints. We would be unable to remove spoil or bring in materials to the construction sites by rail because of a lack of suitable infrastructure.</p> <p>In line with feedback received during statutory consultation, we would use spoil to create landforms and habitats such as chalk grasslands near the tunnel entrances. One of these would be Chalk Park, an informal public space around the southern tunnel entrance created using the spoil. The park would improve local biodiversity and ecological connectivity.</p>

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Summary of what you said	Our response
	<p>Furthermore, at the northern tunnel entrance we are proposing the creation of a similar landform called Tilbury Fields, with footpaths leading up to elevated viewpoints. The landform, from which Coalhouse and Tilbury forts would be visible, would be created using excavated material from the construction works.</p> <p>Chalk stockpiling, which we consulted on during the design refinement consultation, would reduce the impact on the existing road network during construction because the HGV journeys needed to remove the spoil would be spread out over an extended period.</p> <p>At supplementary consultation, we presented revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused, we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>The removal of the stockpile material is expected to take up to three years. The stockpile's size would vary as material is added and removed during construction, but it is expected to range in size from 5 metres to 8 metres, until it is eventually removed. There are no anticipated health risks in storing this material on site.</p>

Special category land

We asked...

“Do you support or oppose the proposals put forward regarding special category land and sports clubs?”

Summary of responses

- 748 respondents answered the question on the proposals put forwards regarding special category land and sports clubs
- 657 respondents were members of the public and other non-statutory organisations
- 84 respondents were from people with interest in land
- Seven respondents were from statutory bodies and local authorities
- 228 (35%) respondents supported or strongly supported the proposals regarding special category land and sports clubs
- 237 (36%) respondents opposed or strongly opposed the proposals regarding special category land and sports clubs

You said...

The most common reasons people support the proposals put forward regarding special category land and sports clubs are:

- The changes are logical, better or necessary
- The mitigation proposals for special category land and sports clubs are appropriate
- The project’s benefits outweigh concerns about any impact on land or sport clubs
- That lost facilities are replaced by others or better access

The most common reasons people oppose the proposals put forward regarding special category land and sports clubs and our response to these issues are summarised in the following table.

Further information on special category land and private recreational facilities are provided in chapter 3 of the Operations update.

Summary of what you said	Our response
<p>You raised concerns about the impact of the project on sports clubs and recreational areas, including Orsett Showground, Southern Valley golf Course and Cascades Leisure Centre</p>	<p>In some locations, the project would impact areas of special category land. Our proposals include replacement land for some of the special category land that we propose to acquire through compulsory purchase. Where we do replace special category land it would be no less advantageous and at least the same size.</p> <p>In the design refinement consultation, we described the projects impact on public open spaces, common land, recreational areas, sports clubs and Orsett Showground. This land would be subject to compulsory purchase, (either of the land itself or the rights over the land) or would be subject to temporary possession to construct the project. For each site affected, we described the impact that the new road would have on it, and our proposals for replacement land, where applicable.</p>
<p>You made comments opposing the revised proposals for special category land and sports clubs, particularly the plans to acquire the Southern Valley Golf Club and Gravesend Golf Centre</p>	<p>Part of the Orsett Showground would be required permanently for the construction of link roads to the Orsett Cock roundabout and the A13. We also propose to divert a gas pipeline along the southern boundary of the site, and permanent rights would be required over a limited corridor of land to operate and maintain the gas pipeline. In the design refinement consultation, we consulted on the provision of an area of land to compensate for the impacts on the Orsett Showground site, but we noted that discussions about this were ongoing with the owner of the Orsett Showground. We have now agreed with the owner that the area of compensatory land is not required. The Order Limits have also been reduced in this area.</p> <p>After the design refinement consultation, the alignment of the high-pressure gas pipeline around Rectory Road has been revised to locate it closer to the earthworks for the new road. This has been done keeping in mind the setting of the area and the restrictions and risks associated with a pipeline of this classification. The relocated pipeline aims to minimise the disruption in a temporary and permanent sense on the Orsett Showground and the Orsett Park Royals Football Club pitches as well as any future proposed development within the area. We are working with the Orsett Park Royals Football Club to find a suitable site so that they can continue to operate during construction.</p> <p>The Southern Valley Golf Club is a private golf club and we would permanently acquire the site for the project. There is no proposal to replace the golf club, but we would create a new parkland area near the southern entrance, which would be accessible to the public once the new road opens.</p> <p>Gravesend Golf Centre is a nine-hole pitch and putt facility with a driving range. We would permanently acquire the pitch and putt part of the centre for the landscaped area around the southern entrance.</p>

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Summary of what you said	Our response
	<p>At the design refinement consultation, we said we were proposing to provide a replacement golf facility to the south-east of the Cascades Leisure Centre, which will enable the Gravesend Golf Centre business to continue.</p> <p>We are, however, engaging with Gravesham Borough Council and the current operator regarding a potential proposal to replace the golf facility on land within the site of the Cascades Leisure Centre, which is currently used as football pitches. That proposal, if agreed, would be delivered separately to the Lower Thames Crossing project.</p> <p>If a golf facility is provided on that site instead, we would seek to provide football pitches on the land to the south-east of the Cascades Leisure Centre, rather than provide a golf facility on that land as proposed at the design refinement consultation. Where the potential proposal being discussed with Gravesham Borough Council is not implemented and a golf facility is not provided on that site, we will provide a replacement golf facility as previously proposed.</p> <p>Where the land needed for the project directly affects businesses, we have worked closely with those businesses to lessen the impacts wherever possible. Where businesses would be unable to continue operating either during construction or after completion, then appropriate compensation may be payable, in accordance with the Compensation Code.</p> <p>Thames Chase Community Forest and Shorne Woods Country Park are directly affected by the project. At these locations, land is required permanently to construct and operate the project, with additional land needed temporarily (with permanent rights) to carry out essential utility diversions. In both instances, we have proposed replacement land, which would be next to the affected site, with planting, landscaping and public rights of way designed to integrate the new land into the existing site.</p> <p>Since design refinement consultation, we have further refined the replacement open space land and common land as we have more of an understanding of the impact of existing special category land. Feedback from local authorities and other stakeholders has been used to determine where replacement open space would be best located to meet people's needs. Further details on these proposals are set out in the Operations update.</p> <p>In addition, since the design refinement consultation and following discussions with Kent County Council and UK Power Networks, one of the changes we have made is realigning the proposed electrical connection to the Northfleet East substation. This would avoid works within the Cyclopark and reduce the area of land to construct the works to the north of the A2.</p>

Environmental impacts and how we plan to reduce them

We asked...

“Do you support or oppose the changes to the environmental impacts of the Lower Thames Crossing?”

Summary of responses

- 792 respondents in total answered this question
- 690 respondents were members of the public and other non-statutory organisations
- 95 respondents were from people with interest in land
- Seven respondents were from statutory bodies and local authorities
- 264 (33%) individual respondents supported or strongly supported the changes to the environmental impacts
- 304 (38%) individual respondents opposed or strongly opposed the changes to the environmental impacts

You said...

The most common reasons in support of the changes to the environmental impacts were:

- The reduced impact on local wildlife and natural habitats, such as the new areas of planting
- The revised proposals for the visual appearance of the project, including proposed landscaping and screening
- The revised proposals for reducing the noise impact of the project, including the proposed noise barriers
- The revised proposals for walkers, cyclists and horse riders in the area
- Less impact on designated sites than previously proposed, including Shorne and Ashenbank Woods SSSI

The most common reasons given against the changes to the environmental impacts and our response to these issues are summarised in the following table.

Further information on environmental land impacts associated with this project are provided in chapter 3.2 Special category land in the Operations update.

Summary of what you said	Our response
<p>You raised concerns about noise and vibrations, including concerns about the impacts during construction such as construction compounds, working hours and length of construction phases</p>	<p>We have ensured that suitable measures are in place to mitigate the new road's impact on noise pollution. We would use low-noise road surfacing, and where additional mitigation is considered necessary and effective, noise barriers alongside the carriageway have been specified, as set out in the REAC.</p> <p>Overall, there are some noise and vibration impacts predicted during the construction phase as a result of construction traffic and machinery. However, these impacts would be temporary, both good practice and specific mitigation measures would be implemented to reduce these impacts, also set out in the REAC.</p> <p>Noise and vibration will result from various construction activities including, piling operations, demolition works, excavation and HGV movements. Methods of construction in sensitive areas will be selected to reduce disruption as far as reasonably practicable.</p> <p>The predicted noise and vibration resulting from construction has been assessed to highlight areas and activities that require mitigation measures such as acoustic screens. Our assessments conclude there would be no significant effects from activities such as piling caused by vibration. Detailed proposals of the planned works, noise monitoring and mitigation measures will be discussed with the relevant local authorities before construction works begin.</p> <p>Contractors will be required to notify local residents and businesses of planned works which are likely to generate high levels of noise.</p> <p>Noise mitigation has been considered during the design of the route, which has been designed at the lowest practicable height in the surrounding landscape, which includes the use of cuttings and false cuttings. Low noise surfacing would also be used. The locations for the cuttings and false cuttings include from the A2 junction with the project to the southern tunnel entrance, along the A2 junction slip roads to Thong village, along the A13/A1089 junction and between North Road and the M25 junction with the project.</p> <p>At statutory consultation, we proposed a false cutting between Thong and the A2 junction which has been refined during project development. At supplementary consultation, the false cutting between Claylane Wood and the A2 junction was removed to reduce woodland loss within Claylane ancient woodland.</p> <p>The noise impacts associated with the project have been assessed in accordance with relevant standards and guidance, adverse or beneficial impacts have been identified for residential and other sensitive locations during both the construction and operational phases of the project.</p>

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Summary of what you said	Our response
	<p>Operational impacts from the project include increases in road traffic noise at noise sensitive receptors identified along the project route and other affected existing roads. The modelling results predicts there would be adverse noise effects in the South of the River Thames in the northern parts of Riverview Park, Thong Lane and Shorne Ifield Road during operation.</p> <p>Beneficial impacts in terms of road traffic noise (reductions in road traffic noise) at noise sensitive receptors are predicted to occur along the bypassed existing network, as traffic is diverted along the project route. These include areas along the A2 between the project and the A282 junction (junction 2), the A282 across the Dartford Crossing, the A13 between the project and junction 30 and the M25 between the project junction and the A282.</p> <p>To view noise contour maps which present a graphical representation of the predicted changes in operation road traffic noise in the opening year of the project, please refer to the Ward impact summaries and chapter 5 of the Operations update.</p> <p>Our noise assessments indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations, and include noise barriers at either side of some identified viaducts and bridges along the project. The barriers are typically one metre to two metres high, although one barrier east of Brentwood Road is six metres high to reduce road traffic noise levels at two properties near the project. To mitigate any adverse noise impacts during operation on properties to the west of the A13/A1089 junction, a noise barrier was proposed along a slip road connecting to the project northbound. To mitigate any adverse noise impacts during operation on properties near the route in Riverview Park north and Thong Lane, noise barriers were proposed along the project route approaching Thong Lane over the Lower Thames Crossing.</p> <p>The heights and locations of noise barriers were determined through modelling of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres. We consulted on the locations of these and other noise barriers during the design refinement consultation.</p> <p>Further information on noise barriers is provided in the Ward impact summaries.</p> <p>Our supplementary consultation proposals included increasing our core hours to maximise the use of daylight. This would allow us to construct the project in a shortened time frame, reducing the impact</p>

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Summary of what you said	Our response
	<p>on local communities. Core working hours would be between 7am and 7pm on weekdays (excluding bank holidays), and between 7am and 4pm on Saturdays. We also increased the earthworks construction hours from 7am to 10pm on Monday to Saturday as this would help complete the large volume of earthworks in a shorter time.</p> <p>The CoCP which will sets out the planned construction times, including information about preventing disturbance to local areas.</p> <p>Tunnelling works would be carried out 24/7. We would operate the tunnel boring machines and line the tunnels continuously as this reduces the risks of ground movement and water ingress.</p> <p>Our project timescale has been developed using industry-standard planning methods. These are supported by realistic development, design and construction time scales verified against other schemes of a similar size and complexity. We would develop a programme of engagement throughout the construction period to keep communities up to date.</p> <p>Further information about construction in your area is provided in the Ward impact summaries.</p>
<p>You raised concerns about the impact on local wildlife and habitats, including that the permanent loss of species and habitats on designated and non-designated sites, and on marine ecology. You also raised concerns about pollutants or contaminants entering the River Thames</p>	<p>A project wide approach has been taken for the assessment of impacts and provision of mitigation for protected species.</p> <p>At statutory consultation we used information from desk -based and initial field research to identify core areas of habitat creation and the mitigation measures that would be required for protected species.</p> <p>After statutory consultation, we had a more detailed understanding of potential impacts following the completion of most field surveys and the updated project design. The design was refined to help avoid some significant impacts, for example moving the southern tunnel entrance further south to reduce risk of impacts to the Thames Estuary and Marshes Ramsar and SPA. In addition, areas of habitat creation were identified as part of the mitigation.</p> <p>Mitigation measures include green bridges, as well as large culverts with features to allow mammals to pass through them safely. These would help to link adjacent wildlife habitats once they are separated by the new road. Where replacement habitats for species are required, these would be put in place to allow sufficient time to establish before any animals are released into them.</p> <p>After supplementary consultation and presented in the design refinement consultation we presented amendments to mitigation measures, following engagement with stakeholders and updates to the construction and utilities impacts for the project.</p>

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Summary of what you said	Our response
	<p>An example of how we have developed mitigation measures since the design refinement consultation includes making changes to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction Linking to Coombe Wood ancient woodland. In the south, we have also reviewed the proposed mitigation following further engagement with stakeholders and landowners. As part of this, we have identified potential locations within some proposed areas of compensatory woodland planting, to recover and reuse ancient woodland soils.</p> <p>Similarly, following the design refinement consultation, ecological mitigation for water voles has been moved from Coalhouse Point to the Mardyke Valley. A new provision for coastal grazing marsh/wetland habitats has been proposed at Coalhouse Point to provide permanent habitat for wetland birds, replacing areas of land that would be lost by the footprint of the project.</p> <p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15% . We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p> <p>We are proposing temporary construction drainage and permanent drainage into the River Thames. The discharges will be subject to obtaining the relevant consents from the Environment Agency, which will place controls on the quality of the water discharged. Where necessary, water will be treated and tested prior to discharge.</p>

Summary of what you said	Our response
<p>You raised concerns that the environment mitigation would be inadequate. You also expressed concern that not enough information has been provided regarding noise barriers, and that noise barriers should be extended near Whitecroft Care Home and around the A13/A1089 junction to reduce impacts</p>	<p>To make sure the most effective and appropriate mitigation strategy is followed, we have an extensive, ongoing programme of engagement with relevant statutory bodies – such as the Environment Agency, Natural England and Historic England. We have also considered feedback to statutory and non-statutory consultation and worked with non-statutory community groups wherever possible.</p> <p>At statutory consultation, we used information from desk -based and initial field research to identify the mitigation measures that may be required. After statutory consultation, we had a more detailed understanding of the potential impacts following the completion of most field surveys and the updated project design. Some elements of the design were changed to help avoid significant impacts, for example moving the southern tunnel entrance further south to reduce risk of impacts to the Thames Estuary and Marshes Ramsar and SPA. We also proposed three additional green bridges north of the River Thames providing environmental benefits such as improved ecological connectivity. These changes were presented in the supplementary consultation.</p> <p>The landscape within the various junctions uses the areas within the islands, in cuttings, and earthworks to maximise woodland plantings. Over time, these will mature into more natural environments to help mask and integrate the road into the surrounding landscape and environment. All of our proposed mitigation measures have been refined throughout the design process, considering a variety of stakeholder feedback.</p> <p>Where possible, we have minimised impacts to farmland through the design development, for example through the use of retaining walls to limit the amount of land needed or steepened embankment slopes.</p> <p>The use of false cuttings with a gentler outer slope will help to blend them into the wider landscape, allowing for the land to be returned to agricultural use.</p> <p>Tree-planting for the purposes of screening and environmental mitigation would typically make use of immature trees because transplanting larger and more established trees tends to be less successful. We recognise that such planting takes time to establish, which is why our ongoing environmental impact assessment considers the design after 15 years. At sensitive locations, more mature trees would be considered if the assessment shows that this would help to significantly reduce impacts. If some of the more mature trees failed to transplant successfully, replanting would be done at a later date. The choice of species would be chosen to provide the least disruption to the existing biodiversity.</p>

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Summary of what you said	Our response
	<p>By 2040 Highways England will deliver a net gain in biodiversity across our road network, and on the Lower Thames Crossing we are increasing the value of the area's habitats and biodiversity by 15%. We will achieve this by planting woodlands, grassland hedgerow, and areas of scrub, rough grass and bare earth. These will be managed by long-term conservation schemes that will create high quality habitats for a range of animals including bats, dormice and birds.</p> <p>We have ensured that suitable measures are in place to mitigate the new road's impact on noise pollution. We would use low-noise road surfacing, and where additional mitigation is considered necessary and effective, noise barriers alongside the carriageway have been specified, as set out in the REAC.</p> <p>Our noise assessment results indicated that, to reduce noise transmission, it would be beneficial to include reflective noise barriers at 17 locations, and include noise barriers at either side of some identified viaducts and bridges along the project. The barriers would typically be one metre to two metres high, although one barrier east of Brentwood Road would be six metres high to reduce road traffic noise levels at two properties near the project. To mitigate any adverse noise impacts during operation, we are proposing to install five noise barriers, up to 550 metres long and between 1m and 2m high, in the A13/A1089 junction area, which includes Whitecroft Care Home. Noise assessments show that these proposed barriers, as well any others proposed for the route, would reduce the noise and vibration impacts road once open.</p> <p>The heights and locations of noise barriers were determined through modelling of the predicted traffic noise that would be generated by the project when in operation and consideration of sensitive receptors such as properties and population centres. We consulted on the locations of these and other noise barriers during the design refinement consultation.</p> <p>Further information on noise barriers is provided in the Ward impact summaries.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact on air quality, including comments that the project should comply with World Health Organisation air quality guidelines</p>	<p>We considered the feedback regarding air quality, but we did not make any changes to the proposals. However, the project is in a location that avoids built-up areas, where the existing air quality tends to be worse, as a result there are no exceedances of air quality thresholds in close proximity to the new road. We have also designed it to minimise the rise or fall of the road level and provide free-flowing journeys.</p> <p>Our air quality modelling uses current government guidance on vehicle emissions, which have not yet been updated to reflect the latest government plans to ban sales of petrol and diesel cars. Air quality is expected to improve in the future as emissions from vehicles become cleaner and the use of electric vehicles increases. As a result, our assessments reflect a reasonable worst case scenario.</p> <p>We have examined the forecast impact of the new road once it is operational, using a detailed model that accounts for future changes in air quality (such as the uptake of electric vehicles). To see our latest assessment of the air quality changes associated with the operational project, please refer to our Operations update.</p> <p>The operation of the Lower Thames Crossing is predicted to improve local air quality in some areas but make it worse in others due to changes in traffic flows across the region.</p> <p>There are some areas on the wider road network where, due to an increase in traffic, air quality is predicted to worsen. Notably, the A228, through Cuxton to the M2 and between M2 junctions 1 and 2.</p> <p>The impact of construction and changes in traffic on local air quality would be controlled and minimised through a range of good practice measures set out in the CoCP and the REAC. Dust suppression, and implementation of minimum emission standards, would reduce emissions from vehicles and construction machinery. You can find out more about these measures in our Construction update and the Ward impact summaries.</p> <p>Measures to reduce emissions from construction traffic and machinery would include instructions to switch off engines when they are not in use and making sure all vehicles using public highways comply with the emissions standards set for London Low Emission Zone for London Non-Road Mobile Machinery.</p> <p>In addition, wherever possible during construction we will reuse materials onsite, reducing the number of HGVs using the road network. This will also cut the distance and duration of the journeys, and reduce the overall impact on air quality.</p>

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Summary of what you said	Our response
	<p>At supplementary consultation, we were able to present revised plans showing an overall reduction in the volume of HGV traffic needed to build the project. Through modifying our landscaping proposals and increasing our understanding of how material can be reused we were able to reduce the numbers of planned HGV journeys required to build the project between statutory consultation and design refinement consultation, and we have been able to make further improvements which are reflected in impacts described in the Ward impact summaries.</p> <p>As a result of public consultation and stakeholder feedback, we have refined the proposed construction access routes. Vehicles would access construction sites mainly using the strategic road network to avoid sending HGVs through residential areas.</p> <p>With these mitigations in place, the air quality impacts of the project during construction are not expected to be significant.</p> <p>Our air quality assessments follow the UK standard for the strategic road network as set out in DMRB, and are in line with the national policy requirements as detailed in the National Policy Statement for National Networks. The assessments take account of mandatory national and European standards, rather than those from the World Health Organisation, which are not mandatory.</p>
<p>You raised concerns about the impact of the project on designated sites, such as ancient woodlands, Sites of Special Scientific Interest (SSSI), Ramsar sites and Areas of Outstanding Natural Beauty (AONB). The locations you mentioned included Shorne and Ashenbank Woods SSSI, Claylane Wood, the Thames Estuary and Marshes Ramsar and Special Protection Areas (SPA), and Kent Downs AONB</p>	<p>The project has been developed to minimise the amount of land needed for its construction and operation, thereby reducing impacts on buildings, environmentally sensitive areas and farmland. The roads and junctions that comprise the project would have the minimum height and footprint possible, while still providing the necessary capacity, safety and connectivity that road users and operation require.</p> <p>When selecting the preferred route of the project, we have used the principles of avoidance wherever possible. Our aim is to avoid specific soil grades and areas of land which are flexible, productive, efficient and most capable of delivering crops for food and non-food uses, otherwise known as 'Best Most Versatile Land'.</p> <p>Furthermore, we have performed a series of agricultural land classification surveys to characterise the soil across the project route, allowing us to understand the impact of the project on 'Best Most Versatile Land'. These surveys have provided us with key information and helped to inform the siting of construction compounds along the route.</p>

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Summary of what you said	Our response
	<p>In keeping with industry best practice, we have followed the mitigation hierarchy of ‘avoid, minimise, restore and compensate’ to protect the environment in which the new road is constructed. Where required, any adverse effects on sensitive areas would be reduced. All mitigation proposals have been designed to be “appropriate and proportionate” to the type and extent of impact they are intended to offset.</p> <p>After statutory consultation, we amended the design of the proposed M2/A2 junction, and the southern tunnel entrance was moved 350 metres southwards. This would help mitigate the impacts on the Thames Estuary and Marshes Ramsar and SPA site, while still maintaining safety standards on the link between the tunnel and the proposed M2/A2 junction.</p> <p>The proposed footprint of the upgraded section of the M2/A2 has been reduced by removing the hard shoulder along the eastbound parallel connector road, reducing the width of lane four, and reducing the width of the central reservation. These changes have reduced the impact of the road on the Kent Downs AONB compared with the proposals promoted during statutory consultation, while still maintaining safety and traffic flow.</p> <p>Furthermore, after further investigation and consideration of the issues raised during statutory consultation, we decided not to progress the roadside facility near East Tilbury. The new road is capable of operating safely without the inclusion of a roadside facility. These would also have had significant impacts on the environment and local communities, including on the green belt and countryside.</p> <p>The project has been designed to reduce the effects on habitats within the area as far as possible. Where land would be affected, either permanently lost or adversely affected in other ways, we have tried to avoid designated sites, irreplaceable habitats and areas of semi-natural habitats such as woodland and marshland. However, it is recognised that completely avoiding such impacts whilst still meeting the engineering and safety requirements of the project has not been possible, and some of these habitats are affected.</p> <p>To offset these adverse effects, the ecological mitigation and the landscape designs focus on providing habitats of greater biodiversity value than those that would be affected. The design also works to join up these areas of newly created habitat as well as linking to areas of established and retained habitats such as the areas of ancient woodland in both Essex and Kent.</p>

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Summary of what you said	Our response
	<p>In Kent, new woodland would be designed to strengthen connectivity between existing retained woodland within the area, particularly around Claylane Wood, Shorne and Ashenbank Wood Site of Special Scientific Interest (SSSI), Great Crabbles Wood SSSI and, south of the A2, Jeskyns Community Woodland. This would include woodland planting either side of the project and to the west of Jeskyns Country Park.</p> <p>These areas would be linked via two proposed green bridges on Thong Lane, one over the M2/A2 and the other over the project, along with another green bridge carrying Brewers Road over the M2/A2. Although the design for the proposed M2/A2 junction impacts a section of Claylane Wood, the junction's overall footprint would be smaller than the proposal presented during statutory consultation, having been revised at supplementary consultation and design refinement consultation.</p> <p>Following the design refinement consultation, changes have been made to the compensatory tree planting north of junction 29 of the M25 following feedback from the land owners. The design has been amended to provide a more comprehensive woodland block to the north east of the junction linking to Coombe Wood ancient woodland.</p> <p>Wildlife crossings would also be introduced, most notably via the seven green bridges that are proposed (including the two above), as well as large culverts with features that help wildlife to pass through safely. These would help to link adjacent wildlife habitats once they are separated by the construction of the new road. The project would have impacts on Shorne and Ashenbank Wood Site of Special Scientific Interest and Claylane Wood. Where appropriate, we have proposed replacement woodland planting.</p>
<p>You raised concerns about the visual appearance of the project and suggested the landscape would be impacted</p>	<p>We considered feedback regarding the landscape being impacted and have made some changes to ensure that where possible mature vegetation is retained, where previously it may have been lost. This has been achieved by reducing utilities working areas. One example of this is since the design refinement consultation, south of the river a utility (gas diversion) route has been amended to go under Park Pale Lane, adjacent to the M2/A2. This results in a reduction of the loss of woodland in Brewers Wood that can now be retained. In addition, the same utility route has been amended to the west of Brewers Road Bridge, which has reduced the loss of woodland in Shorne.</p> <p>The project has also been designed to reduce, where possible, the visual impact on the landscape. Design decisions have been taken that have reduced the visual impact of the project, such as allowing</p>

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Summary of what you said	Our response
	<p>only essential connectivity at major junctions to reduce their height and footprint. This has resulted in approximately 80% of the road in cutting, false cutting or tunnel.</p> <p>Across the route, earthworks would be carefully designed to help make the route less obtrusive. Where false cuttings and embankments meet other landscape earthworks or landscape features, the earthworks would be effectively integrated or terminated in as naturalistic a way as possible. Earthworks would maintain a consistent level of screening if appropriate to the location.</p> <p>South of the river, the route would be in cutting as far as the proposed M2/A2 junction. The surrounding landscaping would provide a balance between screening the route and retaining the open landscape character of the area. Hedgerows, fields and occasional trees are characteristic features of this area. This open landscape character is important to the setting of the Kent Downs Area of Outstanding Natural Beauty, which features wooded hills and a prominent ridgeline visible from within this landscape.</p> <p>The tunnel entrances would be set into the landscape, with the road below ground level. Each entrance would be designed, as far as practicable, to sit sympathetically within its surrounding landscape. Since statutory consultation, we have revised the landscaping proposals near the entrances, so they would have earthworks behind each one. These would offer extensive views and be open to the public with access via new public rights of way.</p> <p>An informal public space, Chalk Park, would be created around the southern tunnel entrance. This would use excavated material from the tunnel entrance and its approach, as well as a mixture of chalk grassland, woodland and other suitable habitats to improve local biodiversity and ecological connectivity. A new landform, with woodland planting to the top, would create vantage points to the wider Thames Estuary.</p> <p>At the northern tunnel entrance, we are proposing to create a new landform with footpaths leading up to elevated viewpoints looking out to the south, east and west, from where Coalhouse and Tilbury forts would be visible. The landform design would be created using excavated material from the construction works.</p> <p>North of the river, the route passes through significant flood zones or existing infrastructure, e.g. railway lines. However, for a significant length north of the River Thames, the route would sit within a false cutting between 2 metres and 5 metres high, which would help it</p>

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Summary of what you said	Our response
	<p>blend with the surrounding landscape. The route would pass under rather than over the existing A13/A1089 junction, helping to reduce the height of the junction, before being elevated on embankments and viaducts across the Mardyke Valley. The route would pass under rather than over the M25, reducing the overall height of this junction, before joining the motorway south of junction 29.</p> <p>In some instances, it has been necessary to move pylon and transmission lines closer to properties due to design constraints. However, across the project area there would be a net reduction in the number of pylons as the proposed realignment of some overhead power line routes do not require them.</p> <p>One example is, where there are proposed changes to pylons and power lines that are to the west of Linford and east of the project route. These are not envisaged to move overhead lines closer to homes in Linford and a section of existing network would be undergrounded. We consulted on these proposals during supplementary consultation.</p> <p>For further information about works to existing utilities infrastructure in your area, please see the Ward impact summaries.</p> <p>Further information on the visual appearance of open space sites associated with this project are provided in chapter 3.4 new open space sites in the Operations update.</p>

Summary of what you said	Our response
<p>You raised concerns about the impact on communities and businesses, including the impacts on health around schools and care homes, and the issues raised when separating communities. Your comments also specifically mentioned impacts around the A2/M2 junction, and impacts on local businesses</p>	<p>We have tried to minimise the land affected or required for the Lower Thames Crossing to lessen the impact on landowners and local people.</p> <p>The project has been designed to avoid and reduce impacts and effects on the local population and human health by embedding mitigation within its design. Examples of embedded mitigation include reducing land take from private properties and community assets, providing replacement land, and the creation of a series of green bridges along the route. The junctions have been designed to minimise their height and footprint as far as reasonably possible, while still providing the necessary capacity, safety, and connectivity to the strategic road network. We have also included other measures, for example, the addition of green bridges, some of which also include routes for walkers, cyclists and horse riders.</p> <p>In addition to our proposals for green bridges and new routes for walkers, cyclist and horse riders, we are proposing a package of measures for existing open space and recreational facilities affected by our plans. Further details on these proposals are set out in the Operations update.</p> <p>During construction, we would seek to minimise impacts on public rights of way as much as possible. Where one is affected, we would consider options that would include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. Where a reasonable alternative is not possible, these public rights of way would be closed during construction. More information about the impacts on footpaths and bridleways in specific wards, including proposals to improve and maintain local connectivity, can be found in the Ward impact summaries.</p> <p>Construction compound locations have also been refined to reduce impacts, in some cases moving the compound further from sensitive areas. Where this has not been possible, additional mitigation to lessen visual and noise intrusion has been proposed in the form of hoarding or earth bunds. Fencing would also be provided for security purposes. Commitments to this effect are being included within the CoCP and REAC.</p> <p>The CoCP also includes further mitigations and guidance to our contractors on a number of environmental considerations. These include dust, noise, light and working hours.</p>

(continued on next page)

Summary of what you said	Our response
	<p>We will develop a communications and engagement strategy (CES) to outline the objectives and communications with all stakeholders. Our appointed contractors would then develop a communications and engagement plan in support of the CES, to ensure that stakeholders are informed of all work activities and to maintain good relationships with other parties.</p> <p>As part of the efforts to generate benefits for local communities, we intend to provide opportunities for local people to work on the construction of the route. We are also helping local businesses to form part of the supply chain to build the route. We are working with stakeholders to develop these plans and put them into action, should development consent be granted.</p> <p>Around the M2/A2 junction, we have sought to minimise impacts wherever possible and worked with local businesses to understand their impacts. Three commercial premises would need to be demolished to build the proposed M2/A2 junction. Owners of these businesses would be eligible for compensation in line with the government's Compensation Code.</p> <p>Other businesses near the proposed M2/A2 junction may be impacted temporarily during construction. We have worked with these businesses to understand their priorities and reduce impacts wherever possible.</p>

5

Visualisations of the changes

This chapter contains maps and images to show the changes that have been made to the project since the statutory consultation. Changes are described throughout the earlier chapters of this document and provide a more detailed explanation than included in the following maps or images.

For the purpose of describing the changes in more detail, we have divided the route into eight map sections:

- A2/M2 corridor
- South of Gravesend
- South of the River Thames/Tunnel entrance
- Tilbury area
- A13/A1089 junction
- Mardyke Valley/North Road
- M25 junction with the Lower Thames Crossing
- M25 junction 29

Figure 5-0 shows the eight map sections.

Eight map sections of the Lower Thames Crossing

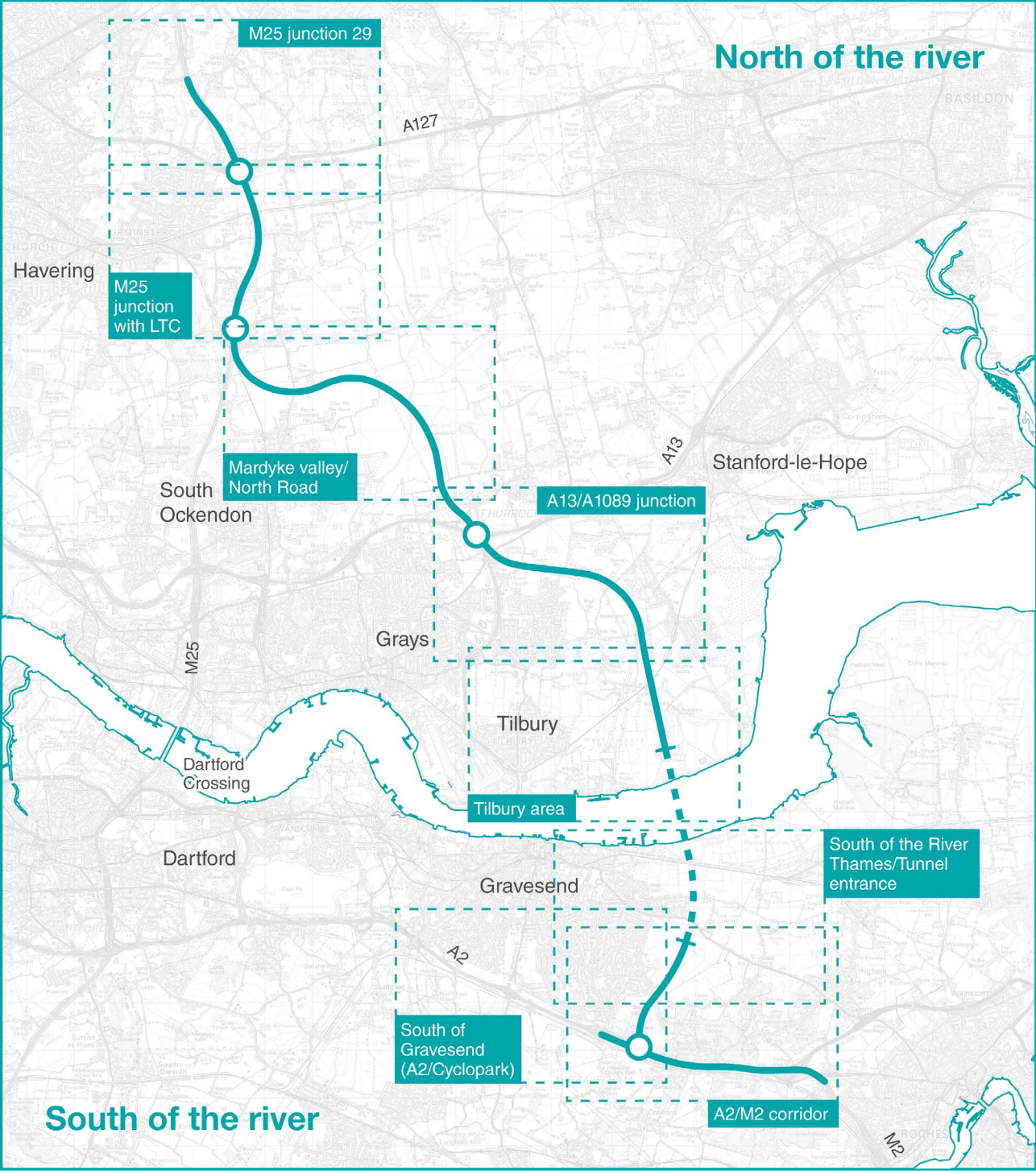


Figure 5-0

A2/M2 corridor

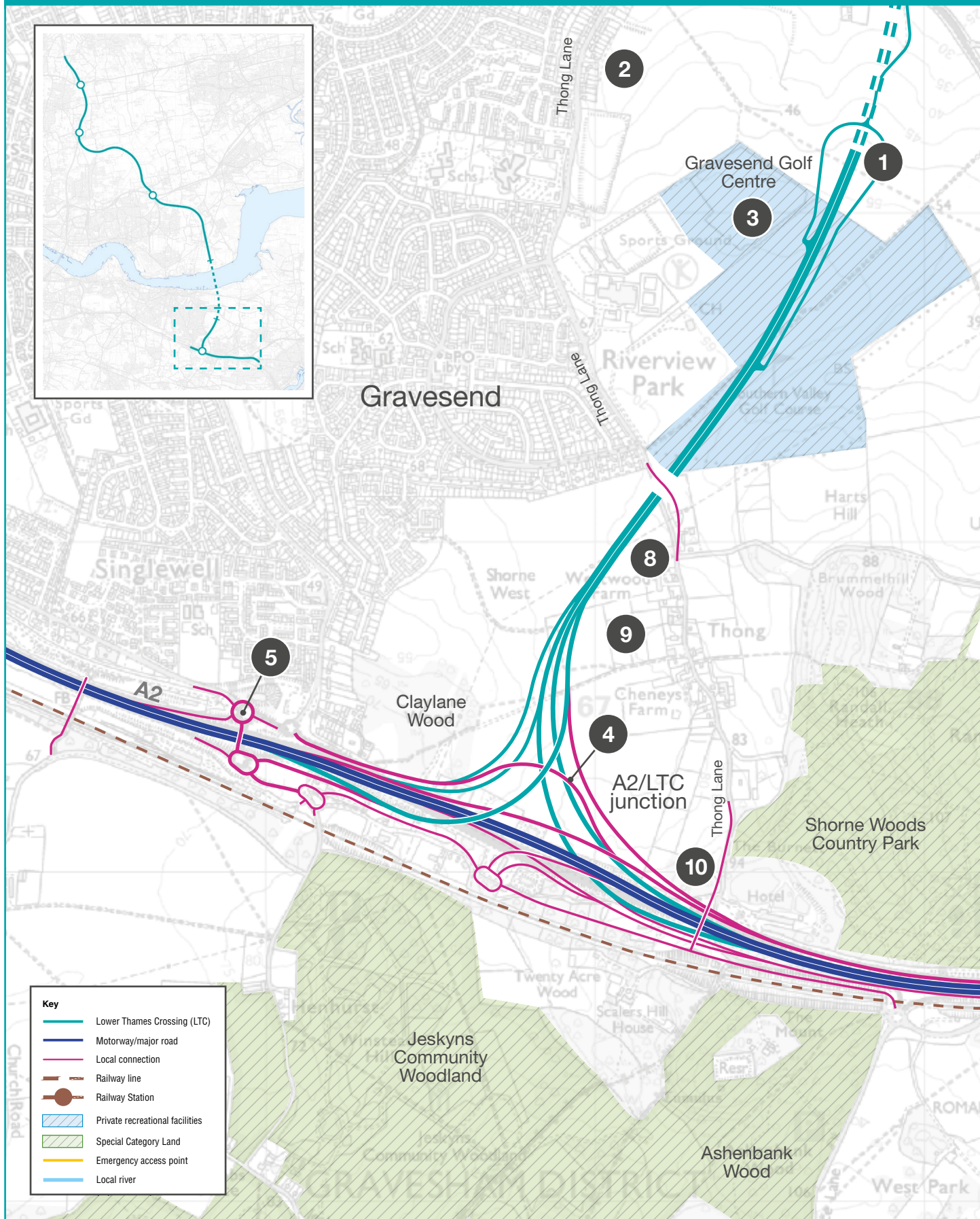
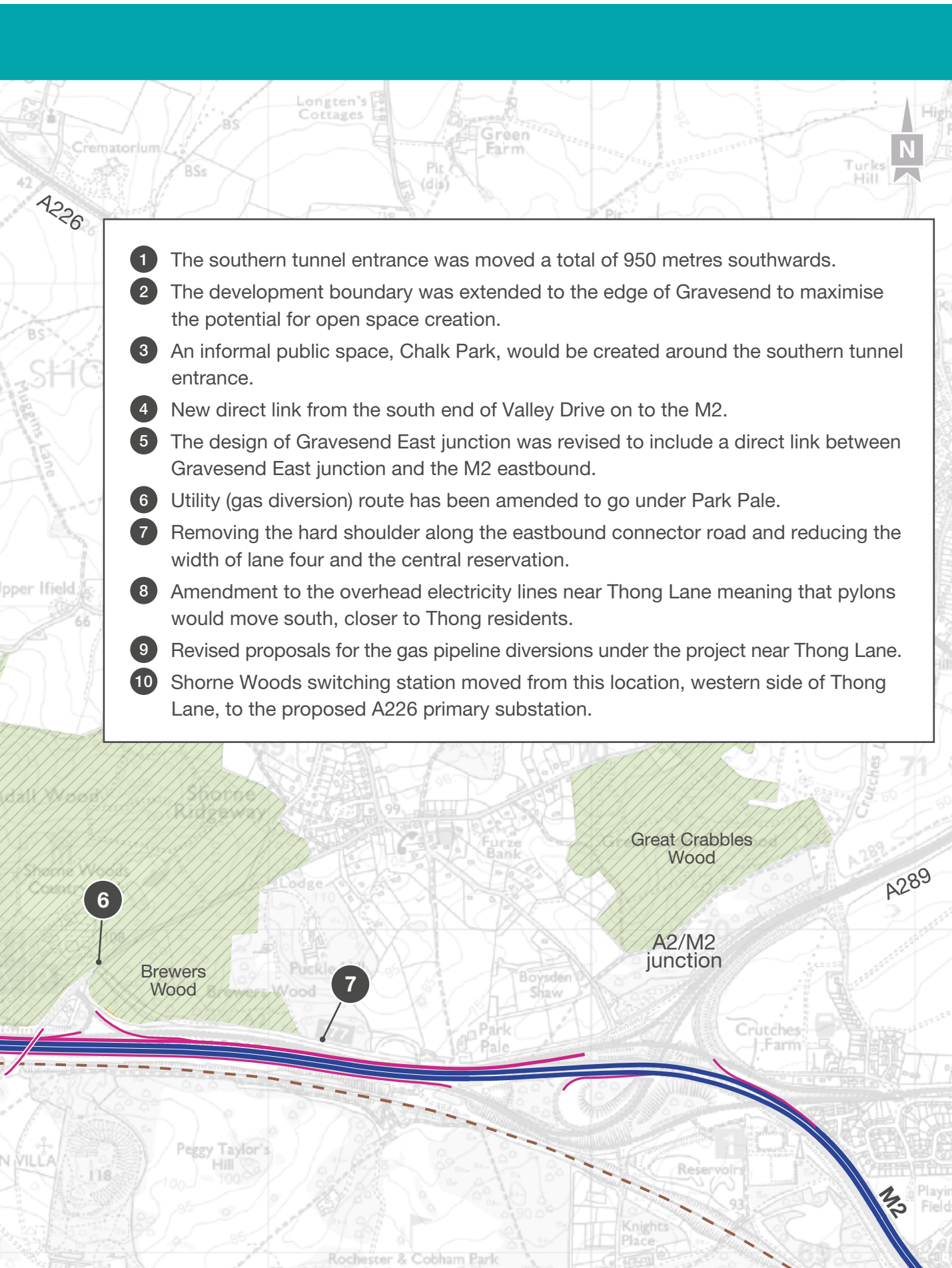


Figure 5-1. A2/M2 corridor map



- 1 The southern tunnel entrance was moved a total of 950 metres southwards.
- 2 The development boundary was extended to the edge of Gravesend to maximise the potential for open space creation.
- 3 An informal public space, Chalk Park, would be created around the southern tunnel entrance.
- 4 New direct link from the south end of Valley Drive on to the M2.
- 5 The design of Gravesend East junction was revised to include a direct link between Gravesend East junction and the M2 eastbound.
- 6 Utility (gas diversion) route has been amended to go under Park Pale.
- 7 Removing the hard shoulder along the eastbound connector road and reducing the width of lane four and the central reservation.
- 8 Amendment to the overhead electricity lines near Thong Lane meaning that pylons would move south, closer to Thong residents.
- 9 Revised proposals for the gas pipeline diversions under the project near Thong Lane.
- 10 Shorne Woods switching station moved from this location, western side of Thong Lane, to the proposed A226 primary substation.

A2/M2 corridor

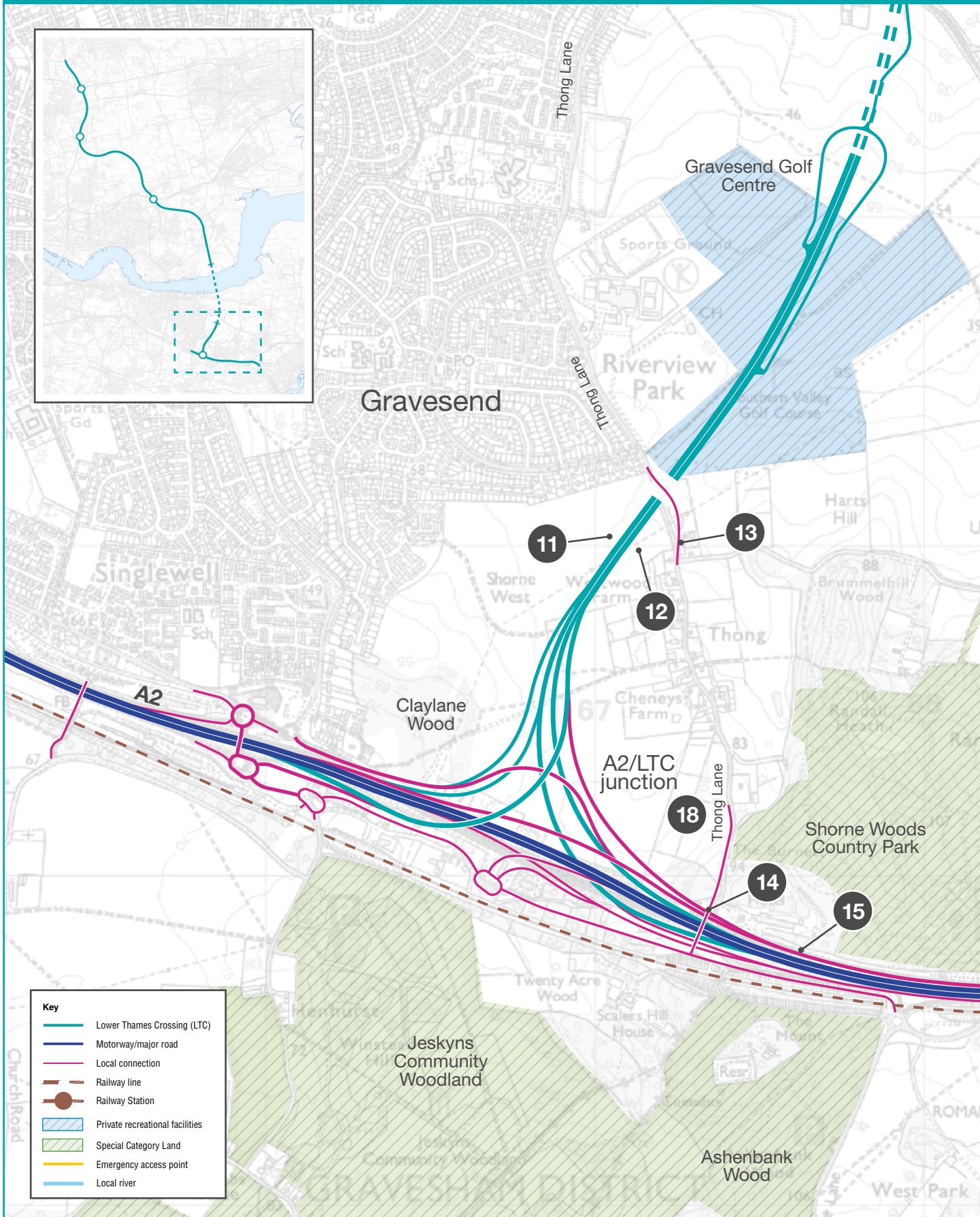
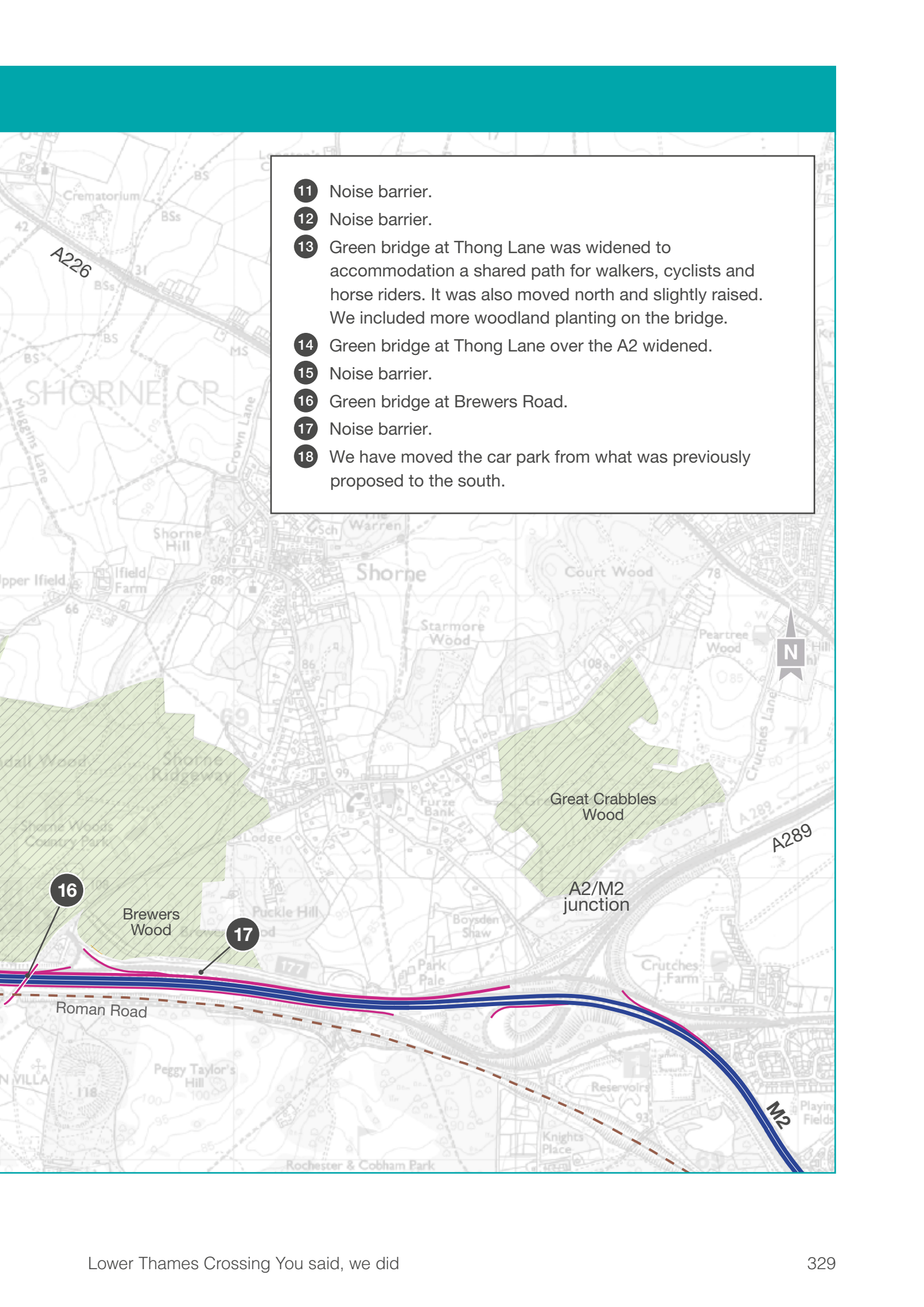


Figure 5-2. A2/M2 corridor map

- 
- 11 Noise barrier.
 - 12 Noise barrier.
 - 13 Green bridge at Thong Lane was widened to accommodate a shared path for walkers, cyclists and horse riders. It was also moved north and slightly raised. We included more woodland planting on the bridge.
 - 14 Green bridge at Thong Lane over the A2 widened.
 - 15 Noise barrier.
 - 16 Green bridge at Brewers Road.
 - 17 Noise barrier.
 - 18 We have moved the car park from what was previously proposed to the south.

For more information on some of the proposed design changes to the area around Thong Lane green bridge over the Lower Thames Crossing, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Route south of the river, Environmental impacts and how we plan to reduce them, Development boundary/Order Limits, and Changes to utilities infrastructure
- Chapter 3 sections: Most common suggestions, and Building the Lower Thames Crossing
- Chapter 4 sections: Most common suggestions, South of the river in Kent, and Environmental impacts and how we plan to reduce them

Existing view



Figure 5-3. Existing Thong Lane linking Gravesend and Thong, looking north

Proposed in 2018 statutory consultation



Figure 5-4. Statutory consultation – proposed Thong Lane green bridge linking Gravesend and Thong and the approach to the southern tunnel entrance, looking north

Proposed in 2020 supplementary consultation



Figure 5-5. Supplementary consultation – proposed Thong Lane green bridge linking Gravesend and Thong and the approach to the southern tunnel entrance, looking north

Proposed in 2020 design refinement consultation



Figure 5-6. Design refinement consultation – proposed Thong Lane green bridge linking Gravesend and Thong and the approach to the southern tunnel entrance, looking north

Proposed in 2021 community impacts consultation



Figure 5-7. Community impacts consultation – proposed Thong Lane green bridge linking Gravesend and Thong and the approach to the southern tunnel entrance, looking north

For more information on some of the proposed design changes to the M2/A2, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Preferred route selection and changes, Route south of the river, Lower Thames Crossing and M2/A2 junction, Environmental impacts, and Development boundary/Order limits
- Chapter 3 section: Environmental impacts and how we plan to reduce them
- Chapter 4 sections: South of the river in Kent, and Environmental impacts and how we plan to reduce them

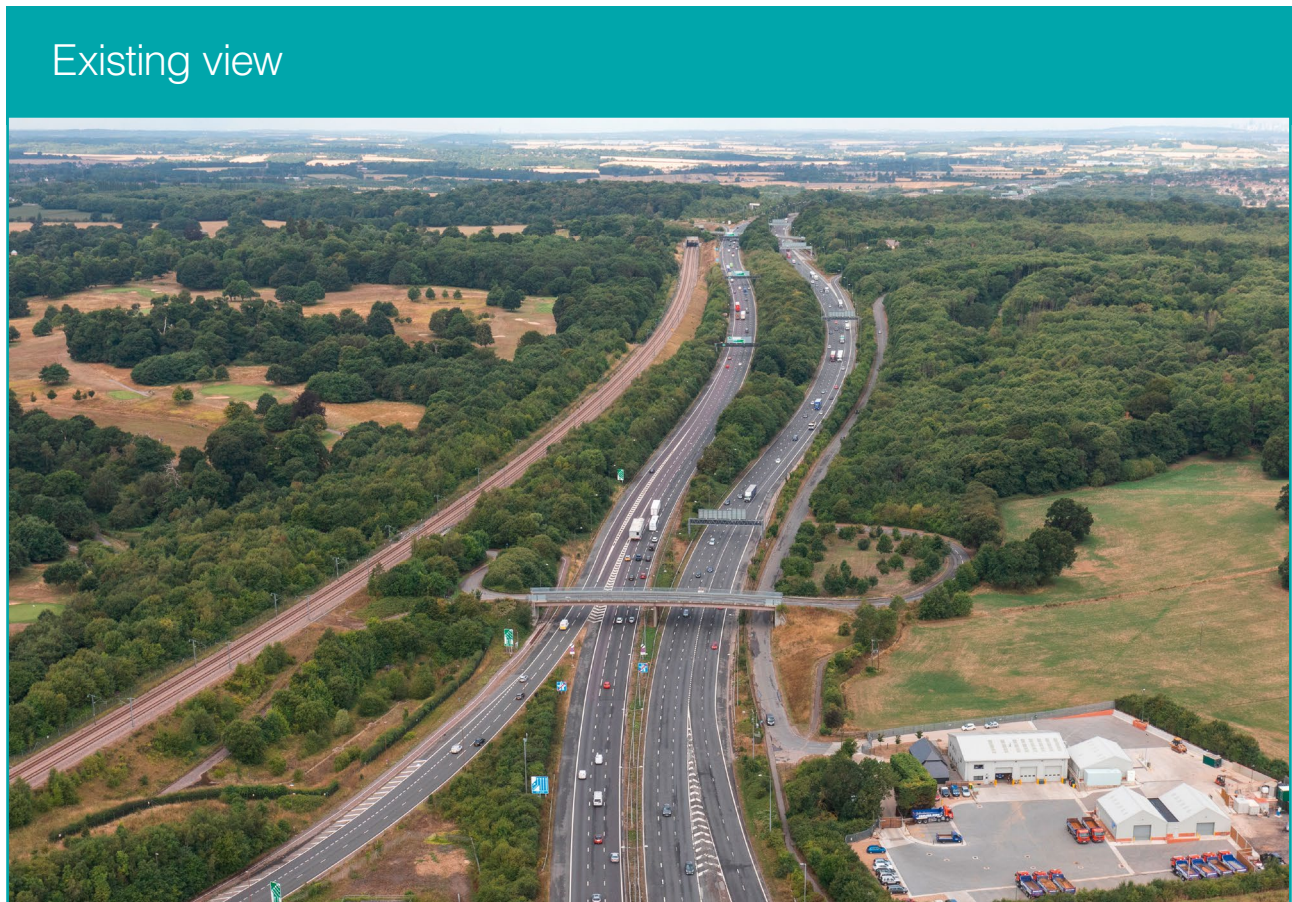


Figure 5-8. Existing M2/A2 along the A2 near Park Pale bridge, looking west

Proposed in 2018 statutory consultation



Figure 5-9. Statutory consultation – proposed M2/A2 along the A2 near Park Pale bridge, looking west

Proposed in 2020 supplementary consultation



Figure 5-10. Supplementary consultation – proposed M2/A2 along the A2 near Park Pale bridge, looking west

Proposed in 2020 design refinement consultation



Figure 5-11. Design refinement consultation – proposed M2/A2 along the A2 near Park Pale bridge, looking west

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-12. Community impacts consultation – proposed M2/A2 along the A2 near Park Pale bridge, looking west, including noise barrier

For more information on some of the proposed design changes to the A2 junction, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Route south of the river, Environmental impacts and how we plan to reduce them, and Forecast traffic conditions for the project
- Chapter 3 section: South of the river in Kent
- Chapter 4 section: Environmental impacts and how we plan to reduce them

Existing view



Figure 5-13. Existing A2, looking north

Proposed in 2018 statutory consultation



Figure 5-14. Statutory consultation – proposed M2/A2/LTC junction, looking north

Proposed in 2020 supplementary consultation



Figure 5-15. Supplementary consultation – proposed M2/A2/LTC junction, looking north

Proposed in 2020 design refinement consultation



Figure 5-16. Design refinement consultation – proposed M2/A2/LTC junction, looking north

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-17. Community impacts consultation – proposed M2/A2/LTC junction looking north, including noise barriers and false cutting

For more information on some of the proposed design changes in the area around Thong Lane green bridge over A2, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Route south of the river, Environmental impacts and how we plan to reduce them, Development boundary/Order Limits, and Changes to utilities infrastructure
- Chapter 3 sections: Most common suggestions, and Building the Lower Thames Crossing
- Chapter 4 sections: Most common suggestions, South of the river in Kent, and Environmental impacts and how we plan to reduce them

Existing view



Figure 5-18. Existing Thong Lane and A2, looking north

Proposed in 2020 supplementary consultation



Figure 5-19. Supplementary consultation – proposed Thong Lane green bridge and A2, looking north

Proposed in 2020 design refinement consultation



Figure 5-20. Design refinement consultation – proposed Thong Lane green bridge and A2, looking north

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-21. Community impacts consultation – proposed Thong Lane green bridge and A2, looking north, including noise barriers and false cutting

South of Gravesend (A2/Cyclopark)

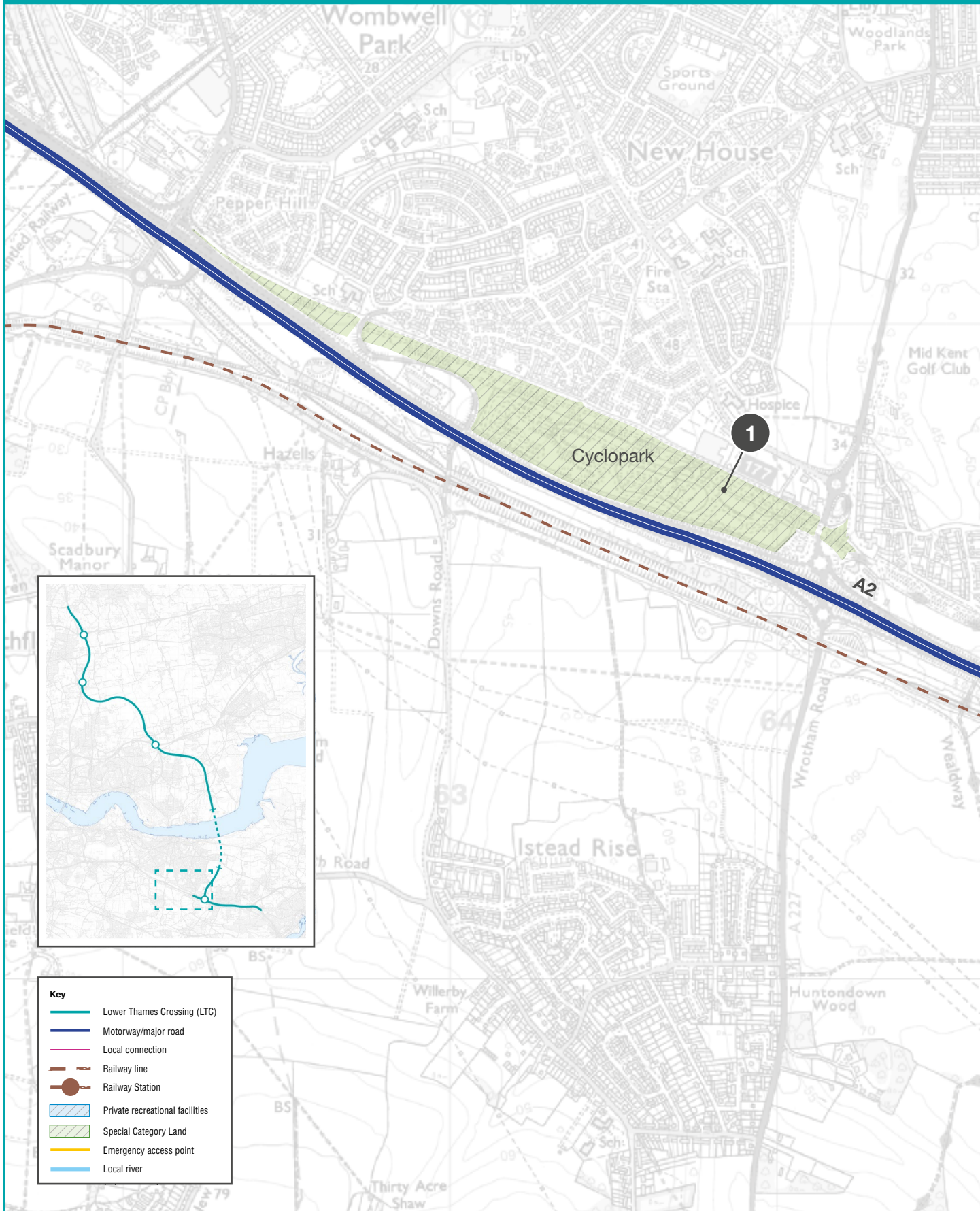
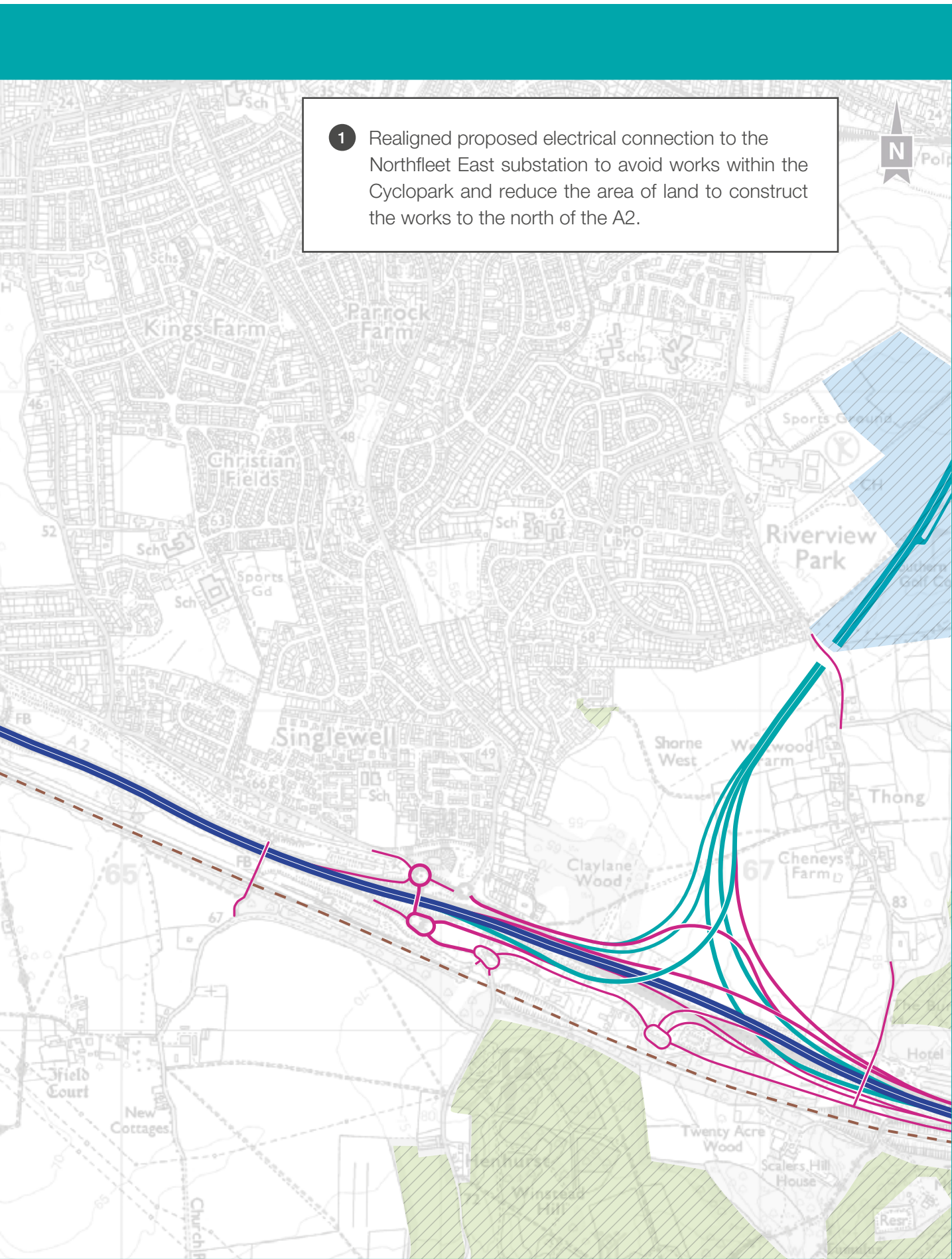


Figure 5-22. south of Gravesend map



South of the River Thames/Tunnel entrance

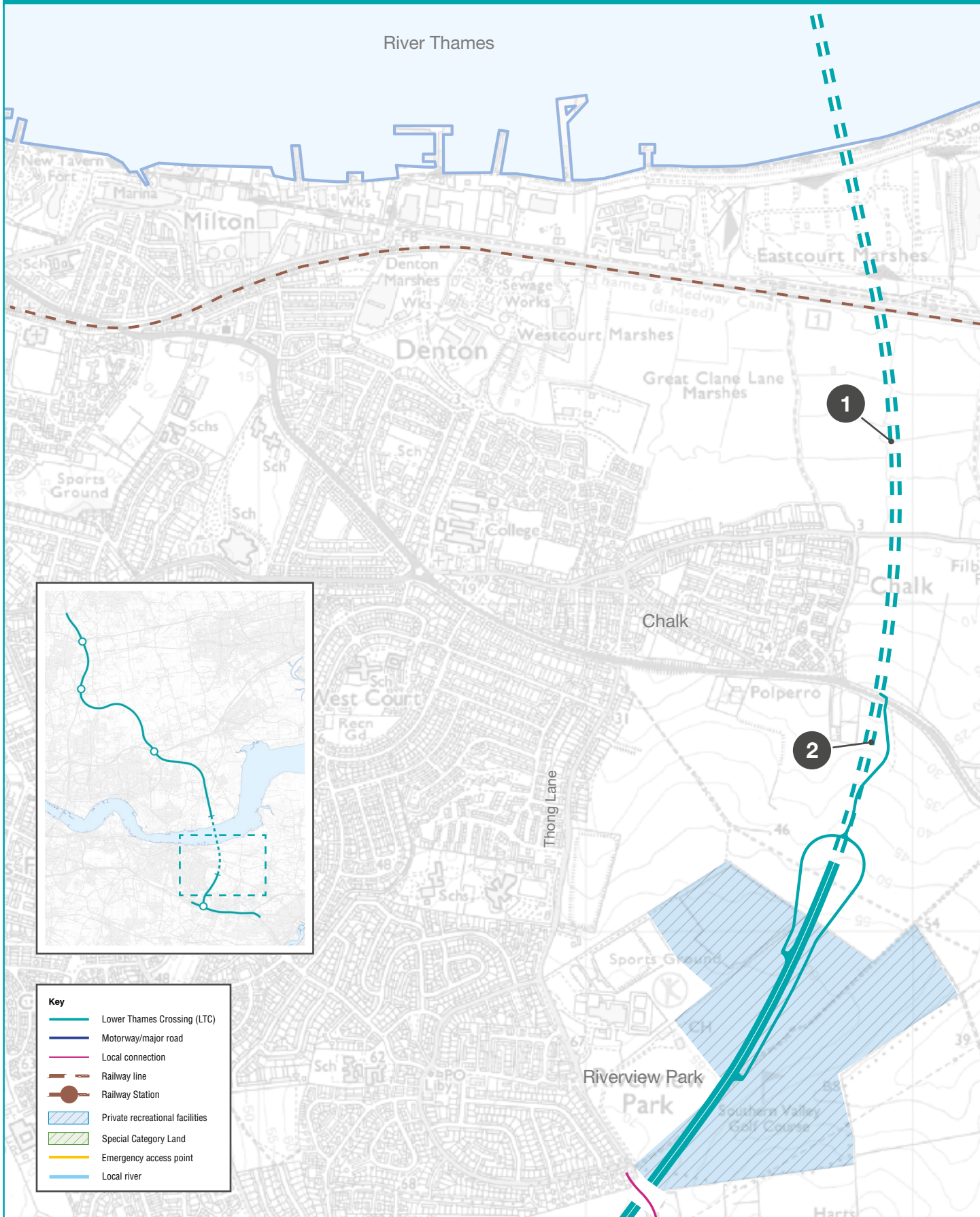
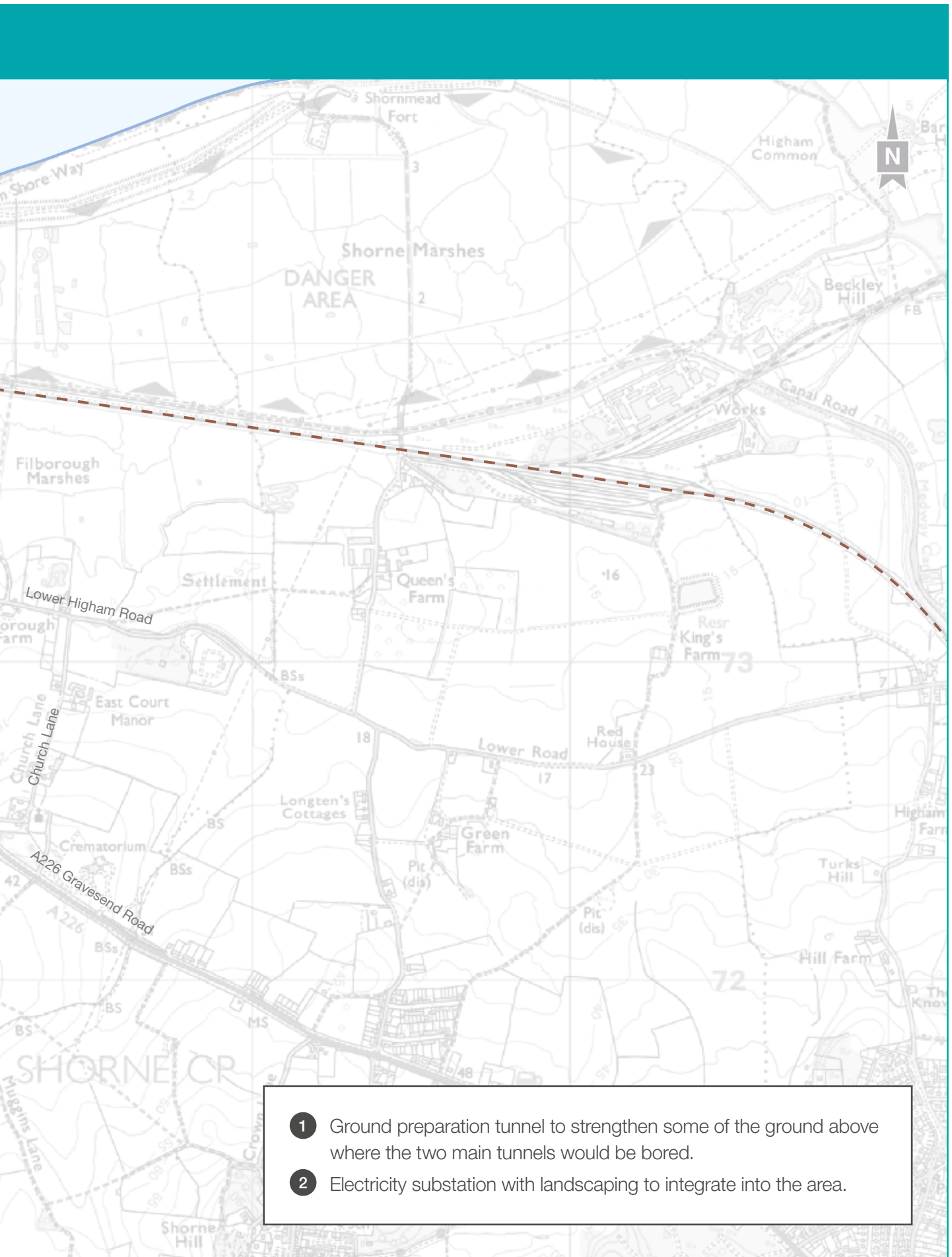


Figure 5-23. south of the river Thames/tunnel entrance map



For more information on some of the proposed design changes to the southern tunnel entrance, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Preferred route selection and changes, Route south of the river, The crossing, and Development boundary/Order Limits
- Chapter 3 section: Most common suggestions
- Chapter 4 section: Environmental impacts and how we plan to reduce them

Existing view



Figure 5-24. Existing landscape, looking north towards Chalk

Proposed in 2018 statutory consultation



Figure 5-25. Statutory consultation – proposed southern tunnel entrance approach, looking north

Proposed in 2020 supplementary consultation



Figure 5-26. Supplementary consultation – proposed southern tunnel entrance approach, looking north



Figure 5-27. Community impacts consultation – proposed southern tunnel entrance approach, looking north

For more information on the proposed Chalk Park, please see:

- Chapter 2 sections: Route south of the river, The crossing, and Environmental impacts and how we plan to reduce them
- Chapter 3 section: Environmental impacts and how we plan to reduce them
- Chapter 4 sections: Revised development boundary and Environmental impacts and how we plan to reduce them

Existing view



Figure 5-28. Existing landscape, looking west towards Gravesend

Proposed in 2021 community impacts consultation



Figure 5-29. Community impacts consultation – proposed open space site, Chalk Park, looking west towards Gravesend

Tilbury area

- 1 At the northern tunnel entrance, we are proposing the creation of a landform called Tilbury Fields.
- 2 Noise barrier.
- 3 Noise barrier.
- 4 Noise barrier.
- 5 We have amended proposals for the overhead power line diversion near the Tilbury Loop Railway, reducing the impact on nearby properties and simplifying ongoing maintenance.
- 6 Muckingford Road Green bridge.
- 7 Noise barrier.
- 8 Removal of rest and service area.
- 9 We made some minor changes to footpath 61 to minimise impacts on land use.
- 10 We made some minor changes to footpath 200 to minimise impacts on land use.
- 11 The previously proposed Tilbury junction is no longer required, which allowed the Tilbury viaduct to be lowered, reducing its visual impact.

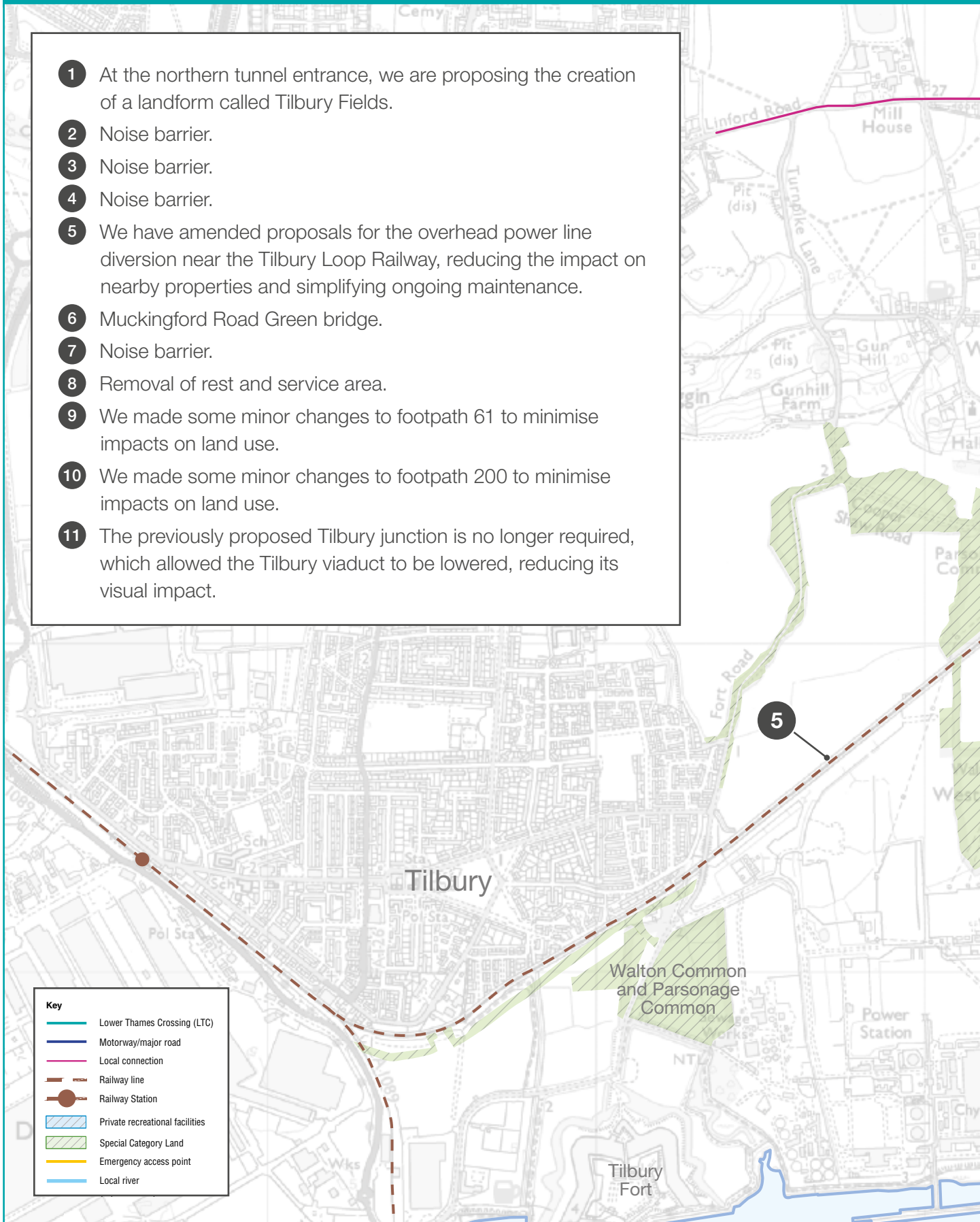
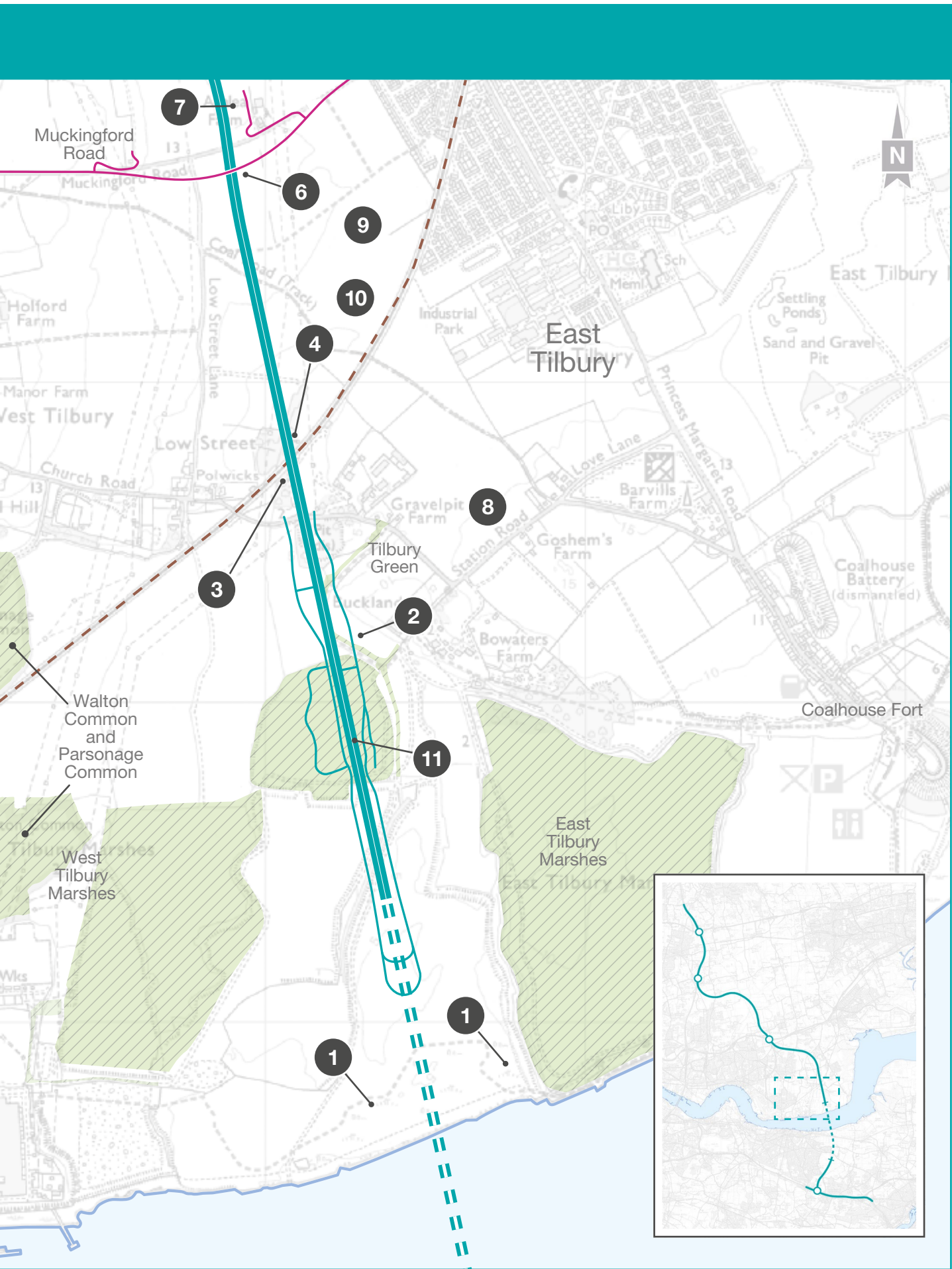


Figure 5-30. Tilbury area map



For more information on some of the proposed design changes to the northern tunnel entrance, please see chapter 2, section The crossing.

Existing view



Figure 5-31. Existing landscape near East Tilbury, looking south

Proposed in 2018 statutory consultation



Figure 5-32. Statutory consultation – proposed northern tunnel entrance approach, looking south

Proposed in 2020 supplementary consultation



Figure 5-33. Supplementary consultation – proposed northern tunnel entrance approach, looking south

Proposed in 2020 design refinement consultation



Figure 5-34. Design refinement consultation – proposed northern tunnel entrance approach, looking south

Proposed in 2021 community impacts consultation



Figure 5-35. Community impacts consultation – proposed northern tunnel entrance approach, looking south

For more information on the previously proposed Tilbury junction, please see:

- Chapter 2 sections: Connections in the Tilbury area, Development boundary/Order limits, and Rest and service area and maintenance depot
- Chapter 3 section: Previously proposed Tilbury junction
- Chapter 4 section: Tilbury area

Existing view



Figure 5-36. Existing landscape near Tilbury Power Station, looking north-east

Proposed in 2020 supplementary consultation



Figure 5-37. Supplementary consultation – Tilbury area, looking north-east from Tilbury Power Station

Proposed in 2020 design refinement consultation



Figure 5-38. Design refinement consultation – Tilbury area, looking north-east from Tilbury Power Station

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-39. Community impacts consultation – Tilbury area, looking north-east from Tilbury Power Station, including noise barriers and false cuttings

A13/A1089 junction

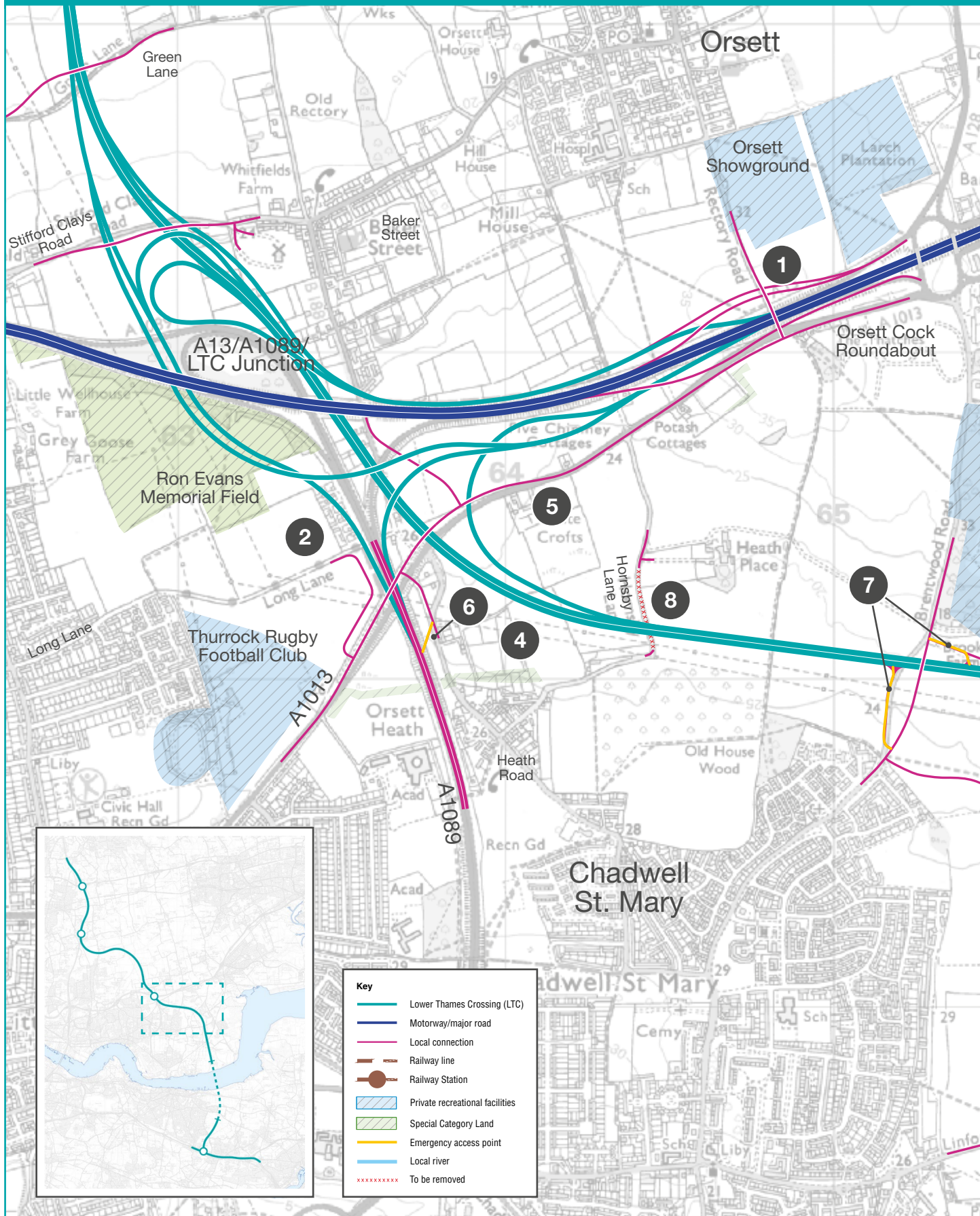
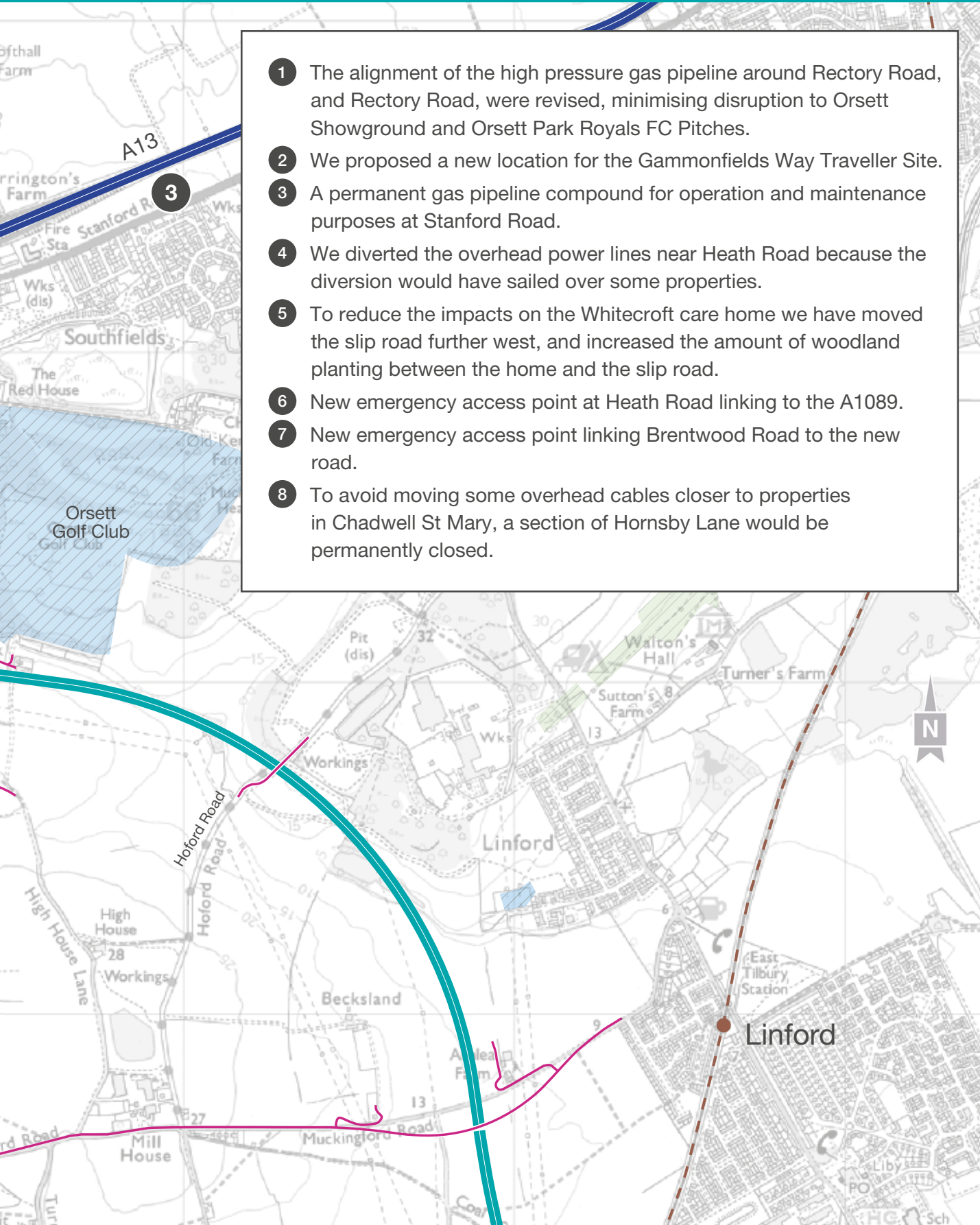


Figure 5-40. A13/A1089 junction map



- 1 The alignment of the high pressure gas pipeline around Rectory Road, and Rectory Road, were revised, minimising disruption to Orsett Showground and Orsett Park Royals FC Pitches.
- 2 We proposed a new location for the Gammonfields Way Traveller Site.
- 3 A permanent gas pipeline compound for operation and maintenance purposes at Stanford Road.
- 4 We diverted the overhead power lines near Heath Road because the diversion would have sailed over some properties.
- 5 To reduce the impacts on the Whitecroft care home we have moved the slip road further west, and increased the amount of woodland planting between the home and the slip road.
- 6 New emergency access point at Heath Road linking to the A1089.
- 7 New emergency access point linking Brentwood Road to the new road.
- 8 To avoid moving some overhead cables closer to properties in Chadwell St Mary, a section of Hornsby Lane would be permanently closed.

A13/A1089 junction

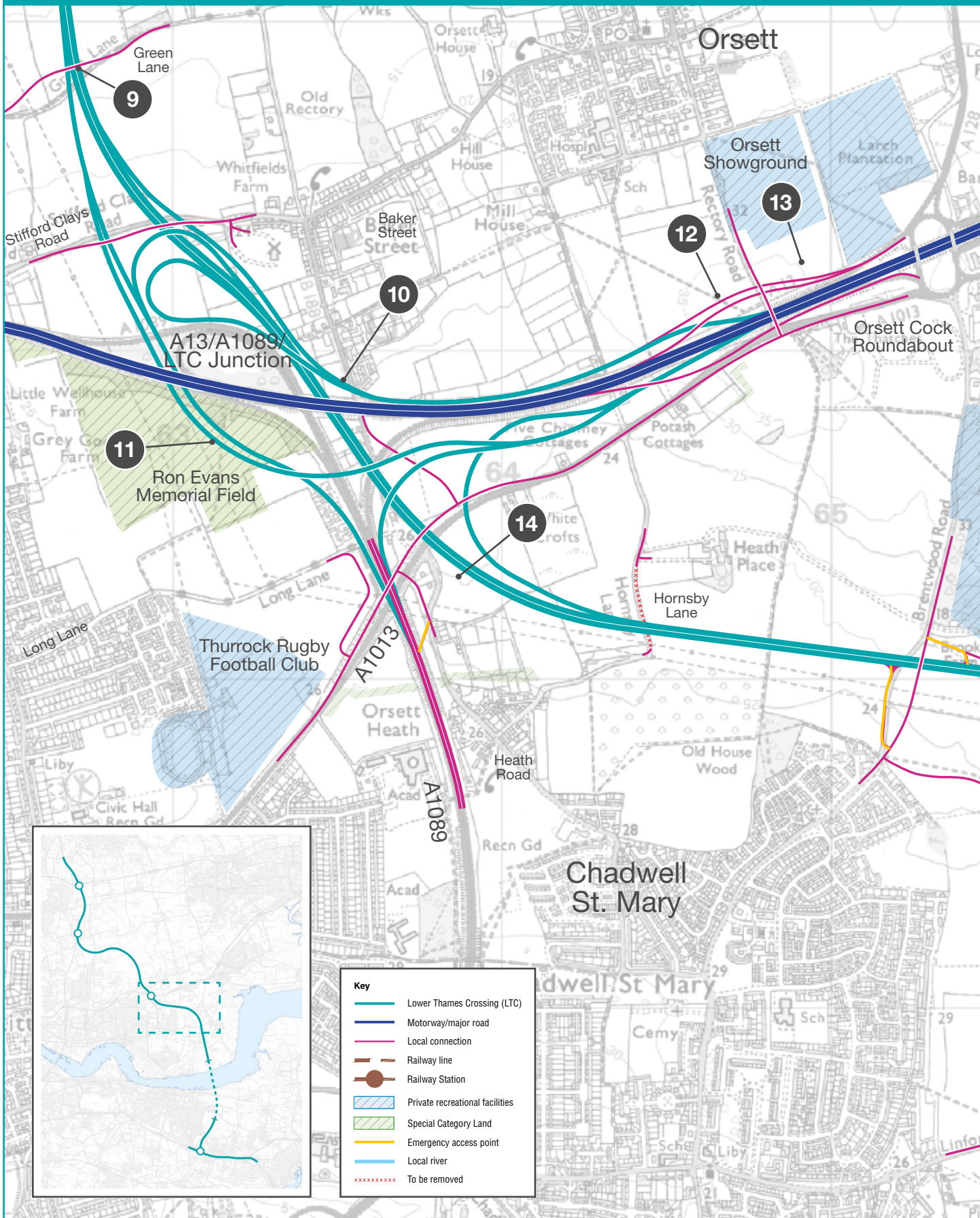
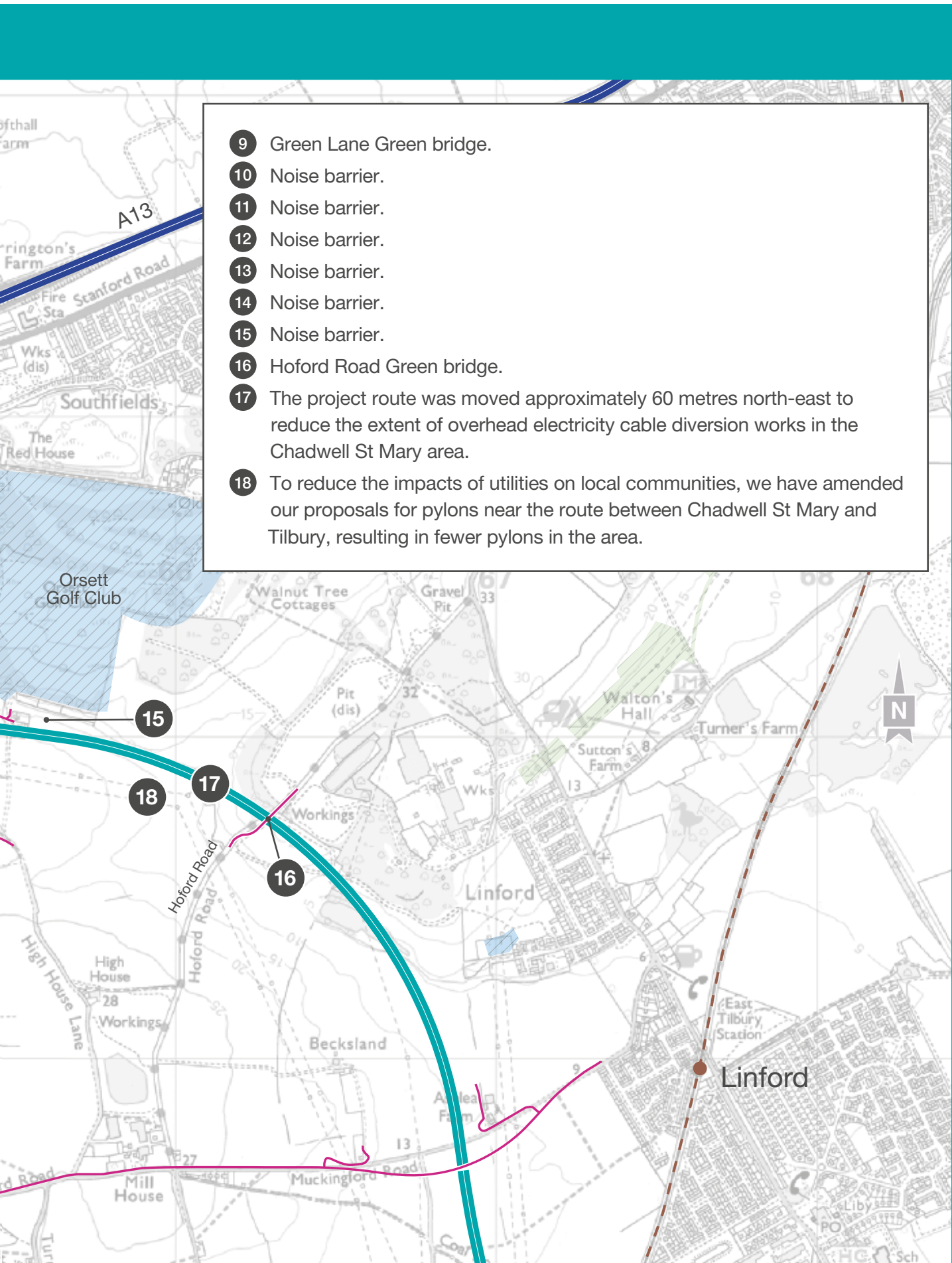


Figure 5-41. A13/A1089 junction map



For more information on some of the proposed design changes in the area around Muckingford Road, please see:

- Chapter 2 sections: Route north of the river and Development boundary/Order Limits
- Chapter 3 section: A13/A1089 junction

Existing view



Figure 5-42. Existing Muckingford Road, looking south-west

Proposed in 2020 supplementary consultation



Figure 5-43. Supplementary consultation – proposed Muckingford Road over the LTC, looking south-west

Proposed in 2021 community impacts consultation



Figure 5-44. Community impacts consultation – proposed Muckingford Road over the LTC, looking south-west

For more information on some of the proposed design changes to the A13/A1089 junction, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Northern connections, and Connections in the A13/A1089 area
- Chapter 3 section: A13/A1089 junction
- Chapter 4 section: The area around the A13/A1089 junction

Existing view



Figure 5-45. Existing view of A13/1089 junction, looking south

Proposed in 2018 statutory consultation



Figure 5-46. Statutory consultation – proposed LTC and A13/1089 junction, looking south

Proposed in 2020 supplementary consultation



Figure 5-47. Supplementary consultation – proposed LTC and A13/1089 junction, looking south

Proposed in 2020 design refinement consultation



Figure 5-48. Design refinement consultation – proposed LTC and A13/A1089 junction, looking south

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-49. Community impacts consultation – proposed LTC and A13/A1089 junction, looking south, including noise barriers and false cuttings

The design of the link road connecting the project road to the A13 eastbound and Orsett Cock roundabout is being amended to add an additional lane. Please see Chapter 3 of the Operations Update for more detail.

For more information on some of the proposed design changes to the area around Stanford Road, please see:

- Chapter 2 sections: Northern connections and Changes to utilities infrastructure
- Chapter 3 sections: A13/A1089 junction and Revised development boundary
- Chapter 4 sections: The area around the A13/A1089 junction and Special category land

Existing view



Figure 5-50. Existing view east of A13/Orsett Cock roundabout and A1013 Stanford Road, looking west

Proposed in 2020 design refinement consultation



Figure 5-51. Design refinement consultation – proposed view east of A13/Orsett Cock roundabout and A1013 Stanford Road, looking west

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-52. Community impacts consultation – proposed view east of A13/Orsett Cock roundabout and A1013 Stanford Road, looking west, including noise barriers and false cuttings

The design of the link road connecting the project road to the A13 eastbound and Orsett Cock roundabout is being amended to add an additional lane. Please see chapter 3 of the Operations update for more detail.

Mardyke valley/North Road

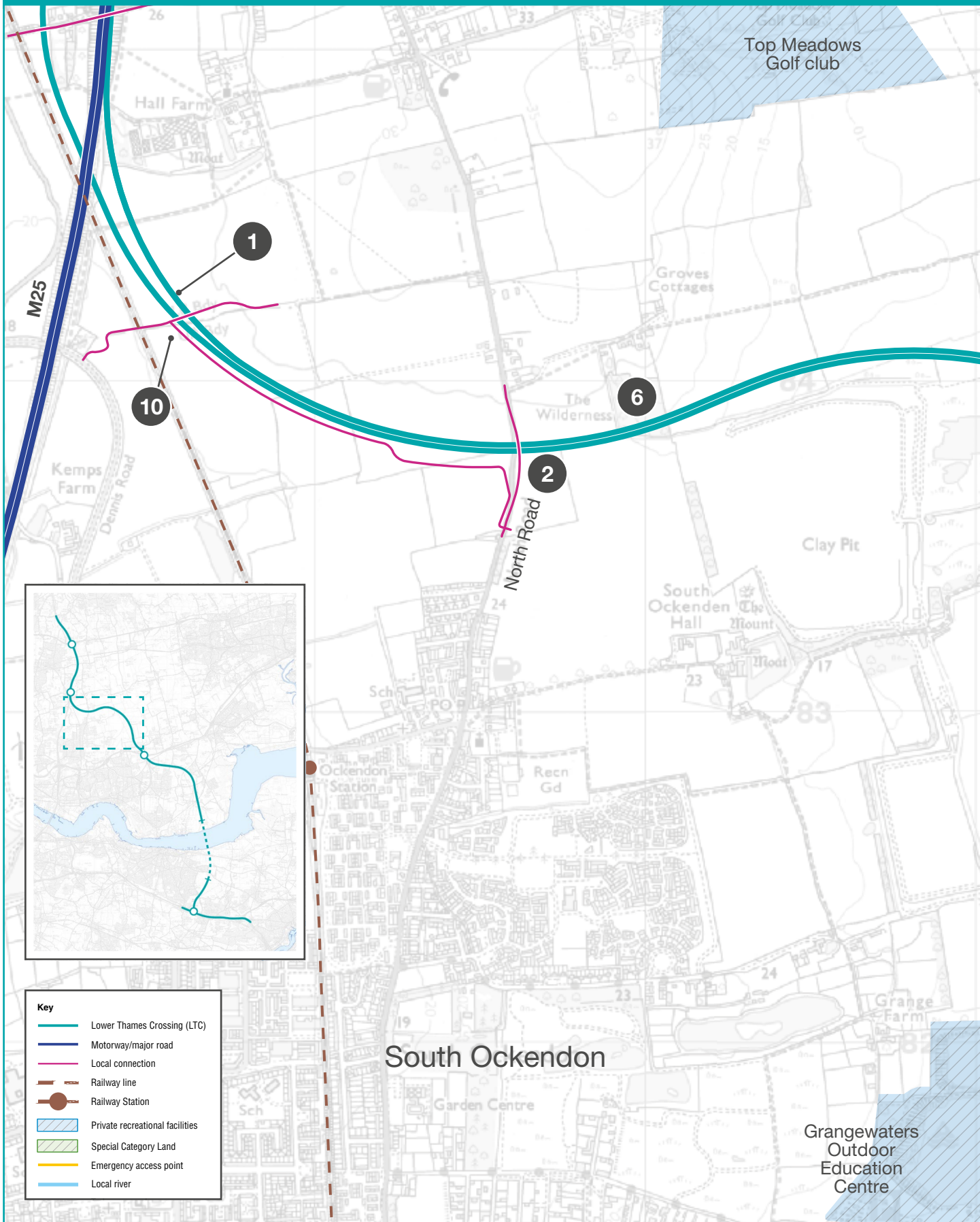
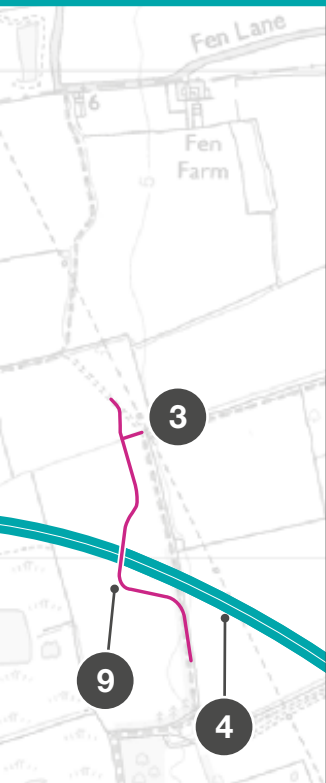


Figure 5-53. Mardyke Valley/ North Road Map



- 1 One lane removed from M25 to A13 southbound.
- 2 North Road upgraded to Green bridge with shared cycle lane and footpath connecting North and South Ockendon. Height of North Road and the new road lowered to reduce the visual impact.
- 3 Works removed in the Mardyke because some of the existing infrastructure and associated high pressure pipelines were no longer impacted by the new road.
- 4 Route moved 200 metres southwest to reduce the impact on the environment, utilities and landfill works in the area.
- 5 Overall, the Mardyke viaduct and Orsett Fen viaduct lengths were increased by approximately 50 metres which increased the open aspect and reduced the volume of flood compensation required.
- 6 Noise barrier.
- 7 Noise barrier.
- 8 Noise barrier.
- 9 Footpath 136 was realigned due to the project route moving southwest.
- 10 Footpath 252 was moved south to tie in more effectively with existing routes for walkers, cyclists and horse riders.



For more information on some of the proposed design changes to the area near the Mardyke, please see:

- Chapter 2 sections: Need for the Lower Thames Crossing, Preferred route selection and changes, and Route north of the river



Figure 5-54. Existing Mardyke Valley, looking north-east

Proposed in 2018 statutory consultation



Figure 5-55. Statutory consultation – proposed LTC viaduct over Mardyke Valley, looking north-east

Proposed in 2020 supplementary consultation



Figure 5-56. Supplementary consultation – proposed LTC viaduct over Mardyke Valley, looking north-east

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-57. Community impacts consultation – proposed LTC viaduct over Mardyke Valley, looking north-east, including noise barriers

For more information on some of the proposed design changes in the area around North Road green bridge, please see:

- Chapter 2 sections: Route north of the river and Development boundary/Order Limits
- Chapter 3 section: LTC/M25 junction

Existing view



Figure 5-58. Existing North Road, looking west

Proposed in 2020 supplementary consultation



Figure 5-59. Supplementary consultation – proposed North Road green bridge over the LTC, looking west

Proposed in 2020 design refinement consultation



Figure 5-60. Design refinement consultation – proposed North Road green bridge over the LTC, looking west

Proposed in 2021 community impacts consultation



Key — Length of noise barrier — Length of false cutting

Figure 5-61. Community impacts consultation – proposed North Road green bridge over the LTC, looking west, including noise barriers and false cuttings

M25 junction with LTC

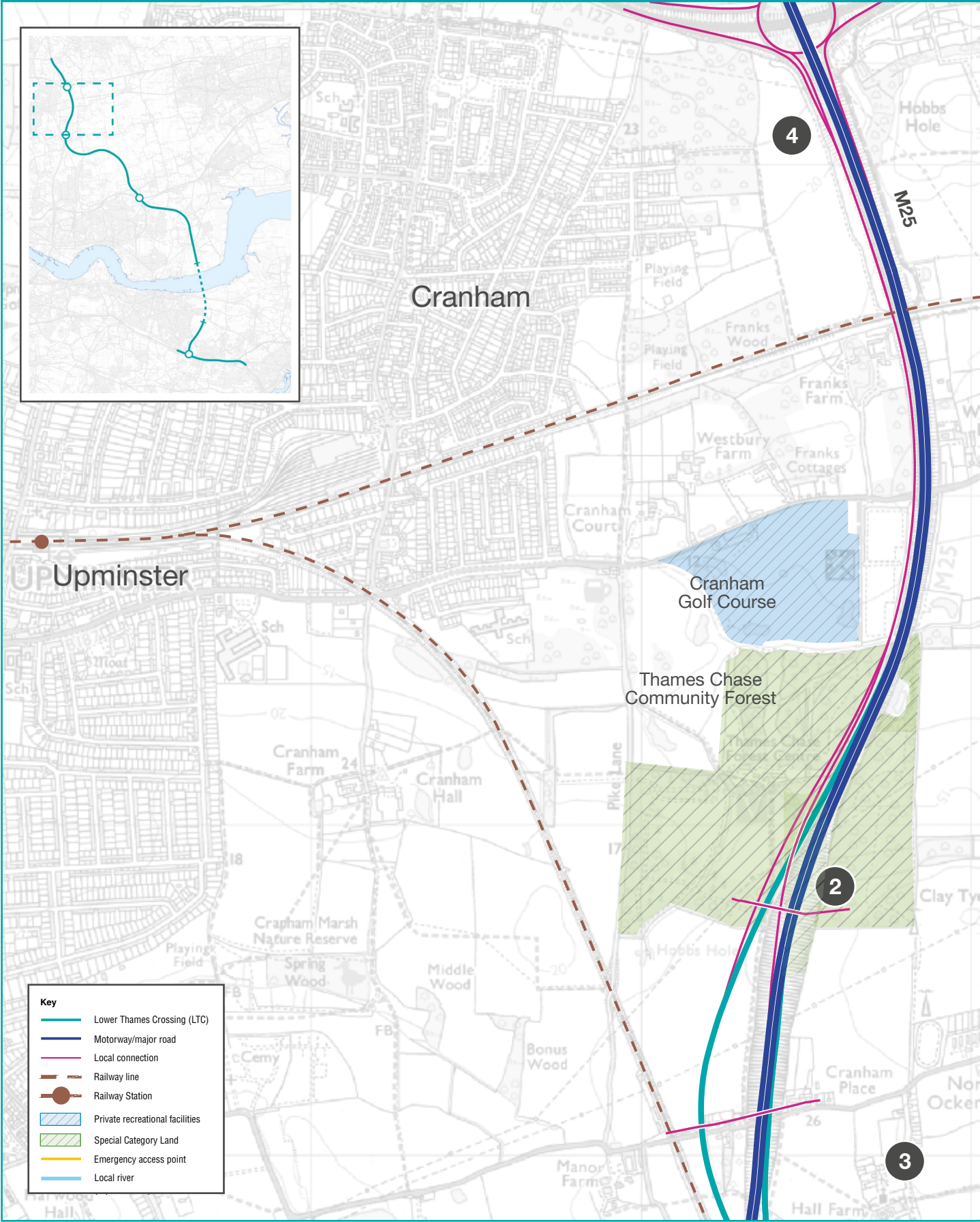
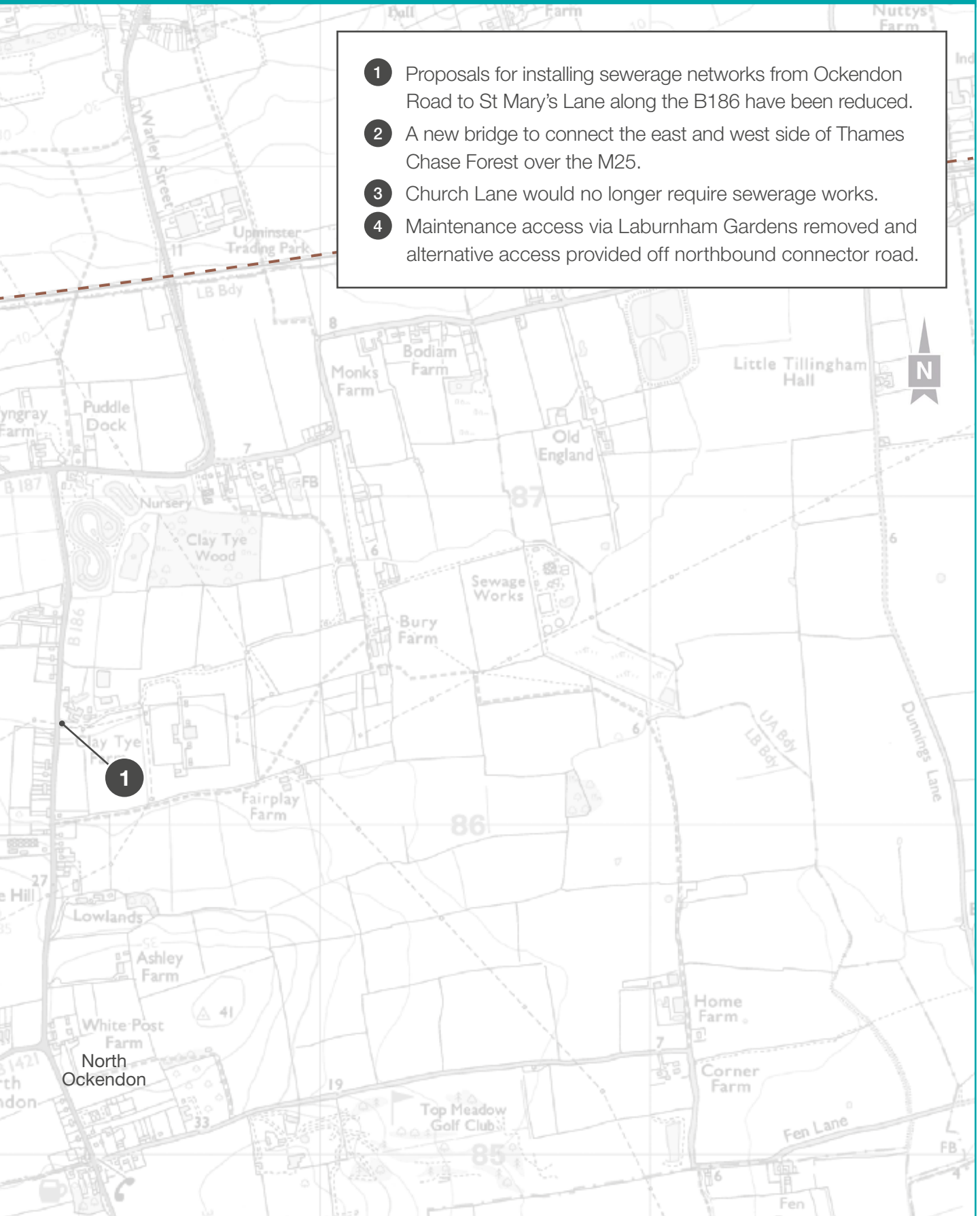


Figure 5-62. M25 junction with LTC Map

- 1 Proposals for installing sewerage networks from Ockendon Road to St Mary's Lane along the B186 have been reduced.
- 2 A new bridge to connect the east and west side of Thames Chase Forest over the M25.
- 3 Church Lane would no longer require sewerage works.
- 4 Maintenance access via Laburnham Gardens removed and alternative access provided off northbound connector road.



For more information on some of the proposed design changes to the area around the M25 junction with the LTC, please see:

- Chapter 2 sections: Route north of the river, Need for the Lower Thames Crossing, Northern connections, Public rights of way and Development boundary/Order Limits
- Chapter 3 sections: Most common suggestions, Lower Thames Crossing and its junction with M25, and Walkers, cyclists and horse riders
- Chapter 4 section: The area around the M25 junction

Existing view



Figure 5-63. Existing M25 and Ockendon Road, looking north

Proposed in 2020 supplementary consultation



Figure 5-64. Supplementary consultation – proposed LTC/M25 junction, with new Ockendon Road bridge, looking north

Proposed in 2020 design refinement consultation



Figure 5-65. Design refinement consultation – proposed LTC/M25 junction, with new Ockendon Road bridge, looking north

Proposed in 2021 community impacts consultation



Figure 5-66. Community impacts consultation – proposed LTC/M25 junction, with new Ockendon Road bridge, looking north

Proposed in 2021 community impacts consultation



Figure 5-67. Community impacts consultation – proposed walking, cycling and horse riding bridge over the M25 connecting to the Thames Chase Community Forest, looking south-west

M25 junction 29

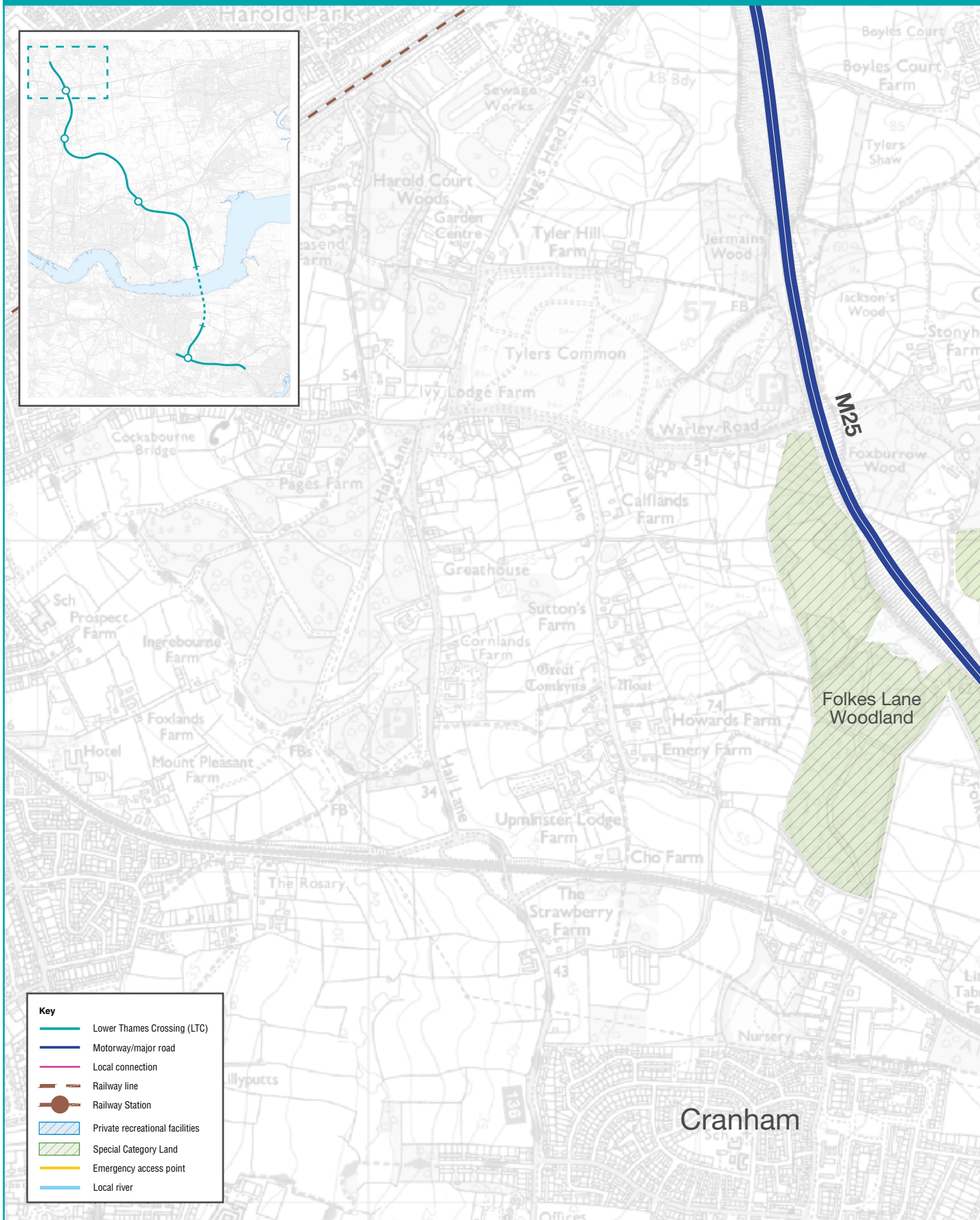
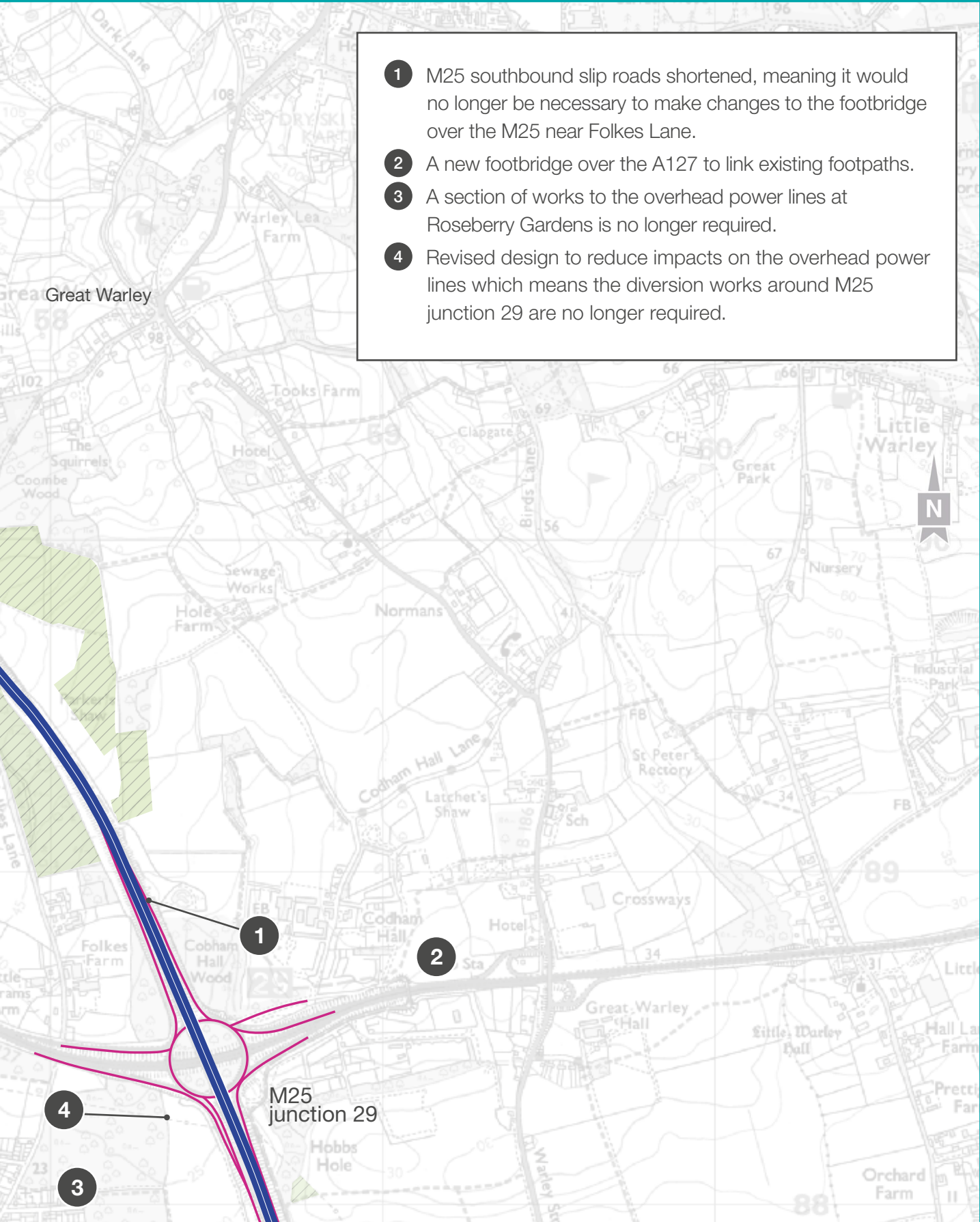


Figure 5-68. M25 junction 29 Map



For more information on some of the proposed design changes to the M25 junction 29 area, please see:

- Chapter 2 section: Northern connections
- Chapter 3 section: M25 junction 29
- Chapter 4 section: M25 junction 29 area

Existing view



Figure 5-69. Existing view of M25 between junction 29 and 30, looking north

Proposed in 2018 statutory consultation



Figure 5-70. Statutory consultation – proposed M25 between junction 29 and 30, looking north

Proposed in 2020 supplementary consultation



Figure 5-71. Supplementary consultation – proposed M25 between junction 29 and 30, looking north

Proposed in 2021 community impacts consultation



Figure 5-72. Community impacts consultation – proposed M25 between junction 29 and 30, looking north

6

How to have your say

You can provide feedback on this document by answering the You said, we did, related question in the response form for the community impacts consultation.

Please let us know your views on our community impacts consultation. All our consultation information, including the response form, is available at

www.highwaysengland.co.uk/ltcconsultation

Online

Fill in the survey at

www.highwaysengland.co.uk/ltcconsultation

Post

Send your response form, or comments, to

FREEPOST LTC CONSULTATION

The Freepost address is the only text needed on the envelope and you don't need a stamp.

Email

Send your comments to

LTC.CONSULTATION@TRAVERSE.LTD

Telephone surgery

You can book a call back from a member of the project team to discuss any questions or provide comments on the proposal. From 14 July 2021, call us on **0300 123 5000** (weekdays between 9am and 5pm) to book an appointment.

The dates for telephone surgeries will be available on our website and may not be available at all times. For further information visit our website **www.highwaysengland.co.uk/ltcconsultation**

Home delivery

If you do not have access to the internet, from 14 July 2021 you can order printed copies of this guide to consultation, a feedback form and Freepost return envelope, maps and other documents. Please call us on **0300 123 5000** to request a consultation pack. These will be delivered free of charge – there is a limit of one pack per household.

The easiest way to comment is by filling out our online consultation response form, but you can submit a response by using any of the methods listed below. Please note, we cannot guarantee that responses sent to any other address will be considered. Responses will be accepted until 23.59. on 8 September 2021.

If you would like to comment on aspects of our proposals from earlier consultations, please use the 'Other comments' section on the response form.

Data privacy notice

We are committed to protecting your personal information. Whenever you provide such information, we are legally obliged to use it in line with all applicable laws concerning the protection of personal data, including the General Data Protection Regulation (GDPR).

How will Highways England use the information we collect about you?

We will use your personal data collected via this consultation to:

- analyse your feedback to the consultation
- produce a summary report, based on our analysis of responses (individuals will not be identified in our Consultation report)
- write to you with updates about the results of the consultation and other developments
- keep up-to-date records of our communications with individuals and organisations

Any personal information you include in this form will be available to, or used by:

- Highways England
- Traverse (an independent company we are using to analyse feedback to the consultation)
- the Planning Inspectorate (the government agency that will consider our application for permission to build the Lower Thames Crossing)
- the Secretary of State for Transport (who will decide on our application)
- our legal advisers
- consultants working on the Lower Thames Crossing project

It is also possible that trusted third-party providers, for example construction companies, may later use your contact details to communicate with you.

Under the terms of the GDPR, you have certain rights over how your personal data is retained and used by Highways England. For more information, see our full data privacy statement at www.highwaysengland.co.uk/about-us/privacy-notice/



Have your say

Please submit your response by 23:59 on 8 September 2021.

Find out more

All our consultation materials are available online at www.highwaysengland.co.uk/ltcconsultation

They include:

- Guide to community impacts consultation
- Community impacts consultation leaflet
- Response form and Freepost envelope
- Construction update
- Operations update
- Ward impact summaries
- You said, we did
- Map Book 1: General Arrangements
- Map Book 2: Land Use Plans
- Map Book 3: Engineering Plans
- Large scale map operation
- Large scale map construction
- Easy Read versions of the Consultation guide and other materials

Draft DCO application documents

As well as the documents listed above, we are also consulting on draft versions of a number of control documents. These are technical documents which set out how we, and the appointed contractors, would build and operate the new road.

These documents are on our website at www.highwaysengland.co.uk/ltcconsultation

Website

Visit our website at

www.highwaysengland.co.uk/ltcconsultation to:

- watch videos explaining the proposals
- explore an interactive map
- watch new fly-through visualisations of the proposed route
- download the consultation documents, including the response form and maps

Events

We have planned a series of carefully managed events in line with government guidance, and copies of our consultation materials will be available at a number of locations along the route. As government guidance may change, please check our website **www.highwaysengland.co.uk/ltcconsultation** or call us on **0300 123 5000** for the latest information.

Locations to review consultation materials

Owing to restrictions during the pandemic, not all locations may be open and many libraries and civic centres have limited capacity to hold copies of our consultation materials. We are working with local venues to make more places available for you to safely review or take away information.

Kent and Gravesham

Dartford Central Library and Museum, DA1 1EU

Gravesend Library, DA12 1BE

Maidstone Library, Maidstone, ME14 1LQ

Rochester Community Hub, ME1 1EW

Thurrock, Essex and Havering

Romford Central Library, Romford, RM1 3AR

Brentwood Library, Brentwood, CM14 4BP

Grays Library, Grays, RM17 5DX

Tilbury Hub, Tilbury, RM18 8AD

For the most up-to-date list of consultation venues, please refer to our website at **www.highwaysengland.co.uk/ltcconsultation** or contact us via phone.

Locations or take away consultation materials

The guide to community impacts consultation, response form and Freepost return envelope will be available to collect from 21 July 2021 at the following locations:

Kent and Gravesham

Riverview Park Library, Gravesend, DA12 4NG

Marling Cross Library, Gravesend, DA12 5TY

Shorne Woods Visitor Centre, Gravesend, DA12 3HX

Meopham Library, Gravesend, DA13 0AH

Thurrock, Essex and Havering

Belhus Library, South Ockendon, RM15 5DX

Blackshots Library, Grays, RM16 2JU

Chadwell Library, Grays, RM16 4JP

East Tilbury Post Office, Essex RM18 8YP

East Tilbury Library, East Tilbury, RM18 8ST

Thurrock Council Civic Offices, Grays, RM17 6NG

More venues could become available during the consultation period, so please check our website for updates at

www.highwaysengland.co.uk/ltcconsultation

You can also stay in touch via Twitter and Facebook:

@lowerthames

Webinars

We are holding a series of webinars where a member of the project team will explain our proposals and give you the opportunity to ask any questions. These webinars will include live captioning and a British Sign Language interpreter.

You can also access a recording of these at

www.highwaysengland.co.uk/ltcconsultation

in the 'Find out more' section.

Telephone surgery

We are offering additional support to help you provide feedback over the phone. From 14 July 2021, call us on **0300 123 5000** (weekdays between 9am and 5pm) to book an appointment. Please be aware that appointments are not available every day.

Previous Lower Thames Crossing consultations

All the documents from our previous consultations are available online at **www.lowerthamescrossing.co.uk/archive**

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

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This document is also available on our website at www.highwaysengland.co.uk

For an accessible version of this publication please call **0300 123 5000** and we will help you.

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 **PR88/21**

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