

Lower Thames Crossing

Thurrock Council Local Impact Report

Thurrock Council

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Document Control Sheet

Project Name: Lower Thames Crossing

Report Title: Thurrock Council Local Impact Report

Doc Ref: FINAL

Date: 18 July 2023

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Executive Summary

Section 1 – Introduction

1. This Local Impact Report (LIR) builds on Thurrock Council's ('the Council') Relevant Representation formally submitted on 4 May 2023 ([PDA-009](#)), which presented an outline of the 15 principal issues of major concern to the Council. This LIR sets out the impacts of LTC, providing more detail, evidence and discussions to assist the ExA.
2. The LIR needs to be able to clearly set out its concerns about impact and is predicated on the assumption that the applicant has engaged constructively to address and mitigate issues. In this instance and in the Council's view, the Applicant undertook extensive technical engagement, but in declining to resolve or delaying input on issues has left a very substantial number of issues unmitigated for the ExA to review. This has made the LIR extremely complex and very challenging for the Council to capture this complexity and the narrative. So, rather than the Development Consent Order (DCO) process being used to resolve issues between public sector organisations, the Council considers that the NH approach has sought to exert its influence to dismiss continuously highly relevant and valid concerns expressed by the Council over a two year period since the initial DCO was withdrawn.
3. Therefore, this LIR has necessarily been prepared in a constrained timescale due to the reasons presented in the Procedural Decision ([PD-018](#)) issued by the ExA on 27 June 2023 within Annex B. Whilst the Council has endeavoured to review and assess all parts of the DCO, there are likely to be areas where the Council will wish to present further information concerning the impacts of LTC on the Borough.

Section 2 – Context

4. NH is proposing to construct LTC, of which some 70% of the route will be within the Council area, which takes approximately 10% of Borough's overall land area and approximately 11% of all of the Green Belt in Thurrock would be lost if LTC is consented.
5. LTC will be routed through the middle of Thurrock, and it will bisect the district into two separate areas, including bisection of the East and West Tilbury Conservation Areas. The scheme will lead to the direct loss of land, disruption to access and movement in the Borough and the creation of blight across the LTC corridor. The configuration of LTC would also impact on the future local sustainable growth required by the Council to meet its housing and employment obligations from the Government.
6. The LTC project began in around 2009, when the DfT began investigating the capacity and constraints of the Dartford Crossing and developing potential options to address the identified issues. There have been five consultations since then leading to 81 changes to the scheme. These changes have resulted in significant changes in the effects that the scheme has on Thurrock. However, the final outcome of these changes has failed to result in a substantially improved scheme from the perspective of the Council.
7. The Borough contains a range of important environmental, cultural and social/community assets that will be impacted in varying degrees; and it is a Priority 2 status LA in respect of levelling up, with high levels of deprivation. All of which will be deleteriously affected by the impact of the LTC.
8. If LTC is granted, there would be significant future challenges to the Council for a minimum of ten years in terms of impacts, particularly during the proposed six years of construction. There would then be ongoing additional uncertainty associated with the processes following any DCO grant that may delay delivery of the scheme; and then the Council would need to endure the operation of LTC and the increased traffic levels that the scheme would cause on local roads in many areas in Thurrock.

Section 3 – Planning History

9. The plans for LTC have evolved since 2009 with a range of different options being considered. However, the decision to proceed with a road-based solution has not changed since 2009 and the preferred route alignment confirmation by DfT in 2017.
10. In October 2020, Highways England made the submission of its first DCO application to the Planning Inspectorate (PINS). Subsequently, following discussions with PINS, it withdrew that DCO application in November 2020.
11. On 31 October 2022, NH submitted another and the current DCO.
12. In the last five years there have been two DCOs consented in Thurrock (Thurrock Flexible Generation Plant and Tilbury 2) and one DCO application which is anticipated to be submitted in 2025 (East Anglia Green (EAG), now termed 'Norwich to Tilbury'). There are also relevant planned developments at Purfleet (2,800 new homes and town centre), the LDO in the DP World/London Gateway port area and the Thames Freeport, which could generate 25,000 jobs.

Section 4 – Planning Policy Context

13. The Council's extant Development Plan is comprised of the Core Strategy and Policies for Management of Development (as amended) (2015) and the saved policies of the Borough Local Plan (1997). As recommended by the Council during the pre-application engagement with Highways England (now National Highways (NH)), it is expected that consideration has also been given by NH to the Design Strategy Supplementary Planning Document (2017).
14. The Council is preparing an emerging Local Plan, which seeks to make Thurrock a more prosperous, attractive, and sustainable place to live and work, with improved quality of life and thriving communities by 2040. To meet this vision for Thurrock, the Council has produced an extensive evidence base, which indicates that there will be a need for significant growth of housing, employment, and related social infrastructure. Key policy objectives include the following: to reduce congestion; support integrated and well-connected public transport; to reduce the Borough's carbon footprint; and, to retain an effective Green Belt.
15. The Council are currently in the process of preparing an Initial Proposals Local Plan (Regulation 18) document, which is anticipated to be published for consultation in Autumn 2023. The Council are looking at sustainable spatial options, which can deliver the housing and employment levels in line with national planning policy. However, regarding the LTC scheme, the Council concluded that it was unable to formally submit the emerging Local Plan in advance of the resolution of the LTC DCO, as the design, route and delivery of the scheme if consented, could be subject to amendment through the Examination process, i.e. it can be only progressed up to the Regulation 19 stage at present, on the assumption that the DCO is consented in the current timetable of mid-2024.

Section 5 – Statement of Common Ground

16. The Council has been working with NH over some five years, as the design of LTC has been developed. This has involved the development of many different options and the assessment by NH of how they might impact Thurrock and other areas. Whilst many elements of these discussions have been helpful there is a wide range of technical information, which has been repeatedly requested by the Council, but not provided by NH; and many issues remain unresolved.
17. This lack of engagement and provision of technical information by NH means that there are more than 230 issues which are 'Matters Not Agreed' or 'Matters Under Discussion' in the Statement of Common Ground (SoCG). The Council considers that given the size of LTC, it is not plausible and unlikely that these issues will be resolved satisfactorily during the DCO Examination.

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18. Recent discussions with the applicant have revealed their strong intention to submit an updated SoCG at Deadline 1 on 18 July 2023. Such a submission does not have the support of the Council and represents a further unilateral decision of the applicant to submit an unagreed and unsigned SoCG that will be submitted some ten months after the initial unilateral decision to submit the SoCG at DCO submission. Furthermore, the applicant has refused to discuss further all 'Matter Not Agreed' items within the SoCG, preferring to devolve such responsibilities to the ExA. Regrettably, this confirms that NH's approach to matters of disagreement regarding the SoCG is to refuse to cooperate in respect of further discussions with a view to identifying, discussing and ultimately accommodating reasonable points made to them by the Council.
19. The Council has many outstanding issues with both the SoCG process (especially over the last two years leading to DCO submission) and the resulting unresolved nature of many issues. The latest position is that following NH's unilateral decision to submit an updated SoCG at Deadline (without any Council involvement or agreement), a more realistic timeframe for an actual 'joint' submission of the SoCG, undertaken in a collaborative manner (as intended by the DCO process), is Deadline 3 on 24 August 2023.

Section 6 – Overall Position of the Council and Key Issues on Consultation / Engagement

20. The Council objects to the current proposals for LTC as the scheme fails to strike an acceptable balance between national benefit and the substantial harm to the Borough. This position was set out in the Council's Statutory Consultation response and all five previous rounds of non-statutory public consultation. The Council considers that this position has not changed as a result of the current proposals, which deliver very little benefit for local people and do not deliver on the applicant's own scheme objectives.
21. The Council's constructive opposition is to the general configuration, proposed purpose and details of the proposed route and is not necessarily opposition to the principle of a further River Thames crossing to improve accessibility across the Estuary. However, recognising this does not alter the need to negotiate these measures and other scheme improvements. Furthermore, the applicant has not adequately explored alternatives that might perform better and align with local sustainable growth objectives that should have been considered; and that in the event of this scheme progressing, there are many changes to the submitted scheme that the Council would advocate.
22. The inadequacies of both the now six consultations and the extensive technical engagement by the applicant over the last five years has resulted in many inadequacies and deficiencies. In addition, the Council has tried various methods to obtain appropriate further information/data over the last two years with very limited success. Therefore, as the ExA is aware, there is the provision in Rule 17 of the Infrastructure Planning (Examination Procedure) Rules, 2010 that allows for a range of further information to be requested from the applicant. The Council has set out in the main LIR a composite list of 19 areas of missing information (which themselves contain various sub points); and, some information is out-of-date and so the Council set out in its PDB Supplementary Submission ([PDC-007](#)) in Table 2, a comparison of data that is current with that used in the DCO submission to assist the ExA.

Section 7 – Costs and Disbenefits outweigh the Benefits and provide Poor Value for Money

23. The Council has examined the analysis of LTC and considers that the costs and disbenefits outweigh the benefits and that it provides poor Value for Money. In particular, the Council's analysis shows that LTC does not meet the seven scheme objectives defined by NH and the 'need' for the project has not been demonstrated, as set out in the following points:

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- a. The scheme does not relieve the congested Dartford Crossing (a key scheme objective) and traffic levels return to existing levels five years after the opening of LTC. Furthermore, the LTC scheme does not satisfy its other six scheme objectives;
 - b. No transport modelling evidence is provided to show that LTC improves the resilience of the River Thames crossings; the assumptions used to generate the reliability benefits have not been shared and so the Council cannot consider or scrutinise on the validity of the assumptions or results; and, the Council has been unable to assess the distribution of these disbenefits within the district as this information has not been provided by NH;
 - c. LTC does not improve safety and leads to 26 additional fatalities and 182 seriously injured casualties with an economic disbenefit of £68.8m. Many of these casualties can be expected to occur in Thurrock;
 - d. LTC is forecast by NH to generate 6.596m tonnes of CO₂ and this level of emissions is not consistent with the UK's Net Zero legal obligations. This estimate of emissions is based on a series of unfunded assumptions concerning the operation of the road network. These emissions will make it more challenging for the Council to meet its own Net Zero targets;
 - e. The traffic impacts of LTC constrain the ability of the local road network to accommodate the Council's growth ambitions, stifling local growth in Thurrock rather than supporting it;
 - f. The cost of LTC has increased with each revision of the proposals. The currently estimated central case cost (£8bn) is based on an inflation forecast from February 2022 which does not reflect recent global events and economic challenges. Any increase in cost would further reduce the 'low' estimate of value for money calculated by NH; and
 - g. LTC provides 'low' value for money with a BCR based only on journey time benefits of 0.48, an overall 'adjusted' BCR of 1.22. The economic justification of the scheme is based on less well-established reliability (16%) and Wider Economic Benefits (48%), for which NH have been unwilling to provide technical details. Only 5% of these Wider Economic Benefits would occur in Thurrock, so that the WEBs presented are an overestimate and misrepresent the case that would be considered acceptable if an independent assessment was undertaken. NH has not incorporated additional Wider Economic Costs associated with the impacts of LTC and hence the economic analysis is incomplete. In conclusion, the estimated margin of benefit of LTC is now so low, that even modest changes in the assumptions would wipe out the net benefit entirely.
24. Further issues with the economic appraisal include the following:
- a. LTC generates sizeable construction disbenefits, the majority of which are expected to fall on users travelling within Thurrock. The Council has been unable to assess the distribution of these disbenefits as this information has not been provided by NH;
 - b. The current traffic model is underpinned by data which dates from 2016. With the scheme opening now delayed until 2032, this data predates the opening year by 16 years and needs updating. It also predates the pandemic and other major events, which have resulted in changes to travel behaviour and reduced demand for travel and which will significantly affect the assessment of LTC presented in the DCO. The Council considers that the traffic modelling supporting LTC does not represent an up-to-date or representative view of current conditions and leads to the benefits of the scheme being overestimated; and,
 - c. Inadequate sensitivity testing has been undertaken as part of the scheme appraisal. This approach to modelling is inconsistent with the latest Uncertainty Toolkit approach from DfT published in 2021. The new DfT Common Analytical Scenarios and NTEM8 (both published 2022) have not been incorporated. Additionally, the emerging Local Plan for Thurrock has not been included in any test so far presented by NH and the scheme is likely to reduce the available

capacity of the local road network to accommodate the emerging Local Plan. The Council therefore considers that the modelling is outdated and inconsistent with guidance associated with assessing uncertainty.

Section 8 – Consideration of Alternatives

25. The Council considers that the analysis of alternatives provided by NH does not meet the requirements of the NPSNN and therefore the submitted analysis is not valid and needs updating along with further work. The traffic forecasts used by NH do not reflect the likely impacts of the delivery of Government policies, including decarbonisation, active travel and public transport, i.e. the 'high' and 'low' traffic forecast scenarios used by NH do follow DfT's guidance concerning the use of Common Analytical Scenarios and do not reflect the wide range of possible future scenarios for the operation of LTC, impacting the selection of options and ruling out of alternatives.
26. The design of LTC provides limited access to development sites and national port facilities in Thurrock. This would be remedied by the inclusion of Tilbury Link Road and changes to the operation of A13/A1089/LTC and Orsett Cock junctions, as part of the LTC scheme design.
27. The option selection for LTC is based on an initial decision made in 2009. This was reviewed and confirmed by NH in 2017, but despite requests, the underpinning analysis has not been made available to the Council, especially for key elements of the design.
28. Since the initial decision there have been many substantial changes to transport patterns and the wider economy which have not been considered as part of the decision-making process. Analysis by the Council shows that there are several potential public transport-based options which would meet NH's objectives for LTC. There are also several alternative options for LTC, e.g. including Tilbury Link Road, which would lead to a scheme which better met the objectives for LTC. The Council considers that these options should be considered by NH.
29. The provision of facilities to enable public transport services to access LTC is poor leading to circuitous routes and unattractive journey times. The Council considers that if implemented the design of LTC should be refined to enable better public transport facilities to be provided, e.g. access to and from the North Portal. There are also insufficient facilities provided for electric vehicle charging, especially in the context of the Government's proposed ban on new diesel and petrol vehicles in 2030.
30. The Council considers that the potential impacts of providing a variable demand management charging regime should be considered to maximise the benefits of providing LTC. Also, that alternative routing strategies for dangerous loads and tall vehicles should be considered to increase the effective capacity of Dartford Crossing.

Section 9 – Transport

31. NH has proposed two significant changes to LTC, which neither resolve previous identified impacts, nor provide benefit to the current or future LRN within Thurrock.
32. The Council considers that the modelling assessment is inadequate and potentially underestimates impacts on the Local Road Network (LRN). The LTAM strategic model is not sufficiently detailed to properly assess the effects of LTC on the LRN and operational modelling should be undertaken/completed to understand the precise nature of impacts and need for mitigation on the LRN. Also, NPSNN paragraph 4.6 requires that models of sufficiently accurate detail of the impacts are used for the submission. The Council has evidenced that NH's modelling assessment is inadequate and significantly underestimates impacts on the LRN.
33. NH's assessment shows that there are many communities, roads and junctions across Thurrock that are significantly adversely affected by LTC, but no mitigation is proposed by NH. However, any such mitigation will, in many instances, require reassigning traffic currently shown in unsuitable residential

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areas back onto the key traffic corridors, further exacerbating issues already evident from the strategic modelling. Furthermore, the Council is opposed to the proposal by NH to overlook all induced impacts and to require the Council to apply for future funds to mitigate the effects of LTC on local roads, which may not be successful and would in any case load significant additional financial burden on the local taxpayers, who would need to provide significant funding.

34. The Council requires local impacts to be mitigated both during the construction and operational phases of LTC. The Council has set out to NH the additional mitigation for local impacts that is required based on the LTAM modelling. The Council requires this detailed operational modelling to be provided in order to validate the Council's mitigation requirements and determine if any further mitigation is required.
35. Scheme changes are required by the Council to reduce the impacts on local traffic. These include changes to the A13/A1089/LTC junction (the interchange introduces safety concerns, severance to walkers, cyclists, horse-riders and public transport and delay to local traffic using Orsett Cock, which is being utilised as part of the SRN); changes to the operational and emergency access north of the north Portal to accommodate Tilbury Port traffic in the future; connections to be incorporated to LTC for cross-river bus services; and, to provide passive provision to serve likely future growth in Thurrock.
36. In addition, the construction control documents, do not include sufficient control, commitments and governance for LTC to be constructed within defined DCO parameters. NH should lead with a strong framework from which the contractors can refine their final proposals, so as to protect the local communities from the effects of the construction period. The current NH proposals rely heavily on future collaboration and goodwill within the TMF.
37. NH should extend its commitments to tertiary mitigation by minimising the use and transportation of materials, plant, and equipment especially by road. The oMHP ([APP-338](#)) must be revisited by NH prior to any DCO being consented, such that it sets a clear and stretching basis from which the contractors can develop their proposals.
38. A stated objective of LTC is to bring resilience to the crossings of River Thames. The Council has not been provided with evidence that LTC will succeed in that objective and has sought to work with NH to understand the strategy to manage incidents on the proposed convoluted network. NH has not provided any evidence or collaborated with the Council on this strategy and no details of an incident management plan have been provided by NH.

Section 10 – Assessment of Environmental and Health Impacts

39. The Council has reviewed the information in the ES and other related documents within the DCO that considers the environmental and health impacts of the scheme and makes the following comments by each environmental topic below.

Air Quality

40. The Council has requested that NH provides inputs and results for the air quality modelling in an accessible format to allow a meaningful review and understanding of the proposals and impacts, which has not been provided. As a result of the lack of transparent information provided by NH, the Council commissioned Borough-wide modelling in 2022 to clarify the burden of LTC on the residents of Thurrock. The analysis of residential properties indicates that the number forecasted to experience an increase ('small', 'medium' and 'large') in annual average NO₂ and PM_{2.5} concentrations is substantially greater than the number of properties predicted to experience decreases. Furthermore, residential properties within more deprived areas of Thurrock (lower 2 IMD quintiles) are more likely to experience increased concentrations of NO₂ and PM_{2.5} whereas residential properties within the least deprived quintile are more likely to experience decreases.

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41. The Council consider that the duration of these forecast impacts is uncertain and PM_{2.5} impacts due to LTC are likely to increase further in future years with increased traffic flows using LTC resulting in residents of Thurrock continuing to experience an elevated fraction of mortality attributable to particulate air pollution. Unfortunately, NH has declined to model PM_{2.5} concentrations and it is the Council's view that PM_{2.5} concentrations needs to be modelled to understand the impacts of LTC on Thurrock residents.
42. This NH approach of using DMRB LA105 does not fully acknowledge or recognise the requirements of paragraph 5.12 of the NPSNN (to give substantial weight to significant air quality impacts in relation to EIA, which is given greater clarity and weight in the draft NPSNN) or the potential for adverse health impacts due to NO₂ and PM_{2.5} at levels well below the current AQO (or limit values).
43. Overall, despite the sparsity of modelled receptors in residential areas in proximity to the Scheme, there are more receptors within Thurrock that experience an increase (81no) in concentrations compared to those that experience a reduction (56no). Generally, there is a geographical divide within the Borough with those receptors located in the west of the Borough experiencing a reduction in concentrations, while those located in the east of the Borough experiencing an increase in concentrations.
44. Finally, given the inherent uncertain in the underlying traffic data and methodologies for modelling emissions from traffic, the Council consider that it would be appropriate (and in line with non-Highway related developments) to undertake extensive monitoring post completion at receptors identified by the air quality assessment to have the greatest change in concentrations because of the scheme.

Noise

45. The Council has, since early 2022, requested NH to provide inputs and results for the noise modelling in an accessible format to allow a meaningful review and understanding of the proposals and impacts and this has not been provided by NH. Significant adverse effects have been identified relating to construction traffic in the years 2025 – 2029, with over 200 receptors subject to a moderate or more increase in noise levels in 2025 and in 2028. It is unclear what specific mitigation measures have been identified to reduce the impact and what the residual impacts will be. Furthermore, given that major and moderate impacts remain, it is questioned why the use of additional barriers/increased lengths have not been included.
46. Significant daytime construction impacts are likely at Whitecroft Care Home. Baseline sound levels at this receptor are 55 dB, L_{Aeq,T}. Construction noise levels are predicted to be over 70 dBA. Impacts are therefore significant and specific mitigation measures are required for this receptor. Significant negative impacts for construction noise are likely during the construction phase due to construction plant and for construction vibration, no construction plant outside of piling, such as vibratory rollers, has been assessed. For construction road traffic, moderate or major negative impacts are likely due to construction traffic and mitigation measures are unclear, but no absolute noise level information has been provided and so there is no evidence to confirm that significant effects are not likely at the receptors.
47. It is noted that certain receptors do not appear to have been included within the assessment despite having been raised previously with NH. The Gammonfields Way traveller site has also not been assessed in the ES Noise and Vibration Chapter 12 ([APP-150](#)) and as the sound insulation for such receptors is likely to be less than for typical residential dwellings, impacts could be more significant.
48. The UK Health Security Agency (UKHSA) has conducted a new study to better understand how noise can affect health and wellbeing. The research builds on long established evidence that living in an area with higher noise levels from traffic can lead to stress and sleep disturbance, and more recent research shows that this can lead to an increase in an individuals' risk of developing more serious health problems such as heart disease or diabetes.

Cultural Heritage

49. The Council wishes to secure the appropriate level of mitigation to address the harm or loss of significance resulting from the demolition of three Grade II listed buildings and the degradation of the setting of a fourth Grade II listed building. The Council is still awaiting a revised Holocene report. The heritage assessment of the portal entrance has not been evaluated to the level of the remainder of the route and no mitigation strategy has been discussed. The Council is still in discussions with NH on a revised Outline Written Scheme of Investigation.
50. The Council continue to press for archaeological management and especially the role of the local authority Archaeologists for monitoring and signing off the mitigation to be appropriately acknowledged and clearly and consistently defined as part of the wider environmental response. Of the non-designated assets impacted an approximate total of 120 areas have been identified from the evaluation work which will require archaeological investigation in advance of the application being developed. Considerable knowledge will be gained; however, this will result in the complete loss of the archaeological resource where impacted.
51. It is considered that the most significant effects on historic landscapes, which cannot be fully mitigated would be on the West Tilbury Conservation Area, due to the proximity of the Tilbury Viaduct and the Bulphan and Orsett Fens, due to the elevated section of LTC, including the Mardyke and Orsett Fen Viaducts.
52. It is important to have a clear programme of outreach defined for LTC and a proposal for long term storage and display of material. This has been discussed with the applicant's heritage consultants. Within Thurrock there may be the opportunity to link this with the restoration of Coalhouse Fort and the associated park proposed in the area.

Landscape and Visual

53. Mardyke Valley is a relatively tranquil area with scattered farmsteads and hamlets which is assessed in the Landscape and Visual Assessment (LVIA) as having a High Landscape Sensitivity. The LTC would pass through this landscape on a viaduct and bridges creating a major, elevated feature transecting the landscape.
54. The Tilbury Viaduct would be a large, elevated structure approximately 300m from the edge of the West Tilbury Conservation Area with Order Limits extending to the Conservation Area boundary. The LVIA confirms that there would be a Large Adverse effect from the residential properties on Low Street Lane during construction. The effects on the residential properties would still be Large Adverse by Design Year. Despite this it has not been identified as a 'Project Enhanced Structure' in the Design Principles [APP-516](#), which the Council has repeatedly challenged and NH has declined to change its designation.
55. Little detail has been provided regarding the features that would be contained within the construction compounds. A key constraint to the provision of additional landscape mitigation has been the narrowness of the Order Limits corridor. This has resulted in landscape mitigation relying on measures such as false cuttings to achieve screening. This, however, limits the opportunity to provide more significant mitigation that would have a more positive outcome for the local landscape.
56. For Tilbury Fields, the Council has previously raised concerns following the revision to the site layout regarding the potential visual impacts of the mounds, particularly for users of Coalhouse Fort Park, now that they extend further inland compared to what was originally proposed. Also, here is no information as to how the paths and interpretation will be managed in the long term, as these elements are not included within the oLEMP ([APP-490 – APP-493](#)). In addition, the Council were not provided with an options appraisal for potential areas in the vicinity to accommodate the new Tilbury Fields area and this remains so, despite it is acknowledged that areas in the vicinity/adjacent are limited.

Terrestrial Biodiversity

57. A key concern of the Council is that the proposed biodiversity mitigation is constrained along significant sections of LTC due to the narrowness of the landscape corridor. This has restricted the opportunities to provide good quality fenland habitat within the Mardyke Valley and to provide robust connectivity to enable species to cross the route. The original proposals were significantly scaled back compared to the areas identified during the development of the first DCO. While it has been demonstrated that there is sufficient area to deliver the ecological mitigation needs, the limited space means there is a reliance of features, such as the spiral of water vole habitat rather than a wider network of ditches. This significantly lessened the scope to recreate the former fenland habitat, benefiting the landscape character and contributing to water management as well as mitigating for biodiversity.
58. The scheme will result in a significant barrier to biodiversity connectivity through the Borough, with most protected and priority species, including bats, reptiles, amphibians and badgers and small mammals not being able to cross the route. The proposed green bridges would achieve some localised links once they have developed, however, over most of the project length the road would create a barrier species movement. The revised design of Tilbury Fields provides grassland and open mosaic habitat that benefits invertebrates and there is other suitable habitat to the north, however, there is no linking habitat provided around the Tilbury Viaduct, which creates a significant break in the connectivity, as this was refused by NH despite several Council requests for a linking wildlife corridor until the existing Tilbury Loop rail line.
59. The Council has concerns, however, that the scheme could result in indirect effects on the European sites and their functionally linked land due to the potential of the scheme to prevent repair works to the river frontage to prevent future contamination.

Marine Biodiversity

60. The Environment Agency has stated that East Tilbury Landfill has potentially high levels of contamination including leachates. If the river frontage continues to fail, there is a real risk that these pollutants will enter the River Thames. It does not appear that the implications of this on the marine biodiversity and associated functionally linked land to the SPA have been considered within the ES. This raises an increasing risk as the erosion continues that pollutants from the buried landfill will enter the River Thames immediately upstream of the Thames Estuary and Marshes SPA/Ramsar.
61. ES Appendix 10.7 East Tilbury Landfill Risk Assessment [APP-428](#) only considers the potential impacts of the proposed North Portal construction on groundwater quality. The assessment confirmed that the site contained hazardous waste types and that the only active pathway is likely to be that of the leachate from East Tilbury Landfill into the River Thames. While LTC would not directly alter this potential pathway, the construction of the North Portal and HRA High Water roost would prevent access to reinforce the river frontage to prevent this leachate entering the river in ever-increasing quantities.

Water Resources

62. Whilst the flood risk modelling undertaken by NH has been updated to incorporate up-to-date climate change guidance (May 2022), no other updates have been carried out to the modelling. For example, using the FEH hydrological methods, which the Environment Agency (EA) typically requires. Confirmation must be provided that the assumptions within the biodiversity calculations are consistent with the surface water drainage strategy. Also, clarification is required regarding the phasing at the North Portal junction and its relationship with the drainage strategy and whether temporary measures are required. Further information must be provided regarding the proposed pumping station at the North Portal junction, e.g. location, access proposals, maintenance and operational requirements.

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63. It is noted that the hydrological and hydraulic model methods and software versions have been superseded. From a hydrological point of view, the statistical method utilised WINFAP v3 with NRFA v7 data, where the latest software version is WINFAP v5 with NRFA 11.1 data. The rainfall runoff modelling utilises the FEH Rainfall Runoff method, which is superseded for all but reservoir safety work in England and while the more recent ReFH method is dismissed, no consideration is given to ReFH2. The latest method at the time of writing is ReFH2.4 supported by FEH22 data. Recent EA guidance is that justification should be provided where hydrological assessment is greater than 6 months over and outdated software and data is used.

Geology and Soils

64. Outdated data has been used to inform the baseline conditions and this is not considered robust. The assessment of impacts at several areas is insufficient. The contamination status of medium and high-risk credible contaminant is stated to be unknown or not fully characterised due to limitations in ground investigation and yet these are significant sources of contamination. Furthermore, several requests for additional data have been declined or not provided, such as the factual ground investigation reports; and a table of all the sources showing the risk rating, number of exploratory holes within the source, number of soils tested, number of leaching tests, number of groundwater samples and number of unflooded gas monitoring wells.
65. The Council has proposed the wording for an additional DCIO Requirement relating to ground conditions and ground stability. Also, it is uncertain whether the REAC comments (8no) are resolved as the actions identified include 'review of wording'. Within the REAC revised wording is considered necessary.
66. It is noted that the last time there was a physical inspection was three years ago. In the absence of a robust baseline, it is considered that there may be impacts that have not been identified. A current dataset should be obtained, and a comparison undertaken to ascertain the presence of differences that require additional assessment, including a visual inspection of the river frontage within the Order Limits.
67. It is considered that the Application has the potential to cause further degradation and/or destabilisation which is identified as a negative impact, along the river frontage adjacent to the former landfill site. The potential for negative impacts due to compressibility and slope failure should be assessed and mitigation measures to be implemented identified.
68. The proposed processing and reuse of excavated material including that from landfills is not explicitly stated to be done under an Environmental Permit and therefore it should be identified that an Environmental Permit to permanently deposit waste on land as a recovery activity will be obtained. If these activities are not to be undertaken under an Environmental Permit, there are potential impacts that cannot be assumed to be adequately mitigated.

Material and Waste

69. NH identify that the development of LTC will produce 12.5 million m³ of excavated materials over the six years of its construction and provides details of how much waste needs to be removed beyond the Order Limits. The basis for the identification of these estimates is not provided, therefore it is not possible to determine whether the quantities identified are appropriate.
70. Without NH demonstrating the basis for the waste/excavated material arisings and ability to place materials within the Order Limits it is not possible to identify the local impacts. Due to the large quantities of excavated materials generated even relatively small percentage differences in projected the rates of generation or consumption would have a significant impact on the quantities of material. NH need to identify how the excavated material arisings and usage within the Order Limits has been calculated to provide confidence in the figures presented.

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71. NH have not identified where or how excavated materials will be utilised within the construction, therefore, it is not possible to determine whether excavated materials are to be used within the compound or may require movement between compounds. This would potentially change the classification to wastes requiring additional management and mitigation measures and increase transport impacts with potential transport taking place on the public highways.
72. The Outline Site Waste Management Plan (oSWMP) does not set out the actions that NH requires or expects the contractor to deliver to achieve the REAC commitments and what regulatory requirements these may trigger. Furthermore, the oSWMP should consider both the temporal phasing and location of waste arisings to provide an appropriate basis for the assessment of the impact of the management of the wastes, the identification of appropriate regulatory regimes to be implemented and to set an appropriate framework for the management of wastes throughout the construction phase by the contractor.

Land Use and Open Space

73. Thurrock contains several communities with relatively high population densities, and which have high levels of deprivation, including low car ownership levels. These settlements often only contain small parks and play areas. This makes access to these open spaces particularly important. The Planning Statement has focussed solely on those open spaces where there would be a direct and permanent loss of land. It has not considered any indirect effects on existing open spaces. The Council considers that a package of measures should have been provided for those open spaces close to the route to help lessen air quality, noise, visual intrusion and general amenity and any permanent loss arising from LTC.
74. Through the Legacy programme, new masterplans have been prepared for six open spaces and it is important that funding is made available for the implementation of these schemes. However, other sites, for example, in Orsett and South Ockendon have not been assessed.
75. The Council has concerns over the lack of detail concerning wardening to ensure proposals for Tilbury Fields does not attract antisocial behaviour.

Walkers, Cyclists and Horse Riders

76. The Council requires that crossings of LTC are of sufficient width to incorporate future dedicated cycle paths or bus routes. This reflects the Council's emerging transport strategy to promote and increase active travel and public transport use along routes that cross the proposed LTC alignment. The Council is highly concerned that NH has unilaterally decided, without substantiation, that people in Thurrock are never likely to adopt cycling and bus use to the level that would warrant the need for dedicated facilities. The Council has not been provided with any details of NH's assessment of the benefits of a future-proofed design with wider bridge widths compared to its preferred approach and is concerned that NH is basing decisions likely to leave a lasting negative legacy with an over-reliance on bias and anecdote.
77. The Borough's low number of PRoW routes and poor connectivity of routes means the prolonged closure of any, be it permanent or 'temporary' for up to five years for some key routes, will have a significant impact on walkers, horse riders and cyclists. There has been no single plan showing the existing network, the proposed temporary and permanent changes and the legacy opportunities, so there is limited coordination of proposals temporarily or permanently; and there is no detail regarding types of surfacing, structure and signage.
78. There are a range of significant construction impacts on Baker Street within Orsett Ward, involving long closures, realignments, utility modifications and diversions, often for years. NH also intends to impose a range of access restrictions, traffic, bus, pedestrian and cycle diversions for various periods. It remains a matter of utmost concern that insufficient and very limited mitigation is being proposed by NH (despite an earlier proposal in late-2021) to provide both mitigation and legacy provision) and

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there is inadequate commitment to legacy improvements to help compensate for a prolonged period of serious disruption. NH summarily removed any mitigation or legacy provision in January 2023, which the Council considers is unacceptable.

Human Health, Equalities and Wellbeing

79. The Council and NH have been discussing health, equalities, and wellbeing issues over five years, including via the Community Impacts and Public Health Advisory Group (CIPHAG), as well as the Council undertaking an Independent Review of the HEqIA in 2021 together with eight other LAs. Unfortunately, many of these issues raised with regard to the robustness of the assessment within the HEqIA have not been addressed by NH, particularly the 20 recommendations, which have not been properly addressed.
80. The Council is concerned as most of the scheme is to be built in Thurrock, there are likely to be a majority of health impacts on Thurrock residents, whose populations are already at risk of poor health conditions and higher levels of deprivation. In particular, impacts appear to be both understated and inadequately assessed in respect of air quality and noise.
81. Specific impacts on the relocated traveller community, Whitecroft Care Home and residential areas near the A13/A1089 and Orsett Cock junctions are not fully recognised or properly mitigated. In addition, identified impacts of the NH proposals for worker accommodation have not been properly addressed resulting in likely impacts on the private rental market in Thurrock.
82. The Council requires a clear and concise summary table of the transport and traffic environmental impacts, including the significance of impacts and mitigation of any residual significant impacts. This should cover severance, driver delay, pedestrian amenity, fear and intimidation, accidents and safety and driver stress. Also, no consideration has been given to pedestrian delay, which is required to be assessed within the IEMA guidance; and the screening rules set out in IEMA guidance (Rules 1 and 2) have not been applied to determine the study area for transport environmental impacts.
83. The approach of aggregation has resulted in a disconnect between the description of negative outcomes for sensitive populations described in the health outcome sections and summary tables and the outcome assigned, as well as a lack of clarity on how ward sensitivities have been incorporated into the assessment (and how wards identified as sensitive and sensitive populations have been integrated).
84. There is concern with the HEqIA that there is a lack of evidence that the equalities duty has been met. The following topics do not clearly lay out how these concerns have been addressed or how these concerns relate to engagement with protected characteristic groups or the Hard to Reach Focus Groups: accessibility, traffic-related severance, affordability, noise and vibration, mental health, light pollution and climate change. Additionally, a Hard to Reach Strategy was agreed to be supplied as part of the DCO, but this has not been referenced or included.
85. The mitigation summarised in the HEqIA is not explicitly linked to reducing health inequalities or addressing impacts on sensitive or protected characteristic groups identified or often tied to specific wards, making it difficult to assess how the mitigation is considered within outcomes provided. There is also no mention of how health impacts are suggested to be monitored during construction. This severely limits the HEqIA as a standalone assessment.
86. Other specific examples of where mitigation is viewed as inadequate or needs clarification are, as follows:
 - a. Mitigation regarding workforce construction and healthcare services and mental health outcomes is addressed, but this is vague, and details of requirements are not outlined and will rely on later negotiation as to what is appropriate;

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- b. Some areas of common land and private recreational facilities will be requisitioned (temporarily or permanently) resulting in changes to the availability of open space and there is no mitigation proposed for any such temporary land take;
- c. There is no description of specific enhancement measures to encourage use of the active travel routes by members of the public;
- d. The assessment of the health impacts from the construction workforce on accommodation is considered neutral after mitigation. It is unclear which specific mitigations would enable it to be considered a neutral impact on residents on a low income; and,
- e. Mitigation regarding providing funding or support to the affected Boroughs, namely the Community Fund and S106 agreements are noted, but there is a lack of detail tied to how these will reduce or address specific health outcomes in specific areas and the mechanisms by which they will be delivered and monitored.

Climate and Decarbonisation

- 87. LTC does not allow the Government to meet their requirements of the Paris Agreement (Article 4) for transparency in emission reporting. This lack of transparency in measuring, reporting and verification relates to the: comparative emission boundaries set within the project carbon assessment in comparison against the total national emission boundaries; and, the difference in greenhouse gas calculation methodologies between the project emissions and those developed for National Emissions Budgets, the National Atmospheric Emissions Inventory and the Climate Change Committees Carbon Budgets. The approach holds no consistency, completeness, comparability or accuracy between the calculated project emissions and national emission budgets in order to form an opinion of significance of impact.
- 88. The lack of transparency in the approach to reporting and comparing carbon emissions results in the project not meeting the tests defined in NPSNN for significance of impact against the Government's ability to meet their net zero target.
- 89. There is no consistency between the claims of the benefits from the reduction in traffic and the changes to carbon emissions and the subsequent economic disbenefit to the project with the same reduced road transport numbers. If there is less traffic on the road due to transport decarbonisation, the DCO has not assessed the impacts of this on the economic case for the scheme.
- 90. The ES has not considered the impacts of LTC on Thurrock meeting its own net zero transition, in particular, how LTC responds to the DfT's upcoming Local Transport Plan requirements for district level emission measuring, reporting and verification to net zero carbon by 2050.
- 91. The DCO application does not provide evidence of how the investment in LTC will accelerate the Climate Change Committee 6th Annual Carbon Budget and how recommendations for the decarbonisation of transport will be achieved, especially within the host community of Thurrock. No carbon mitigations targets have been set that will allow verification of progress in decarbonisation during construction. The verification of carbon reduction is not secured through the DCO during construction and therefore is not guaranteed.
- 92. The project has explicitly disregarded best practice guidance Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA, 2022) and not followed the internationally recognised methodology for appraising carbon emissions Greenhouse Gas Protocol (GHG Protocol for Project Accounting, World Resources Institute 2003), especially relating to setting boundaries for assessment and the use of industry specific guidance for greenhouse gas reporting.
- 93. The ES states that the project is compatible with the budgeted science-based 1.5C trajectory. There is no scientific explanation or justification for this statement.

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94. The detailed calculation workbooks have not been submitted with the DCO application. It is therefore not possible for the Council to audit or verify the emission calculations undertaken. The raw data has been subject to numerous requests since December 2022 and forms part of the unresolved issues within the SoCG between the Council and NH.
95. The impact of decarbonisation measures identified in the Carbon and Energy Management Plan have not been tested within the Environmental Impact Assessment. For example, no environmental risk appraisal or impact assessment has been undertaken for the use of hydrogen during construction, the impact of utility impact on the decarbonisation plans of the Council and maximum electrical demand for the full 'electrification' of construction activities.
96. There has been no consideration of the local power capacity impact from LTC power demand on the host community's uptake of electric-led decarbonisation technology, e.g. heat pumps, EVs, solar, etc.
97. Within the ES there is no assessment of adaptation benefit and how LTC could improve the Council's resilience to climate impacts to address the environment benefits of the scheme.
98. NH has adopted its own Net Zero goals and this suggests that NH and the traffic on their networks makes them a sufficiently significant agency to demonstrate that the budget for the SRN itself is a matter of significance (and not just their own activities).

Cumulative Impacts

99. The Zone of Influence (ZoI) for the cumulative effects of LTC on Population and Human Health is limited to 500m from the Order Limits and should be updated with the IEMA Rules 1 and 2 to ensure that the environmental effects on transport are properly assessed. However, the Council considers there are likely to be impacts on Population and Human Health beyond this area, due to the changes in traffic flows as a result of LTC. Furthermore, certain roads have been omitted from the ZoI.
100. There is also incorrect reporting of effects in the ES Cumulative Chapter e.g. noise: Tilbury Riverside and Thurrock Park ward effects concluded as moderate rather than large despite significant adverse impacts relating to construction traffic; Chadwell St. Mary's Ward effects concluded as large rather than very large despite significant adverse impacts at receptors relating to operational traffic which are permanent effects. For Population and Human Health, the assessment does not include the assessment of severance, driver delay, pedestrian amenity, pedestrian delay, fear and intimidation, road safety and driver stress.
101. As the DCO application is dated October 2022, there are three development applications missing from the cumulative shortlist that may influence cumulative environmental effects and the associated Plan ([APP-330](#)) is very difficult to read and so a number of questions/queries have been highlighted.

Section 11 – Emergency Services and Safety Provision

102. There are several key matters that are still outstanding between the applicant and the Council, which are set out below and are covered in more detail in the ESSPSG's Relevant Representation and in its forthcoming SoCG and Written Representation at Deadline 1, as the Council is a member of that Steering Group:
 - a. The Council considers there is inadequate content in the draft DCO Order (dDCO), its drawings and its relevant Control Documents in securing a range of matters for the ESSPSG, including appropriate consultation arrangements within the Control documents for a range of subsequent details. There has been no progress on many requested amendments to a range of Control documents and a lack of a legal definition of 'emergency services' or 'safety partners'.

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- b. An adequate framework has not been provided for several emergency preparedness and response plans (or any DCO Requirement to cover it) or the consultation arrangements to be followed following any DCO grant.
- c. The northern Rendezvous Point (RVP) is considered unsuitable and not adequately described in the dDCO Schedule 1 and the emergency services require greater consultation to reach agreement during the Examination process.
- d. There is a lack of any 'Protest Plan' being prepared and consultation arrangements are inadequate.
- e. There is no agreement on the emergency services being consulted on any subsequent detailed tunnel design and there are issues with the emergency services role within the Traffic Management Forum being proposed by the applicant.
- f. There is no agreement on role of the emergency services for the location and design of the tunnel evacuation assembly areas being prepared at detailed design and there is no agreement on the appropriate spacings for the tunnel cross passages.
- g. There is inadequate detail or modelling on the effect of construction activities (over the six-year construction period and its 11 phases on emergency services response times. There is a complete lack of funding to support the emergency services and local authority resources/staffing in undertaking these additional functions over the six-year construction period and beyond.
- h. There has been inadequate consultation with the emergency services for the tunnel emergency access roadways and there has been no consultation with the emergency services on the preliminary design of the emergency hubs located within the tunnel service buildings.
- i. There is a lack of understanding of emergency and incident management planning procedures either in the event of an incident/emergency, closure of LTC or Dartford Crossing or both.

Section 12 – Utilities Impacts

103. The overarching concern regarding the utilities infrastructure, including diversions, new supplies, and utilities logistics hubs (ULHs), is the spread of information across the DCO documentation, with little to no reference to information location. This was clarified by NH in its email to the Council in mid-June 2023 and indicated utility diversion was covered in over 15 main DCO documents, making clarity difficult. The information provided is also not detailed enough to be able to determine the impacts of the utilities diversions, new supplies and ULHs.
104. It is usual for a project of this size and complexity to include a standalone Utilities Section, which would normally provide a lot more detail than has been given for LTC and with detailed drawings provided. This would be necessary for gas, electricity, water and telecommunication diversions to be provided detailing the proposed utility supplies for LTC, as well as temporary supplies for the construction compounds. For electricity infrastructure, the Council requires an analysis explaining the choice between overhead and undergrounding diversions in order to assess the validity of those decisions. It is clear from what has been included within the DCO that further detail and information is available, however, this has not been provided by NH.
105. The assessment of the proposed overhead electrical diversions within Annex 2 of the Explanatory Memorandum ([APP-057](#)) is acknowledged to be in line with Section 16 of the Planning Act 2008, although it is more of a 16-page summary, rather than a full detailed report. The Council would have expected accompanying drawings or reference to detailed drawings showing compliance or non-compliance with each item within Section 16 of the Planning Act 2008. The Council would have expected further investigation and information regarding the significant environmental impacts on the

identified electrical overhead line NSIP. Little information has been provided to demonstrate how the impacts have been minimised and what mitigation measures have been put in place, if any.

106. Furthermore, many of the matters raised in the previous consultations, the Council's Relevant Representation ([PDA-009](#)), the recent PADs Summary Statement ([PDA-008](#)) and in this LIR, have not been dealt with, despite NH claiming successful engagement on these issues in a number of other DCO documents.

Section 13 – Skills, Employment & Legacy

107. The Council recognises that the LTC proposal has the potential to deliver some skills, employment, and education benefits for the local area. With this in mind, the Council has sought to engage at every opportunity on the NH Skills, Education and Employment Strategy (SEE Strategy). Unfortunately, NH has not prepared the SEE Strategy in an open and transparent way and has not listened to the Council's requests.
108. The current NH LTC website states that *'The Lower Thames Crossing will provide work for more than 22,000 people'*. The NH Roadmap to Growth document lists what NH see as the main labour market benefits of LTC and states the project will provide *'work for more than 22,000 people'* (p4). The number 22,000 has been used by NH for at least three years and described by NH in various different ways over the period. The Council has requested information throughout on the derivation of this number and a precise definition of what it is measuring. This is despite the content of the NH Workers Accommodation Strategy ([APP-551](#)). The document (p19) states that *'the workforce for the (LTC) Project would reach an overall peak of 4,514'*. The Council contend that NH has added together annual peak numbers to arrive at 22,000. This practice is highly misleading.
109. The Council wants all SEE targets to be suitably 'localised'. Localised means that any skills, employment, and education benefits must flow primarily to those local areas within which the proposed LTC works take place. As approximately 70% of the proposed LTC works are located within Thurrock and the Council has made repeated requests that a commensurately high share of labour market and skills benefits flow to Thurrock. As it stands, the Council is explicitly targeted to receive only 4% of SEE outcomes.
110. The Council has also made repeated requests that the targets within the SEE Strategy are more ambitious; and, of the 12 key targets in the current SEE Strategy, all lack ambition. The Council has provided NH with more stretching targets on each and every measure.
111. The Council also needs to be properly resourced by NH to help secure positive labour market outcomes. This means having a dedicated internal team to work on a range of matters including labour market readiness, skills, recruitment, supply chain development, etc. The Council's requests on this matter have been rejected by NH.
112. The combination of unambitious and insufficiently localised targets and the absence of any dedicated local resource means that the opportunity for NH to deliver positive SEE outcomes in Thurrock will not be taken.

Worker Accommodation Provision and Impact

113. A draft of the WAR Summary (only) was originally offered to the Council for comment in May 2020 and the Council provided both general and detailed comments in October 2020, in summary these comments at that time outlined six major areas of concern for the Council. There has been limited technical engagement since then and there are still almost 15 remaining significant issues that need resolution otherwise there is a strong likelihood of significant impacts on the Council's housing and rental market and other community impacts.

Community Fund Measures and Wider Legacy Provision

114. The Council along with Gravesham BC and LB Havering submitted a Joint Paper setting out their requirements for this Community Fund in December 2022 and it covered: the size of the fund was considered too small and recommended increasing it from £1.89m to £3.75m over the six years of construction (based on the recent pilot scheme results and benchmark evidence); some modest changes to the percentage distribution of the Fund across local authorities; and, further clarification was requested on the four themes within the Community Fund. Neither of the first two requests has been accepted by NH.
115. The Council has also requested resource for a four person Community and Public Health Team (see Thurrock/NH Statement of Common Ground ([APP-130](#)) – item 2.1.172. At the time of writing, NH has agreed to fund two posts, focussed on supporting the EHO, coordinating the community liaison workstream and to support the skills/business advisor within the NH team. However, the Council require full agreement to the original request, which in addition to the two posts offered by NH also included an administrative and apprentice post, the inclusion of 15% 'on-costs' and a commitment to fund the posts for 7.5 years.
116. The Council identified 23 legacy measures as part of the October 2020 Hatch Mitigation Report. These are investments the Council is seeking from NH to deliver positive outcomes for Thurrock residents and to serve as a partial offset to the negative impacts of LTC in the Borough. The Council expected that Designated Funds would have the potential to deliver many, if not all, of these legacy measures.
117. But, at the current time, only three of the 23 measures are classed as 'Matters Agreed' in the SoCG. Also, to date some £1.3 million of Designated Funds have been approved for deployment in Thurrock. Whilst this is a welcome investment, it is far below the investment required to deliver the 23 legacy measures the Council has requested and also represents a very poor 'offset' against the many disbenefits that LTC will deliver in Thurrock.
118. NH has missed an opportunity to agree to the Council's legacy requests. These requests were made nearly three years ago and were all clear and potentially fundable.

Section 14 – Proposed Order Limits, Land Interests and Compensation

119. The Council has a significant number of land interests affected by LTC. These include land it holds in the following categories: investment land (including woodland and agricultural land); public open space; private roads; and, public highways.
120. If the DCO were granted and implemented as drafted, then NH will be entitled to acquire these interests and pay compensation in accordance with the 'so called', compensation code (being the various Acts of Parliament, Statutory Instruments and decided Case law used to assess compensation following the use of compulsory purchase powers). The Council is very concerned as it considers that this compensation methodology fails to address, in full, the impact of the scheme on the Borough and the Council's land interests.
121. At an early stage, NH and the Council recognised that there was a need for an overarching legal Agreement that would address land take, timing of land, condition of return and compensation liability. NH undertook to provide a draft legal Agreement in April 2021, but this has yet to be produced. This legal agreement would support the detailed table of effects on Council-owned land that NH and the Council have been jointly preparing over the last two years.
122. The extent of the land take/occupation by NH is, in some instances, very significant. In only limited instances has there been an attempt to justify the requirement for the area identified, much less any attempt to justify the extent of the area identified.

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123. The Council considers it imperative that it understands: what land is being taken permanently and when; what land is being taken temporarily and when, and, where that happens; whether the land is being taken temporarily on more than one occasion; what triggers return of the land; and the condition of land on its return.
124. The Council considers that NH should be adopting an approach to compensation that reflects the approach taken in other large schemes, e.g. Thames Tideway, Heathrow Third Runway and HS2 and which would better mitigate impacts on residents of the Borough.
125. NH has published a series of brochures which summarise impacts on land and property. The Council considers that the information in these brochures is insufficient and that typically NH goes no further than the statutory position in mitigating impacts. The Council require NH introduce non-statutory policies to address the identified shortcomings in the statutory schemes for the following matters: Blight; and those who suffer hardship as a result of the LTC scheme.
126. The Council also considers that further information should be provided in terms of the need to take significant areas of Public Open Space temporarily for very significant periods as part of LTC.

Section 15 – Adequacy of Key Application Documents

The Draft DCO (dDCO)

127. The DCO application includes the draft Order and a wide range of 'Control Documents' and it has significant concerns about many aspects of the proposals and controls which they specify. The Council considers that many of the documents are not currently adequate in terms of providing the Council with essential commitments and controls.
128. The Council has been discussing the draft DCO with NH since the end of 2020. Some of the Council's concerns have been taken into account in the current draft of the DCO. However, many other points, which the Council view as having a significant negative effect on the Council's residents, do not appear to have been taken into account. Broadly, these are:
- a. **Uncertainty**, for example, caused by uncertain Order Limits, length of time CPO powers can be used for, timeframes within which the project is going to be commenced, and the potential adverse effects of disapplying legislation.
 - b. **Loss of control and coordination over the impact of the project on how the Council discharges its statutory functions.** For example, because of the effects of the Council not being the discharging authority for certain requirements, control over works to the highways, different drainage enforcement regime and deemed discharge.
129. Overall, the Council considers that the applicant needs to ensure that the limits of the draft DCO are clear, allowing certainty for those potentially impacted to engage effectively. The applicant frequently justifies its position based on precedent and the size and complexity of the scheme. It is the Council's position that, pursuant to paragraph 1.5 of Advice Note 15, the applicant needs to explain why particular wording is relevant to the proposed draft DCO.
130. These are not the only examples of where the Council's ability to discharge its statutory functions are amended or lost due to the DCO as currently drafted. For example, the numerous deemed consent provisions seek to take control from the Council and other public bodies, for the benefit of the applicant and to the detriment of the general public.
131. It is the Council's position that for certain Requirements, the locally elected local authorities, who are experienced in discharging similar planning conditions, should be the discharging authority and the Council has set out its detailed reasons with many precedents for this outcome. In addition, Article 9 and the disapplication of the New Roads and Street Works Act 1991 ('NRSWA') is of major concern to

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the Council regarding permitting, which has already been this raised with the applicant. It is very important that the Council remains in control of its highways network, for which it has statutory responsibility. Overall, it is the size and complexity of this scheme, which is why the Council needs to be able to coordinate and manage further consents being issued to minimise the negative impact of the scheme (and also to maximise any potential benefits).

132. In addition to the above, the Council is concerned about the legal basis for the Section 106 Agreement. The DCO application sets out that the plan is to secure the land against the permanent route alignment of the A122 LTC. Part of this land is currently owned by the applicant, with compulsory acquisition powers being sought through the DCO for those sections are not currently owned by the applicant. The Council will need to be confident that sufficient land is owned by the applicant prior to any DCO being consented, now that a Section 106 Agreement, which could be effectively enforced, could meaningfully be entered into prior to the close of the Examination. If it is not possible to enter into a Section 106 agreement that could be effectively enforced, then other methods of securing the obligations needed make the scheme acceptable in planning terms would be required (if the scheme is to proceed), such as a Deed of Obligation.
133. The applicant has acknowledged, through the proposal of the S106 Agreement and two side agreements, that additional safeguards are required outside that contained within the DCO. The additional mitigation secured through these agreements is, in the Council's opinion, necessary to make the scheme acceptable in planning terms. Failure to provide these represents an unacceptable negative impact on the Council.
134. The fact that the Section 106 Agreement has now been significantly reduced in scope and two side Agreements have not been provided, means that the Council is likely to be significantly adversely affected by the scheme. The Council set out its expectations for mitigation matters that would need to be addressed through Section 106 Agreement and communicated these clearly to the applicant in advance of the DCO submission in an email of January 2022. This was to enable the applicant and the Council to work together to progress the technical work necessary to define and cost the schemes and initiatives to be funded via S106 and several meetings were held up to August 2022. Given this spirit of collaboration the Council was surprised to receive communication from the applicant through which the applicant has set out its unsubstantiated unilateral decision to re-write the list of S106 matters. This significantly reduces the number of matters the applicant is now, many months since its DCO submission in October 2022, prepared to discuss and address with the Council, preferring instead to load yet more issues for the ExA to arbitrate within an already highly constrained timetable. Currently, there are 16 matters that have been excluded from consideration within the S106 Agreement by NH. The Council finds this unacceptable.

Stakeholder Actions and Commitments Register (SAC-R)

135. The Council received no consultation/engagement on a draft of this document or its commitments prior to the DCO submission in October 2022 or subsequently, this is despite the claims in Sections 3.1.1 – 3.1.3 of this document.
136. There are currently no commitments with the Council and only six commitments listed in the SAC-R and no mapping to identify their locations – one related to Orsett Fen in Thurrock but committed with Natural England, Green Lane and Brentwood Road farm accesses during construction located in Thurrock and agreed with the landowner and landowner access to land near the North Portal with the landowner. The remaining two commitments are broad and project-wide and not directly related to the Council. Although, an additional commitment relating to the traveller relocation has been agreed with NH and will be part of an updated SAC-R.
137. The Council considers that it is possible to include further SAC-R commitments during the DCO Examination process and it may lend itself to a range of additional commitments on design, construction and operational matters that are currently missing or inadequate within the current DCO

application. In the Council's view a number of additional broad commitments are listed and these will be contingent on further discussions, Hearings and submissions during the Examination.

Control Documents

138. The Council has concerns about the arrangements described in many of the 'Control Documents' for the scheme. The following examples are discussed in more detail in the LIR and are summarised below.
- a. The Wider Networks Impacts Management and Monitoring Plan (WNIMMP) completely neglects the requirement to secure the mitigation of LTC's impacts through the DCO and that stance is unacceptable to the Council.
 - b. The Code of Construction Practice and Register of Environmental Actions and Commitments (CoCP and REAC) are missing a wide range of controls and information, e.g. supporting commitments to reducing the road transportation of materials, plant and equipment (linked to the OMHP); to how communications will be managed to ensure communities are kept informed, in particular traditionally hard to reach communities; providing advance notice of when and where temporary road closures will occur, access arrangements of accommodation and welfare facilities outside of working hours, arrangements for dust monitoring. There are also a range of REAC commitments that need amending and adding.
 - c. The Framework Construction Travel Plan (FCTP) does not provide an assessment of its expected effectiveness or a robust basis of viable initiatives and binding commitments. Much of what is proposed relies on the goodwill of the contractors, over which neither the Council nor NH has any control. Overall, the Council considers that the assumptions within the FCTP for access to compounds by means other than private car are flawed. Furthermore, it contains no binding targets.
 - d. The Council notes the progress made since initial drafts of the Outline Traffic Management Plan for Construction (oTMPfC) were shared prior to the submission of DCO. However, there are continued concerns that the predicted impacts have not and would not be resolved. For instance, it outlines the phase of traffic management, but does not cover the management of construction traffic numbers visiting the compounds; although the TMF may help resolve issues, there is still uncertainty regarding its set up and terms of reference, the detail of which has not been provided to the Council or discussed (detail such as the TMF membership, structure, terms of reference and powers set out in the CoCP/REAC); and, engagement with the local bus operators to establish strategies for managing services during the phases of construction. This plan should be revised prior to completion of the DCO Examination to address the Council's concerns.
 - e. NH has previously committed to agreeing a DLOA or side agreement and to funding additional network management resource during the construction period. Those agreements must be secured prior to completion of the DCO Examination.
 - f. Regarding the Outline Materials Handling Plan (oMHP), HGV reductions could be made if NH were to commit to importing other bulk and bulky materials and plant and equipment by non-road transport, such as marine. This approach has seen significant benefits when adopted by the Thames Tideway project and other NSIPs and the recommendations within the Joint Technical Note from the Council and PLA was not accepted by NH. NH dismisses importing cement either for onsite batching or to local batching plants, however, the Council notes that existing local batching uses marine import of cement; and segments for the ground protection tunnel will not be cast within the compound and would be transported by road. Those segments should be cast within the segment factory within the compound. Finally, there is no proposed River Transport Strategy as provided with other similar NSIPs.

- g. The Outline Site Waste Management Plan (oSWMP) and the Carbon and Energy Management Plan (C&EMP) do not respectively: contain sufficient detail on the approaches to the management of the wastes to provide confidence that these measures will be achieved; or, it does not provide clear links between how these C&EMP actions achieve the carbon reduction quantum defined within ES Chapter 15 ([APP-153](#)) and it does not provide evidence on how LTC supports the host community of Thurrock, in both decarbonisation and climate adaptation and so does not provide any analysis of local impact or mitigation at a local level to Thurrock.

Planning Statement and Green Belt

139. The aim of a Planning Statement is to provide a balanced justification for development and so it should include the recommended elements from best practice. The Council concludes that LTC Planning Statement ([APP-495](#)) does not cover matters adequately, in that it does not set out a summary of all issues identified within the DCO application and so cannot undertake an acceptable 'planning balance'.
140. NH has not provided the Council with a robust Green Belt Assessment within its DCO application for the alternatives assessment or preferred route. Therefore, it is unclear how the Green Belt impacts have been assessed correctly. In particular, this does not provide an assessment of openness or other Green Belt purposes and does not clearly identify 'very special circumstances'.

Section 16 – Overall Strategic Assessment of Impacts

141. Overall, the Council considers that there are 16 very significant planning issues identified with the LTC scheme, as set out in this LIR below in more detail. The LTC, as currently proposed, should not proceed given its high cost, poor economic case and the significant harm it would impose on residents of Thurrock.
142. The analysis provided within this LIR shows that the Council has significant concerns about the design, assessment, and proposed mitigation for LTC. The Council is disappointed that engagement with NH over many years has not led to the development of a scheme that provides more benefits for Thurrock residents. The lack of provision of technical information by NH has not helped the Council understand the impacts of the scheme.

1. Introduction

1.1 Background

- 1.1.1 National Highways (NH) has submitted an application for a Development Consent Order (DCO) to construct and operate a new highway known as the Lower Thames Crossing (LTC), which also includes four additional utility diversion Nationally Significant Infrastructure Projects (NSIPs) (the installation of an electric line above ground and the diversion of three gas pipelines). The DCO application was accepted for Examination by the Planning Inspectorate (PINS) on behalf of the Secretary of State (SoS) for Transport on 28 November 2022.
- 1.1.2 Section 60 of the Planning Act 2008 (PA 2008) provides for relevant Local Authorities (LAs) submitting a Local Impact Report (LIR – ‘...a report in writing giving details of the likely impact of the proposed development on the authority’s area (or any part of that area).’) into the Examination process, which the Examining Authority must have regard to in making its recommendation to the Secretary of State.
- 1.1.3 On 27 June 2023 the Examining Authority published a Rule 8 letter which set out, among other matters, that LIR’s from relevant local authorities should be submitted at Deadline 1 (18 July 2023) of the Examination.
- 1.1.4 This report is submitted in response to that request and in accordance with Thurrock Council’s (‘the Council’) duty as a host authority for the purpose of the LTC proposal. In compiling the report, the Council has had regard to PINS Advice Note One: Local Impact Reports (version 2, April 2012) (AN1) and to the brief advice set out in Advice Note 2 (AN2) section 21.

1.2 Purpose of the Local Impact Report (LIR)

- 1.2.1 Although AN1 has no statutory status, it is intended to assist LAs with the form and content of LIRs. AN1 stresses the importance of the LIR, stating that the SoS must have regard to any LIRs that are submitted by the deadline. This is further confirmed by the terms and effect of Section 104(7) of PA 2008, which indicates the principles for deciding the application other than in accordance with the adopted NPS states *‘this subsection applies if the Panel or Council is satisfied that the adverse impacts of the proposed development would outweigh its benefits.’* The adverse impacts will include those set out below in this LIR.
- 1.2.2 The Council would contend (as set out in the sections below) that these disbenefits do in fact outweigh the benefits, notwithstanding the need for the project. However, the Council contend that when considering Section 104(3) of the PA2008, it concludes that the LTC scheme is not, at present, in accordance with the NPSNN and these matters are discussed below.
- 1.2.3 AN1 also emphasises the need to begin the preparation of the LIR as soon as the application has been accepted formally, i.e. from December 2022 onwards. This has relevance for the Council as work on the DCO application ceased from the publication of its Section 114 Notice on 20 December 2022 until work re-commenced, following approval of the Business Plan for such work by the S114 Commissioners, in mid-April 2023. This shortened the preparation period for the Council’s LIR by almost four months, i.e. the Council has only had almost three months to prepare this LIR.
- 1.2.4 Normally, however, the required LIR approach of enabling LA’s to be able to clearly set out its concerns about impact, is predicated on the assumption that the applicant has engaged constructively to address and mitigate issues. In this instance, the Applicant undertook extensive technical engagement, but in declining to resolve or delaying input on issues has left a very substantial number of issues unmitigated for the ExA to review. This has made the LIR extremely

complex and very challenging for the Council to capture this complexity and the narrative. So, rather than the DCO process being used to resolve issues between public sector organisations, the Council considers that the NH approach has sought to exert its influence to dismiss continuously highly relevant and valid concerns expressed by the Council over a two year period since the initial DCO was withdrawn.

1.3 The Scope of the Local Impact Report

- 1.3.1 The LIR only relates to impacts of the proposed scheme as they affect the administrative area of the Council, as stated by Section 60(3) of PA 2008, but AN1 confirms that the content is a matter for the LA provided it is within this statutory definition. Notwithstanding this AN1 on page 5 sets out topics for the content that may be of assistance. The Council has taken those topics into account in determining the structure and content of this LIR, which is outlined below.
- 1.3.2 AN1 advises that the LIR does not need to contain a balancing exercise between positives and negatives or an assessment of compliance with the NPS, which will both be undertaken by the Examining Authority (ExA). The ExA will be assisted by the LIR identifying local issues and compliance with local policy and guidance; and, by LAs giving their views on the relative importance of different issues and offering views on DCO Articles, Requirements and DCO obligations, especially commenting on specific mitigation or compensatory measures and offering explicit suggestions. Furthermore, the LIR can contain representations made to it by the public and other organisations if relevant to local impacts, but it is not required to carry out its own consultation with the community in respect of this LIR. Finally, the LIR can cross refer to any Statement of Common Ground (SoCG) between the LA and applicant and this opportunity is taken below in Section 5.
- 1.3.3 The Council's Relevant Representation formally submitted on 4 May 2023 ([PDA-009](#)) sets out an outline of the 15 principal issues of major concern to the Council and this LIR builds on that outline with more detail, evidence and discussions to assist the ExA.
- 1.3.4 It is noted that the Council will be able to submit a separate Written Representation (WR) if it wishes to express a particular view on whether the application should be granted. It is acknowledged that the LIR should be prepared objectively, framing important matters within the Council's jurisdiction and have regard of local policy.

1.4 Structure of the Report

- 1.4.1 This report is structured as follows and contains the following main sections:
- **Section 2: Context** – sets out details of the proposed development and outlines the context of the Council's area/assets in which the local impact will be experienced, such as demographics, levels of deprivation and opportunities for future development to meet housing, employment, needs, including reference to sensitive receptors. This also includes a short sub section addressing the LTC history, the original/current LTC objectives and the current context and different future challenges.
 - **Section 3: Planning History** – sets out the planning history of this area and relevant planned development in the Thurrock area.
 - **Section 4: Planning Policy Context** – sets out relevant Council local policies and policies from the emerging Local Plan and any specific and relevant national policies.
 - **Section 5: Statement of Common Ground (SoCG)** – sets out the Council's concerns with the process leading up to DCO submission and subsequently. It sets out the limited progress in resolving SoCG matters, the work required by the Council to comment and key issues with

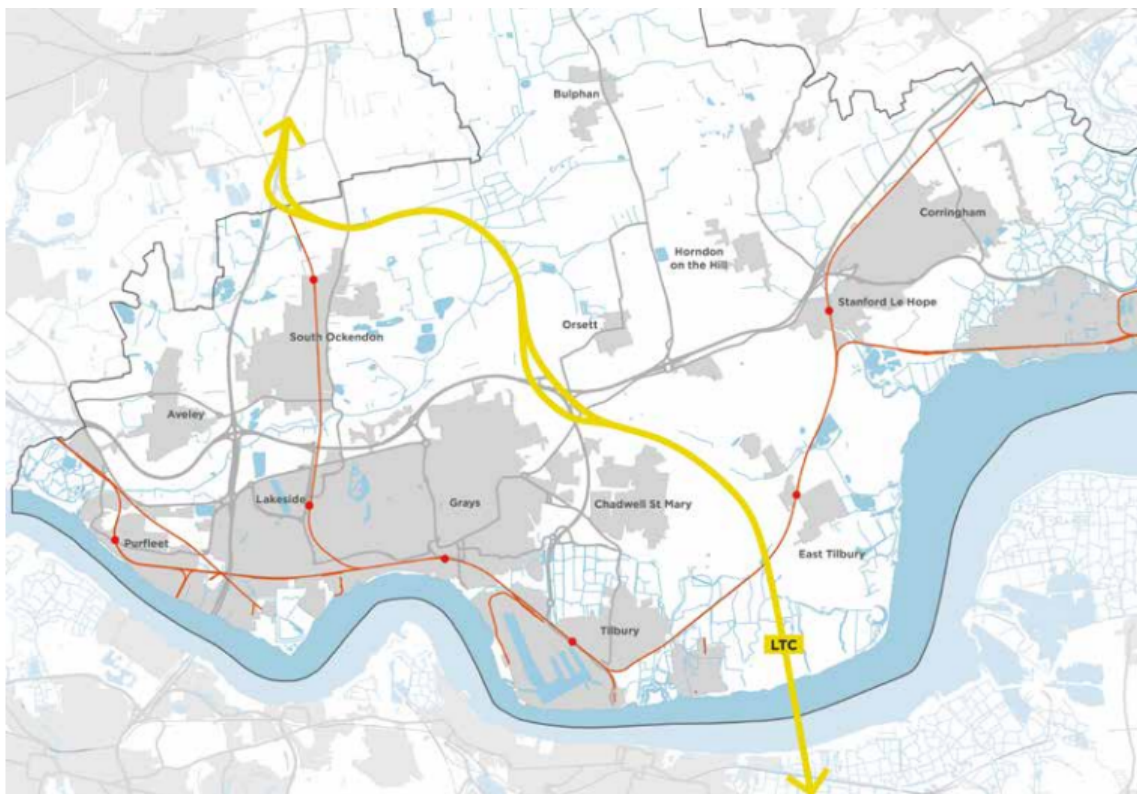
the NH responses and how an updated SoCG is progressed over the coming weeks and months.

- **Section 6: Overall Position of the Council and Consultation** – sets out the Council's position and which has directed this LIR preparation. It then sets out a summary of key matters with both the Adequacy of Consultation (AoC) and subsequent technical engagement and the need for further information from NH (with a list of outstanding information requirements).
- **Section 7: Costs and Disbenefits and Poor Value for Money** – sets out performance against a range of national, regional and scheme objectives, assesses transport user and wider economic disbenefits/benefits, demonstrates the scheme's poor value for money and reviews the transport modelling data and evidence base and its effects on transport forecasts.
- **Section 8: Consideration of Alternatives** – assesses a range of alternatives in respect of scheme design elements, lack of consideration of recent past significant events or key future scenarios, limited provision for public transport and active travel, limited future proofing of the scheme and the lack of demand management measures.
- **Section 9: Transport** – sets out an analysis of the proposed development with regards to transport, covering an assessment of scheme changes, local road impacts, adverse impacts from construction on transport, incident management and recommended amendments to scheme design.
- **Section 10: Assessment of Environmental and Health Impacts** – setting out an analysis of the positive, neutral and negative impacts of the proposed development against each of the Environmental Statement (ES) environmental topic areas.
- **Section 11: Emergency Services and Safety Provision** – sets out the current Steering Group status and progress (of which the Council is a key member), explanation of the current consultation process and progress on issues and a summary of the key outstanding issues related to the impact on emergency services and safety partners.
- **Section 12: Utilities Impacts** – sets out compliance with policy, current issues with the utility diversion content of the DCO application and an assessment of impacts and limited mitigations for the four NSIP utility diversions.
- **Section 13: Skills, Employment & Legacy Impacts** – this summarises previous engagement and sets out the Council's mitigation requests, assesses the scheme's 'Skills, Education and Employment (SEE) Strategy', Worker Accommodation provision impacts, assesses the Council's views on the proposed Community Fund and the adequacy of the scheme's provision for legacy.
- **Section 14: Proposed Order Limits, Land Interests and Compensation Issues** – this assesses the impact of the Order Limits on Council-owned land and proposed mitigations and assesses the limitations of compensation provision for identified impacts.
- **Section 15: Adequacy of Application** – sets out the Council's position on the adequacy of the DCO application, covering the draft DCO Order and all Control documents, where relevant.
- **Section 16: Overall Strategic Assessment of Impacts** – given the AN1 recommendations about not assessing the balance between positives and negatives (which is the role of the ExA), the Council sets out its overarching views/conclusions on the strategic assessment of impacts to assist the ExA on the Council's position when all impacts are considered in-combination.

2. Context

2.1 Description of the Proposals

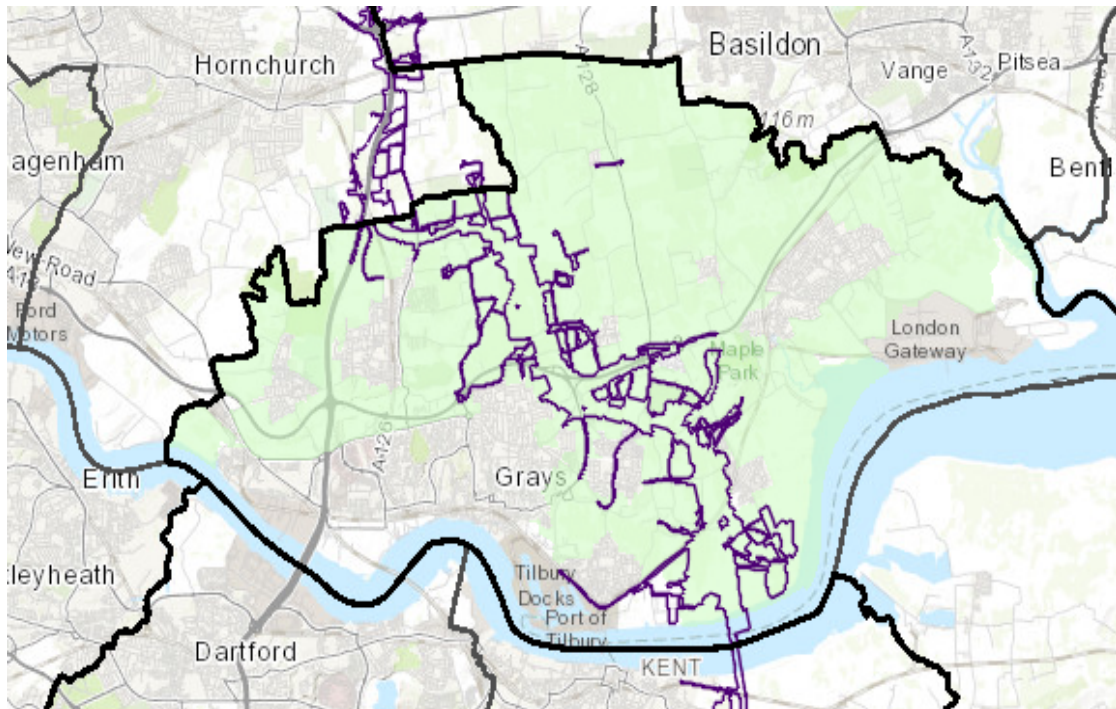
- 2.1.1 NH are proposing to construct LTC, which is approximately 14.3 miles (23 km) of new road connecting the existing road network from the A2/M2, south-east of Gravesend, to the M25, to the north of North Ockendon. The indicative route within the Council area is shown on **Figure 2.1** and approximately 11.3 miles (18.25km) of the route will be within the Council area, i.e. some 70% of the route.



Source: Thurrock Council, Thurrock Local Plan Issues & Options (Stage 2), December 2018

Figure 2.1: Indicative LTC route within Thurrock

- 2.1.2 The full description of the proposed development is set out in detail within LTC Planning Statement ([APP-495](#)) and 6.1 ES - Chapter 2 - Project Description ([APP-140](#)).
- 2.1.3 In Thurrock, approximately 11% of the Green Belt within Thurrock would be affected and/or lost if LTC is consented as shown below on **Figure 2.2**.
- 2.1.4 LTC will be routed through the middle of Thurrock and will bisect the district into two separate areas and will bisect the East and West Tilbury Conservation Areas. The scheme will lead to the direct loss of land, disruption to access and movement in the Borough and the creation of blight across the LTC corridor. The configuration of LTC is likely to also impact on the future local sustainable growth required by the Council to meet its housing and employment obligations from the Government.



Source: Stantec, 2023

Figure 2.2: Map showing the proposed LTC Order Limits and the extent of Green Belt affected in Thurrock

2.2 Background to the Project

2.2.1 The LTC Project began in around 2009 when the Department for Transport (DfT) began investigating the capacity and constraints of the Dartford Crossing and potential options to address the issues. Between 2013 and 2018, NH developed a preferred route and held non-statutory consultation relating to the proposed LTC route options between 2013 and 2016. Then, the Preferred Route was announced in April 2017. At the end of 2018, Highways England (now renamed NH) presented its 'Statutory Consultation Scheme' for the proposed LTC. LTC has changed significantly in the four years since the Statutory Consultation in 2018. The Statutory Consultation Scheme comprised:

- a. Approximately 14.5 miles (23 km) of new 'all-purpose trunk road' connecting to the existing road network from the A2/M2 to the M25;
- b. Two 2.5 mile (4 km) tunnels under the River Thames, one southbound and one northbound;
- c. Three lanes in both directions with a maximum speed limit of 70 mph;
- d. Modifications to the M25, A2 and A13, where the Lower Thames Crossing connects to the road network;
- e. A new Rest and Services Area at the Tilbury Junction (East Tilbury);
- f. New structures and changes to existing structures (including bridges, buildings, tunnel entrances, viaducts, and utilities such as electricity pylons) along the length of the new road; and
- g. A free-flow charging system, where drivers pay remotely, similar to that at the Dartford Crossing.

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- 2.2.2 Elements of the proposed LTC have evolved since Highways England’s Statutory Consultation in 2018 and a series of design changes were published within the Supplementary Consultation. The design changes that were proposed were:
- a. Increase in length of tunnels, now 2.6 miles (4.3 km) and corresponding decrease in length of new road, now approx. 14.3 miles (23 km);
 - b. Changes to the M2/A2 junction and local link roads;
 - c. Relocating the southern tunnel entrance approximately 350 metres to the south;
 - d. Removal of the Rest and Service Area;
 - e. Removal of the previously proposed junction at Tilbury;
 - f. Relocating the route between Tilbury and the A13 junction approximately 60 metres north-east;
 - g. Changes to a number of slip roads at the junction between the LTC, A13, A1089 and A1013;
 - h. Removal of one lane southbound between the M25 and A13 junction;
 - i. Changes to the structures over the Mardyke River, Golden Bridge Sewer and the Orsett Fen Sewer;
 - j. Changes to the southbound link from the M25 to the LTC; and
 - k. Changes to the layout of junction 29 of the M25.
- 2.2.3 In addition, there were a further three rounds of non-statutory consultations (Design Refinement, Community Impacts and Local Refinement) that included further changes between 2020 and mid-2022.

2.3 Description of the Area

- 2.3.1 Thurrock is situated north of the River Thames and is approximately 32 kilometres east of central London, in South Essex. The population of Thurrock is approximately 175,900 (NOMIS, 2023) and the borough covers an area of 165 sq km.
- 2.3.2 The riverfront areas of Thurrock are urbanised with residential and industrial development on the eastern and western parts of the Council’s area. Thurrock has several main settlements, including Grays, Stanford-le-Hope, Corringham, Chafford Hundred, South Ockendon and Tilbury, together with a number of villages within the Green Belt. The Lakeside Regional Shopping Centre is located west of Grays and east of the M25.
- 2.3.3 Thurrock has a relatively young population with the highest proportion of residents, approximately 63.9% in the traditional working age group (16 to 64 years), the England average is slightly lower at 62.9% (NOMIS, 2021). Since 2011, the population of Thurrock has increased by 11.6% (Office for National Statistics, 2023). In Thurrock, 75.9% of the population are economically active in employment (January 2021 – December 2021, Office for National Statistics, 2023), which is slightly lower than the East Region average of 77.1%. Around 4.9% of the population are economically active, but unemployed (Office for National Statistics, 2023) and 4.5% of the population claim benefits. These figures are both higher than the East Region and the Great Britain averages.

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- 2.3.4 In Thurrock, there is also a growing ageing population, increasing demand on Thurrock's care services. Since 2011, there has been an increase of 19.4% in people aged 65 years and over.
- 2.3.5 Overall levels of deprivation in Thurrock are lower than the national average, but some areas of Thurrock are among the most deprived in England. In Thurrock, in 2019, 13.0% of the population was income deprived. Of the 98 neighbourhoods in Thurrock, 15 have been identified as being among the 20% most income deprived in England (Office of National Statistics, 2021).
- 2.3.6 As a result of social inequalities, the Council is part of the Thames Estuary Levelling Up Bid Group and was awarded approximately £110 million in Autumn 2021. Thurrock has been identified as a Priority 2 area (narrowly missing out on Priority 1 status). Priority 1 areas represent the highest levels of identified need and Priority 3 is the lowest level of need, although still requiring levelling up. The Levelling Up funding will be used to regenerate town centres and high streets, upgrading local transport and investing in cultural and heritage assets. The funding was awarded to try to reduce the levels of child poverty across the Lower Thames area, which is 20% compared to the England average of 18%, reduce the level of economically employed and to increase overall health in the area.
- 2.3.7 Within Thurrock, there is an issue around housing affordability, with the Council being the primary provider of social housing. In March 2020, it was estimated that 14.3% of dwellings in Thurrock were owned by the Council with other registered providers of social housing owning less than 3.1% of homes in the borough MHCLG, now DLUHC, 2020).
- 2.3.8 Although the number of registered provider-owned dwellings has been increasing over time, this historical imbalance has resulted in additional pressure and demand on the Council from households who need affordable housing. In turn this has resulted in an increase on demand for private rented accommodation. Approximately one third of all households in Thurrock are still unable to afford the cost of rent and this is predicted to increase following the cost of living crisis (South Essex Housing Needs Assessment June 2022).
- 2.3.9 Concerns are raised around the potential impact of NH accommodating the construction workers if LTC is consented and the impact on the private rented accommodation. There may also be impacts on local community facilities, for example doctor surgeries. These concerns are set out in further detail in Sections 10.14 and 13.5 below.
- 2.3.10 In terms of cultural heritage, within Thurrock there are a number of heritage assets which will be directly impacted. The setting and significance of the Neolithic causewayed enclosure at Orsett, a Scheduled Ancient Monument, will be severely affected by LTC as well as the total loss of the Grade II Thatched Cottage, Murrells Cottages, and Grays Corner Cottages in Orsett. Furthermore, there are extensive cropmark complexes which are impacted running from East Tilbury to Orsett, which range from the Neolithic through to the post medieval period, the significance of which will adversely be affected.
- 2.3.11 The full list of heritage assets directly and indirectly impacted are recorded in the following NH documents:
- 6.1 Environmental Statement – Chapter 6 – Cultural Heritage ([APP-144](#));
 - 6.2 Environmental Statement – Figure 6.2 – Built Heritage Baseline and Assets Assessed as Likely to Experience an Effect ([APP-188](#));
 - 6.2 Environmental Statement – Figure 6.3 – Historic landscape ([APP-189](#));
 - 6.2 Environmental Statement – Figure 6.4 – Geophysical and Aerial Mapping Survey Results ([APP-190](#));

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- 6.2 Environmental Statement – Figure 6.7 – Archaeological Trial Trench Evaluation Carried Out by LTC ([APP-194](#));
 - 6.2 Environmental Statement – Figure 6.8 – Archaeology and Geology ([APP-195](#)); and
 - 6.2 Environmental Statement – Figure 6.9 – Palaeolithic Archaeology ([APP-196](#)).
- 2.3.12 The ecological assets of the area include the Thames Estuary and Marshes Ramsar and Special Protection Area (SPA). The areas directly and indirectly impacted by LTC are set out in the following NH documents:
- 6.2 Environmental Statement – Figure 8.1 – Designated Sites ([APP-262](#));
 - 6.2 Environmental Statement – Figure 8.2 – Phase 1 Habitat Map ([APP-263](#)); and
 - 6.2 Environmental Statement – Figure 9.1 – Nationally and internationally designated sites within 11km of Order Limits ([APP-296](#)).
- 2.3.13 In summary, LTC would give rise to adverse effects during its construction and operation which would significantly affect Thurrock’s communities and environment, in particular in relation to effects on severance, on private rented accommodation and on Thurrock’s natural and historic environment, including to the significance of scheduled monuments, listed buildings, historic landscapes and extensive archaeological deposits.

2.4 LTC History, Objectives, Current Context and Challenges

- 2.4.1 In 2009, HE and the DfT established the following LTC Project Objectives which the scheme should meet, and these are the current scheme objectives as set out within the DCO application. These objectives set out that the development should seek:
- a. To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free flowing, north-south capacity;
 - b. To improve resilience of the Thames crossings and the major road network;
 - c. To improve safety;
 - d. To support sustainable local development and regional economic growth in the medium to long term;
 - e. To be affordable to Government and users;
 - f. To achieve value for money; and
 - g. To minimise adverse impacts on health and the environment.
- 2.4.2 As set out above, the LTC Project began around 2009 when the DfT began investigating the capacity and constraints of the Dartford Crossing and potential options to address the issues. LTC has been subject to several significant design stages and amendments, which are set out in turn below:
- a. **2009:** The Dartford River Crossing Study 2009 is undertaken.
 - b. **2013:** The Options Consultation Review of Lower Thames Crossing Options: Final Review Report was published for consultation.

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- c. **2016:** Non-statutory route consultation between January and March 2016 Route Consultation Pre-Consultation Scheme Assessment Report (Highways England, 2016).
- d. **April 2017:** The Post-Consultation Scheme Assessment Report (Highways England, 2017) was published. This identified Route 3 as the preferred route, which was approved by Government.
- e. **2018:** At the end of 2018, HE (now renamed NH) presented its 'Statutory Consultation Scheme' for the proposed LTC.
- f. **2020:** A series of design changes were the subject of a Supplementary Consultation exercise which ended in April 2020.
- g. **2020:** A further round of Design Refinement was the subject of non-statutory consultation, undertaken virtually, from 14 July to 12 August 2020.
- h. **2020:** HE made its submission of its first DCO in October 2020. Subsequently, following discussions with PINS, it withdrew DCO application in November 2020.
- i. **2021:** A further Community Impacts Consultation was held from 14 July to 8 September 2021. It was undertaken virtually and at in-person events in response to the Covid-19 pandemic and comments from PINS.
- j. **2022:** A further round of Local Refinement Consultation was held from 12 May to 20 June 2022. It was undertaken virtually and at in person events.
- k. **2022:** On 11 November 2022, NH submitted its second DCO application.

2.4.3 A broad analysis has revealed that overall, over the five consultations, there have been 81 changes made to elements of the scheme over a four year period as set out in **Figure 2.3**. The figure of 81 changes corresponds to the overall number of changes set out in each of the 'Guides to Consultation' (when totalled), published at each of the 5 formal consultations. The contents and changes are summarised in the **Figure 2.3** below.

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Statutory Consultation October - December 2018	Supplementary Consultation January - April 2020	Design Refinement Consultation July - August 2020	Community Impacts Consultation July - September 2021	Local Refinement Consultation May - June 2022
Supporting Technical Documents were: <ul style="list-style-type: none"> • PEIR and Summary • Traffic Forecasting Report and NTS • Map Books • Case for the Project • Approach to Design, Construction & Operation 	9 major design changes (taken from 'Guide') Major changes to Order Limits Limited information on environmental impacts Some information was provided on construction and utilities works There were updates to the traffic model	18 major design changes (taken from 'Guide') Some changes to Order Limits More developed landscaping proposals There was further information on Utilities proposals Details of proposed noise barriers Details of maintenance access tracks	Additional 28 major design changes (taken from 'Guide') Major changes to Order Limits, Utility proposals and Special Category Land Major Update of Information of 3,500pp covering: Construction Update Operations Update Ward Impact Summaries You Said, We Did document Maps Technical Documents: DCO Schedule 2 and Explanatory Note OSWMP OTMPFC oMHP CoCP and REAC WNIMMP OLEMP FTPIC	26 major design changes (taken from the 'Guide') Major changes to Order Limits Significant changes to Utility proposals Further changes to construction proposals Changes to traffic flows General information on air quality and noise impacts without assessments Changes to WCH and PRoW proposals Major changes to Special Category and Private Recreational Land Major proposals for Nitrogen Deposition Mitigation

Figure 2.3: Summary of Key Contents and Changes from each 'Guide to Consultation'

- 2.4.4 In summary, since the Statutory Consultation in 2018 there has been a withdrawn DCO application and five further rounds of non-statutory consultation. LTC has changed significantly in the five years since the Statutory Consultation in 2018. These changes have resulted in significant changes in the effects that the scheme has on Thurrock. Yet the final outcome of these changes has failed to result in a substantially improved scheme from the perspective of the local authority.
- 2.4.5 If LTC is consented, there would be significant future challenges to the Council for a minimum of 10 years in terms of impacts/delays beyond the impacts of the LTC construction itself. It is acknowledged that the DCO Examination close is 20 December 2023 and then the timetable effectively prescribes that a decision on the DCO is to be confirmed by the Secretary of State six months after the Examination close. The following issues may affect such a decision into the future bringing further uncertainty to the Council and its residents, which are summarised below:
- If there is a legal challenge to the grant or refusal of the DCO brought through a judicial review pursuant to Section 118 of the 2008 Act or further High Court challenges, there could be additional delays and future uncertainty.
 - If there are any interruptions in discharging the Requirements, then this could cause further delays.
 - The construction period is anticipated now to cover the period from 2026 up to 2032, if the DCO is granted without further delays. This will result in a period of at least 10 years from now until 2032 of uncertainty for Thurrock. This could result in other major developments or growth being delayed or halted, businesses deciding not to relocate or expand in the area as a result of the construction period or potential effects from the construction and operation of the LTC scheme on businesses day to day operations.
 - If LTC does in fact open in 2032, there may be further requirements from the Council to monitor the impact of the scheme, which would result in financial burdens on the Council.

3. Planning History

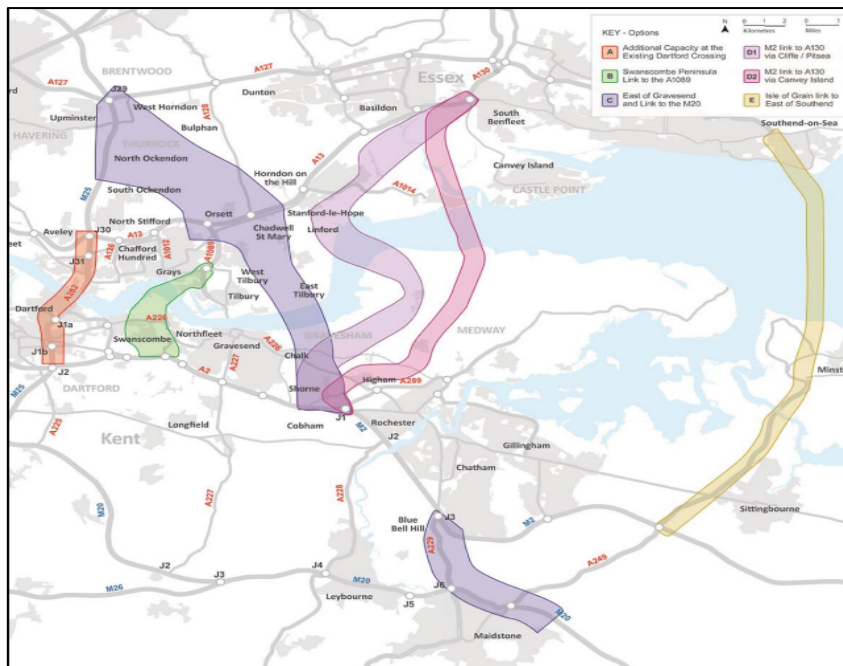
3.1 Planning History of the Scheme and Site Corridor

3.1.1 Plans for the LTC have a long history. The LTC project evolution and alternatives are set out in the LTC Document 7.2 Planning Statement ([APP-495](#)), Chapter 5. A short summary of the planning history of the scheme is set out in turn below for broad context.

3.1.2 As outlined in Section 2 above, the LTC Project began in around 2009, when the DfT started to investigate the capacity constraints at the Dartford Crossing. The Study included an initial consideration of what role other travel modes could be considered for example, light/heavy rail, bus, cross-river rail provision in the Lower Thames area, passenger rail provision and rail freight provision. That review considered that there were three cross-river crossings (Snow Hill tunnel near Blackfriars Bridge, the Chelsea Rail Bridge and the High Speed 1 tunnel between Ebbsfleet and Purfleet). The conclusion of the report and subsequent reports concluded was that current rail facilities were adequate and were taken no further. The initial six routes/road solutions that were identified were:

- A – Increasing capacity at the Existing Dartford Crossing;
- B – Swanscombe Peninsula Link to the A1089 link;
- C – East of Gravesend and Link to the M20 link;
- D1 – M2 Link to A130 via Cliffe/Pitsea link;
- D2 – M2 Link to A130 via Canvey Island link; and
- E – Isle of Grain Link to East of Southend link.

3.1.3 The above six potential route option alignments which are shown on **Figure 3.1** below.



Source: Lower Thames Crossing 7.2 Planning Statement, National Highways, 2022.

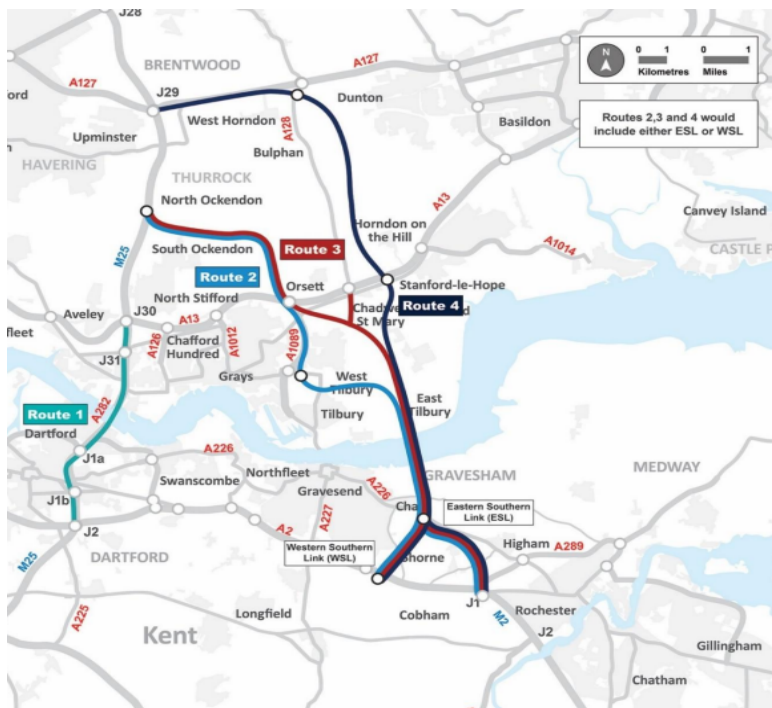
Figure 3.1: Six routes investigated in 2009

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- 3.1.4 For each option, a preliminary design and assessment was carried out, along with an environmental appraisal. As a result of this assessment, crossing Location Options A, B and C were recommended for further consideration, while crossing Location Options D and E were rejected.
- 3.1.5 In 2013, the three potential routes and a variant of Route C were presented for consultation. Following this consultation, Option B was not taken further as it could limited the redevelopment of the Swanscombe Peninsula, which was identified as a key growth area within the Thames Gateway area. This resulted in three remaining options, Route A, Route C and Route C variant.
- 3.1.6 In 2014 a more detailed assessment of route Location Options A and C began, and this resulted in the identification of a series of potential alignment options, all following the general route corridors defined by Location Option A and Location Option C. Option A and Option C were broken down into potential routes and these potential routes were considered.
- 3.1.7 In 2014, a long list of options were developed which were based upon the Routes A, C and C Variant:
- a. Route A-16 routes were investigated;
 - b. Route C-6 options were investigated; and,
 - c. Route C Variant-4 options were investigated.
- 3.1.8 Following viability checks and feasibility studies and in accordance with scheme objectives, 11 options were taken no further, these were A3, A5 A7, A10, A11, A13, C5, C6, CV3 and CV4. These routes were not taken forward due to financial implications, construction implications or significant impacts on existing developments.
- 3.1.9 The remaining 15 route options were taken forward and from these 15 potential routes, an additional 13 variants of Route C were investigated. The results were subject to tiered assessment and the results were, as follows:
- 3.1.10 Route Options Eliminated at first stage appraisal:
- a. A8, A12, A14, C11, C12, C13, C14 (Elements of C3 were used to develop C8).
- 3.1.11 Route Options Eliminated at second stage appraisal:
- b. A2, A9, A15, A16, C1, C4, C7, C10 C15, C16, C17, C18, CV1 and CV2.
- 3.1.12 There were four Route Options taken forward for further assessment (note that the routes were renamed following this assessment, the previous route names are in brackets). These four routes are as follows and as shown in **Figure 3.2** below.
- a. Route 1 with bridge (A1);
 - b. Route 1 with bored tunnel (A4);
 - c. Route 2 with WSL and bridge (C3);
 - d. Modified by C8 Route 2 with WSL and bored tunnel (C3);
 - e. Modified by C8 Route 2 with WSL and immersed tunnel (C3 modified by C8);
 - f. Route 2 with ESL and bridge (C3 modified by C8 and C19);

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- g. Route 2 with ESL and bored tunnel (C3);
- h. Modified by C8 and C19 Route 2 with ESL and immersed tunnel (C3 modified by C8 and C19);
- i. Route 3 with WSL and bridge (C2);
- j. Route 3 with WSL and bored tunnel (C2);
- k. Route 3 with WSL and immersed tunnel (C2);
- l. Route 3 with ESL and bridge (C2 modified by C19);
- m. Route 3 with ESL and bored tunnel (C2 modified by C19);
- n. Route 3 with ESL and immersed tunnel (C2 modified by C19);
- o. Route 4 with WSL and bridge (C9);
- p. Route 4 with WSL and bored tunnel (C9);
- q. Route 4 with WSL and immersed tunnel (C9);
- r. Route 4 with ESL and bridge (C9 modified by C19);
- s. Route 4 with ESL and bored tunnel (C9 modified by C19); and,
- t. Route 4 with ESL and immersed tunnel (C9 modified by C19).



Source: Lower Thames Crossing 7.2 Planning Statement, National Highways, 2022.

Figure 3.2: The Four Route Options

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- 3.1.13 The four routes were subject to review and further investigation in 2016. All Route 1 options were discounted at this stage as they did not meet scheme objectives in terms of traffic and there were potential issues around deliverability.
- 3.1.14 At a non-statutory public consultation, which was held between January and March 2016, Routes 2, 3 and 4 were presented. Route 3 (with a bored tunnel river crossing) was identified as the route option with the fewest impacts on designated sites, the lower cost option and was considered to meet the transport related objectives identified by NH.
- 3.1.15 In April 2017, the Secretary of State announced the Preferred Route, Route 3. Following consultation in 2017, a Post-Consultation Scheme Assessment Report was published by HE, which reassessed the four routes. Route Option 2 was discounted due to the potential significant adverse impacts on road safety on the A1089 and Route Option 1 was then included in the post-consultation appraisal.
- 3.1.16 Following the consultation, Route Options 1 and 2 were not taken any further. Route Option 1 was assessed as not meeting the scheme objectives and Route Option 2 was not supported by the public or by key statutory bodies due to the potential impacts on the environment and on local communities. Route Option 3 was investigated in further detail along with an assessment of the updated Eastern Southern Link and the updated Western Southern Link.
- 3.1.17 The 2017 appraisal in the Post-Consultation Scheme Assessment Report (Highways England, 2017), set out that Route Option 3, which included the updated Eastern Southern Link, and the updated Western Southern Link would have a similar positive impact on reducing congestion at the Dartford Crossing. It was considered that Route Option 3 and the Western Southern Link Road was the option that would meet the scheme objectives. As demonstrated above, there have been approximately 63 route options (for its overall alignment only) put forward by NH for consideration since 2009 before the first DCO application was submitted.
- 3.1.18 In October 2020, HE made their submission of its first DCO application to the Planning Inspectorate (PINS). Subsequently, following discussions with PINS, it withdrew that DCO application in November 2020.
- 3.1.19 On 31 October 2022, NH submitted another DCO application, which was accepted by PINS on 28 November 2022.

3.2 Local Development Consent Orders

- 3.2.1 In the last five years there have been two NSIP's consented in Thurrock and one further DCO application is anticipated to be submitted in 2025.

Thurrock Flexible Generation Plant

- 3.2.2 On 16 February 2022, the Thurrock Flexible Generation Plant was granted development consent. The application was for the development comprising of the construction and operation of Gas Reciprocating engines with up to 600MW electrical capacity and Battery Storage with up to 150MW electrical capacity. In September 2022, an application for a non-material amendment was made to the Planning Inspectorate and the non-material amendment was consented in March 2023. There has been no further progress since that amendment.

Tilbury 2

- 3.2.3 The Port of Tilbury, which lies some 2km to the west of the proposed alignment of the LTC route, has sought to develop further and create new employment opportunities and around 4,000 new jobs. Port of Tilbury London limited identified the disused Tilbury Power station for a new port

terminal known as Tilbury 2. In 2019, the Port of Tilbury received Development Consent to construct (Tilbury 2) and associated facilities, and the development is completed and operational.

Norwich to Tilbury (formerly East Anglia Green (EAG))

- 3.2.4 East Anglia Green (EAG) is a Nationally Significant Infrastructure Project (NSIP) proposal being developed by National Grid Electricity Transmission (NGET), to build a new 400kV electricity transmission line between Norwich and Tilbury, which will enable offshore wind generated energy to be directed to the National Grid. The entire scheme is 179 kilometres (111 miles) in length and crosses parts of Norfolk, Suffolk and Essex and into Thurrock. The EAG project will assist the Government in meeting its commitment to achieve net zero emissions by 2050 through enabling the generation of 15,000MW of new energy from renewable sources. It is noted that within the NH LTC DCO submission, there is no information on how the LTC proposal works will operate alongside NGET East Anglia Green project. Non-statutory public consultation was held for the EAG in Spring 2022 and a second non-statutory consultation is being held from 27 June-21 August 2023, with a view to formally submitting the DCO application in 2025.

3.3 Recent Major Planned Developments

Purfleet

- 3.3.1 Purfleet-on-Thames regeneration programme will provide approximately 2,800 new homes, a new town centre and additional community facilities, such as schools and health centres. A film and television studio complex will be developed alongside the residential area which will provide employment opportunities within the local area. An outline planning application for the proposals was approved in April 2019. Potentially, if the LTC project is granted consent then it could negatively impact on the delivery of this regeneration programme and make it less attractive for potential investors, which has not been addressed within the DCO application, especially the ES or Planning Statement.

Thames Freeport

- 3.3.2 In November 2021, the Port of Tilbury, DP World/London Gateway, Ford Motor Co. Ltd and Thurrock Council became a designated Freeport, along with the with the eastern part of the former Tilbury Power Station. As the 'Thames Freeport', all national ports within it can work outside of outside normal customs rules, although confirmation of its planning status has not yet taken place.
- 3.3.3 The Freeport could generate up to 25,000 new jobs and £5.1bn in gross value. In late summer 2021, the design of the LTC was amended to ensure that the development would not limit the land available for the future growth of the Freeport and which is covered within its designated area. However, this Thames Freeport growth is likely to be subject to the need to upgrade the Manorway roundabout, which itself is impacted by LTC. Currently discussed have recently commenced between all parties using the junction (LTC, the Council, DP World/London Gateway and the Thames Enterprise Park (TEP) to understand the collective impacts, determine appropriate mitigation and then determine funding apportionment and delivery.

Local Development Order (LDO)

- 3.3.4 The DP World/London Gateway area benefits from a LDO and the current LDO is being developed further in collaboration with the Council.

Other Developments

- 3.3.5 NH Document 6.1 ES Chapter 16 – Cumulative Effects Assessment ([APP-154](#)) sets out relevant planning permissions. However, there are a number of additional applications which have been identified using the Thurrock Council Public Search facility. It is considered that these applications

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below in **Table 3.1** should be included within Document 6.1 Environmental Statement Chapter 16 – Cumulative Effects Assessment as they may have a cumulative effect that needs to be assessed. Further reference should also be made to Section 10.15 below, where further detail is provided.

Table 3.1: Title is Other Development Projects in Thurrock

Planning Reference	Description	Status
21/00754/MIN	Application for the variation of condition no's 6 (Plans), 10 (Vehicle Movements) and 33 (Landform) of planning permission ref. 14/01316/MIN (Continuation of extraction of minerals (Old Haven Sand - also known by the brand name Thanet Sand) remaining from the cessation of planning permission ref: 00/00890/CONDC (pursuant to planning permission ref: THU/400/84) for a 10 year period (until 2025) together with the subsequent restoration. Orsett Ltd Stanford Road, Orsett, Essex, RM16 3BB.	Awaiting Decision
20/00242/FUL	Tilbury Football Club, Residential Development For 112 Dwellings.	Approved on 31 March 2023
19/01556/OUT	Application for outline planning permission with all matters reserved apart from access: Proposed mixed use development comprising up to 750 no. residential dwellings, medical facility, retail and commercial units on the former Thurrock Airfield.	Awaiting Decision
18/01404/OUT	Outline planning permission with all matters (except for access) reserved for the demolition, phased remediation and redevelopment of 167 hectares of former Coryton Oil Refinery to provide up to 345,500 sq. m of commercial development including Manufacturing; Storage, Distribution & Logistics (Use Class B2/B8); Energy & Waste related facilities (Use Class Sui Generis); A Central Hub incorporating a range of active uses (Research & Development, leisure, education, hotel and conferencing facilities Thames Enterprise Park, The Manorway, Coryton, Essex	Awaiting Decision
18/01671/FUL	Hybrid planning application for the demolition of existing buildings and structures; site preparation works; up to 2,500 dwellings [Use Class C3] and supporting infrastructure. Outline approval (with all matters reserved) sought for: up to 2,158 dwellings comprising a mix of 1, 2, 3-bedroom units (Use Class C3); a serviced plot for a new primary / nursery school up to 2,300 sq.m.; a health centre up to 1,000 sq.m. (Use Class D1); community pavilion of up to 500 sq.m (Use Class D1); convenience retail store up to 400 sq.m (Use Class A1); public art together with associated vehicle parking, open space, landscape and public realm provision, ecological mitigation, highways, pedestrian and vehicular access routes,	Awaiting Decision

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Planning Reference	Description	Status
	<p>and other associated engineering, utilities and infrastructure works. Creation of a new additional vehicle access. Detailed approval sought for: 342 dwellings (Use Class C3) comprising a mix of 1, 2, 3-bedroom units; linear park; a lido facility with changing room facilities up to 340 sq.m (Use Class D1) and ancillary café up to 100 sq.m (Use Class A3); 3km of mountain bike routes and a pump track, a pedestrian / cycle link tunnel from Lakeside Shopping Centre underneath the A1306, and vehicular access from the A1306 and MSA roundabout (bus / emergency).</p> <p>Arena Essex Arterial Road, Purfleet</p>	
16/01232/OUT	<p>Outline planning permission of up to 830 dwellings (Use Class C3) if the Lower Thames Crossing is constructed (scenario 1) and up to 1,000 dwellings (Use Class C3) if the LTC does not proceed (scenario 2)</p> <p>Land at Muckingford Road.</p>	<p>Awaiting Decision</p> <p>If the LTC application is granted development consent, it could result in the loss of 170 dwellings from this site alone</p>

4. Planning Policy Context

4.1 Introduction

- 4.1.1 This section provides an overview of the national policy (only broadly) and specifically the local development plan policies, Supplementary Planning Documents (SPDs) and other Thurrock planning guidance of relevance to the LTC scheme.
- 4.1.2 The Development Plan is comprised of the Core Strategy and Policies for Management of Development (as amended) (2015) and the saved policies of the Borough Local Plan (1997). As recommended by the Council during the pre-application engagement with Highways England, it is expected that consideration has also been given to the Design Strategy Supplementary Planning Document (2017).

4.2 Thurrock Core Strategy and Policies for Management of Development

- 4.2.1 The Core Strategy and Policies for Management of Development (as amended) ('the Core Strategy') was adopted in January 2015. It is a strategic document that sets out the locations for the scale and distribution of development and the provision of supporting infrastructure up to 2026.
- 4.2.2 One of the Core Strategies key objectives is OSDP1, which seeks to promote sustainable growth and regeneration in Thurrock through proactively engaging with developers to deliver high quality sustainable development schemes and this is relevant as one of the LTC scheme objectives seeks to support such sustainable local development. The following policies are considered to be important and relevant to the LTC proposal from the perspective of Thurrock Council.

Table 4.1: 2015 Core Strategy Policies

Policy Number	Policy Name
OSDP1	Promoting Sustainable Growth and Regeneration in Thurrock
CSSP1	Sustainable Housing and Locations
CSSP2	Sustainable Employment Growth
CSSP3	Sustainable Infrastructure
CSSP4	Sustainable Green Belt
CSSP5	Sustainable Green grid
CSTP3	Gypsies and Travellers
CSTP5	Neighbourhood Renewal
CSTP6	Strategic Employment Provision
CSTP9	Wellbeing: Leisure and Sports
CSTP10	Community Facilities
CSTP11	Health Provision
CSTP12	Education and Learning
CSTP13	Emergency Services and Utilities
CSTP14	Transport in the Thurrock Urban Area: Purfleet to Tilbury

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Policy Number	Policy Name
CSTP15	Transport in Greater Thurrock
CSTP16	National and Regional Transport Networks
CSTP17	Strategic Freight Movement and Access to Ports
CSTP18	Green Infrastructure
CSTP19	Biodiversity
CSTP20	Open Space
CSTP21	Productive Land
CSTP22	Thurrock Design
CSTP23	Thurrock Character and Distinctiveness
CSTP24	Heritage Assets and the Historic Environment
CSTP25	Addressing Climate Change
CSTP27	Management and Reduction of Flood Risk
CSTP28	River Thames
CSTP29	Waste Strategy
CSTP31	Provision of Minerals
CSTP32	Safeguarding Mineral Resources
PMD1	Minimising Pollution and Impacts on Amenity
PMD2	Design and Layout
PMD4	Historic Environment
PMD5	Open Spaces, Outdoor Sports and Recreational Facilities
PMD6	Development in the Green Belt
PMD7	Biodiversity, Geological Conservation and Development
PMD9	Road Network Hierarchy
PMD10	Transport Assessments and Travel Plans
PMD15	Flood Risk Assessment
PMD16	Developer Contributions

4.3 Design Strategy Supplementary Planning Document (SPD)

- 4.3.1 The Thurrock Design Strategy Supplementary Planning Document (SPD) was adopted in March 2017 and is a material consideration in the determination of planning applications. The document seeks to ensure that new developments are of a high design quality and respond appropriately to the local context.
- 4.3.2 The Design Strategy requires developments to gain a proper understanding of place and establish locally distinctive and responsive designs which complement existing place typologies. The Strategy then sets out key design requirements for each typology.

4.4 National Policy Statements

- 4.4.1 Section 104 of the Planning Act 2008 states that DCO applications must be determined in accordance with the relevant NPS, in the case of the LTC scheme the relevant NPS's are:
- a. National Policy Statement for National Networks (NPSNN);
 - b. National Policy Statement for Overarching Energy (EN-1);
 - c. National Policy Statement for Oil and Gas Supply and Storage (EN-4);
 - d. National Policy Statement for Electricity Networks (EN-5); and,
 - e. National Policy Statement for Ports.
- 4.4.2 NH has assessed the LTC project against both the National Policy Statement for National Networks (NPSNN) as well as the Overarching National Policy Statement for Energy (NPSEN-1), National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (NPSEN-4) and National Policy Statement for Electricity Infrastructure (NPSEN-5). NH's Planning Statement Appendix A (NPSNN) Accordance Table ([APP-496](#)) sets out how the LTC is in accordance with the NPSNN and the Planning Statement – Appendix B – National Policy Statements for Energy Infrastructure Accordance Tables ([APP-497](#)).

NPS for Ports

- 4.4.3 There is no detail within the Planning Statement – Appendix B – National Policy Statements for Energy Infrastructure Accordance Tables (APP-497) with regards to how the LTC project is in accordance with the NPS for Ports, which was published 28 February 2012. Part of the project could have significant impacts on Port of Tilbury or indeed DP World/London Gateway port. Details are required on how the LTC project will ensure Tilbury Docks and DP World/London Gateway (now both part of the Thames Freeport) can continue to promote economic growth through improving networks and links for passengers and freight and to strengthen the safety and security of transport. These significant matters are outlined in their respective Relevant Representations ([RR-0863](#) and [RR-0608](#)).

Updated National Policy Statements (NPSNN and NPSEN-1 – NPSEN-5)

- 4.4.4 The draft revised National Policy Statement for National Networks (NPSNN, 2023) and accompanying documents were out for consultation from 14 March to 6 June 2023. Furthermore, public consultation on the revised NPSs EN1 to EN5 were held in 2021 with an additional public consultation, which closed on 23 June 2023. A review of the NPS was announced in the 2020 Energy white paper: 'Powering Our Net Zero Future'. This review was to ensure the NPSs were brought up to date to reflect the policies set out in the Energy White Paper (2020). It is anticipated that the updated National Policy Statements will be published towards the end of 2023, subject to consultation responses.

National Planning Policy Framework

- 4.4.5 The National Planning Policy Framework (NPPF) (Updated 20 July 2021) sets out the Government's planning policies at a national level and how these are expected to be applied. The NPPF is therefore an important material consideration in planning decisions.

Emerging Local Planning Policy

- 4.4.6 The Council commenced work on a emerging Local Plan in early 2014. The Local Plan Stage 1 Issues and Options was published for consultation in February 2016 and the Local Plan Stage Issues and Options consultation took place from December 2018 to March 2019. Since then, the

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Council has undertaken a range of formal and informal consultation on the emerging Plan including: two Issues and Options consultations; several 'Call for Sites' requests; Design Charettes in 'potential growth areas'; and 'piggybacking' on other Council events to better understand the views of local stakeholders. A considerable amount of technical evidence has also been produced including assessments looking at housing and employment needs, a green and blue infrastructure strategy, an assessment of landscape character and an initial assessment of Thurrock's Green Belt (as set out below). The Council also have evidence that has been commissioned, but has not yet been published, such as an updated assessment of potential housing sites, an infrastructure baseline study and an integrated impact assessment of potential spatial options – all based on sites that are being actively promoted in the Borough.

- 4.4.7 The Council are currently in the process of preparing an Initial Proposals Local Plan (Regulation 18) document, which is anticipated to be published for consultation in Autumn 2023. This document is intended to set out our preferred approach to strategic policies; details about other boroughwide policies that the Council consider will be needed in the final version of the new Local Plan; development priorities and principles for each of the five Spatial Planning Areas within the Borough and information about potential development sites. Sites identified within the emerging Local Plan will be the sites that the Council consider have the most amount of development potential based on the information available now.
- 4.4.8 The emerging Local Plan needs to be in accordance with the Governments commitments to increase the amount of housing being delivered and contributing to the around 340,000 new homes need to be supplied in England each year. In addition to the emerging Local Plan meeting the Governments housing targets, the emerging Local Plan will contribute to meeting the Thames Estuary 2050 Growth ambitions. In 2003, the Thames Gateway was identified as one of the Growth Areas in the Government's Sustainable Communities Plan. Thurrock is located strategically within the Thames Gateway and has been identified by regional government as a driver for economic and housing growth within this sub-region. The Thames Estuary 2050 growth ambitions include enabling 1.3 million jobs, 1 million new homes and increasing the local economy by £190 billion.
- 4.4.9 The emerging Local Plan is seeking to make Thurrock a more prosperous, attractive and a more sustainable place to live and work, with improved quality of life and thriving communities by 2040. To meet this vision for Thurrock, the Council have produced an evidence base and to guide development, the Council have produced a number of draft objectives, these are:
- a. Reduce congestion;
 - b. Support integrated and well-connected public transport;
 - c. Reduce the Borough's carbon footprint;
 - d. Provide an appropriate mix of high quality and affordable housing to meet the needs of all sections of the community;
 - e. Ensure the delivery of an appropriate range of high-quality community infrastructure and services;
 - f. Deliver regeneration and reduce inequality and social deprivation;
 - g. Promote, conserve and enhance the special character and heritage of Thurrock;
 - h. Identify and deliver sufficient suitable development sites to meet Thurrock's future housing, employment and other needs;
 - i. Improve the health and well-being of the Borough's residents;

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- j. Retain an effective Green Belt;
 - k. Protect and enhance the Borough's tranquil areas;
 - l. Conserve and enhance the Borough's built and natural environmental assets;
 - m. Value and protect the role played by the River Thames as an economic and environmental asset; and;
 - n. Ensure new development is well designed and future-proofed to meet changing economic, social, technological and environmental needs.
- 4.4.10 The proposed alignment of the LTC will significantly undermine the efforts of the Council to plan to meet its objectively assessed housing needs in full and to support economic growth and the regeneration of existing local communities. The impacts on the emerging Local Plan include:
- a. The sterilization of development opportunities in sustainable locations around existing settlements due to the LTC Order Limits, particularly near Chadwell St. Mary, East Tilbury and South Ockendon;
 - b. Delays in delivering infrastructure to enable strategic housing and employment locations to be delivered, largely as a result of construction disruption over six years, particularly near Chadwell St. Mary, East Tilbury and South Ockendon;
 - c. Addressing the issues around poor connectivity as a result of the LTC across the area; and,
 - d. The need to mitigate the impact of noise, air quality, severance and flood risk considerations, which has led to an increase in land take in locations where future development capacity exists.
- 4.4.11 Furthermore, the two-year delay to the DCO commencement of construction that was announced by the SoS for Transport and the now current timetable for construction (due to commence in 2026, with completion in 2032) will lead to further uncertainty in terms of delivery of infrastructure, developments and implementation of the emerging Local Plan, if the DCO is consented. The reasons for this are summarised in Section 3 above.
- 4.4.12 Within the emerging Local Plan, the Council are looking at sustainable spatial options, which can deliver the housing and employment levels in line with national planning policy. To support the delivery of the emerging Local Plan, several Local Plan evidence base documents have been produced and published, which are listed in turn below. At present, the evidence base documents are afforded limited weight, but the weight will increase as the emerging Local Plan is progressed.

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4.4.13 The following evidence base documents have been produced and published:

Table 4.2: Thurrock Council Local Plan Evidence Based Documents

Thurrock's Local Plan Evidence Based Document Title	Date Published
Whole Plan Viability Study	May 2023
Employment Land Availability Assessment	February 2023 (updated April 2023)
Thurrock Economic Development Needs Assessment	March 2023
Thurrock Green And Blue Infrastructure Strategy, 2022/23 Update	February 2023
Landscape Character Assessment	December 2022
Design Charette Outcome Reports	October 2022
South Essex Housing Needs Assessment	June 2022
Integrated Impact Assessment Scoping Report	June 2022
South Essex Authorities Joint Strategic Plan Integrated Impact Assessment – Scoping Report	July 2020
Thurrock Strategic Green Belt Assessment Stages 1a and 1b	January 2019
Habitat Regulations Assessment: Scoping and Discussion	January 2019
Integrated Sustainability Appraisal (Isa)	December 2018
Thurrock Town And Local Centre Health Check Assessment	October 2018
Gypsy, Traveller and Travelling Showpeople Reports	January to July 2018
Thurrock Level 1 Strategic Flood Risk Assessment (SFRA)	June 2018
South Essex Retail Study Volumes	November 2017
Thurrock Housing Land Availability Assessment (HIAA)	October 2017
Grays Town Centre Framework	October 2017
South Essex Strategic Housing Market Assessment	May 2016 / May 2017
Sustainability Appraisal – Scoping Report 2016	February 2016

4.4.14 The proposed development of the LTC has had significant implications on the delivery of the emerging Local Plan in terms of timescales and the need for the Plan to be found sound at Examination. Therefore, the Council concluded that it was unable to formally submit the emerging Local Plan in advance of the resolution of the LTC DCO, as the design, route and delivery of the scheme if consented, could be subject to amendment through the Examination process. Therefore, the Council can only progress the Plan up to the Regulation 19 stage at present, on the assumption that the DCO is consented in the current timetable of mid-2024.

4.4.15 As Thurrock's emerging Local Plan will provide the development context for the proposed LTC, should the scheme proceed, then there would be implications for the delivery of the emerging Local Plan. The proposed LTC does not make provision for, and is inconsistent with, the housing and development potential for Thurrock and the aspirations for the Borough as set out in Thurrock's emerging Local Plan and the Purfleet development. Nevertheless, the emerging Local Plan is being developed to its Regulation 18 stage on the assumption of the current broad LTC proposals within the DCO application.

South Essex Plan

- 4.4.16 The South Essex Plan is being prepared by the six South Essex authorities of Basildon, Brentwood, Castle Point, Rochford, Southend-on-Sea and Thurrock working together with Essex County Council. Together these form ASELA (Association of South Essex Local Authorities). The Plan will set out a strategic framework for development in the area up to 2050. The South Essex Plan will set out an overall strategy for development across the whole area. It will also contain high level policies on topics such as housing, employment, and environmental protection. The Plan will form a context informing the preparation of Local Plans, including the emerging Thurrock Local Plan.
- 4.4.17 Ambitions of the South Essex Plan are:
- a. To improve connectivity and public transport, which is underpinned by investment in active travel projects which benefit people's health and wellbeing and could see major environmental benefits;
 - b. To develop a strategy to secure more commercial development from employers who can provide productive and well-paid employment, locally; and,
 - c. To accelerate development of housing sites that deliver new quality homes, neighbourhoods and communities and enhanced amenity and place for all residents.
- 4.4.18 Work on the South Essex Plan has identified several 'Strategic Areas of Opportunity', which are considered to have potential to accommodate growth.
- 4.4.19 Since the formation of ASELA, several evidence base documents have been prepared. However, the Issues and Options consultation, which was scheduled for 2021, has not been progressed.

5. Statement of Common Ground (SoCG)

5.1 Introduction

5.1.1 The Council would draw the ExA's attention to Section 3.3 of the Council's AoC ([AoC-018](#)) and Section XI of the Council's Relevant Representation (RR) dated 4 May 2023 ([PDA-009](#)), which set out the Council's serious concerns with the SoCG process to date with the applicant.

5.1.2 In summary, the Council set out the process that both the applicant and the Council had agreed from 2019 until before the DCO submission in October 2022. It drew attention to the serious concern in the latter stages of finalising the DCO application and how the Council does not agree with the submitted version, that it is unsigned and does not set out the Council's position, highlighting that after some four years of discussions there is limited agreement on the almost 300 issues set out in the submitted SoCG ([APP-130](#)).

5.1.3 The Council contends that the SoCG process was developed too late by the applicant and did not allow the Council to scrutinise the applicant's Response to each issue (unlike the collaborative approach to preparing the Council's issues), until after DCO submission. The Council has subsequently undertaken an outline review of this SoCG and concluded the following:

- a. The Council's issue/comment is only presented as a short precis, but the applicant's response is presented as a detailed rebuttal either disputing the position taken by the Council or a dilution by citing an array of DCO documents, meetings/briefings held or bodies set up to address the issues;
- b. The status of many issues/comments is presented as agreed, not agreed or under discussion. The distinction is unclear and presents the status of the draft SoCG as more positive than the Council is willing to support; and,
- c. The Council will present its understanding of each issue and set out what is the remaining issue and what is necessary to address each issue, which should offer the ExA more clarity, once the Council has finally reviewed the full SoCG. This is partially covered within the Council's PADs Summary Statement formally submitted to the ExA on 4 May 2023 ([PDA-008](#)).

5.1.4 The Council received from the applicant, on 15 May 2023, an updated SoCG (subsequent to the version submitted in the DCO application) for further commentary. It contained a few new matters as discussed with the Council and many updated applicant responses. It is understood that further updates are being undertaken.

5.2 Council's Review of SoCG and Required Outstanding Work

5.2.1 The Council had undertaken a partial review of the submitted SoCG in December 2022 prior to the Council stopping work on its assessment of the DCO application. The Council subsequently has reviewed the updated version in some detail during May/June 2023. This has revealed the need for a considerable amount of further work necessary to discuss and agree an updated version with the applicant, which is described below. It is not possible for the Council to agree any updated SoCG submission at Deadline 1, however, the Council will work with the applicant collaboratively to submit the updated version at Deadline 3.

5.2.2 The main issues that need to be covered in any updated version are:

- a. The Council’s list of 285 issues was prepared in late summer 2022 (some 9 months ago) and need updating (the Council believes that there are now three additional issues making a total of 288 issues), which is considerable work in parallel with the LIR preparation and very dependent on the LIR technical content. In fact, this updated version has undergone many amendments (mostly trying to place the onus on the Council, often within the ‘Matters Not Agreed’ category) that will require considerable time to check and validate;
- b. Once the Council’s comments have been prepared and sent to the applicant further amendments are likely to be necessary, taking time;
- c. Whilst the PADs Summary Statement is more up to date (May 2023) ([PDA-009](#)), it only covers 150 issues of the now 288 SoCG issues;
- d. The Council undertook seven SoCG workshops with the applicant between 13 June and 14 July 2023; these were intended to try to resolve ‘matters under discussion’. The results of these workshops need to be incorporated into the updated SoCG by both the Council and the applicant and this will take time (although many have been accounted for within this LIR); and
- e. Consequently, a more realistic timeframe for a joint submission of the SoCG, undertaken in a collaborative manner (as intended by the DCO process), is Deadline 3 on 24 August 2023.

5.3 Council’s Issues with Current SoCG Content

5.3.1 There are some 288 outstanding issues reported in the latest SoCG that is not agreed and is unsigned (and not submitted to the ExA), the status of which can be summarised in **Table 5.1**.

Table 5.1: SoCG Issues

Type of SoCG - based on submitted SoCG	No. of Issues	% of All Issues
Total number of SoCG Issues	288	100%
Matters Agreed	30	10%
Matters Agreed, subject to review of DCO docs	16	6%
Matters Under Discussion	126	44%
Matters Not Agreed	116	40%

5.3.2 As the Council have now reviewed the latest updated SoCG (as referred to above), it is clear that the applicant’s responses are not satisfactory or agreeable to the Council. It should be noted that the Council’s issues were collaboratively debated between the applicant and Council representatives over several days in September and October 2022 and agreed subject to Member review. However, in contrast there was no collaborative discussion on any of the applicant’s SoCG responses and the Council was faced with the DCO submitted version ([APP-130](#)).

5.3.3 The Council’s broad commentary (with examples giving SoCG reference numbers) on the deficiencies of the applicant’s formal responses to each SoCG matter can be characterised and are set out below:

- a. In the Council’s view, responses are **vaguely phrased and need better definition, a clear rationale and be based on published evidence** using phraseology such as: ‘accepted practice’; ‘appropriate balance’, ‘...used professional judgement’; ‘worked collaboratively’; ‘it has been sufficient’ (in relation to information provided); ‘demonstrated the right approach’; ‘balance design quality and practicality’; ‘adequate and appropriate’; ‘commitment’; and,

- 'ensure confidence'. Examples would include the following items: 2.1.1; 2.1.4; 2.1.62-2.1.64; 2.1.72 - 2.1.73; 2.1.82 on the approach to the TLR; 2.1.91; 2.1.136 regarding the lack of targets for the FCTP and compliance with PAS500 good practice; 2.1.101; 2.1.103 regarding active travel standards; 2.1.104 regarding flood storage; 2.1.111 regarding ULHs statements; 2.1.137 on contractor commitments that the Council has not seen; and, 2.1.153 contains several vague statements.
- b. In the Council's view, some responses **characterise the Council as evasive, unhelpful and delayed** in its responses to certain matters, as with item 2.1.2.
 - c. In the Council's view, many suggest that **the Council's views/comments are out of date**, because they have been addressed in the DCO documentation that (by implication) have not been reviewed yet or cite a number of meetings/briefings, with typical text being: *'The position has been reconsidered for our DCO application... This matter is addressed within the DCO application documents but Thurrock Council haven't yet provided any feedback on this matter'*. A typical example is where specific DCO application documents are referred to then exact bibliographical references are required (including section/paragraph numbers). Other examples include the following items: 2.1.115 where it is implied that the Council asks for more despite applicant engagement; and 2.1.159 regarding the usefulness of WNI meetings, because just holding a meeting/briefing is not sufficient in itself.
 - d. In the Council's view, **the applicant has used their response in the Council Comment column by mistake** for matter 2.1.24 and in 2.1.71 where a Council position is stated in the applicant response column.
 - e. In the Council's view, the **distinction between 'Matter Not Agreed' and 'Matter Under Discussion' is rather blurred** in many matters and it is questionable how helpful the distinction is really. Furthermore, the applicant has stated that all 'Matters Not Agreed' will not be discussed except through the Examination process. Therefore, the Council should, if there is a likelihood of issue resolution retain it as a 'Matter Under Discussion' status, but otherwise mark it as 'Matter Not Agreed'.
 - f. In the Council's view, there are several instances where **the applicant seeks to reshape the narrative on an issue in order to support its position**, such as 2.1.62 (in respect of local growth support and connectivity and additional modelling of the TLR) and many instances where the applicant states (without evidence) that the scheme meets its scheme objectives on a particular matter. No options have been presented for the future use of East Tilbury Landfill despite requests from the Council (2.1.101). Also, 'written responses' and a 'risk-based approach' do not necessarily address Council concerns (such as 2.1.120 and 2.1.121); and, within 2.1.165 about the applicant's statements about timeframes to gain TLR DCO grant.
 - g. In the Council's view, there are very many **Incorrect factual or misleading statements**, covering approximately 45 matters with a few examples being 2.1.62 – 2.1.65, 2.1.81 – 2.1.88, 2.1.209 – 2.1.228 and 2.1.282 – 2.1.285.
 - h. In the Council's view, there are many instances when **the Council has requested information, but not received a satisfactory response or the information in a suitable form**, such as relating to air quality and noise assessments, local junction modelling data/results and 2.1.98 and LTC bridge crossing widths and allocation of corridors for WCH and public transport provision.
 - i. In the Council's view, there are **many matters where NH seeks only to comply with DMRB or DfT guidance**, without employing best practice or later guidance or attempting to comply with emerging policy. In particular, this affects 2.1.101 and 2.1.143.

- j. Finally, In the Council's view, all references to 2030 as the **opening date need changing to 2032** throughout the SoCG and to consider the implications of the delay in construction on the cumulative impacts and the continued and uncertain sterilisation of the Borough, its communities and its affected travel network.

5.4 The Applicant's and Council's Position on Future SoCG Updates

- 5.4.1 The applicant has set out on 21 June 2023, the process for updating the submitted SoCG in a six-step process requesting Council comments by 16 June 2023 and culminating in re-submission at Deadline 1 on 18 July 2023. It stated that the Council's comments must be received by 23 June 2023, otherwise they will not be able to address those comments. However, the Council has been clear in all correspondence with the applicant that the absence of the Examination timetable delay has repercussions on other matters, such as the updated SoCG.
- 5.4.2 The applicant then presented two options for moving forward:
 - a. To use a form of words (set out below, although the Council requires a much fuller more explanatory cover page text) in the introduction section of the SoCG explaining how this has not gone through full governance of the Council and is the applicant's view of matters:

'While National Highways has worked closely with Thurrock Council in the preparation of the SoCG, Thurrock Council has not yet been able to complete its review of the SoCG in line with its governance process. The SoCG is therefore presented as National Highways understanding of the status of discussions with Thurrock Council and is presently unsigned'.
 - b. The applicant considered submitting this updated SoCG document at ED2, however, to be helpful to the ExA and highlight the new issues added into the SoCG early, the Council would prefer submitting at ED3 (the draft SoCG went from 285 issues in October 2022 to 288 in June 2023). This option provides an opportunity to update the SoCG with additional and amended issues agreed with the Council at the various workshops in May, June and July 2023.
- 5.4.3 The Council is strongly of the view that to do justice to the process of properly updating both the SoCG and the PADs Summary Statement, it requires more time otherwise the ExA will receive, again, a one-sided view of the SoCG from the applicant, when the process was intended to be collaborative. This collaborative process is set out clearly in the PINS Advice Note 2 (AN2 dated February 2015, Version 1) section 22 and in the Government's guidance entitled *'Examination of applications for development consent'* dated March 2015 (Sections 58 – 65). Important quotations from these advice/guidance notes are set out below:
 - a. AN2 Paragraph 22.4 – *'The preparation of a SoCG can be iterative and, particularly for larger NSIPs, agreement may evolve over the course of the examination'*; and, *'.....an early SoCG, developed during the pre-application stage can and should be signed by both parties'*.
 - b. Government Guidance Section 58 – *'A statement of common ground is a written statement prepared jointly by the applicant and another party or parties, setting out any matters on which they agree. As well as identifying matters which are not in real dispute, it is also useful if a statement identifies those areas where agreement has not been reached'*.
 - c. Government Guidance Section 60 – *'Applicants should start to work with relevant statutory consultees on agreeing statements of common ground during the pre-application period and should aim to have reached an initial agreement in the pre-examination period before the preliminary meeting is held'*.
- 5.4.4 It is clear that at DCO submission in October 2022 and even now in July 2023, for all the reasons given above, that the SoCG is not agreed with the Council, is unsigned and remains a serious area of disagreement with the Council.

Latest Position

- 5.4.5 The applicant has informed the Council by email on 17 July 2023 that it will not be submitting an updated SoCG at Deadline 1 and their current changes will be developed and submitted at Deadline 3. This position was recommended by the Council in discussions and therefore is acceptable to the Council. The applicant has proposed a four-step process for jointly updating the SoCG and the Council will collaborate in achieving this suggested timetable. Notwithstanding this, in email correspondence, the applicant has refused to discuss further all 'Matter Not Agreed' within the SoCG, preferring to devolve such responsibilities to the ExA. Regrettably, this confirms that NH's approach to matters of disagreement regarding the SoCG is to refuse to cooperate in respect of further discussions with a view to identifying, discussing and ultimately accommodating reasonable points made to them by the Council.
- 5.4.6 The Council consider that having refused the Council's request to delay the start of the Examination by seven weeks, it is clearly the ExA's expectation that the applicant will adopt a collaborative and constructive approach in order to facilitate the Council's fair engagement in the Examination process (and behind the scenes thereof), as opposed to the intransigent approach, which is currently being adopted by the applicant.

6. Overall Position of the Council and Key Issues on Consultation/Engagement

6.1 The Council's Overall Position on LTC

- 6.1.1 The Council objects to current proposals for the LTC as they fail to strike an acceptable balance between national benefit and the substantial harm to the Borough. This position was set out in the Council's Statutory Consultation response and all five previous rounds of non-statutory public consultation. The Council considers that this position has not changed as a result of the current proposals, which deliver very little benefit for local people and do not deliver on the applicant's own scheme objectives, such as *'to support sustainable local development and regional economic growth in the medium to long term'* or to *'minimise adverse impacts on health and the environment'*.
- 6.1.2 The Council has continued to engage with the applicant in order to fulfil its statutory obligations and to protect the interests of the Borough. This is important in order to comply with PINS AN2: *'The role of local authorities in the development consent order process'*. This states at paragraph 6.2 *'Local authorities should engage proactively with a developer even if they disagree with the proposal in principle... Local authorities are not undermining an 'in principle' objection to a scheme by engaging with a developer at the pre-application stage'*. With this in mind, the Council has negotiated an agreed Planning Performance Agreement (PPA) Variation in place with the applicant for the Pre-Examination and Examination periods, which will provide some financial support for resources needed to respond and engage with the applicant on technical matters and is only awaiting Council governance to be concluded in mid-late July 2023. This aligns with the Council's usual practice for major development applications within the Borough.
- 6.1.3 The Council has consistently set out in consultation responses its key issues with the scheme. In February 2021, the Council published its Hatch Report entitled *'LTC Mitigation Benefits'*, which set out in some detail the 58 mitigation, avoidance and compensation measures that it required should the scheme proceed.
- 6.1.4 The Council has continued to engage with the applicant to achieve the measures identified in the Hatch Report through the DCO securing mechanisms and other means, which necessarily will involve much discussion and some compromise. The Council has also engaged with the applicant on a range of technical matters including, inter alia, the transport implications of alternative scheme layouts; impacts on and operation of the local road network; integration with Local Plan growth, housing, and infrastructure; provision for public transport and active modes; provision for future crossings of the LTC; construction traffic and materials handling; traffic management; health impact; climate change; health and equalities; and, emergency services.
- 6.1.5 However, progress on agreeing measures for mitigation, avoidance or compensation of impacts with NH has been unnecessarily slow and difficult, with very little movement on significant measures and the necessary collaboration and engagement from the applicant to resolve such matters has been mixed. This mixed reaction from the application has involved positive approaches to having meetings or workshops and some measure of written responses, but in the main has failed to provide critical information when requested, has refused to provide essential mitigation, and has delayed progress on a range of technical matters.
- 6.1.6 Consequently, it is the Council's view that the applicant is not sufficiently invested in a commitment to achieve an improved level of support from the Council as main host local authority to LTC prior to or following the start of the DCO Examination on 20 June 2023. It has recently become clear that NH intends to use the ExA to arbitrate on a substantial number of crucial matters, using the limitations of the DCO process to constrain the depth of analysis achievable with the time period allowable. In its detailed and ongoing analysis of LTC the Council is of a strong view that the extent

of local disbenefits arising from the scheme is not outweighed by the scheme's claimed/forecast strategic benefits. The Council's constructive opposition is to the general configuration, proposed purpose and details of the proposed route, as set out previously, and not necessarily opposition to the principle of a further Thames crossing to improve accessibility across the Estuary. However, recognising this does not alter the need to negotiate these measures and other scheme improvements.

- 6.1.7 Furthermore, that the applicant has not adequately explored alternatives that might perform better and align with local sustainable growth objectives that should have been considered; and that in the event of this scheme progressing, there are many changes to the submitted scheme that the Council would advocate.

6.2 Key Matters in Adequacy of Consultation (AoC) and Technical Engagement

- 6.2.1 The Council's submitted Adequacy of Consultation response on 16 November 2022 ([AoC-018](#)) did contain a number of matters of inadequacy or deficiency that are relevant to the Council's LIR responses, which also relate to technical engagement, which are set out below.
- 6.2.2 The inadequacies of both the now six consultations and technical engagement by the applicant over the last five years has resulted in the following inadequacies/deficiencies:
- a. Almost **300 outstanding SoCG issues** not being resolved (refer to Section 5.3.1 above) with a preference from NH to consciously defer many of these issues for the DCO Examination. The Council recognises the likely insufficient time available to deal with these issues properly within the DCO Examination timescale.
 - b. **A significant volume of technical information/data is not being available or was only being released at DCO submission in October 2022** and recently requested information remains outstanding. This was outlined in Principal Issue XII within the Council's RR dated 4 May 2023 ([PDA-009](#)) and as set out in Section 3.2 of the Council's AoC ([AoC-018](#)).
 - c. In addition, and more recently, there have been some 15 requests for information by the Council in December 2022 and January 2023 (nine detailed requests) and responses were finally received in late-April 2023. Very few were provided, instead the applicant referred to the DCO application or declined to provide with only a few actually being provided. Subsequently, over the last two months there were a further 10 detailed information requests and most are still outstanding or are not being provided by NH.
 - d. These issues with the applicant sharing information were apparent in the process to obtain the applicant's August 2020 Outline Business Case (OBC), which was protracted and from the initial request by the Council in March 2022 to the release by the applicant in late October 2022 (after DCO submission) following the Information Commissioners Office (ICO) decision notice earlier that month.
 - e. The changes resulting from consultation are 81 changes despite there being a total of over 4,000 summary issues raised in those consultations (some 2% of changes derived from the many issues raised). This **resistance to change** by the applicant despite Section 49 of PA 2008 and extensive technical engagement by the Council, still pervades the current DCO process. It therefore is incumbent on the Council, within this LIR, not only to set out the impacts, but also to set out the design changes and additional mitigation required (with detailed supporting evidence) that would ensure that the benefits do outweigh the identified adverse impacts.
 - f. The **critical 14 Control Documents** that are part of the DCO application – the Council's very detailed comments on drafts were shared with the applicant in September 2021 on seven documents provided by the applicant. However, there was no feedback (except inclusion

within the draft SoCG) until the DCO submission in October 2022 (four documents were shared by the applicant in the first DCO application). This has effectively missed two years of opportunity to resolve matters within those documents and this deficiency still persists. In addition, a further four Control Documents formed part of the submitted DCO application that had not been shared with the Council for consultation/engagement, namely the Carbon & Energy Management Plan ([APP-552](#)), Environmental Management Plan (APP-159 – APP-168), Stakeholder Actions and Commitments Register (SAC-R) ([APP-554](#)) and the Preliminary Works EMP ([APP-339](#)).

- g. The Council has a significant issue with the applicant's traffic modelling, which are set out in more detail below in Chapters 7 and 9). In particular, the lengthy progression (in collaboration with the Council over a year) and the subsequent **refusal to submit the local traffic modelling** within the DCO submission to the ExA, which came to a 'head' in Issue Specific Hearing 1 (Part 2), when the information was requested from the applicant by the ExA by Deadline 1. The Council and Essex County Council (ECC) sent a joint letter in February 2022 to NH to request the release of the full LTAM strategic model, as it proved impossible to hold sensible discussions between neighbouring Highway Authorities to determine cross-boundary impacts of LTC. This request, along with all previous requests, for access to LTAM was formally refused by NH.
- h. The Council has repeatedly requested the applicant to consider **resubmitting a Scoping Report to the Planning Inspectorate (PINS) for a new Scoping Opinion** within Section 3.8 of its AoC response ([AoC-018](#)) and within most of the Council's formal responses to consultations set out within the applicant's Consultation Report (APP-064 – APP-090). The reason for these requests has been the significant number of changes since the PINS Scoping Opinion given in December 2017, outlined in six consultations and within the DCO submission.
- i. Section 3.9 of the Council's AoC ([AoC-018](#)) sets out a range of issues that need to be considered and which may **jeopardise the completion of the Examination timetable** within the 6 months and to satisfactorily resolve most of the major issues within that timeframe.

6.3 The Consequential Need for Further Information

- 6.3.1 Throughout the subsequent sections below, especially Sections 7 – 15 there are many technical requirements for further information for most of the topics covered in subsequent Sections below; and this is in addition to the previous requests for data/information outlined above in Section 6.2. The need for such information, if provided to the ExA and local authorities, would then enable the Council (as technical competent authority for many matters), to assess the impacts outstanding and then recommend additional mitigation or further securing mechanisms. A significant example of this lack of information was highlighted during ISH1 Part 2, where it was clear that all interested parties that contributed found this refusal of NH to provide operational modelling to be unacceptable – the Council considers that an example of a much more significant issue with information provision by NH that is set out in more detail below in **Table 6.1** (which shows that there are 19 significant information matters missing with many sub details under each matter).
- 6.3.2 It is entirely the ExA decision on how such matters might be progressed, but the Council has tried various methods to obtain appropriate further information/data over the last two years with very limited success. Therefore, as the ExA is aware, there is the provision in Rule 17 of the Infrastructure Planning (Examination Procedure) Rules, 2010 that allows for a range of further information to be requested from the applicant. However, it would then depend further on the ExA offering a further opportunity for comment to interested parties (17 (2)),
- 6.3.3 The Council sets out below for the ExA a composite list of what the Council requires in terms of further information, for the ExA to then determine what if any of these matters should be part of any Rule 17 request.

6.4 Evidence and Information Missing from DCO Application

6.4.1 In addition, to the missing evidence and information set out below, the Council set out in its PDB Supplementary Submission ([PDC-007](#)) in Table 2, a comparison of data that is current with that used in the DCO submission. In considering this vast amount of missing robust evidence and information in the LTC DCO submission documents, it is information which has either not been produced by the applicant at all or has been produced but not shared with the Council, despite various written requests. Without clear visibility of crucial evidence, the Council have not been properly informed to enable the Council to make full assessment of the scheme benefits, disbenefits and impacts, which has resulted in a large number of SoCG issues and PADs. Missing evidence is listed below, with summary of why evidence is required, which is explained in full within various other subsequent Sections of this LIR.

Table 6.1: Evidence and Information Missing from DCO Application

Lack of Evidence or Missing from DCO	
1	Strategic Green Belt Assessment for the selection of preferred route, based on the purposes of the Green Belt, as set out in NPPF. Then a detailed Green Belt Assessment for the preferred route, based on the purposes of the Green Belt, as set out in the NPPF, to inform the design.
2	<p>Microsimulation Modelling is required at the following locations for LTC operations:</p> <ul style="list-style-type: none"> ▪ Orsett Cock <ul style="list-style-type: none"> – Base Year model is complete but not submitted as part of the DCO evidence – Forecasts have been completed and shared with Thurrock but not signed off. ▪ The Manorway <ul style="list-style-type: none"> – Further work is required to refine the model by accounting for Base Year observed flow before the impacts can be understood. ▪ Daneholes and Marshfoot junctions: <ul style="list-style-type: none"> – Base Year model East-West microsimulation model is complete but not submitted as part of the DCO evidence – Forecasts have been completed and need to be shared and agreed with Thurrock. ▪ Five Bells junction <ul style="list-style-type: none"> – Microsimulation modelling is required to assess impacts ▪ A1012/Devonshire Road <ul style="list-style-type: none"> – Microsimulation modelling is required to assess impacts ▪ Tilbury Junction <ul style="list-style-type: none"> – No modelling to support future connection – Further work is required to refine the operational and emergency access
3	<p>LTAM Sensitivity Tests to Align the Assessment of the operation of LTC with up-to-date guidance and real-life travel behaviour:</p> <ul style="list-style-type: none"> ▪ Application of Common Analytical Scenarios Framework - required to confirm LTC benefits/disbenefits and local impacts in the context of national uncertainties ▪ Application of the latest DfT's national travel growth forecasts using NTEM 8.0 (for car and public transport trips) and NRTP2022 (for LGV and HGV traffic) ▪ Incident management scenarios - required to substantiate resilience objective ▪ Local Plan Growth Scenarios - to ensure LTC does not preclude delivery of Thurrock's emerging Local Plan ▪ Impact arising from Thames Freeport - to test LTC in the context of local uncertainty ▪ Impact of significant events (e.g. Covid-19 pandemic) - to confirm benefits/disbenefits and local impacts in the context of national uncertainties.
4	Missing Traffic Modelling – ASDA Roundabout – LTC operations and construction periods

Lack of Evidence or Missing from DCO	
	<ul style="list-style-type: none"> ▪ No modelling has been completed to assess and mitigate impacts. ▪ Microsimulation modelling work is required to understand impacts of LTC.
5	<p>Walkers, Cyclists and Horse Riders (WCH) details</p> <p>The absence of detail on the format of walking, cycling and equestrian provision on the structures and along the LRN corridors. The structure plans simply refer to 'raised verge', but the dDCO Works Descriptions imply that other facilities are to be provided.</p> <p>In addition, and while there is a lot more information regarding PRoW and WCH, there is not a plan showing the existing network with the proposed closures and the routes of the agreed diversions.</p>
6	<p>Excavated Material</p> <p>The assumptions or modelling used by NH to identify the quantities of both excavated materials generated and placed within the order limit are not provided. At the scale of Excavated Material arisings, even relatively small percentage deviations have the potential to generate material differences in arisings which would affect the assessment of the impact on transport, local waste treatment infrastructure and the environmental impacts of their management.</p> <p>NH has stated that 'earthworks'/Excavated Materials HGVs are assigned to specific routes within its LTAM Thurrock Cordon Model and assigned to specific compounds. Those compounds are contained within broad model zones and so permitted to assign across that zone and can contain more than one compound with unclear EM strategies. NH should provide detailed evidence on its EM/earthworks movements within the LRN and that strategy should be the basis for a capping of impacts.</p>
7	<p>Air Quality Assessment</p> <p>No evidence has been presented to demonstrate that the efficacy and practicability of options to mitigate the air quality impacts of operational traffic have been considered through the design process of the Scheme and the Council consider that mitigation, such as speed limits or additional physical barriers to protect the most impacted and vulnerable receptors, need to be secured through the DCO.</p> <p>it would be appropriate (and in line with non-Highway related developments) to commit to undertake extensive monitoring post completion at receptors identified by the air quality assessment to have the greatest change in concentrations because of the scheme. This would provide clarity as to the actual impacts of the Scheme on air quality (and risk of adverse health effects) and support the Council in its statutory duties in regards to Local Air Quality Management and Public Health.</p>
8	<p>Noise Assessment</p> <p>No details on Traffic Management Plan to mitigate construction traffic impacts.</p> <p>No information on absolute noise levels in noise contour format to determine significance.</p> <p>No assessment of Gammonfields travellers' site.</p>
9	<p>Details on the Assessment of other modal solutions in response to Traffic Appraisal Modelling and Economics (TAME) Advice Note 2 to understand what alternative options have been considered and how they have been assessed.</p>
10	<p>Carbon Emissions</p> <p>All technical calculations, spreadsheets and workbooks that were developed and used as part of the carbon emission calculations have not been provided.</p>

Lack of Evidence or Missing from DCO	
	<p>The NH Carbon Valuation Toolkit was used to value the embodied carbon emissions. A copy of this has not been provided to allow full analysis of the assumptions behind it. A copy of the schemes NH Carbon Valuation Toolkit (including results, input assumptions and other relevant information) has been requested but not yet received.</p> <p>Only the core carbon values for the carbon impacts (tailpipe and embodied) have been provided whereas many NH schemes provide both these and the high values of carbon. A copy of the calculation using the higher carbon value has been requested, but not yet received.</p>
11	<p>Local Benefit Climate Adaptation Assessment</p> <p>No evidence has been provided on the benefits and disbenefits of investment into climate adaptation measures by LTC.</p>
12	<p>Flows at the Dartford Crossing</p> <p>Paragraph 5.2.11, point a) of the (APP-528) Non-Technical Summary states that the 'overall level of traffic using the Dartford Crossing would fall on average by 19% in 2030 and 12% in 2045 (but up to a maximum of 25% in 2030 and up to a maximum of 25% in 2045 in the modelled hours) when compared to the Do Minimum scenario'. The Council have been unable to derive these figures from the data provided in either this document or Document 7.7 Combined Modelling and Appraisal Report and its Appendices (APP-518 to APP-526). The derivation of this figure has been requested, but not yet received.</p>
13	<p>Accidents and Safety</p> <p>A reduction in accidents of 0.57 PIC/km is presented within the ComMA Appendix D (APP-526). This has been requested as a rate in terms of PIC/mvkm as this is the standard unit for accident rate used by COBALT. This remains outstanding.</p> <p>The A2 from M2 J7 to Dover is excluded from the assessment despite Plate 8.3 (APP-526) suggests it is an impacted link. A reason for this exclusion has been requested but yet to be provided.</p> <p>The COBALT accident impacts are presented at a high level at a total level. Plates of results provided in various reports shows there are some accident changes in Thurrock. The A13 sees an increase in accidents and LTC through Thurrock shows a large number of accidents. Detailed results for Thurrock links and junctions have been requested from NH. These remain outstanding.</p>
14	<p>Reliability</p> <p>Annex B, of ComMA Appendix D (APP-526) states that user defined assumptions for MyRIAD have been used but these are not presented. These assumptions have been requested, but not yet received.</p> <p>The results (Table B.7) show that the PM shoulder shown to have more benefits than PM peak. The reason for this is not explained within the text and an explanation as to the reason has been requested but is outstanding.</p> <p>The four time periods with the biggest benefit are (in order of magnitude from largest), the Interpeak, the PM Shoulder, Weekend Charged and the PM Peak. Further commentary around the reasons for these periods being the highest benefit has been requested.</p>

Lack of Evidence or Missing from DCO	
	It is not clear if the increase in accidents caused by the scheme has been accounted for in travel time variability element (specifically the Incident-related variability component) of the reliability assessment. NH have been asked to clarify this, but this has not been received.
15	<p>Wider Economic Benefits</p> <p>NH have been asked to provide the input and output files for the WITA2 analysis, including any masking (and any differences between it and the TUBA masking). This requested remains outstanding.</p>
16	<p>Drainage and Water Environment</p> <p>The flood risk modelling which supports the FRA has not been updated to latest methods and software versions (for example, using the FEH hydrological methods and 2022 software versions for Flood Modeller and Tuflow), as the EA would typically require, when climate change scenarios have been updated. Confirmation that this approach was agreed with the EA and is required. Further, additional information is required to confirm that there is sufficient area and volume available to accommodate any changes at detailed design when later methods are used.</p> <p>Confirmation must be provided that the assumptions within the biodiversity calculations are consistent with the surface water drainage strategy.</p> <p>Clarification is required regarding the phasing at the North Portal junction with regard to the drainage strategy and whether temporary measures are required.</p> <p>Further information must be provided regarding the proposed pumping station in relation to the North Portal junction, which should include location, access proposals, maintenance and operational requirements and also definition of adoption responsibilities.</p>
17	<p>Human Health, Equalities and Wellbeing</p> <p>Clarification provided on how criteria for significance has been met and why topic assessments outlined in paragraph 10.2.5 are not considered significant.</p> <p>Further clarification is needed on what local weight policy has been given in the assessment and if mitigation is expected to meet local policy objectives.</p> <p>NH were to provide access to a 'Hard to Reach Engagement Strategy' at DCO to demonstrate adequate engagement with these groups.</p> <p>Clarification on what mitigation is proposed for sensitive wards outlined within the air quality assessment and how a neutral impact has been justified.</p> <p>Information needs to be provided regarding noise assessment baselines for Traveller sites.</p> <p>Further clarification if there has been consideration of noise and vibration impacts on WCHs during construction.</p> <p>Further clarification on numbers of CLG's proposed, where these might be and a list of topics/themes that these will cover and if any additional funding will be provided for them. Clarification is needed on if the Council and other stakeholders will have input into the ECP to inform the development of the CLGS.</p> <p>Rationale to be provided for consideration of affordability within visitors' accommodation.</p>

Lack of Evidence or Missing from DCO	
	<p>Further information provided on scoping process for the HIA with CIPHAG and what topic assessments and equalities groups were scoped out and why.</p> <p>Clarification on further modelling undertaken regarding noise and air quality impacts post 2022 assessment provided by the Council, referenced in the Council's Relevant Representation (Principal Issue VIII) (PDA-009).</p> <p>Further clarification is needed regarding intra-cumulative effects, including the phasing of these effects, where they will be felt and what mitigation measures will be in place regarding cumulative impacts, including in reference to the transport assessment regarding severance, pedestrian delay, amenity and fear and intimidation.</p> <p>Further information provided regarding what enhancement measures are in place to encourage a move away from vehicular travel in operation to achieve a positive significant effect.</p> <p>How appropriate is defined within mitigation regarding healthcare facilities should be defined.</p>
18	<p>Utilities</p> <p>The overarching concern regarding the utilities infrastructure, including diversions, new supplies and utilities logistics hubs (ULHs), is the spread of information across the DCO, with little to no reference to information location. It is also acknowledged that the information provided is not detailed enough to be able to determine the impacts of the utilities diversions, new supplies and ULHs. It is usual for a project of this size and complexity, particularly with regards to the gas and electric NSIPs, for a standalone Utilities Section to be included, which provides a lot more detail than has been given for LTC and with detailed drawings provided. It is clear from what has been included within the DCO that further detail and information is available, however, this has not been provided.</p>
19	<p>Draft DCO (dDCO)</p> <p>A major concern with the dDCO is the lack of justification and analysis for certain provisions. As set out later in this LIR, the applicant needs to justify why they require so much flexibility and how this has been balanced by the harm caused by the uncertainty to other stakeholders. This includes justifying the uncertain Order Limits and the time limit for exercise of CPO powers.</p> <p>The Council also consider that the applicant needs to provide further justification for why it has not taken all reasonable steps to reduce the areas of land which are not subject to the restrictions of Article 28(2). Further justification should also be provided in relation to the power at 35(a)(ii) to temporarily possess Order Limits land that is not specifically set out in Schedule 11.</p> <p>The applicant also needs to provide its analysis of how which legislative provisions (including local legislation) may be impacted by LTC and why it is appropriate to disapply them. This includes the analysis as to whether there could be unintended consequences and why the geographic scope of the disapplication of legislation hasn't been set out.</p> <p>Further justification needs to be provided for the wide scope of the defence to statutory nuisance, taking into account that the requested provisions are much wider than requested in other highways DCOs.</p> <p>For Article 31(3), further information on this approach is required. This is a significant departure from standard provisions and the Council needs to understand the full implications of the proposal.</p>

Lack of Evidence or Missing from DCO	
	<p>For Article 44, the Council requests further information as to why the relevant local authorities are limited to Kent CC, Thurrock and Gravesham BC.</p> <p>In relation to the use of deemed consent, the applicant should explain why this has not been replaced with deemed refusal.</p>

6.4.2 The above documents should be requested and then shared during the Examination, so that the ExA and the Council can be fully informed on how the applicant have arrived at the design of LTC and mitigation of its impacts. The Council believes that the ExA can make an improved and informed decision on the scheme following viewing the documents listed above.

7. Costs and Disbenefits outweigh the Benefits and provide Poor Value for Money

7.1 Introduction

7.1.1 This section of the LIR sets out the Council's concerns with the appraisal and evidence base used to underpin the costs and disbenefits for the LTC scheme. The key issues are summarised below.

Table 7.1: Summary of Key Issues – Disbenefits

Summary of Key Issues
<ul style="list-style-type: none"> ▪ The Council considers that NH has not carried out the required form of appraisal as defined in NPSNN and subsequent updated ('successor') documents. Further, the Council considers that the carbon appraisal undertaken by NH should be assessed against the transport sector carbon target to determine whether this leads to a different conclusion against the 'material impact' test for such emissions. ▪ The Council contends the scheme does not provide significant relief to the Dartford Crossing, is incompatible with the UK's and NHs net zero ambitions and legal targets, and additionally there are concerns around the safety impacts of the scheme. ▪ The Council contends that the NH analysis shows that LTC caters for different traffic to the Dartford Crossing and this is reflected by the low level of traffic relief at the Dartford Crossing. LTC is shown to be more suitable for traffic travelling to/from Dover/Folkstone to the northern M25 (and beyond) while Dartford caters for mainly M25 orbital traffic. ▪ The assumptions used to generate the reliability benefits have not been shared and so the Council cannot consider or scrutinise on the validity of the assumptions or results. The Council therefore still considers this a Matter under Discussion (SoCG issue ref 2.1.154). ▪ There are sizable construction disbenefits, the majority of which are expected to fall on trips and users within/travelling through Thurrock. The Council has been unable to assess the distribution of these disbenefits within the borough as this information has not been provided by NH and considers this still a Matter under Discussion (SoCG issue refs, 2.1.121, 2.1.150 and 2.1.151). ▪ The Council considers that NH is obliged to give Wider Economic Costs the same weight as Wider Economic Benefits (WEBs) in its BCR analysis and that it has failed to do this. ▪ The Council's view is that the WEBs presented are an overestimate. ▪ The current traffic model is underpinned by data which dates from 2016. The Council contends that the traffic modelling supporting LTC does not represent an up to date or representative view of the current conditions and leads to the benefits of the scheme being overestimated. ▪ Inadequate sensitivity testing has been undertaken as part of the scheme appraisal. This is inconsistent with the latest Uncertainty Toolkit approach from DfT published in 2021. The Council therefore contends that the modelling is outdated and inconsistent with guidance published around uncertainty. ▪ The Council considers that the Value for Money of the scheme is likely to be overstated due to costs and overstated benefits. The estimated margin of benefit of LTC is now so low, that even modest changes in the assumptions would wipe out the net benefit entirely.

7.1.2 Section 7 contains the following sub sections:

- a. **Key Policy Consideration and Not Achieving Scheme Objectives:** this focuses on the Council's understanding that the scheme promotor has not adequately followed NPSNN 2014. This subsection also presents the Council's views around how the scheme fails to meet many of its stated objectives drawing upon evidence presented in the NH reporting.
- b. **Transport User Disbenefits/Benefits and Distribution:** this subsection sets out the Council's contention that LTC does not provide adequate relief of the Dartford Crossing and that, based upon National Highways own traffic modelling, Dartford Crossing is no longer at free flow with LTC in place after just 5 years post LTC opening. Also, discussed in this subsection are Journey Time Reliability and Construction disbenefits, where the Council considers that further detail on these impacts is required from NH.
- c. **Wider Economic Disbenefits/Benefits and Distribution:** this presents the Council's arguments that, while the scheme promotor has considered possible positive impacts of the scheme on the wider economy, the assessment to date has failed to adequately account for wider economic costs and disbenefits.
- d. **Poor Value for Money:** this subsection presents the Council's contentions around the weakening value for money case for the scheme. The scheme's sensitivity to relatively small increases in costs or decreases in benefits is presented and it is set out that adequate sensitivity testing has not been carried out to understand these impacts. This subsection also discusses wider economic benefits and the scheme's reliance on these as an unprecedented proposition of benefits. The validity of these benefits in a post pandemic world is also discussed.
- e. **Review of transport modelling evidence base:** this subsection presents the Council's concerns around the transport modelling underpinning the LTC transport business case, including the age of the data it is based upon, the lack of sensitivity testing based upon the latest forecasts and the lack of incorporation of the emerging Local Plan in the scheme appraisal.

7.2 Key Policy Consideration and Not Achieving Scheme Objectives

Policy Considerations

- 7.2.1 The NPSNN, December 2014 (NPSNN) is the base statement for defining the broad objectives of NSIPs, covering their expected contribution to wider Government policies, as well as defining needs, assessment principles, and both generic and specific impacts. The validity of these broad policy requirements is not typically open to challenge at DCO Examination.
- 7.2.2 However, NPSNN also provides guidance for how it should be treated in the Examination process by the ExA, promoters and interested parties. There are some specific aspects of the guidance which have not been followed by NH. The most important ones are, as follows:

Updated Policies and Data

- 7.2.3 Section 1.8 of the NPSNN states:

'It should be noted that where the NPS refers to other documents, these other documents may be updated or amended over the time span of the NPS, so successor documents should be referred to.'

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- 7.2.4 There is no specific time limit applied to 'successor documents', e.g. 'up to the date of writing the application' or 'up to the date of the data used for modelling', and successor documents could include important statements issued during the Examination itself, for example, updates of the DfT's WebTAG (now called Transport Assessment Guidance (TAG)) guidance on forecasting and appraisal. The constraint is not of date but of importance. Paragraph 4.7 states:

'Where updates are made during the course of preparing analytical work, the updated guidance is only expected to be used where it would be material to the investment decision and in proportion to the scale of the investment and its impacts.'

- 7.2.5 Further guidance in the DfT's TAG – The Proportionate Update Process 2014 on how to test materiality and proportionality states that *'This should involve reasonably balancing (a) the greater time, cost, and/or resource needed to deliver programmes, with (b) the quality of the analysis submitted to assist the decision required, including its robustness against potential challenge from all sources.'*
- 7.2.6 In relation to LTC, there are two factors which make updated evidence *material and proportionate*: 1 - it is the biggest project in the roads programme; and 2 - its appraisals are very close to the point where its costs exceed the benefits.
- 7.2.7 In addition to this, particularly important 'successor' documents, which in the Council's view NH has not, or only partially, considered include:
- a. BEIS, in their *Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions* for appraisal, recommendations to carry out appraisal tests against scenarios of 2°C and 4°C global temperature increase
 - b. BEIS recommendations for values to be attributed to carbon in the appraisal, especially the upper bound of those values which are presented as *'part of sensitivity analysis to account for uncertainties'* (*Valuation of greenhouse gas emissions: for policy appraisal and evaluation 2021*)

DfT Publication of its Transport Decarbonisation Plan 2021

- 7.2.8 TAG guidance on assessing uncertainty and the use of a range of different scenarios found in sections 3.1.3, 4.1.1 and 4.2 of TAG Unit M4, which is not consistent with the sensitivity tests shown by NH. A more realistic range of sensitivity tests would show that in most scenarios the scheme would represent lower value for money than is currently presented.

Need to Assess Alternatives

- 7.2.9 NPSNN (paragraph 4.27) states:

'All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options (in light of the paragraphs 3.23 to 3.27 of this NPS). Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other appropriate policies or investment plans, option testing need not be considered by the examining authority or the decision maker. For national road and rail schemes, proportionate option consideration of alternatives will have been undertaken as part of the investment decision making process. It is not necessary for the Examining Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken.'

- 7.2.10 Further guidance on options development is also given by DfT TAG *The Transport Appraisal Process 2018* (quoting here the 2018 version which was already available before the DCO submission was prepared).

‘2.8 Step 5: Generating Options

2.8.1 The purpose of option generation is to develop a range of alternative measures or interventions that look likely to achieve the objectives identified in Step 4a. Analysts should start with a wide range of possible measures, and then narrow these down (in Steps 6 and 7) in a robust, transparent and auditable manner.

2.8.2 It is important that as wide a range of options as possible should be considered, including all modes, infrastructure, regulation, pricing and other ways of influencing behaviour. Options should include measures that reduce or influence the need to travel, as well as those that involve capital spend. Revenue options are likely to be of particular relevance in bringing about behavioural change and meeting the Government’s climate change goal.

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2.8.3 Studies should not start from an assertion about a preferred modal solution, or indeed that infrastructure provision is the only answer. Following the Eddington Transport Study 2, Sponsoring Organisations will be looking to encourage the better use of existing infrastructure and avoiding “solutions in search of problems”. In this context, it is recognised that small schemes can represent high value for money.

2.8.4 For public transport schemes, options should include different technologies and lower cost alternatives. For example, where light rail schemes are being considered, alternative bus based options should also be identified.

2.8.5 Where highway solutions are being considered, options should include a consideration of different link/junction standards and other alternatives to address the problems in the area, such as public transport provision, demand management policies, traffic management measures and strategies.’

- 7.2.11 NH has not undertaken the required form of options appraisal as defined in NPSNN and subsequent updating documents, and therefore the condition in NPSNN that such matters do not need to be considered in detail at the Examination, *which is conditional on such work having been done at an earlier stage*, does not apply; and, the Council consider that the Options Appraisal Report (OAR) process for LTC has not been robust – these matters are set out below in further detail. The Council consider that NH has been more critical during Thurrock’s OAR process for the East Facing Access onto A13 scheme, despite there being more significant issues with the LTC scheme. NH has not therefore applied the same level of scrutiny and rigour for its flagship LTC scheme that it does for more routine schemes on its network. Further examination of alternative options to LTC is provided in Section 8 below.

Carbon Impacts

- 7.2.12 Paragraph 5.18 of the NPSNN (December 2014), referring to the Carbon Plan 2011, states:

5.18 ‘The Government is legally required to meet this plan. Therefore, any increase in carbon emissions is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the proposed scheme are so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets.’

- 7.2.13 In previous road appraisals, NH and its predecessors, citing this clause, has made a calculation of the estimated increases in carbon emissions arising from a scheme. This is then expressed as a percentage of all carbon emissions from all sources in the whole economy, as a test of whether the scheme would have a ‘material impact’. Since the figure always comes out as a very small percentage, it is concluded by NH that carbon emissions from a road scheme, under the legal doctrine of ‘de minimis’, are irrelevant and may be discounted.

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- 7.2.14 In one legal challenge this interpretation was upheld by the court (see *Transport Action Network Ltd v Secretary of State for Transport* (2021) EWHC 2095, which involved a challenge via Judicial Review that the SoS needed to account for quantitative carbon assessments when approving RIS2). However, that was at a time when there was no sectoral target published for transport as a whole, or for the road's element within that target. Since publication of the transport decarbonisation strategy, there are now targets for the transport sector, and the relevant test is the effect of whether the Roads Infrastructure Programme as a whole, and specific schemes within it, would have a material impact on the ability of the transport sector to reach its sectoral targets. The Council contends that LTC scheme emissions should be assessed against this test, and this is set out in more detail in Section 10.14 below.
- 7.2.15 The sentence quoted above from 5.18 of the NPSNN has disappeared from the draft revised NPSNN 2023. The draft new wording (Section 5.37) does allow for some circumstances where increases in carbon may be compatible with decarbonisation, but with a more cautious tone, and concludes in draft Section 5.37: *'Therefore approval of schemes with residual carbon emissions is allowable and can be consistent with meeting carbon budgets, net zero and the UK's Nationally Determined Contribution'*. Implicitly that will require a judgement about whether the LTC scheme's emissions are, in fact, allowable and consistent with meeting the relevant norms.
- 7.2.16 **SUMMARY: the Council considers that NH has not carried out the required form of options appraisal as defined in NPSNN and subsequent updated ('successor') documents. This means that the condition in NPSNN that such matters do not need to be considered in detail at the Examination, which is conditional on such work having been done at an earlier stage, does not apply. Further, the Council considers that the carbon appraisal undertaken by NH should be assessed against the transport sector carbon target to determine whether this leads to a different conclusion against the 'material impact' test for such emissions.**

7.3 Scheme Objectives

- 7.3.1 Table 1.1 of the "Need for the Project" ([APP-494](#)) sets seven objectives for the LTC scheme, framed around Transport, Community/Environment and Economic. The Council's view on whether each objective is achieved is presented in the following sub sections.

Transport

Objective 1: To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity.

- 7.3.2 The modelled future traffic using Dartford Crossing and the M25 is provided in the Combined Modelling and Appraisal report: Transport Forecasting Package ([APP-522](#) Plate/Tables 8.32, 8.33, 8.53 & 8.54) for 2037 and 2045 with the LTC scheme in place.
- 7.3.3 The figures presented by NH show in 2037 that Dartford Crossing remains at or above 95% Volume/Capacity (V/C) Southbound in the AM and Northbound in the PM, i.e. there is no relief to Dartford Crossing in these time periods. Additionally, Dartford Crossing is above 85% V/C in the Northbound direction in the AM and Interpeak periods i.e. there are not free flow traffic conditions as stated as the aim in the objective.
- 7.3.4 NH's data therefore shows that the scheme fails to relieve congestion at Dartford Crossing and does not provide free flow capacity at this location or relieve congestion at the Dartford Crossing.

In summary, this Objective is not met.

Objective 2: To improve the resilience of the Thames crossings and the major road network.

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7.3.5 No transport modelling tests are provided in the DCO documentation to show the network impacts of closing one of either the Dartford Crossing or LTC. There is no mechanism to use the proposed tolls to manage demand as both crossings are proposed to use the same tolling regime. This means that the overall use of the two crossings is not maximised.

In summary, insufficient evidence is currently provided to show that this objective is met.

Objective 3: To improve safety.

7.3.6 The ComMA: Economic Appraisal Report ([APP-526](#)) Table 8.10 (shown as **Figure 7.1** below) shows that the scheme increases the number of casualties over 60 years with 26 additional Fatalities and 182 Seriously Injured Casualties and presents an accident saving per kilometre with LTC in place of 0.57 PIC/km. This is unusual as the standard approach in other scheme assessments is to present an absolute saving in casualties and accidents rather than a rate. As far as the Council is aware, this is the only scheme to rely on a rate to justify its success against its safety objective and the only NH scheme with an increase in all casualty types with the scheme in place.

Table 8.10 Change in the number of casualties

Without Scheme				With Scheme				Change			
Fatal	Serious	Slight	Rate/km	Fatal	Serious	Slight	Rate/km	Fatal	Serious	Slight	Rate/km
1,441	14,559	146,987	40.65	1,467	14,741	149,451	40.08	26	182	2,464	-0.57

Figure 7.1: Extract of Table 8.10 from Economic Appraisal Report ([APP-526](#))

7.3.7 Table 8.10 ([APP-526](#)) shows that the monetised impact of this increase in accidents is valued as a disbenefit of £67.8m, i.e. the delivery of the scheme has a negative impact on safety. Further, the estimate of this disbenefit is the same for all three assessed traffic scenarios. This does not seem plausible given the different levels of traffic flows which are used in the assessment.

7.3.8 The Council also notes that NH's assessment of different options for LTC undertaken in 2013 (Review of Lower Thames Crossing Options: Final Review Report) stated at paragraph 4.6.2 that in terms of the assessment of **all** options: *'they are projected to increase accidents on the network as a whole, because they would induce additional traffic and accidents increase broadly proportionally with traffic'*.

7.3.9 Additionally, the A2 from M2 J7 to Dover is excluded from this assessment of accident disbenefits despite information ([APP-526](#) Plate 8.3) showing it is an impacted link. Given this is a key route for traffic using LTC, the traffic (and therefore accident) changes on this route are likely to make the accident disbenefit greater than currently presented.

7.3.10 A review of the 2013 Options Analysis undertaken at earlier stages of LTC showed all options had an overall negative impact on casualties suggesting the scheme would not meet this objective regardless of the option taken forward. This puts it at odds with NH stated commitment, which also must apply to LTC of *'nobody will be killed or seriously injured on our roads / motorways by 2040'*. A copy of the article providing this quote is provided in **Appendix A.1**.

7.3.11 The Council has requested the detailed accident impacts for the Thurrock area to understand the local impacts of the increase in accidents. The Council considers that an increase in accidents as a result of the scheme would jeopardise its Vision Zero commitments, which aim to eliminate fatal and serious injuries from the roads of Essex by 2040. No mitigation for increases in accidents on the local road network has been put forward as part of the LTC scheme.

In summary, this Objective is not met.

Community and Environment

Objective 4: minimize the impacts on health and the environment.

- 7.3.12 The scheme is shown to lead to large tonnages of new carbon emissions during the next three Carbon Budget Periods(CBP), as presented in [APP-526](#):
- a. CB4 – 1.148m tCO₂
 - b. CB5 – 0.899m tCO₂
 - c. CB6 – 0.462m tCO₂
 - d. 60yrs – 6.596m tCO₂
- 7.3.13 These are calculated to have a monetised value of £526.1m disbenefit over the 60 year appraisal period. This level of emissions is not consistent with UK Net Zero policy and carbon disbenefits are worth 30% of the journey time savings. The ComMA ([APP-518](#)) quotes UK transport emissions as 99m tCO₂ in 2020. LTC would provide a substantial addition to this total.
- 7.3.14 The report states there are several assumptions that are neither firm nor funded, but are included in the embodied carbon estimate, including:
- a. Net zero operation assumed (in accordance with NH Net Zero Plan, a copy of the relevant section of the plan is found in **Appendix A.2**) from opening of LTC.
 - b. Maintenance assumed to be net zero from 2040 (in accordance with NH Net Zero Plan).
 - c. Renewals assumed to be net zero (in accordance with NH Net Zero Plan) from 2040.
- 7.3.15 Although the NH Net Zero Plan has been published, funding will be required in RIS3 and beyond to deliver these assumptions with no certainty the Plan will achieve its aims. RIS3 negotiations are ongoing, so this funding is not assured. Further assumptions have been made by NH around low carbon design and construction but details of how this will be achieved are not provided.
- 7.3.16 The LTC scheme is aiming to achieve 7.5% net gain for biodiversity. However, the scheme is now a RIS3 scheme following the delay to the start of construction. RIS3 is expected to have aims in line with the Environment Act 2021, i.e. to achieve 10% biodiversity net gain in each of the three unit categories. LTC should be designed to meet the requirements of this Act (which is not listed in [\(APP-494\)](#), despite other 2021 national policies being included) and the required changes should be included in revised costs and mitigation. This biodiversity point is dealt with in more detail in Section 10.6. In addition, there is further discussion on the Environment and Health impacts of the scheme in Section 10 of this LIR below.
- 7.3.17 Further impacts on human health are dealt with in more detail in Sections 10.2 (Air Pollution) and 10.13 (Health and Wellbeing) below.

In summary, this Objective is not met.

Economic

Objective 5: To support sustainable local development and regional economic growth in the medium to long term.

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7.3.18 The network impacts of LTC may constrain the ability of the local network (and the Strategic Road Network within and adjacent to Thurrock) to accommodate the Council's growth ambitions within the emerging Local Plan and of the Thames Freeport. LTC will use local road capacity, and this will likely stifle local growth rather than support it and further details can be found in Section 9 below.

In summary, this Objective is not met.

Objective 6: To be affordable to government and users.

7.3.19 ([APP-063](#) 4.3 Funding Statement (paragraph 2.1.1) states the cost envelope of the scheme is £5.2bn – £9bn. At each iteration of the appraisal, the scheme cost has increased. The current estimate used for the 'central case cost' in ([APP-526](#)) is approximately £8bn, which is already at the at top end of the envelope quoted in the Funding Statement and other published documents. In two recently published reports: the NH RIS2 Report (March 2020) it is stated as £6.4 – £8.2Bn and in the National Audit Office Report (November 2022) it is stated as £5.3 – £9Bn.

7.3.20 Materials and labour costs are increasing and at a faster rate than the inflation forecasts provided in Table 6.1 of Appendix D – Economic Appraisal Package ([APP-526](#)). For example, inflation for 2023 is estimated by NH at 4.18% whereas the BCIS 'Outlook for the Construction Industry 2023' published in January 2023 forecasts inflation to be 6.6%. A 2% variation in the cost of the scheme is equivalent to the substantial cost increase of £100m – £180m; and this is just the change associated with increased inflation in 2023. This impact will be compounded in future years if inflation continues to overshoot NH expectations, which is likely.

7.3.21 These ongoing high levels of inflation mean that it is very likely that the £8bn+ cost of LTC now represents a lower-end estimate. Therefore, there are questions about the accuracy of the cost estimate presented in the DCO. These issues suggest the cost envelope will need revising upwards to represent these rising scheme estimates.

7.3.22 A cost increase of approximately £500m (to around £8.5-£9bn or more) could result in a BCR below 1.0 and therefore very poor value for money. It is noted that whilst the central cost case is circa £8bn that NH has considered it necessary to seek prior approval from HM Treasury for a substantial increase in the budget envelope to £9bn. With commitments to adopt contemporary technology, as part of its pledge to be the greenest construction project ever, it is reasonable to assume that costs may even exceed the current budget envelope, as is commonly the case.

In summary, this Objective is not met.

Objective 7: To achieve value for money.

7.3.23 The Combined Modelling and Appraisal report: Economic Appraisal Package ([APP-526](#)) Tables 8.16 and 8.18 shows the Level 1 Core BCR is shown to be below 0.5, which suggests that the core transport benefits are low compared to the cost. Table 11.5 - 11.6 of the same report show that cost sensitivities have a large impact on the BCR.

7.3.24 Increases in cost push the scheme towards Poor Value for Money (VfM) even when Level 1 and Level 2 benefits are included. There are concerns outlined further in this section around the robustness of some of the claimed benefits. A reduction in these benefits would also potentially result in Poor VfM.

In summary, this Objective is not met.

7.3.25 **SUMMARY: the Council has a number of concerns around LTC objectives and believes that those in the Transport, Economic and Community & Environment areas are not met by the current scheme. The Council considers that the scheme does not provide significant relief to the Dartford Crossing, may be incompatible with the UK's and NH's net zero ambitions**

and legal targets and, additionally, there are concerns around the safety impacts of the scheme. The Council also considers that the Value for Money of the scheme is likely to be overstated due to cost pressures and the robustness of the evidence used in the economic appraisal.

7.4 Transport User Disbenefits/Benefits and Distribution

Lack of Relief to Dartford Crossing and SRN

- 7.4.1 One of the schemes stated objectives is ‘To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity’ (APP-494, Table 1.1). This subsection outlines the way in which this objective is not being met by presenting analysis based upon data provided by NH in the ComMA: Traffic Forecasting Report (APP-522).
- 7.4.2 National Highways states in paragraph 5.2.11 of the Traffic Forecasts Non-Technical Summary (APP-528) that there is a 19% reduction in 2030 two-way daily flows at Dartford Crossing with the scheme in place. However, this does not provide an accurate picture of the peak time periods when traffic is at its highest over the Dartford Crossing.
- 7.4.3 The analysis uses traffic flows at the Dartford Crossing (interpolated between modelled years) and compares them to the maximum capacity stated for the Dartford Crossing (by direction). This allows the Council to understand when the short-term congestion relief at the Dartford Crossing will stop and it becomes congested again. Full details of the Council’s analysis are provided in **Appendix A.3**.
- 7.4.4 DMRB LA 105 Table A.1 (NH 2019) defines the ‘free flow’ speed band to be a road with a V/C<80% (This table is quoted in Table 9.4 of APP-522). APP-518, paragraph 5.8.11 states that ‘A V/C ratio of above 0.85 indicates the likelihood of frequent occurrences of slow-moving traffic and above 0.95 indicates a network under pressure’. This shows that NH acknowledges that a section of road with a V/C of more 0.85 is no longer providing free flow conditions and is subject to congestion. Models provide forecasts and there is a margin for error to account for uncertainty. A ±5% V/C is within a margin for error and therefore the Council would argue a 95% V/C could be considered a road operating at capacity.

Southbound

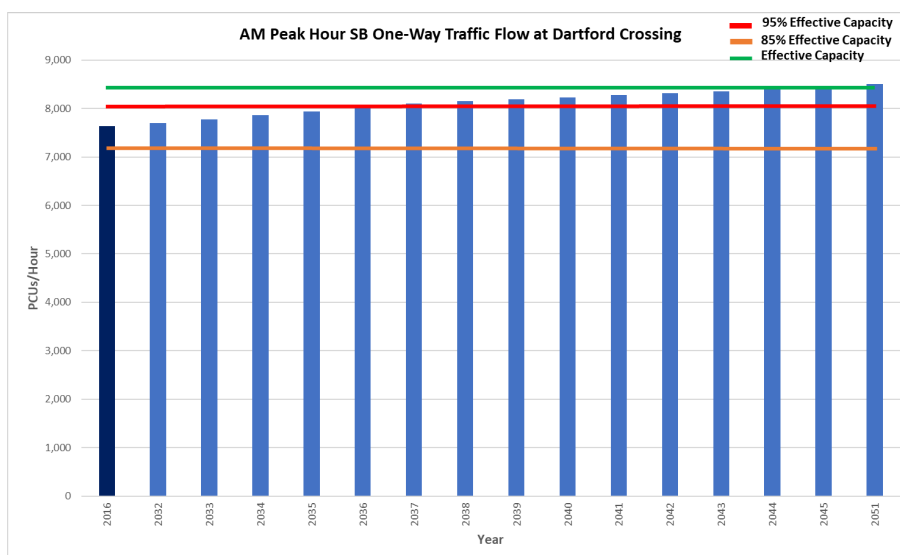


Figure 7.2: Southbound AM Peak Dartford Crossing Traffic (With LTC in place) compared to capacity

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- 7.4.5 **Figure 7.2** shows that southbound, the AM peak has capacity issues from LTCs opening. The AM is above 85% V/C from 2032 (opening year) and is carrying more traffic than in 2016 from this opening year. In the AM peak, the southbound Dartford Crossing is over 95% V/C by 2037. This suggests the scheme will only provide five years of relief to Dartford Crossing southbound before the crossing is operating at or near capacity. Moreover, the scheme is shown to be operating at, or above, effective capacity by 2044.
- 7.4.6 In the case of the Interpeak and PM peak (provided in **Appendix A.3**), the flow is shown to be below 85% V/C until 2051.
- 7.4.7 This shows that the scheme does not achieve its objective of relieving the Dartford Crossing and in the southbound direction, after five years will be operating with the same levels of congestion as 2016.

Northbound

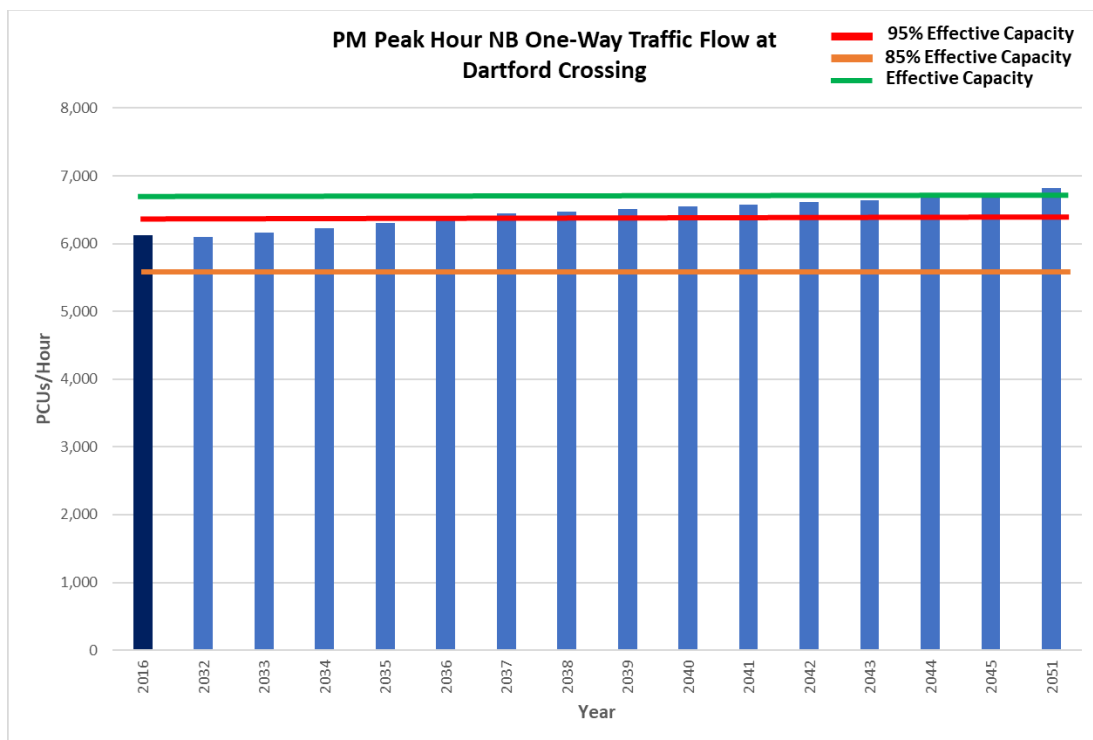


Figure 7.3: Northbound PM Peak Dartford Crossing Traffic (With LTC in place) compared to capacity

- 7.4.8 **Figure 7.3** shows that northbound, the PM peak is above 85% V/C from opening and above 95% V/C (defined by National Highways as a network under pressure) by 2037. This suggests the scheme will only provide five years of relief to Dartford Crossing northbound before the crossing is under pressure and again suffering from a lack of traffic capacity.
- 7.4.9 The Council’s analysis (provided in **Appendix A.3**) also show that in the AM peak and Interpeak periods the northbound Dartford Crossing flow (taken from [APP-522](#)) will be above 85% V/C by 2034 and 2037 respectively.
- 7.4.10 In summary, paragraph 7.1.7 of the Traffic Forecasts Non-Technical Summary ([APP-528](#)) states ‘*If the Project is built (as shown by the Do Something scenario), it would provide significant relief to the Dartford Crossing and its approach roads*’. The definition of ‘significant’ is not provided in this statement, but as shown by the analysis presented in this report, there is no evidence that ‘significant relief’ would be provided by LTC to the operation of the Dartford Crossing **and in fact**

NH traffic modelling shows that congestion levels will return to the existing levels within five years of opening.

Journey Patterns Through Both Crossings

7.4.11 The Council notes that ([APP-518](#)) Tables 5.3 and 5.4 show a total crossing capacity of the River Thames by combining the capacities of both LTC and Dartford Crossing. However, a review of ([APP-522](#)) Plates 8.28-8.30, 8.31-8.33 and, 8.34-8.36 shows that LTC and Dartford crossing cater for different traffic, and different origins and destinations. **Figure 7.4** shows an example of these Plates for the 2045 PM Peak with LTC in place.

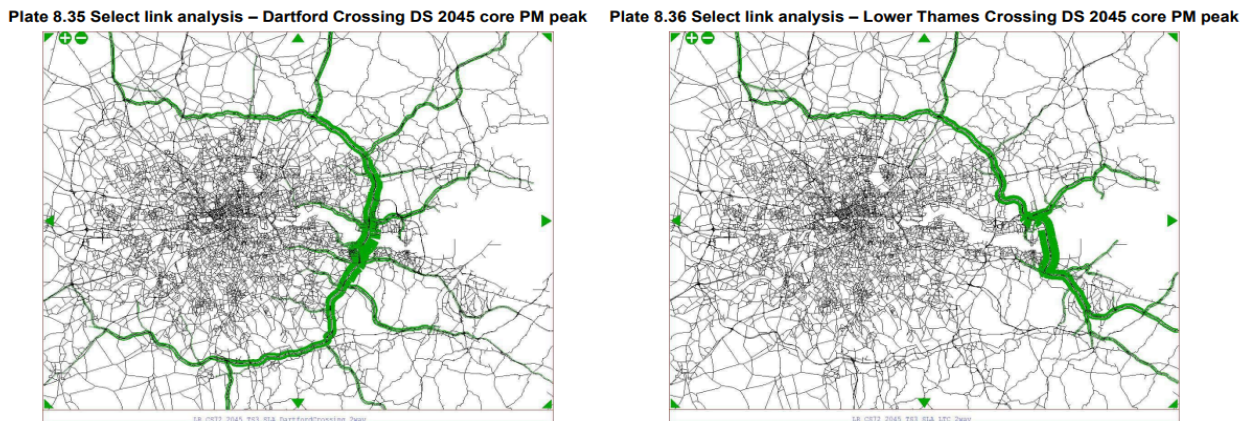


Figure 7.4: [APP-522](#) Plates 8.35 and 8.36 showing traffic in 2045 PM Peak using the different crossings with LTC in place

- 7.4.12 LTC users are typically travelling from Dover/Folkstone to north of the River Thames (and vice versa), while the Dartford Crossing caters for mainly M25 orbital traffic, local traffic in Kent from the west of LTC and some port traffic. The Do Something plots suggest LTC caters for very little M25 orbital traffic or traffic in local areas west of the scheme. The majority of the existing M25 traffic continues to use the Dartford Crossing once LTC has opened.
- 7.4.13 A key observation is that LTC causes an increase in traffic on the M20 and A2/M2 corridors to/from Dover/Folkstone with the main route for traffic using LTC appearing to be the A2/M2 corridor. There is some routing shown in the Plates previously referenced between the M2 and M20 via the A229 and A228, the latter of which is a mix of single and dual carriageway which may not be appropriate for high levels of strategic traffic.
- 7.4.14 Due to increases in traffic, there are capacity issues on the M25 between J28 and J29 (from 2037) and J3 and J4 (from opening) in the AM peak. Further mainline issues (V/C over 85%) appear on many more links in most peaks by the design year of 2045 (Plates 6.13-6.15 in [APP-518](#)).
- 7.4.15 **SUMMARY: the traffic flows presented in ([APP-522](#)) show that for multiple time periods the Dartford Crossing is over 85% volume/capacity (a network under pressure), particularly in the northbound direction, from 2037. This shows the scheme only provides five years of congestion relief to the Dartford Crossing and therefore shows that the NH objective for Dartford Crossing is not met.**
- 7.4.16 **Further, the Council contends that the NH analysis shows that LTC caters for different traffic to the Dartford Crossing and this is reflected by the low level of traffic relief at the Dartford Crossing. LTC is shown to be more suitable for traffic travelling to/from Dover/Folkstone to the northern M25 (and beyond) while Dartford caters for mainly M25 orbital traffic, and therefore, the potential relief for Dartford Crossing is limited.**

Journey Time Reliability

- 7.4.17 The Council has concerns around the reliability benefits claimed by NH. The Council has requested further commentary on the results, particularly commentary around why the periods with the biggest benefit are (in order of magnitude from largest to smallest): the Interpeak; the PM Shoulder; Weekend Charged and the PM Peak. The Council notes that the middle two of this list are not modelled in LTAM and so the derivation of these benefits is not clear.
- 7.4.18 Annex B of ([APP-526](#)) states that the MyRIAD journey time reliability software used to calculate these benefits uses a series of user defined assumptions. These are not presented by NH although they have been requested.
- 7.4.19 **SUMMARY: the assumptions used to generate the reliability benefits have not been shared and so the Council cannot consider or scrutinise on the validity of the assumptions or results. The Council therefore still considers this a Matter under Discussion (SoCG issue 2.1.154).**

7.5 Transport User Construction Disbenefits

- 7.5.1 The disruption on the road network resulting from the construction of LTC will lead to impacts on local traffic unrelated to the construction work. The Council is concerned that this will lead to rat-running to avoid construction sites, which was seen in recent major works on the A13, leading to adverse impacts on local communities. For example, traffic rat running via Marshfoot Road and by the two proposed schools, to avoid the congestion on the A1089.
- 7.5.2 Transport Assessment (TA) ([APP-529](#)) Section 8.8 discusses the flow changes forecast as a result of construction activities and information is shown for each of the eleven phases. The Transport Assessment acknowledges that there would be traffic flow changes and adverse impacts on local roads as a result of the prevailing traffic management plans. For example, Marshfoot Road is acknowledged within the TA as one on which traffic measures and network changes would be undertaken during construction. In Phase 1. Contraflow is planned on Marshfoot Road ([APP-529](#) Table 8.6 as RNTM05) and the contraflow at Marshfoot Road would cause traffic to divert on to Linford Road and Turnpike Lane (paragraph 8.8.9). This contraflow would also contribute to delays on Station Road/Fort Road/A1089 in the AM peak westbound direction (paragraph 8.8.12) and cause additional delays along the A126 in both directions (paragraph 8.8.14).
- 7.5.3 The ComMA ([APP-518](#)) presents the assessed impacts of these construction impacts. Table 7.5 ([APP-518](#)) shows that the scheme has construction and maintenance disbenefits of £140.7million. Construction disbenefits account for £130.8million. These were modelled within TUBA and represent the various Traffic Management Plan phases. No breakdown of local impacts during construction has been provided nor is it clear where the disbenefits are located in terms of local areas. Given construction is likely to be localised around the main construction sites (and their approach roads), it is anticipated that Thurrock will likely bear the brunt of these disbenefits. However, the locations most affected cannot be assessed due to insufficient data being provided. This means that the adequacy of the Traffic Management Plan mitigations cannot be robustly assessed by the Council. The impacts on the LRN during the construction phase are dealt with at Section 9 and Section 15 of this LIR.
- 7.5.4 **SUMMARY: there are sizable construction disbenefits, the majority of which are expected to fall on trips and users within/travelling through Thurrock. The Council has been unable to assess the distribution of these disbenefits within the district as this information has not been provided by NH and considers this still a Matter under Discussion (SoCG issues 2.1.121, 2.1.150 and 2.1.151).**

7.6 Wider Economic Disbenefits/Benefits and Distribution

Wider Economic Costs

- 7.6.1 The Council is concerned about the absence of any quantifiable evidence on Wider Economic Costs (WECs) in the calculation of the Benefit Cost Ratio (BCR) for LTC.
- 7.6.2 The Government's TAG Unit A1.1 Paragraph 1.1.1 says that '*analysis which quantifies in monetary terms as many of the costs and benefits of a proposal as feasible, including items for which the market does not provide a satisfactory measure of economic value*'. One of the key negative effects of LTC is through the way it affects the development of land for residential and employment growth. This concept of lost or delayed growth is of critical importance to the Council.
- 7.6.3 The Council is not satisfied that the issue of lost or delayed growth has been examined in sufficient depth or indeed materially at all and believes that NH has not considered important disbenefits. These disbenefits should feature in the scheme BCR. The Council's concerns are, as follows:
- a. The notion of negative development land consequences of LTC are acknowledged by NH. They include analysis of development land impacts in the ES Chapter 13 Population and Human Health ([APP-151](#), paragraphs 13.4.77 – 13.4.88 covering identified development land north of the River Thames). However, the analysis is far too simplistic (see below) and there is no attempt to incorporate these negative impacts (economic costs) into the BCR. The only reference to development land impacts in the BCR focuses on what NH see as positive 'dynamic agglomeration' (Level 3) economic impacts. There is no reference to negative effects in the Level 3 analysis.
 - b. The scope of the NH analysis in ([APP-151](#)) is to include development land within the Order Limits, plus a 500m area surrounding it. They include development land that is either allocated in the extant Local Plan or has a permitted planning application attached to it. This is a narrow interpretation of development land, especially at a time when the emerging Local Plan is being developed and new sites are coming forward for consideration. Our analysis shows that there are numerous good quality development sites physically located within the 500m radius that have been overlooked by NH. The Thurrock Local Plan Issues & Options (Stage 2) report 2018 shows the Council has urban extension ambitions in South Ockendon, Chadwell St Mary and East Tilbury that would all be affected by the scheme. This includes sites from the 'Call for Sites', which shows sites have developer interest. The impact on viability of some of these sites and impacts on the local network from LTC on these ambitions has not been adequately articulated.
 - c. It is far too simplistic to assume, as NH do, that the only transmission mechanism between LTC and development land is physical land-take. There are other transmission mechanisms that will impact development land that have been ignored by NH. For example, the impact of LTC on the local road network will significantly shape the ability to bring forward certain sites for development and these sites lie outside the 500m area but are nevertheless impacted negatively by LTC.
- 7.6.4 **SUMMARY: the Council considers that NH is obliged to give Wider Economic Costs the same weight as wider economic benefits in its BCR analysis. It has failed to do this. NH's analysis of lost/delayed growth is overly simplistic. They also fail to give any acknowledgment to Wider Economic Costs in their analysis of Level 3 wider economic effects. This means that the Council considers the analysis of Wider Economic Impacts to be incomplete and suggests further work is undertaken to establish and include any Wider Economic Costs.**

7.7 Poor Value for Money

Review of OBC and Identification of BCR Options

- 7.7.1 Successive appraisals of LTC since 2016 have shown that estimated benefits have consistently reduced, and the estimated costs have consistently increased. This is shown in **Table 7.2**.

Table 7.2 Successive outline appraisals of the Lower Thames Crossing by the Promoters

2010 Prices, £m	2016 Summary Business Case – Route Consultation Favoured scheme R3ESL	2020 Core growth ComMA Appendix D Economic Appraisal Report 2020	2022 Central Case ComMA Appendix D Appraisal Summary Table (APP-524)
Initial Present value benefits	3,856	1,946	1,296
PV Costs	1,656	2,877	2700
Initial BCR	2.3	0.68	0.48
WEBs	1,677	1,657	1,517
Reliability	147	545	487
'Adjusted' BCR	3.4	1.44	1.22
Carbon by value £m	288	122	528

- 7.7.2 The initial outline appraisal of the proposed LTC in 2016 looked at several different alignments. The promoters claimed that the best of these would have initial benefits, mostly calculated from the value of estimated travel time savings for users and a BCR using established benefits of 2.3. After adding less established estimates for potential wider economic benefits and improvements in reliability, a BCR of 3.4 was presented, i.e. the benefits would be 3.4 times the costs.
- 7.7.3 Each subsequent recalculation found that this initial estimate was substantially overestimated.
- 7.7.4 In 2020 the initial BCR was 0.68, i.e. the travel time savings did not even cover the cost of construction and even after adding the less well established wider economic benefits and reliability, the estimated BCR was only 1.44. This calculation lasted less than two years.
- 7.7.5 By the time of DCO submission in 2022, the initial benefits were less than half the cost, and even after adding Wider Economic Benefits (WEBs) and reliability, the benefits are closer to the costs, at 1.22.
- 7.7.6 The estimates for wider economic benefits are in the Council's view, biased because they only include a number for 'benefits' and not the corresponding number for the additional costs of these wider effects.
- 7.7.7 This process of successive reductions in benefit has not been completed. Even on optimistic assumptions there is less estimated net benefit, and this is at risk because the current situation and prospects are less favourable to LTC than had been assumed in 2022, when the calculations were largely based on traffic data from 2016 to 2018, and did not take account of:
- Longer term impacts of Covid;
 - Revised official economic growth estimates following financial crisis and estimated effects of Brexit;

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- c. The 'high' carbon values advised by BEIS;
 - d. Potential effects of climate change on economic activity;
 - e. Potential impacts of declared Government policy on walking, cycling, public transport, vehicle occupancy, and land use planning to reduce road traffic;
 - f. Potential effects of changes in vehicle taxation which would reduce the growth in electric vehicle traffic; and
 - g. Any further increase in cost including the changes to the assumptions around inflation.
- 7.7.8 NH has not included any explicit modelled tests of the effects of any of these on the benefit cost calculations. They have shown some results simply for higher or lower traffic growth, and these show that lower traffic growth is associated with a worse benefit cost ratio and high traffic growth is associated with worse congestion.
- 7.7.9 Lower traffic growth could happen either as a result of worse economic conditions or as a result of policy to reduce traffic. Although both these outcomes have very different wider effects, they both reduce the calculated value of the scheme, in the one case with unfavourable ramifications and the other with favourable ones.
- 7.7.10 **SUMMARY: the estimated margin of benefit of LTC is now so low, that even modest changes in the assumptions would wipe out the net benefit entirely. This would mean that the scheme would cost more than the benefits it could produce and could not be justified in terms of value for money. The sensitivity tests provided do not cover sufficient scenarios to fully understand the impacts of possible policy and economic futures. The Council therefore contends that further sensitivity tests should be undertaken and published to understand the impacts of different futures for travel, technology and work habits. The Council suggests that some of the DfT's Common Analytical Scenarios should be used to undertake this. Further, a revision is required to NH's assumptions is required.**

Wider Economic Impacts

- 7.7.11 Wider Economic Benefits (WEBs) are a key element of LTC's economic case, comprising 46% of net scheme benefits (£1.52Bn/£3.29Bn) and 37% of all gross benefits (£1.52Bn/£4.10Bn) (Table 9.6, [APP-526](#)). It is only through the inclusion of Wider Economic Benefits that the BCR gets to 1.22. Without Wider Economic Benefits the BCR is only just over 0.48 BCR for only Level 1 benefits.
- 7.7.12 The Council considers that these WEBs are not robust nor robustly measured and considers the following issues need to be considered further:
- 7.7.13 The WEBs are largely so called 'static agglomeration' effects. These are nebulous concepts with high levels of uncertainty as to whether these benefits will actually occur and at what scale. The Government's own TAG Unit A2-1 states that the modelling of wider economic benefits is '*...complex and subject to a high degree of uncertainty*' (para 1.1.3(a)).
- 7.7.14 The reliance on WEBs (46% of total benefits) is, as far as the Council knows, without precedent. For example, the 2012 HS2 Business Case had wider economic benefits of 24% of net scheme benefits. On HS2 the wider economic benefits pushed the BCR from 1.9 to 2.5. The 2018 A303 Stonehenge Business Case had wider economic benefits of just 3% of net scheme benefits (based on Table 6-1 of the A303 Stonehenge ComMA. A copy of this table is provided in **Appendix A.4**). On both these schemes the Wider Economic Benefits just pushed the BCR further above a level of 1 and were not critical to the business case in the same way as they are for LTC. The Council

questions whether a new river crossing mainly dealing with traffic to and from Dover delivers the WEBs claimed. The Council considers local wider benefits will be negligible.

- 7.7.15 The needs case for WEBs (see 'Need for the Project' [APP-494](#)) is not persuasive. Physical connectivity between labour markets and individual businesses is becoming far less of an issue because of technological advances and behavioural changes; and, if physical connectivity is required across local labour markets, then there are alternative means to deliver it.
- 7.7.16 There is a lack of transparency on the derivation of the WEBs. The Council has asked for the assumptions used within the WITA economic analysis software to assess WEBs, but the information has not been provided by NH. There are some limited assumptions listed in Doc 7.7 Appendix D Economic Appraisal Report ([APP-526](#)), but a full explanation is not provided. Given the dependency of the business case on WEBs, the Council would have expected far more transparency and explanation.
- 7.7.17 From the assumptions and workings that have been provided by NH it is clear the WEBs are rooted in very historic evidence. There are two key variables in the NH approach that link changes in travel times/costs into productivity improvements – these being 'effective densities' and 'agglomeration elasticities'. It is clear from the NH evidence that these critical variables are based on research papers from 2009 or earlier (according to the references presented in *Quantifying Wider Economic Impacts of Agglomeration for Transport Appraisal: Existing Evidence and Future Direction* by DfT, 2018, the reference section of which is provided in **Appendix A.5**). **This means that the evidence used in the modelling of wider economic benefits is nearly 15 years old.** The labour market and the ways in which businesses collaborate has changed substantially over this period, not least due to COVID and technological advances. None of these behavioural changes, which essentially make more and more use of technology/virtual connections, and which are gathering pace every year are factored into NH's calculations.
- 7.7.18 The NH analysis shows that relatively few of the WEBs flow to Thurrock. The data presented indicates that Thurrock receives just 5% of the static agglomeration benefits (£77m over 60 years out of £1,374 million based on Table C.11 of Economic Appraisal Report ([APP-526](#))). Medway in Kent by comparison gets 23% of the total. The £77m over 60 years for Thurrock equals £1.3m per annum, just a tiny fraction (0.03%) of the size of the annual Thurrock economy.
- 7.7.19 **SUMMARY: the scheme BCR is highly reliant on WEBs, more so that the Council are aware of than any other transport scheme (including HS2). WEBs are a nebulous and uncertain concept and quantified using old world economic models. Behaviours have changed markedly, and the benefits are greatly exaggerated. If the labour markets/businesses either side of the River Thames need to become better connected then alternative mechanisms are available to provide this accessibility. Without the WEBs, the LTC BCR falls to well below 1.0. Irrespective, NHs calculations show that very few (5%) of the WEBs will flow to Thurrock. The Council's view is that the WEBs presented are an overestimate and misrepresent the case that would be considered acceptable if an independent assessment was undertaken.**

7.8 Review Of Transport Modelling Evidence Base

- 7.8.1 This sub section outlines the issues and weaknesses identified in the appraisal evidence base, particularly issues with the LTAM model, the data underpinning it, the traffic impacts of the scheme and the appraisal and disbenefits of the scheme. The Council has previously submitted further issues with the technical approach taken towards modelling. These are set out in Table 2 of *Thurrock Council – Preliminary Meeting Part 1 Supplementary Submission* ([PDC-007](#)). This Table details the Council's concerns that new and up-to-date data and guidance or assumptions regarding traffic modelling, scheme appraisal, air quality and climate have not been used by NH, to the detriment of understanding the impact of LTC.

LTAM as an Evidence Base – Overview

- 7.8.2 The Lower Thames Area Model (LTAM) has been developed and used by NH as the scheme promoter to understand the impacts of LTC on the Strategic Road Network (SRN) and Local Road Network (LRN) and to provide evidence that the scheme meets relevant planning policy tests and achieves its objectives.
- 7.8.3 The LTAM is a multi-modal strategic model. For each model year the model is used to forecast how travellers will change their behaviour as a result of highway and public transport interventions, changes in the levels of congestion, the cost of fuel and other external factors. The model forecasts the routes that drivers will take, given higher levels of traffic on the network in the future and their behavioural responses to the change in the time and cost of their planned trips. These forecasts are prepared using a road network, which does not include LTC (Do Minimum scenario) and a road network which includes LTC (Do Something scenario). Clearly, the model is only as good as the assumptions and technical information within it.
- 7.8.4 LTAM is a critical part of the assessment for LTC. Results from the model are used to predict future road conditions, future changes in strategic travel behaviour and directly underpin environmental assessments, such as noise, carbon and air quality, as well as the Combined Modelling and Appraisal Report ([APP-518](#)), which includes information for the economic justification for the scheme.

LTC Assessment is Based on Very Outdated Data

- 7.8.5 The LTAM base model was created in March 2016 to represent the transport system in the Lower Thames Area as it was then. Further updates were applied to the 2016 base model as part of the withdrawn DCO application from late-2020, including minor network alterations and a localised validation update.
- 7.8.6 The 2016 base year LTAM serves as the basis for developing the forecast year models (2030, 2037, 2045 and 2051) used to assess LTC benefits and to test the effects of the LTC operation and construction phases on the SRN and LRN.
- 7.8.7 Since the base year model was developed in 2016, there have been a number of changes that have significantly impacted the transport sector, including the UK's exit from the European Union, changes to the UK economy, the UK's Net Zero Strategy, the COVID-19 pandemic and rising fuel prices. These are significant events, which have led to marked changes in travel patterns and which will have an impact on model forecasts.
- 7.8.8 The LTAM is based on 2016 data, i.e. data that is seven years old, and this means that LTC assessment takes no account of current travel patterns. The LTAM is therefore in the Council's view, not a suitable basis for the assessment of a scheme of this scale, cost and national significance.
- 7.8.9 The use of 2016 data as the basis for LTC assessment is not in line with DfT guidance concerning the use of traffic data. The guidance clearly requires that scheme assessments should be based on up-to-date evidence. This is stated within several TAG (Transport Analysis Guidance) units, for example:
- a. DfT TAG for The Technical Project Manager, May 2018 states at paragraph 3.2.8 that *'each model should be assessed on the basis of: the structure of the overall model and its components; the age, quality and spatial coverage of the underlying data; and, the model's adherence to quality criteria for calibration and validation.'*
 - b. Also, at paragraph 3.5.1, this guidance states *'As part of producing an appropriate analytical tool, it is important that models are based on up-to-date evidence and are demonstrated to*

produce realistic results when tested. Without this assurance, results from a model may not be sufficiently robust to be used to adequately assess impacts of a potential intervention.'

- c. DfT guidance on Data Sources and Surveys, May 2020 says at paragraph 3.3.40 *'All data should be checked to identify and remove any that might have been affected by unusual events. Where data quality is suspect, the data should be investigated thoroughly and, if necessary, rejected.'*
 - d. DfT TAG Unit M2.2 Base Year Matrix Development, May 2020 describes the importance of establishing an appropriate base year model from which to forecast and reiterates in paragraph 2.1.3 that *'The base year demand matrix is a fundamental element of the transport models used for scheme appraisal'*.
- 7.8.10 The Council is therefore concerned that the traffic modelling of LTC is based on outdated data, which does not meet DfT guidance for assessing new transport schemes.
- 7.8.11 **SUMMARY: the current traffic model is underpinned by data which dates from 2016. With the scheme opening now delayed until 2032, this data predates the opening year by 16 years. It also predates the pandemic and other major events, which have resulted in changes to travel behaviour and reduced demand for travel and which will significantly affect the assessment of LTC presented in the submitted DCO. The Council contends that the traffic modelling supporting LTC does not represent an up to date or representative view of the current conditions and leads to the benefits of the scheme being overestimated.**

Inadequate Consideration of Uncertainty in Forecasting

- 7.8.12 TAG Unit M4 Forecasting and Uncertainty (May 2019 - this version was used in the DCO application and has now been superseded by a newer version) sets out the need for all known assumptions and uncertainties in the modelling and forecasting approach to be summarised in an uncertainty log. Paragraph 2.1.1 states that *'the uncertainty log will also be the basis for developing a set of alternative scenarios.'*
- 7.8.13 This guidance requires the development of the Core Scenario, which is intended to provide a sensible, consistent basis for decision making based on current evidence. To account for significant and often unquantifiable uncertainties associated with forecasting travel demand, the development of High and Low Growth Scenarios is also recommended. The High Growth scenario aims to consider whether under high demand assumptions the intervention is still effective in reducing congestion, or if there are any additional adverse effects, e.g. on safety or air quality. The Low Growth Scenario aims to confirm if the intervention is still economically viable with lower traffic flows.
- 7.8.14 This guidance, as it was in May 2019, was followed in the LTC assessment with the results presented in the DCO application.
- 7.8.15 Though the guidance on the use of the uncertainty log and application of High and Low Growth Scenarios has been retained and maintained in subsequent updates of TAG Unit M4 including the prevailing version (May 2023), in recent years DfT has prepared a comprehensive framework of Common Analytical Scenarios. These Common Analytical Scenarios are a set of seven consistent, 'off-the-shelf', cross-modal scenarios exploring national level uncertainties and they have been developed by DfT for use in forecasting and appraisal. They are the preferred substitutes for the High and Low Growth Scenarios used by NH and in the Council's view it is essential they are incorporated into the LTC assessment.
- 7.8.16 The development of a common set of appraisal scenarios by DfT was driven by the need to see a more robust and consistent treatment of uncertainty in the appraisal of major schemes such as LTC. The DfT's TAG Uncertainty Toolkit (May 2023, first published in May 2021) sets out

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scenarios for testing trajectories for economic and demographic growth, regional imbalances, behavioural and technological changes and decarbonisation, which capture the key uncertainties that face the transport sector in the coming decades.

- 7.8.17 DfT's TAG Uncertainty Toolkit states at paragraph 1.1 that *'There is considerable uncertainty about how the transport system will evolve in the future, particularly with the potential for emerging trends in behaviour, technology and decarbonisation to drive significant change over time. The use of transport models, a fundamental aspect of scheme appraisal, can also introduce uncertainty to transport analysis, through the data, assumptions and model specifications required. To ensure decision-making is resilient to future uncertainty, decision makers need to understand how the outcomes of spending and policy proposals may differ under varying assumptions about the future.'*
- 7.8.18 The DfT Uncertainty Toolkit sets out the four principles that underpin the guidance at paragraph 1.3, which are:
- 'The treatment of uncertainty is a core part of any transport analysis and is needed to inform robust decision making.'*
 - Analysis should not focus exclusively on a core scenario.*
 - Proportionate appraisal techniques for defining, measuring and accounting for uncertainty within decision making should be used.*
 - Uncertainty should be considered holistically across the strategic and economic cases and throughout the planning process.'*
- 7.8.19 DfT TAG Unit M.4 Forecasting and Uncertainty states in paragraph 5.1.1 that in addition to the High and Low Growth Scenarios and the Common Analytical Scenarios, other scenarios may be required to test the impacts of significant sources of local uncertainty and that these scenarios should also be subject to a full appraisal. Given significant changes, the level of uncertainty and in accordance with TAG guidance, the Council is of a view that a much more comprehensive framework for consideration of national and local uncertainty beyond just the implementation of Low and High Growth Scenarios should be followed by NH, with follow-up technical engagement and consultation with the public.
- 7.8.20 Over the last few years numerous requests have been made to NH to undertake sensitivity tests to test uncertainty in forecasting. **Table 7.3** summarises sensitivity tests requested by the Council, when they were requested and the inadequacy of the NH responses to date.

Table 7.3: Summary of Sensitivity Tests Requested by Thurrock Council

Sensitivity Test requested by Thurrock Council	When Requested	National Highways Response	When Sensitivity Test Completed and Results provided
Impact arising from Thames Freeport	Requested in DCOv1 model review report (November 2021)	None	Not completed
Local Plan Growth Scenarios (DCO application)	Requested in 'PART 2 Indicative Local Plan (ILP) Model Runs' report (29.06.21)	NH confirmed (30.11.21) that it was unlikely that they would be updating local plan runs using the latest version of the model available at the time (DCOV1).	Not completed
Impact of additional trips associated with London Resort	Requested in DCOv1 model review report (November 2021)		No longer relevant as the application for London Resort has been withdrawn.

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Sensitivity Test requested by Thurrock Council	When Requested	National Highways Response	When Sensitivity Test Completed and Results provided
Incident/ network resilience tests to demonstrate that the scheme meets its objective of improving network resilience	Requested in December 2021		Not completed
Future mobility - the LTC design is for a life span of some 100 years, yet there is no modelling for resilience to future change.	Thurrock Council requested NH to provide information regarding sensitivity testing of the scheme in terms of future mobility	National Highways confirmed they will not be carrying out any sensitivity testing.	Not completed

- 7.8.21 The assessment of LTC followed TAG Unit M4 Forecasting and Uncertainty, which was published in May 2019 and has now been superseded by a newer version. The demand sensitivity tests undertaken and presented in the DCO are for Low and High Growth Scenarios consisting of forecasts that are based on a proportion of base year demand subtracted (for Low Growth) or added (for High growth) to the demand from the Core Scenario as per the guidance in TAG Unit M4 Section 4.2.
- 7.8.22 The proportion of base year demand subtracted or added is based on a parameter 'p' which varies by mode. For highway demand, the value of 'p' required by the latest version of the guidance is 4%, which is up from 2.5% in the old guidance. The LTAM forecasts have been based on the old value of 2.5% and are therefore outdated. These forecasts are likely to overestimate the effectiveness of the scheme in meeting their strategic objectives in the High Growth Scenario and overestimate the scheme value for money in the Low Growth Scenario.
- 7.8.23 It is also important to recognise that modelling for business cases submitted to the DfT must include forecast scenarios assuming central growth in demand (such as the Core Scenario), which has controls on growth in travel demand associated with the NTEM dataset at an appropriate spatial area (usually local authority and district level).
- 7.8.24 The NTEM dataset is accessible via the TEMPro software (Trip End Model Presentation Program) and represents DfT's standard assumptions about growth in demand.
- 7.8.25 The DCO forecasts are based on the DfT's national traffic growth forecasts published in February 2017 (National Trip End Model, NTEM v7.2), which has now been superseded with NTEM v8.0. The latest version of NTEM v8.0 was released as the 'forthcoming change' in April 2022 and became a definitive version in December 2022.
- 7.8.26 There is a significant difference between the two sets of national forecasts. NTEM v7.2, which has been used in the LTC DCO application, forecasts a 27.3% growth in car trips between 2016 (LTAM base year) and 2045 (LTC design year) for Essex and 39.9% growth in car trips in Thurrock.
- 7.8.27 These forecasts have been substantially reduced in NTEM v8.0 to 17.6% for Essex and to 22% for Thurrock and are reflective of changes in national forecasts of population growth and employment. NTEM v8.0 is now definitive and given the significant changes (shown in **Table 7.4**) in national forecasts, the Council expects a sensitivity test based on NTEM v8.0 assumptions to be provided.

Table 7.4: Differences in Car Trip Growth between NTEM v7.2 and NTEM v8

Car Trip Growth between 2016 - 2045	Essex	Thurrock
NTEM v7.2	27.3%	39.9%
NTEM v8	17.6%	22.0%
Difference (NTEM v8 - NTEM v7.2)	-9.7%	-17.9%

- 7.8.28 Similarly, paragraph 1.1.7 of Appendix C Transport Forecasting Package of the Combined Modelling and Appraisal Report ([APP-522](#)) indicates that the percentage growth in LGV and HGV growth factors for LGV and HGV traffic have been determined from DfT's National Transport Model (NTM) Road Traffic Forecasts 2018 (RTF18) and these are applied to the base year LGV and HGV trips. These forecasts are now outdated and have been superseded by National Road Traffic Projections (NRTP2022).
- 7.8.29 This evidence confirms that the LTC assessment has not properly taken account of the latest national travel demand forecasts, key areas of forecasting uncertainty, including UK's exit from the European Union, the COVID-19 pandemic, rising fuel prices, changes to the UK economy and the UK's Net Zero Strategy, as well as likely alternative land use changes or consideration of incident planning. As a result, all the environmental and economic assessment work is based on out-of-date assumptions, preventing a realistic picture of benefits and disbenefits of LTC to be considered, including noise, air quality, carbon, etc., as well as implications for the justification of the scheme.
- 7.8.30 Many of these requests for updated data, guidance and methodological assumptions were presented to the ExA in the Council ([PDC-007](#)) Supplementary Submission in Table 2 on 9 June 2023.
- 7.8.31 **SUMMARY: inadequate sensitivity testing has been undertaken as part of the scheme appraisal. This is inconsistent with the latest Uncertainty Toolkit approach from DfT published in 2021. The new DfT Common Analytical Scenarios and NTEM8 (both published 2022) have not been incorporated. Additionally, the emerging Local Plan for Thurrock has not been included in any test so far presented by NH and the scheme is likely to reduce the available capacity of the local road network to accommodate the emerging Local Plan. The Council therefore contends that the modelling is outdated and inconsistent with guidance published around uncertainty.**

8 Consideration of Alternatives

8.1 Introduction

- 8.1.1 This section considers potential alternatives to the LTC scheme and provides further information to support Principal Issue VI of the Relevant Representation from the Council ([PDA-009](#)) and the issues raised in the 'Initial Assessment of Principal Issues' presented in the Rule 6 Letter ([PD-013](#)), particularly Item 3 'Consideration of alternatives'.

Table 8.1: Summary of Key Issues

Summary of Key Issues
<ul style="list-style-type: none"> ▪ The 'high' and 'low' traffic forecast scenarios used by NH do not follow DfT's guidance concerning the use of Common Analytical Scenarios and do not reflect the wide range of possible future scenarios for the operation of LTC, impacting the selection of options and ruling out of alternatives. ▪ The traffic forecasts used by NH do not reflect the likely impacts of the delivery of Government policies including decarbonisation, active travel and public transport. ▪ The design of LTC provides limited access to development sites and national port facilities in Thurrock. This would be remedied by the inclusion of Tilbury Link Road and changes to the operation of Orsett Cock junction, as part of the LTC scheme. ▪ The option selection for LTC is based on an initial decision made in 2009. This was reviewed and confirmed by NH in 2017, but despite requests, the underpinning analysis has not been made available to the Council. Since the initial decision there have been many substantial changes to transport patterns and the wider economy which have not been considered as part of the decision-making process. Analysis by the Council shows that there are several potential public transport based options, which would meet NH's objectives for LTC. There are also several alternative options for elements of LTC, e.g. including Tilbury Link Road (TLR), which would better meet the objectives for LTC. The Council considers that these options should be considered by NH. ▪ The provision of facilities to enable public transport services to access LTC is poor leading to circuitous routes and increased journey times. The Council considers that the design of LTC should be refined to enable better facilities to be provided, e.g. at the Tilbury operational and emergency access. ▪ The Council is concerned that NH has not considered how or where electric and hydrogen powered vehicles will be able to charge on the 22 kms new section of the network in the context of the ban on new diesel and petrol vehicles in 2030. ▪ The Council considers that the potential impacts of providing a variable demand management charging regime should be considered to maximise the benefits of providing LTC. ▪ The Council considers that alternative routing strategies should be considered to increase the effective capacity of Dartford Crossing.

8.2 Policy Context

- 8.2.1 The Council have significant concerns that alternative solutions to LTC were not considered that could greatly reduce the negative impacts of LTC on the residents of Thurrock. LTC uses approximately 10% of the available land in Thurrock and will sever the more heavily populated sites in the south and west from key employment opportunities in the east, such as DP World London Gateway (DPWLG).
- 8.2.2 The NPSNN (NPS) has specific guidance on how to approach the assessment of alternatives in paragraphs 4.26 and 4.27:

'Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:

- a. *The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and the main reasons for the applicant's choice, taking into account the environmental effects.*

All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options (in light of paragraphs 3.23 to 3.27 of this NPS). Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other appropriate policies or investment plan, option testing need not be considered by the examining authority or decision maker. For national road and rail schemes proportionate option consideration of alternatives will have been undertaken as part of the investment decision making process. It is not necessary for the Examining Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken.'

- 8.2.3 In addition, it should also be noted that paragraphs 4.17 – 4.19 of the draft NPSNN (2023) are also of relevance here. In relation to this, the Council considers that the judgements made on the A303 Stonehenge is helpful in demonstrating that the ExA is obliged to give consideration to such alternatives as are advanced by 'interested parties' to the Examination, such as the Council. Therefore, the Council considers that in order for the ExA to consider and assess the relative merits of alternatives as part of the Examination, it must:
- a. Demonstrate what the alternative proposals are in a clear and choate manner;
 - b. Show their merits relative to the scheme as promoted by the applicant; and,
 - c. Advance a case to the effect that consideration of the alternatives is justified as an 'exceptional circumstance'.
- 8.2.4 The Council considers that the alternatives put forward below within Section 8 of this LIR fulfil those three conditions above have been satisfied.
- 8.2.5 In order to gain consent, it is important that alternative options are fully considered alongside a clear rationale of the reasons for option selection. The Council does not believe that NH has fully considered alternative options that would greatly reduce the negative impacts on Thurrock and better align with the Council's long-term ambitions to support sustainable travel and economic growth.
- 8.2.6 These concerns have already been raised with NH as outlined in Section 2.1 of the Statement of Common Ground between National Highways and Thurrock Council ([APP-130](#)).
- 8.2.7 It is important to note that the alternatives described in this section are considered significant and they should be assessed fully and effectively during the Examination, regardless of whether such changes would require a new DCO application, for the reasons set out in Section 8.2.3 above.
- 8.2.8 **SUMMARY: the Council considers that the analysis of alternatives provided by NH does not meet the requirements of the NPSNN and therefore the submitted analysis is not valid and needs updating along with further work.**

8.3 Alternative Traffic Growth Trajectories

- 8.3.1 The appraisal of LTC has relied on a 'core' set of traffic forecasts, which have been used to determine the provision of additional road capacity. As described in Section 7, 'high' and 'low' traffic growth scenarios are presented by NH to test the robustness of LTC to different traffic conditions.

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8.3.2 The following analysis shows that the range of the ‘high’ and ‘low’ traffic forecasts used by NH is narrower than the range recommended for use by DfT and they do not reflect the expected range of alternative future travel conditions which could be reasonably expected in and around LTC and this means negative impacts on Thurrock will not be accurately represented and that alternative solutions may have been ruled out incorrectly that could otherwise solve the problems that LTC is seeking to address.

High and Low Calculations of Traffic Growth

8.3.3 The main approach used in the Combined Modelling and Appraisal (ComMA) Report ([APP-518](#)) to allow for variations in traffic growth is to provide two alternative traffic growth scenarios: ‘Low’ and ‘High’ and these are described rather briefly in Section 6.6 of the ComMA ([APP-518](#)).

8.3.4 These traffic forecasts are generated by a formula of symmetrically increasing or reducing traffic by a notional ‘p’ factor of 2.5% per year from the ‘core’ forecasts. This formula includes a ‘damping’ effect by taking the square root of the number of years between the initial year and the forecast year. The following example helps explain this process.

- a. Suppose there is a base traffic forecast for 100 vehicles per hour for a year, which is 25 years in the future;
- b. The high traffic forecast would be given by $100 + (0.25)(\sqrt{25})$, i.e. 107.5 vehicles or an increase of 7.5%;
- c. Similarly, the low traffic would be $100 - 0.25/(\sqrt{25})$, i.e. 92.5 vehicles or a decrease of 7.5%; and,
- d. This means the ‘high’ test would be 16% higher than the low test ($107.9/92.5=1.16$).

8.3.5 Tables 6.10 and 6.11 in ComMA ([APP-518](#)) give the low and high tests respectively for the Dartford Crossing with and without LTC. These show that the high and low traffic forecasts for the forecast year of 2040 are on average +/- 7% of the base forecast.

8.3.6 The Council notes that no results are given for how this corresponds with the total traffic mileage in the modelled network as a whole, e.g. no mileage data is provided for sample years over the 60 year appraisal period. These results are required to undertake a comparison of the traffic flows and the various measures of benefit used to calculate the BCRs and without this data it is not possible to interpret the results.

8.3.7 Table 7.13 of ComMA ([APP-518](#)) shows the effect that the high and low growth forecasts, defined in this way, have on the overall value for money. This table is presented below in **Figure 8.1** for ease of reference.

Table 7.13 Total monetised benefits (£million, 2010 prices and values)

Benefit	Low growth	Core growth	High growth
Transport user benefits	1,749.7	1,971.9	2,240.1
Construction and maintenance delays	-140.8	-140.8	-140.8
Indirect tax revenues	50.1	43.5	34.2
Accidents	-67.8	-67.8	-67.8
Environmental impacts	-532.1	-532.1	-532.1
Physical activity	21.2	21.2	21.2
Sub-total	1,080.2	1,295.9	1,554.8
Wider economic impacts	1,470.2	1,516.6	1,529.7
Journey time reliability	487.1	487.1	487.1
Total	3,037.4	3,299.5	3,571.5

Figure 8.1: Extract of Total Monetised Benefits

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- 8.3.8 The stated high and low growth BCRs are roundly +/-11% of the results for the core growth scenario. The high growth benefits are over 40% higher than the low growth benefits and the BCRs are 25% higher, all due to traffic flows which, over the whole appraisal period, are expected to be approximately 14% higher in the high forecast than the low forecast.
- 8.3.9 This analysis of the BCR results and the other information presented in this table highlights five technical matters of significant concern, as they have material impacts on the case for LTC presented by NH:
- a. The calculated BCRs are very sensitive to the forecast traffic growth: a small change in the forecast traffic has a larger effect on the BCRs.
 - b. The method of using the square root damping factor does not follow the guidance as suggested by DfT in TAG Unit M4. This document (para 4.2.3) recommends that for highway demand forecast the 'p' factor should be 4% per year - not the 2.5% per year used by NH. It is not clear why NH have decided to use a value of 2.5%. If NH had adopted 4%, the difference between high and low traffic forecasts would be greater and the 'low' growth BCR forecast would have been closer to 1.0 and likely lower than 1.0, even with the full incorporation of the Wider Economic Benefits.
 - c. Environmental impacts (including carbon), accidents, 'physical activity', i.e. the amount of walking and cycling, are all assumed to be constant across the whole range of traffic forecasts. This is implausible and inappropriate.
 - d. Journey time reliability benefits are also assumed to be constant across the whole range of traffic forecasts. Again, this is implausible.
 - e. Wider economic impacts are barely affected by changes in traffic flows (and they are in any case subject to other difficulties discussed in Section 7.5). Again, this is unlikely to be a realistic outcome of LTC.
- 8.3.10 The Council considers that the use of these assumptions is likely to substantially underestimate the difference in BCR between the different scenarios.

Requirement to use DfT's Common Analytical Scenarios (CAS)

- 8.3.11 NH claims that *'The range in the number of trips produced by applying this adjustment factor covers most of the outcome scenarios explicitly modelled in the National Transport Model'* (para 6.6.4, APP-518)
- 8.3.12 NH claims, in effect, that the Low and High Growth scenarios give a spread corresponding to the DfT's more explicit modelling of alternatives as defined in their Common Analytical Scenarios. These Common Analytical Scenarios include different possible futures of economic growth, population, the consequences of special features like Brexit, Covid, uptake of electric vehicles and financial pressures and their consequences on home working, trip length, etc.
- 8.3.13 However, analysis of the scenarios used by NH shows that they do not meet DfT's requirements and that the range of scenarios used by NH is narrower than the range suggested using DfT's Common Analytical Scenarios. This is shown in **Figure 8.2** below.

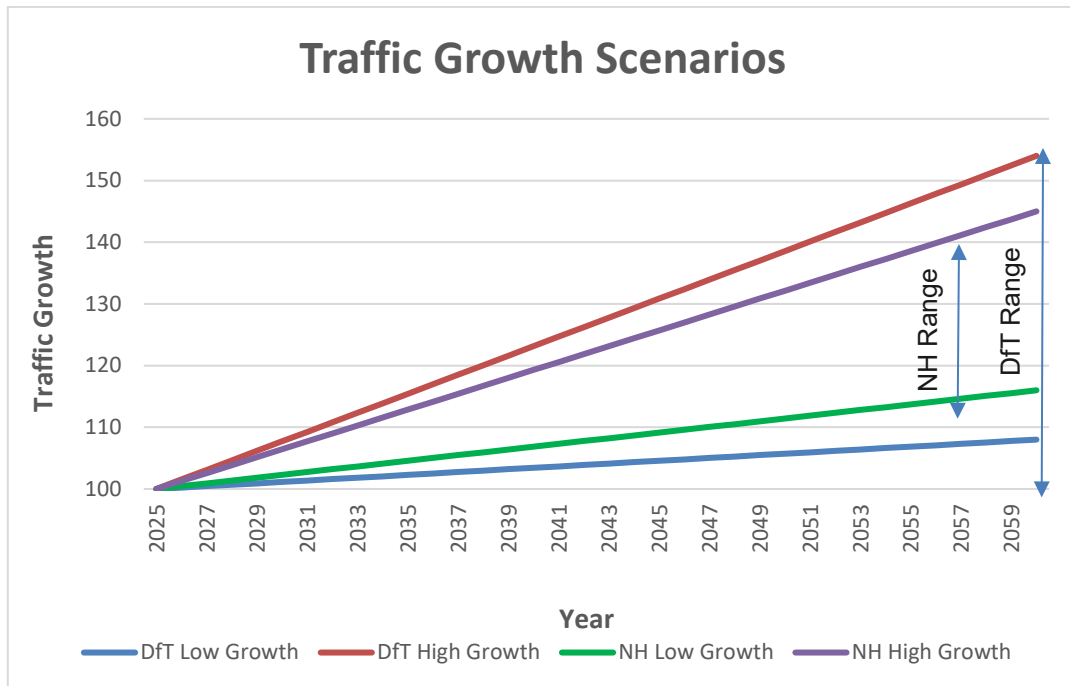


Figure 8.2: Traffic Growth Scenarios

- 8.3.14 The narrowness of the traffic forecasts used by NH is demonstrated by the traffic flows presented in Table 7.1 of the Transport Assessment ([APP-529](#)). This data shows that for the southbound direction of A122 (LTC) between the A2 and the A13, the 'core' AM peak forecast is 3,470 pcus per hour and the 'high' forecast is 3,500 pcus per hour, i.e. a difference of only 30 pcus per hour or less than 1%.
- 8.3.15 This analysis shows that the NH range of traffic forecasts does not reflect DfT forecasts, and the NH forecasts therefore cannot be taken as a measure of the likely range of outcomes. This is a very significant weakness in the assessment of LTC.
- 8.3.16 The Council notes that neither the DfT Common Analytical Scenarios, nor the NH adjustment with a 2.5% factor, takes into account carbon and climate effects. The CAS do not include estimates of the effects on traffic growth of the successful application of the policies in the DfT Decarbonisation Strategy, which would be consistent with carbon targets and arguably involve reductions in traffic of the order of 10% to 20%.
- 8.3.17 Nor are the CAS consistent with likely road and traffic conditions if policies to limit global warming fail with consequential disruption of economic geography and social life.
- 8.3.18 Thus, the range of traffic conditions considered in the appraisal does not include either the conditions which would apply in the case of success nor in the failure of climate policies.
- 8.3.19 The resultant calculations of the impacts of different forecast levels of traffic suffer from assumptions that traffic levels have no effect on carbon and other environmental impacts, accidents, the amount of walking and cycling, journey time reliability, and nearly all elements of Wider Economic Benefits. This means that the impacts of the assumed levels of traffic in the economic appraisal are underestimated.
- 8.3.20 **SUMMARY: the 'high' and 'low' traffic forecast scenarios used by NH do not follow DfT's guidance concerning the use of Common Analytical Scenarios and do not reflect the wide**

range of possible future scenarios for the operation of LTC, impacting the selection of options and ruling out of alternatives.

8.4 Absence of Traffic Modelling for Future Change

- 8.4.1 In Section 8.3 above, the Council presented challenges with the NH approach to traffic modelling and how NH deals with future changes by using a broad-brush consideration of higher and lower traffic forecasts to assess scheme outcomes and value for money.
- 8.4.2 However, in practice future traffic levels could change for all sorts of different reasons, each of which would have a different significance for the appraisal of the project and could lead to LTC being overengineered, taking more land than is necessary within Thurrock or possibly under-engineered and more land-take could be required in the future leading to further negative impacts on residents and the environment.
- 8.4.3 For example, traffic levels which were lower due to lower economic growth would be connected with a change in both pressures on incomes if people were poorer and pressures on the amount of time availability if people had to work longer hours. This would affect people with higher or lower incomes, and with more or less constrained time, in different ways, both tending to reduce the quality of life.
- 8.4.4 However, if traffic growth were lower due to the successful implementation of decarbonising strategies involving better local facilities, more walking and cycling, better internet connectivity, reallocation of some road capacity to improvements in the social realm, and a calmer, more leisurely lifestyle, then this could be associated with an improvement in the quality of life.
- 8.4.5 Another example would be that the interaction of vehicles on a road network, using the relationships and method of traffic science, would be quite different in the context of different traffic management systems, road, and pavement design, signalling and regulation, or different vehicle operating characteristics and degrees of autonomy, which would have different effects on traffic safety, speeds, fuel consumption, and choice of destinations and times of day of travel.
- 8.4.6 Each of these future scenarios would have different effects on the types, modes, times of day and location of travel, that would not be captured simply by using catch-all 'higher' and 'lower' traffic forecasts.
- 8.4.7 The range of possible future scenarios under which the LTC could operate means that the Council expects to see a greater range of traffic modelling sensitivity tests, including those using the DfT Common Analytical scenarios. This would allow the Council and NH to better understand the scheme's value for money and its impacts in a wide range of futures and ensure it is fit for purpose.
- 8.4.8 **SUMMARY: the traffic forecasts used by NH do not reflect the likely impacts of the delivery of Government policies, including decarbonisation, active travel and public transport.**

8.5 Limited Connectivity to Facilitate Sustainable Development

- 8.5.1 The proposed design of LTC provides limited opportunities for traffic to access development sites and national port facilities in Thurrock. Previous designs of LTC included provision of and access to Tilbury Link Road. However, this was removed by NH in 2017. This means the only access to development sites in Thurrock is via the Orsett Cock junction, a local Council road. In practice, this junction is expected to be congested in peak periods and this issue is described in more detail in Section 9.

- 8.5.2 **SUMMARY: the design of LTC provides limited access to development sites and national port facilities in Thurrock. This would be remedied by the inclusion of Tilbury Link Road and changes to the operation of Orsett Cock junction as part of the LTC scheme.**

8.6 Inadequate Provision of Active, Public Transport and Local Road Bridges

- 8.6.1 The Council has examined how the design of LTC has evolved and the following comments reflect the issues raised in the Rule 6 letter ([PD-103](#)).

Consideration of Planning Timescales, Social and Economic Changes

- 8.6.2 As described in detail in **Appendix B, Annex 1 B.1**, options for LTC were originally developed in 1994, with a more extensive assessment exercise carried out in 2009. The scheme was further refined in 2013 with a public consultation undertaken in 2016 and a preferred route announcement in 2017.
- 8.6.3 Each of these stages of option development and selection built upon previous work with a number of key decisions made in 2009 that ruled out different mode solutions, e.g. the use of public transport. This means that the decision to proceed with LTC has not reflected key infrastructure and social and economic changes to the local area and across the UK which have occurred since 2009. The following important changes have been made locally:
- a. Arrangements at the existing Dartford River Crossing have changed with the removal of toll booths and an increase in toll price;
 - b. Kent Fastrack has been successfully extended (showing a latent demand for public transport in the region); and,
 - c. DP World/London Gateway has developed into a major employment hub and the Thames Freeport has been announced as one of eight new freeports.
- 8.6.4 In the surrounding region, new crossings have been delivered towards central London via rail (the Elizabeth line) and road (Silvertown tunnel is under construction with dedicated HGV and bus lanes), while the Thames Estuary Growth Commission has been established with a vision for improved connections within cities, towns and villages across the region.
- 8.6.5 At a national level, there have been substantial changes to the economy since 2009 with the aftermath of the 2008 Global Financial Crisis, the on-going uncertainty of the impact from UK's withdrawal from the European Union and the Covid-19 Pandemic. The rise of homeworking (particularly following lockdown restrictions) means that working and commuting patterns have changed significantly.
- 8.6.6 These changes all need to be considered as part of any confirmation that the decision to proceed with LTC as a road in 2009 is still valid in 2023, or in 2024 when a DCO decision can be made, or indeed in 2026 when construction is currently programmed to commence.

Consideration of Alternatives to The Road

- 8.6.7 Public transport options were ruled out as a solution to the identified issues in 2009. The Council has concerns over this decision given the scale of impact LTC has on residents, associated land take and negative environmental impacts of the proposed highways solution and does not believe, based on the evidence made available, that NH have met their requirements under the NPSNN (paragraphs 4.26 and 4.27)) to consider alternative modes. A public transport alternative would greatly reduce the negative environmental impacts of LTC on Thurrock and would support the Council's long-term ambitions to support sustainable travel.

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- 8.6.8 The decision to rule out a rail solution was based on low numbers of travellers between stations in north Kent and south Essex. However, this did not consider that these movements require a minimum of one interchange in London (often two) and as such have very long travel times. There are also concerns (raised by Medway in 2009, as shown in in **Appendix B, Annex 1 B.1**) that the ruling out of public transport alternatives did not sufficiently account for key growth sites and planned infrastructure investments to develop a freight route from East Anglia to the West Coast Main Line.
- 8.6.9 Census journey-to-work data from 2011 shows that over 1,100 residents in Thurrock commuted to Kent daily, while over 2,300 residents of Kent commuted to Thurrock. The majority of these commuters travelled by car (90.7%) with very few using public transport (4.3%). This reflects the very poor public transport connectivity between Thurrock and Kent with just a single bus service (X80) using the Dartford Crossing and rail connections requiring an interchange in London.
- 8.6.10 Where there are better public transport connections more commuters use public transport. For example, Thurrock has excellent public transport connections to London and 40% of commuters use public transport. Connections between Thurrock and the rest of Essex are relatively poor but are significantly better than connections between Thurrock and Kent. This this leads to a 7.2% mode share for public transport, a 67% increase on the public transport mode share between Thurrock and Kent. This shows that residents either side of the River Thames have an appetite for public transport where there are better connections.
- 8.6.11 NH has stated in Section 6.1 of the Post Consultation Scheme Assessment Report (shown in full in **Appendix B, Annex 1 B.1.56**) that additional analysis in 2017 showed that no public transport options could relieve 75% of the identified problem (defined as congestion at the Dartford Crossing) for the first 15 years, which they stated as being the removal of 34,000 cars and 8,000 HGVs in 2025. This analysis has been requested, but NH has not made it available for review.
- 8.6.12 Without this analysis it is not possible to determine the robustness of NH's conclusions. However, the Council notes that given Tables 8.50 and 8.52 in the Transport Forecasting Package ([APP-522](#)) shows that LTC only removes 613 vehicles from Dartford Crossing in the AM peak and 2022 vehicles in the PM peak in 2045, it is hard to see how the scheme itself meets this requirement. If it does, then it is likely that a public transport option could offer equivalent reductions on Dartford Crossing.
- 8.6.13 The Council has undertaken its own analysis of the potential ability of public transport options to meet LTC's scheme objectives and this is presented in **Appendix B, Annex 1 B.2**. A summary table from **Appendix B, Annex 1 B.2** is shown as **Table 8.2** below, showing how public transport options could meet LTC's stated objectives for the scheme as standalone schemes or as part of LTC. This includes options using the proposed Tilbury Link Road (TLR) discussed later in this section.

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Table 8.2: Assessment of Alternative Schemes

ID	Option	Dartford Crossing congestion relief	Resilience	Safety	Environmental Impacts	Sustainable Growth	Affordability	Value for Money	Total
0	Lower Thames Crossing	3	3	1	3	3	1	2	16
Bus-Based Options									
1.1	Extend X80 Bus Service	1	1	3	4	3	5	4	21
1.2	Extend Kent Fastrack	1	1	4	4	3	4	4	21
1.4	BRT Tunnel	2	2	4	4	4	1	1	18
1.5a	Bus loop (using Ferry)	2	1	4	4	4	3	5	23
1.5b	Bus loop (using LTC)	4	3	2	4	5	1	4	23
Ferry Options									
2.1	Uber Boats	1	1	3	4	3	5	3	20
2.2	Enhanced river boat service	1	2	3	4	4	3	3	20
Multi-Modal Options									
3.1	Ferry/Bus modal integration	1	1	3	4	3	5	4	21
Rail-Based Options									
4.1	KenEx Tram	3	1	4	4	5	1	2	20
4.2	Light Rail/Tram-train Service	3	1	4	4	4	1	2	19
4.3	Railway station infill	3	1	4	4	2	1	2	17
4.4	Crossrail extension	2	1	3	4	5	1	2	18
LTC Additional Options									
5.1	Rail/Tram on LTC	4	3	1	4	5	1	1	19
5.2	Bus access on LTC	4	3	1	4	4	1	2	19
5.3	Bus lanes on LTC	2	2	2	4	3	1	1	15
5.4	Additional bus services on LTC	3	3	1	3	2	1	2	15
Future Technologies									
6.1	DRT/Autonomous vehicles	1	1	3	3	4	2	2	16
Demand Management									
7.1	Increased Tolls	3	1	4	4	1	3	3	19
Packages									
8.1	Bus loop (using Ferry) with increased toll	3	1	4	4	4	3	4	23
8.2	Bus loop (using LTC) with increased toll	5	3	2	3	5	1	3	22

8.6.14 The analysis presented in **Appendix B, Annex 1 B.2** shows that there is a range of alternative options which would meet the objectives defined for LTC in a more affordable way.

Consideration of Alternative Proposals for The Road

8.6.15 Based on the information presented at DCO and during previous consultations, the Council considers that the choice of preferred route alignment may well be appropriate. However, the Council has identified a number of issues that are relevant for the appraisal of the current LTC scheme:

- Scheme costs in 2013 seem very optimistic, especially for a tunnelled solution with the cost of a tunnel only 6% more than a bridge;
- In 2013 Option C (one of the corridors identified in 2009 in which the preferred option sits) scored worst against environmental impacts, however, all options were expected to have negative environmental impacts; and,
- In 2013 Option C scored worst against safety, however, all options are expected to have negative safety impacts through the increase in traffic over the River Thames.

Consideration of Alternative Proposals for Broader Infrastructure Design

8.6.16 The design of LTC includes many of the features of 'Smart' motorways, e.g. lane controls. The Council notes that the delivery of new 'Smart' motorways has been halted by DfT on 15 April 2023 and is concerned that the LTC scheme is being designed to similar 'Smart' motorway principles.

The Council would welcome advice from NH to confirm why they consider that LTC is not a 'Smart' motorway and what design changes would be required to convert the scheme to motorway standard.

Consideration of Alternative Mitigation Measures

- 8.6.17 As shown in Sections 2.1.66, 2.1.68, 2.1.84 and 2.1.85 of the Statement of Common Ground ([APP-130](#)), the Council has repeatedly raised concerns that the scheme's design will lead to significant adverse impacts for the residents of Thurrock by increasing delays on the local road network, constraining the development of key sites such as the Thames Freeport, increasing severance, worsening noise and air quality emissions and worsening safety.
- 8.6.18 The Council considers that alternative local junction arrangements and the provision of the Tilbury Link Road should be integral to LTC's design to alleviate these problems and to optimise the scheme's performance.
- 8.6.19 At the 2016 Public Consultation a much smaller, less complex junction was shown between LTC, the A13 and the A1089. NH also stated that the Tilbury Link Road (TLR) would be further examined during scheme design refinement. However, by the time of the preferred route announcement in 2017, a much larger, more complex junction had been selected by NH and the TLR and a junction at Tilbury were ruled out as forming part of the scheme design. The Council believes these decisions are not appropriate nor supported by evidence.
- 8.6.20 NH has stated that '*the Tilbury Link Road would not contribute to the Scheme Objectives of relieving the congested Dartford Crossing and approach roads*' and therefore the design for the access to LTC at Tilbury is just for emergency and operational service vehicles. However, transport models provided by NH to the Council to test alternative arrangements at this location show that the inclusion of Tilbury Link Road reduces two-way traffic over the existing Dartford Crossing, contradicting NH's assertion. Further details on these model results is provided in **Appendix B.3, Annex 2** below.
- 8.6.21 NH's operational modelling of the proposed LTC/A13/A1089 junction shows extensive queuing and delays and the Council has proposed alternative junction arrangements that include the provision of the TLR to avoid the need for all movements to be catered for at the A13/A1089/LTC junction. This is considered further in Section 9.
- 8.6.22 All of the options proposed by the Council show improvements compared with the design proposed by NH in terms of journey times for key strategic routes, together with much improved performance on the local road network (modelling results are presented in full in **Appendix B.3, Annex 2**).
- 8.6.23 The Council has undertaken an assessment of key alternatives to LTC, including options that include mitigation for local impacts and public transport. A summary is provided in **Table 8.3** below and further details are presented in **Appendix B, Annex 1 B.4**.

Table 8.3: Assessment of Alternatives to LTC

Objective	LTC	Public Transport Alternative	LTC with Public Transport	LTC with TLR	LTC with TLR and alterations at Orsett Cock	LTC with Public Transport and TLR
To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity	=	-	+	+	+	+
To improve the resilience of the Thames crossings and the major road network	=	-	=	=	=	=
To improve safety	=	+	+	=	=	+
To minimise adverse impacts on health and the environment	=	+	+	=	=	=
To support sustainable local development and regional economic growth in the medium to long term	=	+	+	+	+	+
To be affordable to government and users	=	+	=	=	=	=
To achieve value for money	=	+	=	+	+	+
= Likely similar performance to proposed LTC - Likely worse performance than proposed LTC + Likely better performance than proposed LTC						

8.6.24 This analysis shows that there are several alternatives to LTC which would improve the performance of the scheme and / or reduce its impacts.

8.6.25 **SUMMARY: the option selection for LTC is based on an initial decision made in 2009. This was reviewed and confirmed by NH in 2017, but despite requests, the underpinning analysis has not been made available to the Council. Since the initial decision there have been many substantial changes to transport patterns and the wider economy which have not been considered as part of the decision-making process. Analysis by the Council shows that there are several potential public transport based options which would meet NH's objectives for LTC. There are also several alternative options for LTC, e.g. including TLR, which would better meet the objectives for LTC. The Council considers that these options should be considered by NH.**

8.7 Lack of Provision for Public Transport or Priorities Through Tunnel

8.7.1 As described in SoCG item 2.1.67 of the SoCG ([APP-130](#)) the Council is concerned that current design for LTC provides poor integration with public transport to the north of the River Thames, limiting the Council's long-term ambitions to support increased sustainable transport and reducing car based travel.

8.7.2 Most of the population of Thurrock is concentrated in Grays and Tilbury, however, public transport wishing to travel south of the river using LTC would be required to use the proposed junction with the A13 and A1089 at Orsett Cock to the north before heading south over LTC. This additional northern leg of the journey adds travel time and makes public transport less appealing.

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- 8.7.3 The Council has investigated potential Mass Rapid Transit (MRT) solutions that could integrate with LTC, the proposed South Essex Rapid Transit (SERT) scheme and the existing public transport services south of the River Thames (Kent Fastrack). This work is summarised in **Appendix B, Annex 1 B.2.**
- 8.7.4 This work has identified a bus-based loop combining the X80 bus service, Kent Fastrack and a new service through Grays, Tilbury and over LTC as a strongly performing option. This public transport option would be further enhanced given the potential integration with SERT to support public transport movements through south Essex. This public transport scheme would support the overall scheme objectives of LTC to reduce congestion and reduce environmental impacts as shown in **Appendix B, Annex 1 B.4.**
- 8.7.5 With the delivery of the current proposals for LTC, any bus service would need to double back on itself either looping out towards Stanford-le-Hope or heading north from Tilbury to access LTC. This would add to the journey time and limit the commercial and user attractiveness of the service. An improvement to the design of LTC would be to provide access at the Tilbury operational and emergency access for buses, either through widening the proposed turning radii and slip road lengths and providing bus only access or through the provision of a new junction (and potentially TLR).
- 8.7.6 **SUMMARY: the provision of facilities to enable public transport services to access LTC is poor leading to circuitous routes and increased journey times, impacting on the commercial and user attractiveness of such a service. The Council considers that the design of LTC should be refined to enable better facilities to be provided, e.g. at the Tilbury operational and emergency access.**

8.8 No Support for Rapid Vehicle Electrification

- 8.8.1 No provision is made for the measures needed to support rapid electrification of the vehicle fleet, such as provision for electrical distribution and charging facilities, as set out as being critical for the decarbonisation of the surface transport sector in Decarbonising Transport (July 2021) and the Carbon Budget Delivery Plan (March 2023), especially with the government commitment to ban sales of new petrol and diesel vehicles in 2030, increasing the need for charging facilities.
- 8.8.2 The emerging draft NPSNN (2023) makes the following references of relevance to this issue:

'3.14 As we place more demands on the network through increases in the volume of traffic and greater expectations on its performance in underpinning efficient supply chains, our reliance on the technology that supports its smooth operation has increased. The ability of our network to accommodate and support advances in technology is ever more critical. Delivering the infrastructure needed to support innovation, including facilitating greater digital connectivity and supplying the energy needed to support the evolution of vehicle technologies using the network, is key to ensure our networks remain resilient both now and in the future. The resilience of the technology itself, its maintenance and upgrade, and its continuity of service is essential, particularly as the connected and autonomous vehicles place new demands on real time information.'

'3.15 Resilience in networks, therefore, also includes accommodating changes in technology, including the infrastructure needed to support the use of alternative fuels, and digital connectivity will also require our national networks to evolve and adapt in order to utilise the benefits that technology can bring.'

- 8.8.3 The emerging draft NPSNN sets the context for LTC. It is relevant as an update to the NPSNN. NH should demonstrate how LTC will deliver the infrastructure needed to support the new electric vehicles using the network. This is vital in ensuring the Strategic Road Network remains resilient.

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- 8.8.4 The Council is concerned that NH has not considered how or where electric and hydrogen powered vehicles will be able to charge on the 22 kms new section of the network, potentially forcing traffic off the SRN into Thurrock seeking charging facilities, further worsening the significant adverse impacts of LTC on the local network.
- 8.8.5 A service station was originally deemed necessary by NH at East Tilbury, close to the more recently added, 'so-called' emergency and operational access. Access to this service station at Tilbury was originally considered important by NH, but then removed partially due to the request of the Council, who were concerned about the potential impacts of anti-social behaviour.
- 8.8.6 NH then recently re-provided a junction at Tilbury, but this time for just for emergency and operational access. However, NH has designed this to be in a location where the on/off slips are not possible to be adapted at a later stage to enable the incorporation of a full junction at Tilbury. For example, the northbound exit lane length is restricted due to its proximity to the tunnel portal and would therefore not meet DRMB design standards.
- 8.8.7 The Council has repeatedly attempted to engage NH on the matter of Electric Vehicles and alternative fuel recharging. NH's LTC team has consistently refused to engage on this matter simply stating that it is outside of their scope.
- 8.8.8 There is clearly a missed opportunity to bring forward the infrastructure needed to accommodate and support advances in technology. Another NSIP (National Grid's Norwich to Tilbury scheme, previously termed 'East Anglia Green') is highly relevant as it crosses LTC. There is a missed opportunity for the two NSIPs to coordinate to provide the power likely to be needed to support the transformation of the fleet to EV and alternative fuels. The local electric power requirements created by the substantial increase of HGV, van and car miles travelled as a result of LTC will increase markedly. Supplying the electricity to support the evolution of vehicle technologies using the SRN is an essential consideration when delivering the infrastructure needed. NH has refused to engage with the Council on the local energy requirements necessary. Instead, it is creating a legacy problem for the Council to deal with and absolving itself from complex discussions by simply removing new service station provision from its scheme, despite the Council offering to engage with NH on an alternative site in the north west of the Borough.
- 8.8.9 Due to the current design, vehicles travelling to/from the services at M2 Medway and A1(M) South Mimms would need to travel circa 90 kilometres between service areas because the Cobham services on the A2 in Kent are earmarked for closure as part of the LTC scheme. Services were originally planned to be 25 kilometres apart, but this regulation was removed in 2013.
- 8.8.10 The longest combined motorway journey with no service stops is circa 96 kilometres (M40 Warwick to M54 via Telford), so there is precedent, but no data exists to understand whether this creates a greater increase of EV power outages on the network than elsewhere.
- 8.8.11 To recreate a comparable lengthy combined motorway journey via LTC with no service stops simply on the basis that there is a precedent elsewhere on the network lacks credibility and does not support the notion that the infrastructure is being designed to ensure the network remains resilient now and in the future. There are also the additional challenges associated with vehicles losing power in the tunnel.
- 8.8.12 **SUMMARY: the Council is concerned that NH has not considered how or where electric and hydrogen powered vehicles will be able to charge on the 22 kms new section of the network in the context of the ban on new diesel and petrol vehicles in 2030.**

8.9 No Strategy for Demand Management Charging Regimes

- 8.9.1 NH proposes to implement the same charging regime (tolls) at both Dartford Crossing and LTC.
- 8.9.2 This means there is not a strategy to provide variable charging (i.e. tolls) which would enable demand management and maximise the use of the available capacity provided by the two crossings (Dartford Crossing and LTC).
- 8.9.3 **SUMMARY: the Council considers that the potential impacts of providing a variable demand management charging regime should be considered to maximise the benefits of providing LTC.**

8.10 No Consideration of Alternative Dangerous Load and Tall Vehicle routing

- 8.10.1 The Need for the Project (APP-494) states that the routing of Dangerous Goods Vehicles (DGVs) and taller vehicles through the Dartford Crossing impacts the capacity for northbound travel. DGV escorting is estimated to reduce effective capacity by between 8-12%, while taller vehicles are required to use the eastern tunnel and need to straddle both lanes reducing capacity even further while vehicles mistakenly seeking to enter the western tunnel cause disruption as they need to be moved.
- 8.10.2 The Council is concerned that alternative strategies to allow DGVs and tall vehicles to cross the River Thames were not considered in order to increase capacity at Dartford Crossing rather than implementing LTC to the detriment of local residents and the significant environmental impacts in Thurrock.
- 8.10.3 **SUMMARY: the Council considers that alternative routing strategies should be considered to increase the effective capacity of Dartford Crossing.**

8.11 Conclusions

- 8.11.1 The Council considers that the analysis of Alternative Scheme Elements and Transport Modes is not adequate, nor has been sufficiently incorporated into the development and definition of LTC. Key issues are:
- a. The Council considers that the analysis of alternatives provided by NH does not meet the requirements of the NPSNN and so the submitted analysis is not valid and needs updating.
 - b. The 'high' and 'low' traffic forecast scenarios used by NH do not follow DfT's guidance concerning the use of Common Analytical Scenarios and do not reflect the wide range of possible future scenarios for the operation of LTC.
 - c. The traffic forecasts used by NH do not reflect the likely impacts of the delivery of Government policies including decarbonisation, active travel and public transport.
 - d. The design of LTC provides limited access to development sites and national port facilities in Thurrock. This would be remedied by the inclusion of Tilbury Link Road and changes to the operation of Orsett Cock junction as part of the LTC scheme.
 - e. The option selection for LTC is based on an initial decision made in 2009. This was reviewed and confirmed by NH in 2017, but despite requests, the underpinning analysis has not been made available to the Council. Since the initial decision there have been many substantial changes to transport patterns and the wider economy which have not been considered as part of the decision-making process. Analysis by the Council shows that there are several potential public transport-based options, which would meet NH's objectives for LTC. There are also

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several alternative options for LTC, e.g. including TLR, which would better meet the objectives for LTC. The Council considers that these options should be considered by NH.

- f. The provision of facilities to enable public transport services to access LTC is poor leading to circuitous routes and increased journey times. The Council considers that the design of LTC should be refined to enable better facilities to be provided, e.g. at the Tilbury emergency and operational access.
- g. The Council is concerned that NH has not considered how or where electric and hydrogen powered vehicles will be able to charge on the 22kms new section of the network.
- h. The Council considers that the potential impacts of providing a variable demand management charging regime should be considered to maximise the benefits of providing LTC.
- i. The Council considers that alternative routing strategies should be considered to increase the effective capacity of Dartford Crossing.

9 Transport

9.1 Introduction

9.1.1 As set out in Sections 7 and 8 above of this LIR, the Council's position is that LTC does not meet scheme objectives and generates local impacts on the Borough and its communities, that the disbenefits outweigh the benefits and that reasonable alternatives have not been considered. Notwithstanding this, this Section of the LIR considers the proposed LTC scheme being put forward by NH and examines:

- a. The local impacts of the operational and construction phases of LTC to local transport users and local communities;
- b. The mitigation that is required by the Council to mitigate the local impacts on local transport users and local communities should the scheme go ahead (it should be noted that the draft NPSNN makes many specific references to the importance of mitigation throughout Sections 4 and 5); and,
- c. Scheme changes required by the Council to mitigate local transport impacts.

Table 9.1: Summary of Key Issues

Summary of Key Issues
<ul style="list-style-type: none"> ▪ The modelling assessment is inadequate and underestimates impacts on the LRN in Thurrock. ▪ The strategic LTAM model is not sufficient to properly assess the local effects of LTC on the LRN and operational modelling should be undertaken to understand the precise nature of impacts and need for mitigation on the LRN. ▪ NH's assessment shows that there are many communities, roads and junctions across Thurrock that are significantly adversely affected by LTC, but no mitigation is proposed by NH for those network impacts. ▪ The Council requires local impacts to be mitigated and secured through the DCO both during the construction and operational phase of LTC. The Council has set out the additional mitigation for local impacts that is required based on the LTAM modelling, but it requires detailed operational modelling to be provided in order to validate the mitigation requirements and determine if any further mitigation is required that must be secured within the DCO. ▪ Scheme changes are required by the Council to reduce the impacts on local traffic. These include changes to the A13/A1089 junction, changes to the operational and emergency access north of the North Portal to accommodate Port of Tilbury traffic in the future, incorporate connections to LTC for cross river bus services and provide passive provision to serve potential growth in Thurrock. ▪ The construction control documents, which include the oTMPfC (APP-547), the FCTP (APP-546), the oMHP (APP-338), the pNRA (APP-548), and the CoCP (APP-336), do not include sufficient control, commitments and governance for LTC to be constructed within defined DCO parameters and to minimise the environmental impacts of the construction processes with the Borough. ▪ The DCO does not provide any evidence on how LTC will meet its objectives to provide resilience to the crossings of the River Thames, nor does it include an incident management plan setting out how the proposed crossing will be used to alleviate traffic congestion in relation to commonly experienced issues, including high-winds and traffic incidents that block the route.

9.2 Assessment of Main Scheme Changes / Development Since Last DCO

9.2.1 NH has made the following two significant changes to the design of LTC since the first DCO, which would affect the operation of traffic on the local road network (LRN):

- a. Reconfiguration of the westbound links from LTC and A13 westbound to A1089 southbound at LTC/A13 junction and consequential links to LTC and Orsett Cock from A13 westbound; and
 - b. Inclusion of the operational and emergency access at the North Portal, which is not configured to facilitate local connectivity.
- 9.2.2 The link between the A13 westbound and LTC to A1089 southbound has been reconfigured since the first DCO, such that traffic is now shown accessing A1089 via the LRN Orsett Cock junction. The Council and other stakeholders had previously raised concerns that the previous DCO configuration required traffic from LTC to travel east to the Manorway roundabout to u-turn and retrace its route westbound on the A13 to access the A1089. That routing was inappropriate and there was concern that traffic would be attracted to local routes, such as A1013/Stanford Road and Brentwood Road to access the Port of Tilbury. The previously proposed routing further impacted the operation of the Manorway roundabout.
- 9.2.3 Following concerns raised by the to the Council and Port operators, NH proposed a reconfigured connection to A1089 southbound, which requires LTC traffic to route through the Orsett Cock junction to access A1089 southbound. NH's aspiration to reduce the previously identified impacts at the Manorway has moved impacts to the Orsett Cock junction and the Brentwood Road, including the community around Chadwell St Mary, through which Brentwood Road passes.
- 9.2.4 The other significant change introduced by NH since the previous DCO is the proposal for an operational and emergency access to the north of the North Portal, as shown in **General Arrangement Drawing, Sheet 20** ([APP-016](#)).
- 9.2.5 The Council has sought for LTC to improve connectivity to the Port of Tilbury and provide access for public transport across the River Thames. NH promoted the inclusion of the proposed junction at Tilbury as a positive addition to the LTC scheme. Indeed, the DfT stated in correspondence with the Council that the Tilbury junction and link road elements of the *'scheme is being designed so that a future junction and link road, subject to funding and planning permission, can be built in the future as a connection to Tilbury'*. However, the proposed operational and emergency access north of the North Portal does not provide a suitable layout to meet these objectives or provide the ability for the design to be adapted to enable these objectives to be met in the future. Instead, NH has proposed an over-engineered operational and emergency access. The design incorporates an expensive gyratory system intended to enable the junction to provide local connectivity. The location of the junction decided by NH was, however, consequently found to prohibit exit and entrance slips being provided in accordance with DMRB. This led to a change of approach by NH, who subsequently determined that the Tilbury junction would be for operational and emergency access only.
- 9.2.6 **SUMMARY: NH has proposed two significant changes to LTC, which neither resolve previous identified impacts, nor provide benefit to the current or future LRN within Thurrock.**

9.3 Policy Compliance and Local Impacts

- 9.3.1 This Section summarises how the proposed LTC scheme fails to comply with NPSNN policy with regards to local transport impacts and mitigation. NPSNN is clear within paragraph 3.3 that the scheme promoter should not only mitigate impacts but should *'provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes.'* This Section of the LIR sets out how the DCO has neither mitigated the impacts on the LRN, nor sought reasonable opportunities to deliver transport benefits to local communities within Thurrock.

9.4 Local Transport Impacts of Operational Phase

Deficiencies in Modelling Approach for Local Impacts

- 9.4.1 NH has solely relied on the LTAM strategic model to inform the operational impacts of LTC. That strategic model is better suited to informing scheme appraisal but is an inadequate tool to inform and understand the operational impacts of LTC on local junctions, links and local communities during construction and operation. Normally, and on many other projects, NH would adopt an iterative process using the outputs of the operational modelling to adjust the strategic model. For this project, NH has not followed this approach. This means that the design and business case for LTC is predicated on strategic modelling that has not been subject to the appropriate checks. By relying solely on the strategic model, NH has failed to accurately and robustly assess the impacts of the scheme on the Thurrock LRN.
- 9.4.2 There are several key reasons for this:
- a. LTAM is only as good as the data which it is based on. LTAM development involved calibration and validation checks, which attempted to quantify how accurately the model can replicate observed flows. These checks were only completed on a limited number of links within the LRN, and the model was not calibrated and validated against turning counts at key junctions within the LRN. Therefore, it is unknown if the model can accurately replicate junction turning flows within the LRN and other local junction parameters, including saturation flows, queues and delays.
 - b. LTAM works on aggregate average hourly flows and is not precise in the way it replicates traffic behaviour. This makes LTAM particularly inappropriate for examining traffic interactions and potential operational problems at local junctions.
 - c. LTAM may be under-estimating local traffic impacts of LTC on the LRN due to the model representing the AM peak hour on the SRN, which is between 0700 and 0800, whereas the peak hour on the LRN occurs between 0800 and 0900. This serious discrepancy has been discussed with NH on many occasions over the last two years without resolution.
- 9.4.3 In the Council's experience, NH would not allow a developer to rely solely on a strategic model for a planning application and instead would require the hierarchical approach to modelling to be adopted and presented, i.e., a strategic model feeding into more detailed operational models to assess the detailed local traffic impacts of a scheme and determine if mitigation is required. NH also use this approach on their own DCOs. **Table 9.2** shows a selection of NH DCO schemes and summarises the approach to local operational modelling. The selection of schemes include three Tier 1 (>£500m) schemes, as well as two 'standard' Major Projects schemes.

Table 9.2: Selection of DCO Applications Submitted by NH, which included Detailed Operational Modelling

Scheme	Transport Modelling Approach presented in DCO
A30 Chiverton to Carland Cross DCO: 2018-2020 Scheme cost: £330 million	Detailed operation modelling for the three junctions within the scheme has been presented alongside strategic modelling. The operation modelling was undertaken in ARCADY (Junctions 9) and was informed using the flows for a strategic model (Saturn). The ' <i>Memorandum – Junction Analysis</i> ' is a detailed technical note for the three key junctions. The results presented show ratio of flow to capacity, queues and delay at the junctions.
A303 Amesbury to Berwick Downs (Stonehenge) NH Tier 1 scheme DCO: 2018 – on-going	The Combined Modelling and Appraisal Report (ComMA) and its appendices for the A303 Stonehenge scheme detail the microsimulation modelling (VISSIM) undertaken to support the scheme. The model is extensive and covers the A303, local routes north and south of the scheme. The model

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Scheme	Transport Modelling Approach presented in DCO
<p>Scheme cost: £1.7 billion</p>	<p>was supported and calibrated/validated using extensive data collection (including counts, Automatic Number Plate Records and journey time data).</p> <p>The ComMA report, which presents results of the scheme assessment undertaken using the 'A303 Stonehenge SWRTM (DCO)' strategic model. The report also references a microsimulation model, which was developed to allow for more detailed assessments of junction layouts and vehicle movements to be undertaken.</p> <p>The ComMA Appendix B Transport Model Package Appendix B of ComMA report, details approach to strategic and microsimulation modelling. Additionally, Appendix C Transport Forecast Package of ComMA report, details forecast operational assessment results.</p>
<p>A66 Northern Trans-Pennine NH Tier 1 scheme DCO: 2022 – Awaiting decision of The Secretary of State (2023) Scheme cost: £1.3 billion</p>	<p>The Transport Assessment for the A66 outlines the operational modelling undertaken using a strategic model and detailed microsimulation modelling, which has been undertaken for major interchanges: M6 Junction 40 and A1(M) Scotch Corner and like the other schemes, results are extensively reported.</p>
<p>A428 Black Cat to Caxton Gibbet NH Tier 1 scheme DCO: 2021 – 2022 Scheme cost: £810 to £950 million</p>	<p>The Traffic Forecasting Report (Appendix C of ComMA report) details the operational assessment undertaken using VISSIM and informed by strategic model data. Average speed plots are provided of the key scheme junctions. These are used to show that there is not significant issues at the scheme junctions with traffic speeds being in and around the speed limit of the links up until just before the junctions themselves.</p> <p>The TA outlines the results for the VISSIM and Junctions 9 modelling. Junction 9 modelling results include RFC, delays and queuing data.</p> <p>Transport Assessment Part 1 provides more detail on the operational modelling in a local context.</p>
<p>M42 Junction 6 DCO: 2019-2020 Scheme cost: £285 million</p>	<p>A document was submitted as part of the DCO outlining the hierarchy of the transport modelling which took the following structure:</p> <div data-bbox="635 1373 1278 1615" data-label="Diagram"> <pre> graph TD A[West Midlands PRISM] --> B[M42 Junction 6 LAM] B --> C[M42 Junction 6 OM] B --> D[Junction Models] </pre> </div> <p>Figure 1.1 - Modelling Hierarchy</p> <p>Source: 8.50 Transport Modelling Hierarchy and Growth in Future Year Traffic</p> <p>The scheme involved the use of the following models:</p> <ul style="list-style-type: none"> ▪ The West Midlands Policy Responsive Integrated Strategy Model (PRISM) ▪ M42 Junction 6 Local Area Model (LAM) ▪ M42 Junction 6 Operational Model (OM) ▪ Operational models of individual or linked junctions <p>This sets out a clear hierarchy for the modelling with strategic model being used to inform the Operational model which in turn informs the local junction models. This is in line with the approach used on other NH schemes.</p>

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- 9.4.4 The Council's response to the Supplementary Consultation (January to April 2020) set out its concerns about the validation of the LTAM base model of the local highways network in Thurrock, with the model data suggesting that baseline traffic flows were being under-estimated, thus undermining the ability of the model to be used for assessment of local highway impacts and mitigation in the future.
- 9.4.5 **SUMMARY: the Council has significant concerns about the accuracy of the impact assessment of LTC on the local roads in Thurrock using the LTAM. Adoption of a hierarchical approach to modelling is therefore required, which includes a suite of operational models of the LRN.**

Impact on Local Traffic and Local Communities

- 9.4.6 The Council's review of the Thurrock cordon LTAM model (presented in the 'Lower Thames Crossing. Review of DCO Cordon Transport Models', **Appendix C, Annex 1, Sub-Annex 1.1**) has identified potential serious adverse impacts on the LRN at the following junctions, which require operational modelling to determine the more precise impacts and potential need for mitigation:
- a. The Orsett Cock junction;
 - b. The Manorway roundabout;
 - c. Daneholes roundabout;
 - d. ASDA Roundabout;
 - e. A126 Marshfoot Road Junction;
 - f. A13 westbound merge at Five Bells junction; and,
 - g. A1012 / Devonshire Road junction
- 9.4.7 The Council's comparative review of the Thurrock LTAM cordon with emerging operational models provided to the Council by NH has indicated that there are significant differences between the two modelling techniques in the forecasting of impacts. It is a serious issue, therefore, that the operational modelling has not been used to validate and adjust the strategic model upon, which the LTC design and business case is based on. That differential forecast is explored in greater detail at **Appendix C, Annex 1** of this LIR.
- 9.4.8 NH has agreed to undertake operational modelling for some of the above junctions but not all. In addition, the operational modelling that has been undertaken is not complete nor has an agreed position been reached about the impacts of LTC on the local highway network or any necessary mitigation. That operational modelling has not currently been submitted to the Examination, although it has been requested by the ExA at Issue Specific Hearing 1 (ISH1) and referred to within the Action Points ([EV-023a](#)) of ISH1. It is noted at **Appendix C, Annex 1** of this LIR that other NSIPs sponsored by NH have been assessed at the time of Examination by a conjunction of strategic network modelling and local operational models. It is the Council's opinion that that approach is essential for this application.
- 9.4.9 The junctions identified as being impacted within the LRN are strategically highly important to the operation of Thurrock and the transport network for road traffic, walking and cycling, and public transport. Particularly most form part of the access strategies to the Port of Tilbury and DP World/London Gateway, as well as other important business and community functions.

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9.4.10 The hierarchical approach to modelling and the status of each of the local junction operational models is graphically presented in **Figure 9.1** and repeated at **Appendix C, Annex 1, Sub-Annex 1.2 – Summary Modelling Status**. A RAG (Red/ Amber/ Green) approach has been used to present the status of each local model:

- Green – completed and approved by the Council
- Amber – completed, but not approved
- Red – not completed

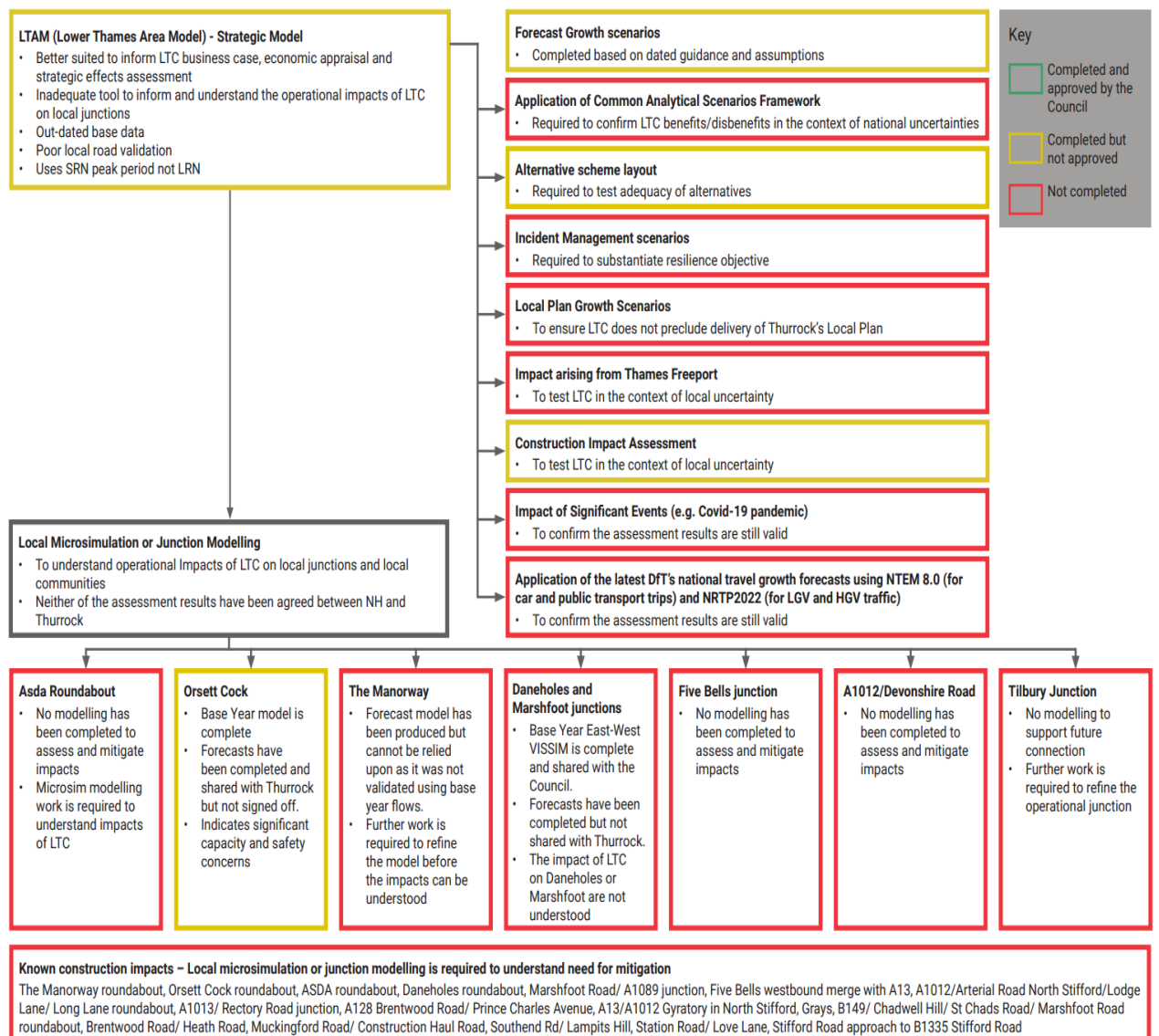


Figure 9.1: Summary of Model Status (Repeated at Appendix C: Annex 1 Sub-Annex 1.2)

9.4.11 **Figure 9.1** clearly shows that none of the junctions identified for operational modelling have been assessed by NH and shared with the Council, with the exception of Orsett Cock for which only the base microsimulation model has been approved by the Council and forecast microsimulation model provided by NH and audited by the Council but not yet approved. No evidence for the Orsett Cock microsimulation model has been presented in the DCO application. The operational

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modelling of Orsett Cock has demonstrated that the LTAM significantly underestimated the local impacts at this junction and the queuing and delay presented in the operational model as a result of LTC at Orsett Cock is much more significant than shown in LTAM. The Council is concerned that NH is fully aware of this issue and decided not to submit the operational modelling, because it contradicts the strategic modelling, which the LTC design is based upon. Although it is now understood from NH that operational modelling will now be submitted at Deadline 1, which the Council will need to carefully scrutinise.

- 9.4.12 The Council's appraisal of the strategic LTAM impact assessment at each of the junctions is set out at **Appendix C, Annex 1**. In the absence of operational modelling undertaken by NH, the Council has undertaken its own operational appraisal of the local junctions impacted by LTC. That appraisal demonstrates that LTC has severe impacts on the local junctions, which require mitigation.
- 9.4.13 NH's strategic transport model forecasts that LTC will substantially increase traffic on some of the most important and busiest roads in Thurrock including the following:
- a. A1089, which is forecast to see 46% and 41% increases in northbound traffic in the morning and evening peak hours by 2045; and,
 - b. A13 east of the Orsett Cock roundabout is forecast to see increases in traffic ranging between 11% and 19% in the morning and evening peak hours by 2045.
- 9.4.14 LTC is also forecast to increase traffic on unsuitable local roads and through local communities in Thurrock. These concerns are raised by the Council through SoCG Matters 2.1.60 to 2.1.162 and cause severance to those communities, which is identified at paragraphs 3.22 and 5.205 of NPSNN. Through a review of the LTAM cordon model for the DCO, the communities within Thurrock noted to be affected including:
- a. Brentwood Road (south of A13 Orsett Cock junction), between Orsett and Orsett Heath, is forecast to see increases in traffic of 59% and 24% in the morning and evening peak hours respectively by 2045 with rerouted traffic travelling through Chadwell St Mary and Tilbury;
 - b. Chadwell Hill in Chadwell St Mary is forecast to see increases in traffic of 11% and 6% in the morning and evening peak hours respectively by 2045 with rerouted traffic travelling through Chadwell St Mary and Tilbury;
 - c. Muckingford Road in Linford is forecast to see increases in traffic of 32% in the evening peak hours by 2045 with rerouted traffic travelling through Chadwell St Mary and Tilbury;
 - d. The LTAM strategic model forecasts significant worsening of congestion on the A13 westbound merge resulting in traffic re-routeing through communities of Corringham and Stanford-le-Hope; and
 - e. Rectory Road passing through Orsett village is forecast to see increases in traffic of 18% and 20% in the morning and evening peak hours respectively by 2045, with reductions in traffic on Brentwood Road as a result of traffic re-routing through Orsett village and away from Orsett Cock.
- 9.4.15 It should be noted that the five points raised above demonstrate that the NH position and conclusions appear contradictory and confusing, and, the Council have raised the need for mitigation with NH, but NH consider the matter negligible and that it should be addressed by the Council in future years. Therefore, the Council would like to highlight and summarise these contradictions as follows:

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- a. The operational modelling has not been used to validate the LTAM modelling, which is particularly an issue at Orsett Cock, which is within the Order Limits and a key part of LTC scheme;
- b. Operational modelling shows reduction in traffic on Brentwood Road, but the LTAM modelling (upon which the DCO application is based) shows significant increases. NH has therefore submitted two contradictory modelling scenarios;
- c. NH has agreed that the increase in inappropriate traffic through Orsett village is significant. Instead of addressing this through the DCO, NH has identified mitigation for this as necessary via a S106 Agreement;
- d. Once mitigation to remove the displaced traffic through Orsett is taken into account the loading of traffic back on the Brentwood Road will further exacerbate traffic at Orsett Cock. This has not been modelled;
- e. NH did not agree the scope of the operational traffic modelling with the Council and the full extent of the queuing on Brentwood Road is beyond the limits of the modelled area; and,
- f. NH has not applied an iterative approach to use the operational modelling to inform its LTAM modelling, as is normal practice on other NH schemes and would be required by a local authority scheme affecting the SRN. The clear contradictions between the models means that the LTAM model is not a sufficiently sound basis for the scheme design and the business case is predicated on this LTC scheme.

9.4.16 **SUMMARY: NPSNN paragraph 4.6 requires that models of sufficiently accurate detail of the impacts are used for the submission. The Council has evidenced that NH's modelling assessment is inadequate and significantly underestimates impacts on the LRN. The Council considers that the LTAM is not sufficient to properly assess the effects of LTC on the LRN and that operational modelling should be undertaken to understand the precise nature of impacts and need for mitigation on the LRN.**

9.4.17 **Irrespective of the appropriateness of LTAM to assess impacts on the LRN in Thurrock, it forecasts significant reassignment of traffic within the local area, including through local communities and causes congestion and delays at junctions not directly related to LTC. These impacts have not been mitigated. Mitigation will, in many instances, require reassigning traffic currently shown in unsuitable residential areas back onto the key traffic corridors, further exacerbating issues already evident from the strategic modelling.**

9.5 Required Mitigation of Local Transport Impacts

- 9.5.1 No physical mitigation for local transport impacts and local communities is currently proposed by NH to mitigate the operational effects of LTC. NPSNN paragraph 3.3 specifically states '*In delivering new schemes, the Government expects applicants to avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the Government's planning guidance*'. As set out in **Appendix C, Annex 1**, LTC will result in unmitigated severe transport impacts on the LRN and create substantial community harm within Thurrock and is therefore not compliant with national policy.
- 9.5.2 It is the Council's opinion that it is not acceptable for the severe transport effects on the LRN not to have mitigation secured through the DCO. The Council has repeatedly raised its objection to the approach adopted by NH to discount the need to mitigate severe impacts on the wider network and these are expressed here and through SoCG Matters 2.1.158, 2.1.159, 2.1.163 and 2.1.164.
- 9.5.3 The Wider Network Impacts Management and Mitigation Plan (WNIMMP) ([APP-545](#)) sets out NH's approach to the monitoring and management of the local impacts that are created by the operation

of LTC and the associated WNIMMP Policy Compliance document ([APP-535](#)) sets out how that process is claimed by NH to be compliant with policy.

- 9.5.4 NH does not deny that LTC induces local network congestion and disruption. Furthermore, through traffic re-routeing, LTC causes unmitigated community harm. At paragraphs 1.1.1 and 4.2.10 of the WNIMMP ([APP-545](#)), NH states that the strategic traffic modelling as presented through the Transport Assessment ([APP-529](#)) demonstrates that there are to be impacts on the local road network. It is NH's opinion that its approach accords with NPSNN and that these local impacts are acceptable when balanced with the greater national good. NH suggests that it has been collaborative, e.g. WNIMMP paragraph 4.3.2 and 4.3.4; and, proposes that through the data collection and analysis process set out in the WNIMMP, the Council should bid for future funding as a separate initiative under such workstreams as RIS and Levelling-up (paragraphs 4.3.3, 5.6.1 and Table 6.1 of the WNIMMP).
- 9.5.5 **SUMMARY: fundamentally the Council is opposed to the proposal by NH to overlook all induced impacts and to require the Council to apply for future funds to mitigate the effects of LTC on local roads, which may not be successful and would in any case load significant additional financial burden on the local taxpayers, who would need to provide significant funding. Notwithstanding the Council's opposition to the stance taken by NH, the draw on the Council's stretched financial and personnel resources to prepare funding applications and to subsequently oversee the implementation of any mitigation would be untenable.**
- 9.5.6 NH's approach omits the 'management' aspect of the WNIMMP and resolves to do nothing to mitigate the impacts and harm of LTC. That stance is not compliant with the NPSNN, which requires applicants to mitigate the local impacts and harm. NPSNN paragraph 5.206 states that the EIA *'should describe those impacts and mitigating commitments'* and paragraph 4.31 states that it is for the applicant to mitigate *"any existing adverse impacts wherever possible; for example, in relation to safety or the environment"*. In accordance with NPSNN, mitigation of scheme impacts should not be left to local authorities to address.
- 9.5.7 Paragraph 5.206 goes on to states that *'if a development is subject to EIA and is likely to have significant environmental impacts arising from impacts on transport networks, the applicant's environmental statement should describe those impacts and mitigating commitments.'*
- 9.5.8 Paragraph 5.214 states that *'Provided that the applicant is willing to commit to transport planning obligations and, to mitigate transport impacts identified in the WebTAG transport assessment (including environment and social impacts), with attribution of costs calculated in accordance with the Department's guidance, then development consent should not be withheld. Appropriately limited weight should be applied to residual effects on the surrounding transport infrastructure.'*
- 9.5.9 The Council is seeking the following approach from NH for the mitigation of identified LRN impacts of the operation of LTC and monitoring of potential additional impacts over and above the DCO assessment:
- a. Severe transport impacts on the LRN to be mitigated through the DCO, either via mitigation to be delivered through Order Limit changes or via planning obligations within a Deed of Obligation or S106 Agreement; and,
 - b. Monitoring of actual LRN transport impacts of LTC operation to be undertaken through the WNIMMP (NB. Monitoring locations are accepted by the Council) and if further severe impacts arise that are beyond what has been identified and mitigated through the DCO, additional LRN mitigation is funded by NH as part of the WNIMMP, secured through the Deed of Obligation or S106. This mechanism has recently been implemented as part of the Sizewell C Deed of Obligation, which includes a fixed Transport Contingency Fund from which the local highway authority can draw down if ongoing transport monitoring shows additional severe impacts over and above those mitigated through the DCO.

- 9.5.10 Based on the incomplete modelling exercise undertaken to date by NH, the Council considers that key impacts that require mitigation are:
- a. Capacity mitigation on the local network – Orsett Cock, The Manorway, Five Bells, ASDA roundabout, A1012 / Devonshire Road and the Marshfoot Road junction;
 - b. Community/Environmental mitigation – Orsett village, Chadwell St. Mary / Tilbury, Corringham / Stanford-le-Hope and Horndon;
 - c. Mitigation for severance and safety concerns at LTC interfaces with walking, cycling and equestrian routes – A1013; Orsett Cock; LTC bridge crossings; and,
 - d. Mitigation for public transport – providing connectivity opportunities to LTC for cross river services; providing sufficient width at crossings of LTC and allowing sufficient corridor width on specific LTC crossings for emerging bus corridor improvements connected with growth in Thurrock and within the emerging Transport Vision for Thurrock (as has been discussed with NH for over a year but not agreed by NH).

- 9.5.11 **SUMMARY: NH’s assessment shows that there are many communities and junctions across Thurrock that are significantly adversely affected by LTC, either through reassigned traffic or through induced additional traffic. NH has determined that, despite clear policy requirements on mitigating impacts in NPSNN, it is not its duty to mitigate local impacts and instead that the local authorities are responsible for mitigating the effects of LTC on local roads, which may not necessarily be successful.**

This approach is not accepted by the Council.

9.6 Required Amendments to Key Elements of LTC Scheme Design

- 9.6.1 This section of the LIR expands on the Council’s Relevant Representation Principal Issue IV, which identifies the various concerns with LTC proposed layout and connection.
- 9.6.2 The Council has raised a series of design and layout amendments that should be made to LTC to mitigate local impacts and further promote sustainable modes of travel. These are reported in detail at **Appendix C, Annex 2, Sub-Annex 2.1** to this LIR and include:
- a. Providing a simple and appropriate scale design for the interchange between LTC / A1089 /A13 and the Orsett Cock junction, which resolves the Council’s significant concerns over safety, severance, delay, congestion, land take and traffic reassignment;
 - b. Create a robust interchange and connections at Tilbury to provide access to the Port of Tilbury and facilitate future local connection to emerging development growth;
 - c. Incorporate connections to LTC for cross river bus services; and,
 - d. Safeguard an area around the North Road structure to allow for the future provision of an interchange with LTC to serve future development growth in the vicinity of Ockendon.
- 9.6.3 With regards to road safety paragraph 3.10 of NPSNN requires the applicant to *‘take opportunities to improve road safety, including introducing the most modern and effective safety measures where proportionate.’*
- 9.6.4 Paragraph 4.66 of NPSNN states that consent should not be granted unless *‘all reasonable steps have been taken and will be taken to:*
- a. *Minimise the risk of road casualties arising from the scheme; and*
 - b. *Contribute to an overall improvement in the safety of the strategic road network.’*

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9.6.5 The Council continues to have significant concerns with the interface between LTC and the LRN at the Orsett Cock junction. Road safety issues with the scheme design, which may result in collisions and have consequential impacts on the LRN as a result of the management of these incidents are set out in detail in **Appendix C, Annex 2**. Those points are indicated and summarised below in **Figure 9.2** below.

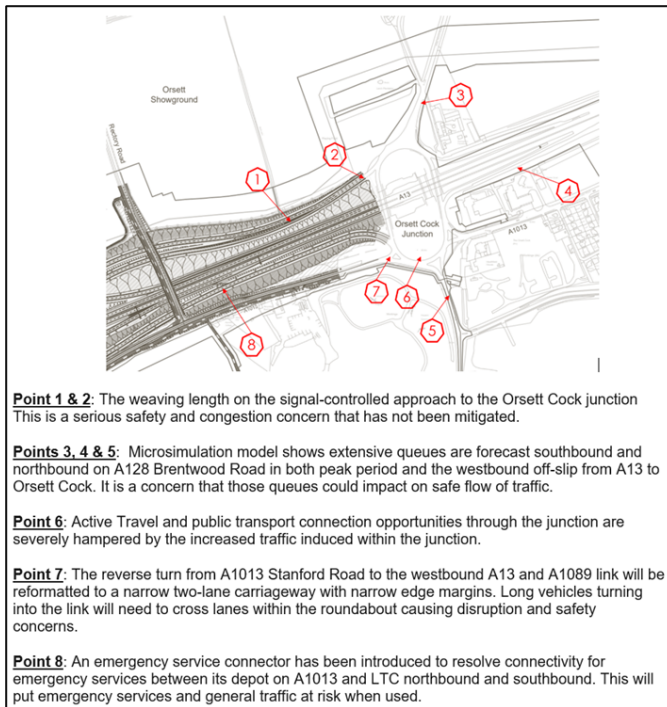


Figure 9.2: Summary of points of concern at Orsett Cock Junction

- 9.6.6 In addition, the increase in traffic on the LRN as a result of LTC will result in an increase in collisions on local roads and NH forecasts an increase in road collisions as a consequence of LTC in its appraisal of the overall project. It is the Council's opinion that the layout of the LTC/A13/A1089 Orsett Cock interchange is a convoluted and confusing interchange with many short merge, diverge and weaving points, for which a disproportionate increase in collisions would be realised. That would not be reflected by the standard appraisal of impacts and does not adequately represent the impacts on the LRN or towards the national aspiration for Vision Zero to eliminate killed and serious injury collisions on UK's roads.
- 9.6.7 NH is not clear within its submission as to the layout of the interface between the proposed new LTC infrastructure and the current Orsett Cock junction. Plans submitted by NH in the DCO do not fully align with the current revised junction at Orsett Cock; and, the descriptions of the Authorised Works in dDCO ([AS-038](#)) do not align with the General Arrangement drawings. This point is set out in more detail at **Appendix C, Annex 2** to this LIR. The Council is not able to provide an informed opinion on the layout of the interconnection and impacts at Orsett Cock without clear and aligned layout details.
- 9.6.8 Through engagement with NH the Council has sought to review alternative configurations of the connectivity between LTC and the borough. The Council proposes that a connection should be made both to the south and north of A13. Those connections would both provide local connectivity and would allow for rationalisation of the A13 interchange.
- 9.6.9 To the south a connection in the vicinity of Tilbury / Port of Tilbury had been identified. That interchange would be focused on access to the port and provide access both to the east and west of LTC primarily for public transport and active travel. That connection would allow cross-river connections for public transport with suitable amendments to LTC south of River Thames.

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- 9.6.10 North of A13 the Council has identified that connection to LTC around North and South Ockendon could provide relief to M25 junction 30 and potentially LTC / A13 interchange. That strategy has not been tested through LTAM or other modelling. Furthermore, that connection could form part of a strategy for access to potential development growth around Ockendon.
- 9.6.11 **SUMMARY: the Council has consistently contested that that strategy for the interchange at LTC/A13/A1089 is flawed and unsafe. The interchange introduces safety concerns, severance to walkers, cyclists, horse-riders and public transport and delay to local traffic using Orsett Cock, which is being utilised as part of the SRN. Information provided by NH on the interface between LTC and the LRN is confused and unclear.**
- 9.6.12 **LTC furthermore fails to meet its objectives by creating barriers to future growth opportunities and does not facilitate connectivity across the River Thames for public transport or to the growth at the Port of Tilbury, to the east of LTC or in the vicinity of Ockendon.**

9.7 Legacy Benefits

- 9.7.1 NPSNN paragraph 3.3 states that '*Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes.*' There is no evidence of tangible transport legacy benefits to the borough as a consequence of LTC.
- 9.7.2 With regards to WCH facilities, NH has reconnected severed routes rather than taking a more strategic approach to WCH provision. NH should have engaged with the Council on a package of meaningful and tangible improvements rather than the rather perfunctory approach that it has adopted.
- 9.7.3 Rather than designing LTC to achieve environmental and social benefits associated with public transport improvements, LTC has instead precluded public transport opportunities on A1013 through the realignment and reconfiguration of Stanford Road to the west of the Orsett Cock junction.
- 9.7.4 The Council has requested that a bus priority corridor is provided at the Muckingford Road crossing to facilitate future bus priority improvements within the Borough vital for the emerging Local Plan. This has not been provided in the submitted design of LTC.

9.8 Local Transport Impacts of Construction Phase

- 9.8.1 This Section expands on the Council's Relevant Representation Principal Issue V relating to the governance, impacts and mitigation required during the construction phases of LTC.

Impact on Local Traffic

- 9.8.2 Notwithstanding the Council's overriding concerns about LTC, if the scheme were consented and constructed, the Council requires that binding, coordinated and robust mechanisms are put in place to protect its local communities and the travel network from the traffic impacts of the construction period (and indeed for its operation too).
- 9.8.3 The Council has sought to collaborate with NH in assessing the impacts and establishing what mitigation and controls should be implemented and maintained. Some progress towards the construction strategy and control mechanisms has been realised, however, progress is still required in the commitments to be made by NH within the DCO.
- 9.8.4 The suite of control documents is emerging and would be refined by NH's contractors following appointment. The Council acknowledges that the Code of Construction Practice ([APP-336](#)); the

outline Traffic Management Plan for Construction (oTMPfC) ([APP-547](#)); the Framework Construction Travel Plan (FCTP) ([APP-546](#)); and outline Materials Handling Plan (oMHP) ([APP-338](#)), inter alia, provide a base for managing the construction phases. It is the Council's opinion, however, that there are many statements, limited clarity and few commitments contained within those documents, which combined, fail to provide the certainty to the Council that the construction will be managed within the construction parameters defined within the DCO assessment.

9.8.5 The construction of LTC is planned to be undertaken over a construction period of six years. The long duration of the construction period and the construction activities inclusive of network changes and construction traffic will have disruptive and intrusive impacts on local communities in Thurrock, leading to day-to-day inconvenience to the travelling public, local residents and businesses.

9.8.6 The Council has sought to understand the assumptions regarding:

- a. The temporary traffic management measures and phases affecting the borough;
- b. The strategy for materials, plant and equipment handling – see SoCG matters 2.1.110 through to 2.1.115;
- c. The process for governing the construction period – see SoCG matters 2.1.7 to 2.1.9, 2.1.36, 2.1.45, 2.1.107, 2.1.117 to 2.1.142, and 2.1.243 to 2.1.255;
- d. The applied construction related traffic and their representation in the LTAM cordon construction models; and,
- e. The forecast impacts on the LRN during the construction phase.

9.8.7 **Appendix C, Annex 3** sets out the Council's position regarding the deficiencies in NH's assessment of the impacts of the construction period on the Borough and how control documents and governance processes proposed by NH fail to mitigate the impacts in the Borough or provide a sufficiently strong set of parameters and controls within which the contractors can construct the scheme.

9.8.8 **SUMMARY: the Council notes the progress made with NH in refining the governance approach, which would be followed during the construction period. It is the Council's opinion, however, that insufficient control is set out in the currently submitted Control Documents from which the contractors are to develop the detailed governance plans. NH should be leading with an extremely strong framework from which the contractors can refine their final proposals, so as to protect the local communities from the effects of the construction period.**

Impact of Traffic on Local Communities

9.8.9 The construction period models have indicated significant traffic re-routeing and the movement of construction traffic through local communities, such as Orsett village, Chadwell St. Mary / Tilbury, Corringham / Stanford-le-Hope and Horndon and at junctions including Orsett Cock roundabout, Marshfoot Road, Asda Roundabout, North Stifford interchange and High Road/Stifford Clays Road (Medebridge Road). NH has taken no steps to mitigate these effects other than to state that the creation of a Traffic Management Forum (TMF) will allow these points to be 'discussed' and that the contractors will put into place route management and delivery period controls. The Council has observed traffic increases through Orsett Village during similar works during the recent reconfiguration of A13 and the Orsett Cock junction.

9.8.10 When combined with vehicle monitoring information that must be shared with the Council, these measures will assist with the management and enforcement of the construction traffic fleet. It will not influence workforce traffic, which will not be controlled in the same way, and it will not mitigate

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the effects of general traffic re-routeing to avoid delays and disruption. The TMF will not be mandated to resolve matters raised during the construction period and will rely on NH's and the contractors' goodwill to react and resolve matters raised by the Council and other stakeholders, which the Council contends is not acceptable until further detail is committed to within the relevant control documents.

- 9.8.11 As noted through the review of the construction models, some routes are forecast to experience journey time increases of up to four minutes on average during the modelled period (0700-0800). That forecast is an averaged increase, does not reflect the LRN network peak and allows for re-routeing that has taken place within the software to balance the network. It is therefore fundamental that NH considers mechanisms to manage traffic away from the local communities and to minimise journey time increases and disruption in those communities and at affected junctions.
- 9.8.12 That mitigation could take the form of temporary road closures to restrict unwanted through traffic or other route restrictions to introduce equivalent delays and retain traffic on its appropriate corridor. These measures need to be considered in collaboration with the Council, so that they can be secured through the DCO. NH has not yet committed to undertaking such work or mitigation.
- 9.8.13 Complementing the management of traffic during the construction period, NH should also commit to decarbonising the construction fleet to reduce environmental impacts and reducing the need to move to and between compounds. Electric vehicles and plant should be used where viable for the size and form of vehicle or plant, especially where they are involved in shorter and frequent movements within or between compounds and other related facilities. Hydrogen or alternative zero-emission fuelled vehicles should be promoted for larger construction vehicles and plant. Autonomous and Artificial Intelligence options should be continually reviewed and adopted as they emerge into the industry, where they can save the need to travel and can reduce the risks associated with the construction period. This has been raised previously with NH through SoCG Matters 2.1.246 to 2.1.248.
- 9.8.14 **SUMMARY: NH has used the LTAM model to forecast effects of a series of scenario phases. NH forecasts impacts on a number of key locations within the LRN but proposes that mitigation would be defined by its contractors' post DCO being consented. Relying heavily on future collaboration and goodwill within the TMF. The governance framework secured through the DCO must test and confirm the level and type of mitigation that must be adopted, including matters such as decarbonisation of the contractors effects on the LRN.**

Impact on Public Transport

- 9.8.15 The Transport Assessment ([APP-529](#)) Section 8.9 and associated Tables 8.70 to 8.79 set out the assessment of impacts on public transport services in Thurrock. That assessment shows that bus services in Thurrock are noted to be impacted during 10 of the 11 phases of the construction period with an increase in running time of greater than two minutes. During certain phases the forecasts in journey time increases can be greater than five minutes, generally in the PM peak period. Train services are anticipated to be less disrupted with short term possessions.
- 9.8.16 Bus service 11 is forecast to be impacted through all of the 10 phases, which is currently estimated by NH to be a period of 55 months. Bus services 100, 200, and 370 are predicted to be affected for periods between 25 and 49 months. This represents a substantial long-term impact on bus services but is currently not mitigated. Bus service 100 is a high frequency service (typically 4 buses per hour) and will be impacted for around 33 months and in addition during the connection works between Orsett Cock and the new LTC linkages. Bus service 200 will require diversion during the long-term closures of both Baker Street and Rectory Road.
- 9.8.17 NH relies on the preparation of more detailed Traffic Management Plans (TMPs) by the contractor and collaboration through the TMF also by the contractors to mitigate the impacts on bus services.

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NH has given very little leadership and guidance as to what that mitigation should be or how it should be implemented and when. With a headway of 15 minutes on bus service 100 impacts of 5 minutes per journey through the affected section of its route is significant and could require additional buses to maintain headway. The impacts on services have been identified by NH yet no mitigation has been proposed, except to leave that to the contractors.

- 9.8.18 The Council has expressed its concerns over the impacts on local bus services at SoCG Matters 2.1.131 and 2.1.132. Recognising that there would be impacts on journey times and routeing, the Council expresses that the impact in mobility can have a profound effect on people's ability to access, amongst other things, community and health services. These effects must be given due credence and mitigation. The Council has specifically noted the potential impact on journeys between Thurrock and Basildon (Thurrock University Hospital), which should be recognised and addressed.
- 9.8.19 The oTMPfC ([APP-547](#)) within Section 2.4 'Challenges and consideration' and Table 2.3 includes the generic headlines of considerations for contractors to take into their TMPs and when engaging with stakeholders. Those headlines are to: maintain the services as far as possible; provide diversion routes as required and as informed by the Council; and, to engage with rail companies and reduce impacts. Those are valid statements but do not bind the contractors into action.
- 9.8.20 Against the backdrop of potential legacy improvements, NH should include such measures as:
- a. Specify the mitigation required to be introduced and funded for the affected services following its own engagement with bus operators, such as funding additional buses within services to offset delays;
 - b. Propose direct engagement with stated stakeholders, such as colleges, health centre and community centres to publicise the changes and promote service use;
 - c. Seek mechanisms to incentivise public transport use, such that a legacy effect might be realised;
 - d. Actively manage mobile traffic signals to minimise peak flow delays;
 - e. Stipulate the lead in times for contractors to notify stakeholders of changes to bus service and how to keep stakeholders notified;
 - f. Require innovation in keeping stakeholders up to date with changes and project over runs; and,
 - g. Require contractors to programme and coordinate construction works, so that impacts are targeted at quieter times, such a holiday periods.
- 9.8.21 The TMF proposed through the oTMPfC ([APP-547](#)) simply provides a forum for discussion. Its role and independent governance needs to be mandated to resolve problems which might occur during the works, such as the changing and cumulative nature of works on A1013. Funding also needs to be set aside to ensure that mitigation requirements can be adequately funded.
- 9.8.22 As with many matters, NH has recognised that the construction of LTC will have a long-term impact on local communities during the construction period but does very little to mitigate those impacts.
- 9.8.23 **SUMMARY: NH must confirm the actions that it will require its contractors to take to mitigate the impacts on local public transport services in the form of an appropriate strategy. This strategy should include stakeholder engagement exercises; service and infrastructure modification; and service reliability commitments. That strategy must focus**

both on the direct effects of adjacent works and the indirect effects on those communities using the public transport services, e.g. education and health journeys.

Required Mitigation of Construction Impacts

- 9.8.24 Notwithstanding the Council's overriding opinion on the absence of a viable transport business case for LTC, as set out throughout this LIR, the following reflects the Council's review of the impacts anticipated to the communities and transport system within the Borough during construction, if LTC were to be built. This section summarises the mitigation that would be required.
- 9.8.25 During the Examination, the Council requires that NH reviews the submitted control documents and strengthens its commitments contained in those documents to provide clear parameters, secured within the DCO, from which the contractors will prepare their detailed governance and control documents. These include the oTMPfC ([APP-547](#)), the FCTP ([APP-546](#)), the oMHP ([APP-338](#)), the pNRA ([APP-548](#)), and the CoCP ([APP-336](#)). Those review would then need to be reflected in the dDCO ([AS-038](#)), the Transport Assessment ([APP-529](#)) and ES Appendix 4.4 and others ([APP-343](#)).
- 9.8.26 That strengthening would be the basis for actual mitigation to support the statements and data collection processes that are provided within the current suite of control documents. The fact that NH has already appointed its contractors for LTC should not prevent the need to renegotiate terms with contractors, as necessary, to reflect the necessary governance arrangements yet to be agreed.
- 9.8.27 The oMHP should be the base from which to develop a stretching and environmentally sound, in line with industry good practice and reflecting its 'pathfinder' status, approach to managing materials, plant and equipment associated with the entire construction process and that should include the use of marine and rail transport. The oMHP currently presents one commitment to transport 35% of bulk aggregates by river, which is phased such that it is open to interpretation by the contractors. That commitment should be one of a range of robust commitments and should also be more testing and fully governed and secured within the DCO and monitored during the construction phase, with clear consequences for not achieving them. Proposals were jointly presented by the Council and the Port of London Authority (PLA) to NH for improved use of the river for marine transport of plant and materials. This was presented in the Joint Council/PLA Technical Note of October 2022, which is within **Appendix C, Annex 4** and was responded to by NH in February 2023, but with no changes to their original proposal which was not considered acceptable.
- 9.8.28 NH should commit to requiring its contractors to using a zero-emissions road fleet and construction plant both within the works and for movements to, from and between compounds. Departures from that commitment would need to be substantiated by the contractors through their TMPs ([AS-038](#), dDCO Requirement 10 and [APP-547](#), oTMPfC section 2.3) or its Construction Logistics Plans ([APP-336](#) Section 6.1). NH should further actively facilitate use of zero-emissions vehicle use by workers as part of legally binding Travel Plan obligations.
- 9.8.29 A Detailed Local Operating Agreement (DLOA) or side agreement should be devised and concluded before DCO Grant or secured through a Requirement. That agreement will clearly set out the mechanisms for co-ordination between the authorised works and other works on the LRN both within and outside the Order Limits. Further comments on this matter are set out in Section 15.2 below.
- 9.8.30 The FCTP has provided analysis of the anticipated travel effects of the workforce and needs to be extended prior to DCO Grant to provide clear and robust targets and initiatives that will be adopted by the contractors. That can include commitments toward decarbonising travel and putting in place

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mechanisms to help workers travel without their cars. Section 15.6 of this LIR considers the FCTP ([APP-546](#)) further.

- 9.8.31 NH must mandate the TMF, which will be established through the oTMPfC ([APP-547](#)) to resolve problems that are identified during the construction period. A clear and robust governance structure must be set out in the oTMPfC showing the control and co-ordination and reporting structure and timeframes for resolving matters raised. Currently the TMF would become a discussion group with no authority or proper controls.
- 9.8.32 Orsett village will be significantly impacted during the construction phases both directly through the closure of Rectory Road and Baker Street and indirectly through the displacement of traffic into the village network to avoid delays at Orsett Cock and A1013. NH has acknowledged that funds for the provision of traffic management measures in Orsett Village should be secured through the DCO, but has not currently proposed a mechanism. Furthermore, the commitment to monitor the impacts on other communities, as set out in oTMPfC ([APP-547](#)) Section 2.4, should be assigned a ringfenced fund in a Deed of Obligation to be used during the construction period to mitigate other problems, which are directly related to the construction period, such as re-routing traffic that has been forced into communities, such as around Chadwell St Mary, Tilbury and Linford.
- 9.8.33 The oTMPfC should set out in the document what the consequences are to the contractor of non-compliance with the designated routes which will be monitored during the construction phase through the framework indicated at Plate 2.4 of the oTMPfC ([APP-547](#)). Paragraph 2.4.22 of the oTMPfC ([APP-547](#)) refers to providing the monthly monitoring at data sites, which must include reviews of variations in background traffic and must include what the consequences would be if monitoring is different to the assessed effect. The contractors should collect daily data of its fleet and that of its subcontractors and hauliers and present this information via digital dashboards that can be interrogated as part of the monthly monitoring reports.
- 9.8.34 NH has used LTAM to provide a transport modelling assessment of the distribution of construction traffic across the LRN. That assessment does not wholly align with the controls on traffic that are proposed within the oTMPfC, since only earthworks HGVs are assigned in the models to specific routes and other construction traffic is at liberty to assign within the network. The Council notes that there is no mechanism to control HGV movements and is concerned that NH's projections and controls will not be complied with. The Council proposes that caps on HGV movements to and from each compound are set in accordance with the DCO assessment and that those movements are assigned to the prescribed routes as set out within NH's evidence and commitments within the oTMPfC ([APP-547](#)). Those caps would be captured in the oTMPfC, such that they should be adopted within the contractors' TMPs. The caps on movement would be in accordance with the assumptions that NH has taken during its assessment and that were applied to its LTAM strategic models, with detailed modelling yet to be undertaken.
- 9.8.35 Through the TMF (if improved), the contractors, NH, the Council and other stakeholders can review the observed flows and commitments to remediate effects; defending local communities from traffic which seeks to reroute (e.g. Orsett).
- 9.8.36 Currently, there are no controls on the number of HGV movements or workforce movements that could be assigned to each compound. Both NH and the contractors are at liberty to adjust their operations with no consequences to local impacts or understanding of such impacts.
- 9.8.37 NH must revisit its proposals for governance and commitments during the construction period set out in the control documents. This must include a more robust approach to using marine and rail transportation to minimise the need to use road transport for the movement of materials, plant and equipment.
- 9.8.38 The construction period will bring in excess of 1,000 workers to the Borough at peak construction, who will not currently live in the Borough. Those people will need effective and environmentally

sound means to travel to the compounds. At present NH has not provided sufficient evidence as to how it will facilitate those journeys by anything other than the private car. This is not acceptable to the Council.

- 9.8.39 **SUMMARY: alongside a strengthening of the construction period governance processes, to set a robust framework for secondary mitigation, and the need to define primary mitigation at locations identified to be impacted by construction traffic and rerouted traffic, NH should extend its commitments to tertiary mitigation by minimising the use and transportation of materials, plant and equipment especially by road. The oMHP ([APP-338](#)) must be revisited by NH prior to any DCO being consented, such that it sets a clear and stretching basis from which the contractors can develop their proposals.**
- 9.8.40 **OVERALL SUMMARY: NH has used the LTAM to assess the likely impacts of the construction period for LTC. LTAM does not provide sufficient accuracy or detail to properly assess the impacts of construction on the LRN and local communities. This exercise must be completed using the operational models, so that impacts are properly understood and mitigation can therefore be considered in relation to construction impacts.**
- 9.8.41 **Notwithstanding this, the LTAM has shown impacts at many locations and NH proposes a suite of control documents as a basis for governance during the construction period. Those documents provide the start of a system of governance, but do not include sufficient control, guidance and commitments to lead NH's contractors to minimise the impacts of construction on the local community and network and operate within parameters assessed through the DCO.**

9.9 Incident Management

- 9.9.1 NH has stated that an objective of the scheme is to increase resilience in the SRN and for the crossing of the River Thames. This is specifically referenced in the Transport Assessment section 7.9 ([APP-529](#)), where it is stated that LTC would provide an alternative route to the Dartford Crossing under normal operation, but also during network incidents.
- 9.9.2 The Council has sought to understand the implications of LTC being used during network incidents and conversely the effects on the LRN of the redistribution of traffic in the event of incidents on LTC. Following many months of the Council raising its concerns, NH finally met with the Council on 18 October 2022 to discuss the implications of incidents on the LRN and SRN in Thurrock and how those incidents would be managed. At the meeting NH described current operations for management of incidents at the Dartford Crossing. The Council encouraged NH to collaborate further on understanding the likelihood impacts on Thurrock and the governance of those incidents. NH has not taken up that offer and has not prepared an incident management assessment and plan, which we understand has also been requested by the emergency services.
- 9.9.3 In the absence of any alternative method, the mechanism for investigating these effects would seem to be through iterations of the LTAM model. The Council has requested iterations of the LTAM model and provided a series of incident scenarios that could be assessed. This assessment has not been provided and so the Council cannot judge the likely effects of incidents on its network.
- 9.9.4 The road network in Thurrock has suffered frequently from the effects of southbound incidents at the Dartford Crossing. With the introduction of LTC the effects will change, however, that change could include new disruption to the LRN during northbound incidents at the Dartford Crossing as well as increased local demand during southbound incidents and closures. An added complexity would also come from incidents on LTC where drivers are not given adequate notice to reroute before arriving at an incident on LTC and either becoming trapped within LTC or seeking to reroute via the Orsett Cock interchange and onto other local roads.

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- 9.9.5 Currently, the Council is not in a position to form an informed judgement on these effects in the absence of wider LTAM testing and an incident management plan. The Thurrock LTAM 'cordon' traffic model does not allow the Council to run its own tests in the wider area.
- 9.9.6 Irrespective of the absence of provision of scenario testing of incidents and maintenance events on the surrounding network, the evidence submitted within the DCO does not include any information on an incident management plan. The Council does not agree that the network should be left to find a balance rather than operating under a planned and potentially proactive management plan being put in place which should be regularly reviewed, refined and updated. The Council is aware that this opinion is supported by the emergency services.
- 9.9.7 **SUMMARY: a stated objective of LTC is to bring resilience to the crossings of River Thames. The Council has not been provided with evidence that LTC will succeed in that objective and has sought to work with NH to understand the strategy to manage incidents on the proposed convoluted network. NH has not provided any evidence or collaborated with the Council on this strategy.**

9.10 Walkers, Cyclists and Horse Riders (WCH)

- 9.10.1 Further details can be found in Section 10.12 below.

10 Assessment of Environmental and Health Impacts

10.1 Introduction

- 10.1.1 This section reviews the DCO application in respects of the various topics within the Chapters of the ES and the related, Figures, Appendices, the HEqIA, the Carbon and Energy Management Plan and other related documents. The topics covered below are Air Quality, Noise and Vibration, Cultural Heritage, Landscape and Visual, Terrestrial Biodiversity, Marine Biodiversity, Water Resources, Geology and Soils, Materials and Waste, Land Use and Open Space, Walkers, Cyclists and Horse riders (WCH), Human Health, Equalities and Wellbeing, Climate and Decarbonisation and Cumulative Impacts.
- 10.1.2 Each topic is dealt with in a similar fashion (supported by Appendices if necessary) covering the following structure/content: an Introduction, Summary of Key Issues, Local Impacts, Policy Compliance and Local Impacts and Further Work and Mitigation Required.
- 10.1.3 This assessment of the identified environmental and health impacts/effects highlights local impacts and what is required to mitigate such impacts and what local aspects need to be considered by the ExA in determining written questions, Hearings content and managing the Examination.

10.2 Air Quality

Introduction

- 10.2.1 The fraction of mortality attributable to particulate air pollution (Public Health Indication D01, PHE) in Thurrock in 2021 was 5.91%, above the national average and in the highest 20% of local authorities in England.
- 10.2.2 The Council has investigated air quality within its administrative area as part of its responsibilities under the Local Air Quality Management regime. To date, the Council has declared 18 AQMAs. These have been declared due to exceedances of the annual mean NO₂ and 24-hour mean PM₁₀ NAQOs because of traffic related pollution along busy roads, many of which (such as the M25 and sections of the A13) are controlled by National Highways. None of the TC AQMAs fall within the Order Limits for the Project.
- 10.2.3 The Council carries out monitoring of nitrogen dioxide at three automatic stations and at 67 locations using passive diffusion tubes. In 2019 measured concentrations have been above the annual mean NO₂ objective (40µg/m³) at nine sites within Thurrock, eight of which were within the existing AQMAs. There were also an additional 6 sites which reported within 10% of the NAQO. Overall, NO₂ concentrations remained at similar levels during 2018 and 2019.
- 10.2.4 The Council carries out monitoring of PM₁₀ at three automatic stations, concentrations have remained at similar levels between 2018 and 2020 and there have been no exceedances of the annual mean or 24-hour mean objectives.
- 10.2.5 The Council carries out monitoring of PM_{2.5} at one automatic station, concentrations have been below the NAQO of 20µg/m³ for the last 5 years and concentrations have remained relatively constant between 2017 and 2020.
- 10.2.6 Estimated background concentrations for the Borough are available from the latest 2018 based national maps provided by DEFRA. The background NO₂ and PM₁₀ concentrations are below the relevant NAQOs and limit value across the borough. The background PM_{2.5} concentrations meet the limit value of 20µg/m³, however background concentrations in 2030 (the latest year projections are available) are above The Environmental Targets Regulations 2023 annual mean target of 10µg/m³ to be achieved by 2040 at some locations across the borough.
- 10.2.7 It is therefore evident that the residents of Thurrock have long been exposed to elevated concentrations of air pollution with resultant adverse health effects with NH controlled roads, likely to be a significant contributor. The following summary of key issues aligns with many of the SoCG issues being discussed, but not resolved, with NH over the last 2-3 years.

Table 10.1: Summary of Key Issues

Summary of Key Issues
<p>Relevant Rep VIII – the Council has, since early 2022, requested NH to provide inputs and results for the air quality modelling in an accessible format to allow a meaningful review and understanding of the proposals and impacts. This has not been provided and therefore has not allowed for discussions on additional mitigation to be undertaken in a timely manner. This is documented in Principal Issue VIII within the Relevant Representation document (PDA-009).</p> <p>Comments on the previous SOCG issues that remain valid.</p> <p>SoCG 2.1.101 and SoCG 2.1.196 – no additional information was provided for Tilbury Fields to determine how the highway affects the air quality at the proposed public park adjacent to the tunnel exit at Tilbury Fields. It is considered that additional receptor locations close to the tunnel exits should</p>

Summary of Key Issues

be considered in the assessment to determine the impact of the scheme on users of the Tilbury Fields.

SoCG 2.1.115 - only the impacts associated the Core Scenario (of the transport modelling) have been assessed within Chapter 5; whilst this is standard practice given the substantial increase in pollutants at receptors close to the route in Thurrock, some clarity on the likely range and likelihood of even more substantial impacts would allow acceptability to be determined.

SoCG 2.1.188 - PM_{2.5} concentrations were not modelled and instead the PM₁₀ results were used. While it is acknowledged that the Environmental Targets (Fine Particulate Matter) Regulations 2023 and the Environmental Improvement Plan 2023 were published after the DCO was submitted, these documents set a lower concentration than those considered in the assessment. It is considered that further assessment against these targets is undertaken to determine the impact of the scheme within Thurrock.

SoCG 2.1.189 (2) – the information provided in the Chapter 5 does not provide enough information to determine the overall burden to the residents of Thurrock. Particularly in respect to the increases in Chadwell St Mary, Baker Street and along the A13 between Baker Street and Stanford-le-Hope, where substantial increases in NO₂ concentrations are predicted at the receptors presented in the assessment. The DMRB LA105 assessment methodology focuses on locations where there is an exceedance of the NAQOs, significance of the effects should be considered at locations below the NAQOs and additional information be presented on the quantitative health impacts.

SoCG 2.1.189 (3) – it is acknowledged that under the methodology and guidance used within the assessment that mitigation and monitoring for the operational phase is not required by DMRB LA105. However, given the substantial increase predicted within Thurrock, the Council consider that it would be appropriate (and in line with non-Highway related developments) to undertake some monitoring post completion at receptors anticipated to have the greatest change in concentrations because of the scheme.

SoCG 2.1.198 (1) – it is noted that National Highways were due to commence the baseline monitoring in 2022, confirmation that this has commenced.

SoCG 2.1.198 (2) – modelling shows there are substantial increases in receptors in proximity to the route within Thurrock, particularly in Chadwell St Mary, Baker Street and along the A13 between Baker Street and Stanford-le-Hope, it is considered that monitoring would be proportionate in these locations.

Other Issues

The draft NPSNN highlights (paragraph 5.18 and 5.21) that air quality considerations will be important where there is a deterioration in air quality, particularly where substantial changes are expected, and not be limited to areas where breaches of any national air quality limits or statutory air quality objectives are predicted. The current significance criteria in DMRB LA105 guidance are not considered to reflect this emerging requirement and there are receptors where substantial increases in pollutant concentrations are predicted and the ES Chapter 5 ([APP-143](#)) does not consider them as significant due to the background level rather than the degree of deterioration.

It is not clear from ES Chapter 5 ([APP-143](#)) and the appendices which diffusion tubes are contained with each verification zone or which receptors are within each verification zone. Given that the verification factors that might have been applied to the modelling results within Thurrock range from ~0.65 to greater than 3, this will have a major effect on the reported impacts. It is therefore considered essential that a figure be provided which shows where each zone has been applied and therefore which receptors are in each verification zone. This will help the Council to better understand the predicted changes in air quality within the Borough.

Local Impacts Identified by Thurrock Council

- 10.2.8 It is acknowledged that there are both improvements and deteriorations in air quality because of the scheme. The information provided in the ES Chapter 5 ([APP-143](#)) does not provide adequate information to fully determine the overall burden to the residents of Thurrock, particularly in respect to the increases in Chadwell St Mary, Baker Street and along the A13 between Baker Street and Stanford-le-Hope, where substantial increases in NO₂ concentrations are predicted at the limited number of receptors presented in Table 1.1 of Appendix 5.4 of the assessment ([APP348](#)) and Table 5.28 of Chapter 5 ([APP-143](#)).
- 10.2.9 Overall, despite the sparsity of modelled receptors in residential areas in proximity to the Scheme, there are more receptors within Thurrock that experience an increase (81 No.) in concentrations compared to those that experience a reduction (56 No.). Generally, there is a geographical divide within the Borough with those receptors located in the west of the Borough experiencing a reduction in concentrations, while those located in the east of the Borough experiencing an increase in concentrations.
- 10.2.10 Whilst NH has not provided complete data in a manner that would aid interpretation, from the data presented in Chapter 5 ([APP-143](#)) and Table 1.1 of Appendix 5.4 ([APP348](#)) considering all receptors within Thurrock there is maximum predicted increase in annual average NO₂ concentration of 4.8 µg/m³ (at receptor LTC326 as a result of a new section of road being constructed close to the receptor with predicted flows of 86,400 AADT) and an average increase in annual average NO₂ concentrations of 0.3 µg/m³. The draft NPSNN highlights (paragraph 5.18 and 5.21) that air quality considerations will be important where there is a deterioration in air quality, particularly where substantial changes are expected and not be limited to areas where breaches of any national air quality limits or statutory air quality objectives are predicted. The Council consider that the significance of these changes in concentrations, whilst below the current legal thresholds, should be considered as part of the EIA process.
- 10.2.11 As a result of the lack of transparent information provided by NH, the Council commissioned Borough-wide modelling in 2022 to clarify the burden of LTC on the residents of Thurrock. This modelling was based on a previous version of the traffic model data provided by NH, who have since declined to provide updated data to allow updates to be assessed. The full Technical Note and associated maps are presented in **Appendix D, Annex 1** and a summary of the findings are discussed below.
- 10.2.12 From analysis of the modelled impacts, the numbers of residential properties (from OS Address base data) experiencing a change (increase or decrease) in modelled NO₂ and PM_{2.5} concentrations are summarised in **Table 10.2**.

Table 10.2: Property Count with Predicted Magnitude of Change in Annual Average NO₂ and PM_{2.5} concentration

Predicted Change	Number of Residential Properties with Predicted Increased Concentration	Number of Residential Properties with Predicted Decreased Concentration
'Small' change in NO ₂	18,052	9,343
'Medium' change in NO ₂	1,863	42
'Large' change in NO ₂	124	1
'Small' change in PM _{2.5}	8,782	3,474
'Medium' change in PM _{2.5}	117	2
'Large' change in PM _{2.5}	48	0

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10.2.13 These forecast changes in annual average NO₂ and PM_{2.5} concentrations at residential properties have been considered alongside Index of Multiple Deprivation (IMD 2019 by LSOA), as summarised in the **Tables 10.3 and 10.4** below.

Table 10.3: Property Count by IMD quintile with Predicted Change in Annual Average NO₂ concentration

IMD quintile	Most Deprived			Least Deprived		Total
	0-20%	20-40%	40-60%	60-80%	80-100%	
No of Properties with Predicted Reduction in NO ₂ Concentrations	171	2,739	1,693	1,228	3,555	9,386
No of Properties with no appreciable change in predicted NO ₂ concentrations	4248	15,799	8,032	8,671	2,844	39,594
No of Properties with Predicted Increase in NO ₂ Concentrations	719	7,140	3,630	5,408	800	17,697

Table 10.4: Property Count by IMD quintile with Predicted Change in Annual Average PM_{2.5} concentration

IMD quintile	Most Deprived			Least Deprived		Total
	0-20%	20-40%	40-60%	60-80%	80-100%	
No of Properties with Predicted Reduction in PM _{2.5} Concentrations	283	836	1,262	119	976	3,476
No of Properties with no appreciable change in predicted PM _{2.5} concentrations	6,028	20,861	10,200	13,284	6,223	56,596
No of Properties with Predicted Increase in PM _{2.5} Concentrations	1,169	3,981	1,893	1,904	0	8,947

10.2.14 The analysis of residential properties indicates that the number forecasted to experience an increase ('small', 'medium' and 'large') in annual average NO₂ and PM_{2.5} concentrations is substantially greater than the number of properties predicted to experience decreases.

10.2.15 Furthermore, the analysis of the forecast changes in annual average NO₂ and PM_{2.5} concentrations at residential properties alongside Indices of Multiple Deprivation (IMD) indicate that the air pollution impacts of LTC are not equally distributed; residential properties within more deprived areas of Thurrock (lower 2 IMD quintiles) are more likely to experience increased concentrations of NO₂ and PM_{2.5} whereas residential properties within the least deprived quintile are more likely to experience decreases.

10.2.16 These forecasts (and those presented by NH) are based on 'opening year' traffic flows and it should be recognised that traffic is forecast to increase significantly within the first 15 years of operation. The rate of renewal of vehicles and uptake of Electric Vehicles (EV) will contribute to anticipated reductions in NO_x emissions from road transport; however, this is unlikely to result in any noticeable decrease in PM_{2.5} emissions (and heavier weights of EV could result in increased emissions). There is uncertainty as to the rate of this change and whether any decrease in NO_x emissions will outweigh the growth in traffic flows using LTC.

10.2.17 Therefore, the duration of these forecast impacts is uncertain and PM_{2.5} impacts due to LTC are likely to increase further in future years with increased traffic flows using LTC resulting in residents of Thurrock continuing to experience an elevated fraction of mortality attributable to particulate air pollution.

Policy Compliance and Local Impacts

10.2.18 Paragraph 5.13 of the NPSNN states:

- a. *'The Secretary of State should refuse consent where after taking into account mitigation, the air quality impacts of the scheme will:*
- b. *Result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or •*
- c. *Affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision.'*

10.2.19 However, paragraph 5.12 of the NPSNN states:

'The Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to EIA and / or where they lead to a deterioration in air quality in a zone/agglomeration.'

10.2.20 Whilst the air quality assessment complies with the requirements of paragraph 5.13 of the NPSNN policy, the consideration of the significance of the impacts in relation to EIA (as required by paragraph 5.12) is limited by the DMRB LA105 methodology, which fails to consider the effect of substantial increases in pollutant concentrations at levels below the legal thresholds.

10.2.21 As outlined in **Tables 10.2 – 10.4**, in the absence of any consideration of this by NH, the Council's analysis indicates that as a result of LTC there are in excess of 100 residential properties within Thurrock that could potentially experience a 'large' increase (1,863 potentially experience a 'medium' increase) in annual average NO₂ concentrations and 48 residential properties potentially experience a large increase (117 potentially experience a 'medium' increase) in annual average PM_{2.5} concentrations.

10.2.22 The significance of these impacts on relation to EIA has not been considered within the assessment and therefore does not comply with the requirements of paragraph 5.12 of the NPSNN.

Further Work or Mitigation Required

10.2.23 It is acknowledged that under the methodology and guidance used within the assessment that mitigation and monitoring for the operational phase is not required by DMRB LA105 as NPSNN 5.10 only requires mitigation where there is a breach of air quality thresholds, as follows:

'Where a project is likely to lead to a breach of the air quality thresholds, the applicant should work with the relevant authorities to secure appropriate mitigation measures with a view to ensuring so far as possible that those thresholds are not breached.'

10.2.24 As a result of the requirements of paragraphs 5.10 and 5.13 of the NPSNN, NH rely on the framework set by their DMRB LA105 guidance, which focusses solely on exceedances of the NAQOs.

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- 10.2.25 However, this approach does not fully acknowledge or recognise the requirements of paragraph 5.12 of the NPSNN (to give substantial weight to significant air quality impacts in relation to EIA, which is given greater clarity and weight in the draft NPSNN) or the potential for adverse health impacts due to NO₂ and PM_{2.5} at levels well below the current AQO (or limit values).
- 10.2.26 Given the impacts and deterioration in air quality forecast for numerous residential properties within Thurrock, the Council consider that appropriate mitigation measures should have been investigated by NH though the design process of the Scheme.
- 10.2.27 This should include consideration of mitigation measures related to the source, i.e. speed limit reduction, encouragement of EV uptake, influencing driver behaviour, etc.); pathway, i.e. alignment and use of barriers; and, receptor, i.e. filtration and awareness raising, as recommended in Highway England Research (this was a summary of research projects to improve air quality on or close to the strategic road network, December 2019).
- 10.2.28 No evidence has been presented to demonstrate that the efficacy and practicability of options to mitigate the air quality impacts of operational traffic have been considered through the design process of the Scheme and the Council consider that that mitigation, such as speed limits or additional physical barriers to protect the most impacted and vulnerable receptors, need to be secured through the DCO.
- 10.2.29 Additionally, given the inherent uncertain in the underlying traffic data and methodologies for modelling emissions from traffic, the Council consider that it would be appropriate (and in line with non-Highway related developments) to undertake extensive monitoring post completion at receptors identified by the air quality assessment to have the greatest change in concentrations because of the scheme. This would provide clarity as to the actual impacts of the Scheme on air quality (and risk of adverse health effects) and support the Council in its statutory duties in regard to Local Air Quality Management and Public Health. In addition, it is necessary for funding to be provided to the Council to mitigate any exceedances found due to such monitoring.

10.3 Noise and Vibration

Introduction

- 10.3.1 The Council has, since early 2022, requested NH to provide inputs and results for the noise modelling in an accessible format to allow a meaningful review and understanding of the proposals and impacts. This has not been provided and therefore has not allowed for discussions on additional mitigation to be undertaken in a timely manner. This is documented in Principal Issue VIII within the Relevant Representation document ([PDA-009](#)).
- 10.3.2 This review is therefore based solely on the information provided in a .pdf format within the relevant chapter and appendices of the DCO Environmental Statement (ES) documentation (APP-138 – APP-486).
- 10.3.3 The noise and vibration assessment (Environmental Statement Chapter 12 – Noise and Vibration) ([APP-150](#)) considers both the operational and construction phases of the proposed development.
- 10.3.4 Noise impacts have only been reported for human receptors. However, the chapter states that noise modelling has informed other technical chapters, including Chapter 8: Terrestrial Biodiversity.
- 10.3.5 Noise-sensitive receptors within the jurisdiction of the Council are currently exposed to noise from two significant road traffic sources, the M25 and the A13. Receptors in close proximity to these roads are likely to be subject to significant levels of noise. However, the majority and remaining receptors in the Council area are unlikely to be exposed to significant levels of road traffic noise.

Table 10.5: Summary of Key Issues – Noise and Vibration

Summary of Key Issues
<p><i>Table 12.60 in Chapter 12 of the ES summarises the assessment findings (with mitigation in place), as follows. These are impacts summarised across the full geographical scope of the scheme and not just Thurrock Council:</i></p> <p><i>Construction Phase</i></p> <p>Construction Noise – significant impacts are likely during the construction phase due to construction plant.</p> <p>Construction Vibration - no construction plant outside of piling, such as vibratory rollers have been assessed.</p> <p>Construction Road Traffic – moderate or major impacts are likely at receptors due to construction traffic and no mitigation measures seemed to have been outlined.</p> <p><i>Operational Phase</i></p> <p>Road Traffic - impacts due to the development are likely to cause moderate and major changes in noise levels at receptors within the jurisdiction of the Council.</p>

Local Impacts Identified by Thurrock Council

- 10.3.6 The construction receptors assessed do not cover all receptors that are potentially affected. It is likely that South Ockendon could be subject to construction noise impacts. Therefore, receptors along Cheelson Road, located within South Ockendon, which are in close proximity to the LTC should be included within the assessment.
- 10.3.7 Construction noise impacts are concluded as being not significant with mitigation measures being identified within the Register of Environmental Actions and Commitments (REAC) ([APP-336](#)). However, specific measures to mitigate impacts have not been identified. Significant daytime

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construction impacts are likely at Whitecroft Care Home. Baseline sound levels at this receptor are 55 dB, $L_{Aeq,T}$. Construction noise levels are predicted to be over 70 dBA. Impacts are therefore significant and specific mitigation measures are required for this receptor. Such increases in noise levels equate to a tenfold increase in energy and are likely to be perceived as doubling in loudness. Furthermore, given the sensitivity of the receptor the impact on residents is likely to be particularly significant.

- 10.3.8 Significant adverse effects have been identified relating to construction traffic in the years 2025 – 2029, with over 200 receptors subject to a moderate or more increase in noise levels in 2025 and in 2028. It is unclear what specific mitigation measures have been identified to reduce the impact and what the residual impacts will be. Reference is only made to a Traffic Management Plan, but no details or resulting impacts have been provided.
- 10.3.9 Operational road traffic impacts due to the development are likely to cause moderate and major changes in noise levels at receptors within the jurisdiction of the Council. Whilst mitigation measures, such as the implementation and commitment to low noise road surface are welcomed, these impacts will remain. Therefore, receptors within the Council area will experience permanent increases in noise levels that are likely to be perceivable and be a potential source of annoyance.
- 10.3.10 Acoustic barriers have been appraised within the ES and some have been identified as being included in the assessment. However, given that major and moderate impacts remain, it is questioned why the use of additional barriers/increased lengths have not been included. Based on Section 6.2 of the ES Figures, Figure 12.7, these impacts remain at the following locations:
- Edge of East Tilbury;
 - West Tilbury;
 - Linford;
 - North of Chadwell St. Mary;
 - To the North of South Ockendon and Ockendon; and
 - Orsett Heath.
- 10.3.11 Impacts above the SOAEL (Significant Observed Adverse Effect Level) will also be experienced at 2 receptors within Thurrock. These are Nos 1 and 2 Brook Farm Cottages, Brentwood Road. No specific mitigation measures or compensation have been put forward for these receptors. Furthermore, no operational monitoring is specified despite significant impacts being identified.
- 10.3.12 The assessment has considered a study area in accordance with DMRB. However, it is noted that certain receptors do not appear to have been included within the assessment despite having been raised previously with NH. The receptors that require further assessment are set out below.
- 10.3.13 Tilbury Fields has not been assessed as a receptor during the construction phase. With respect to operational noise, levels are presented in Figures 12.7 and 12.8 of the ES but have not been considered specifically in the ES. Therefore, it cannot be concluded as to how the construction or operation of the scheme affects Tilbury Fields.
- 10.3.14 The Gammonfields Way traveller site has also not been assessed in the noise and vibration chapter ([APP-150](#)). Given the sound insulation for such receptors is likely to be less than for typical residential dwellings, impacts could be more significant. Gammonfields Way travellers' site is mentioned within *Section 6.1 of the ES Chapter 13 Population and Human Health*. However, there are no specific noise levels mentioned with regards to construction and no assessment of the suitability of the site with regards to private external amenity areas or internal noise levels. The ES

Chapter simply concludes that with mitigation measures included, impacts are slight adverse and not significant. There is no justification for this conclusion and a full noise assessment should be undertaken for that travellers site.

Policy Compliance and Local Impact

10.3.15 NPSNN states in paragraph 5.195 that the Secretary of State should not grant development consent unless satisfied that the proposals meet the following aims:

- a. Avoid significant adverse impacts on health and quality of life from noise as a result of the new development;
- b. Mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and,
- c. Contribute to improvements to health and quality of life through the effective management and control of noise, where possible.

10.3.16 With regards to the first aim, the ES identifies that significant adverse effects have not been completely avoided and there remain receptors where effects above a SOAEL are predicted during operation. By exceeding the significant levels, the noise causes a material change in behaviour, attitude or other physiological response. This can include avoiding certain activities during periods of intrusion and where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. There is also potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Overall quality of life is diminished due to change in acoustic character of the area.

10.3.17 Construction traffic impacts are likely to increase noise levels to above moderate impacts. However, as no absolute noise level information has been provided, there is no evidence to confirm that significant effects are not likely at the receptors.

10.3.18 With regards to the second aim, the proposal includes acoustic barriers, cuttings and bunds as well as a low-noise surface. However, given that impacts remain moderate and major, further measures such as increased barrier heights/alternative routes should be considered to minimise adverse impacts.

10.3.19 With regards to the third aim, the development proposals are unlikely to improve health and quality of life with respect to noise. Whilst noise is typically still considered to be a nuisance rather than a threat to public health, research is growing to oppose this view. The UK Health Security Agency (UKHSA) has conducted a new study to better understand how noise can affect health and wellbeing. The full report is provided in **Appendix D, Annex 2** and further referred to in Section 10.13.7 below. The research builds on long established evidence that living in an area with higher noise levels from traffic can lead to stress and sleep disturbance, and more recent research shows that this can lead to an increase in an individuals' risk of developing more serious health problems such as heart disease or diabetes. The research undertaken shows that major sources of noise such as road traffic contribute to a burden of disease across the population. The study further demonstrates the need to consider health impacts of noise in the decision-making process for new transport infrastructure. This is particularly the case for residents of Thurrock who are to be exposed to increased operational road traffic with noise levels above levels defined as moderate and major in DMRB.

10.3.20 Construction activities to be undertaken for many years are also likely to contribute to higher noise levels than residents are currently exposed to which can impact on health and quality of life.

Further Work or Mitigation Required

- 10.3.21 Compensation or specific mitigation measures have not been included for receptors, which are subject to a SOAEL increase in noise levels. Furthermore, operational monitoring has not been included within the REAC ([APP-336](#)). However, given the significant impacts and potential for further compensation, operational monitoring should be included for these receptors.
- 10.3.22 Operational impacts are likely to lead to moderate or major changes in noise levels. Further reasoning is to be provided as to why additional barriers/increased heights were not included in the scheme.
- 10.3.23 The ES chapter 12 ([APP-150](#)) is unclear on construction traffic mitigation and what resulting noise impacts will be after mitigation.
- 10.3.24 The ES Chapter 12 ([APP-150](#)) states that the use of vessels using the river as part of this scheme would generate low noise levels and the distance to receptors is such that the effects are not significant. NH should provide justification as to what these noise levels are and if night-time works would be undertaken. The resulting assessment should be included within the ES.
- 10.3.25 The ES Chapter 12 ([APP-150](#)) states that CFA piling is considered to have a negligible effect. Justification should be provided within the ES with calculations and predictions being provided. No account has been provided within the ES of the current building conditions and should also form part of the assessment. Other vibration sources such as vibratory roller have also not been assessed and could be a source of potential significant impacts.
- 10.3.26 With regards to construction noise, mitigation measures which should be referenced to specific receptors should be set out in the REAC ([APP-336](#)), which can then inform the evidence for residual impacts. This is specific to receptors likely to be subject to significant impacts, such as Whitecroft Care Home (as referred to above).
- 10.3.27 Receptors previously identified to NH, have not been assessed. These should be included in updated assessment, including Tilbury Fields, Gammon field traveller site and receptors along Cheelson Road.
- 10.3.28 A discrepancy has also been noted, as the ES Chapter 12 ([APP-150](#)) states that moderate or greater changes in road traffic noise are expected at Stifford Clays Road. However, Figure 12.7 of the ES does not show this level of change and this needs to be explained.

10.4 Cultural Heritage

Introduction

- 10.4.1 The Lower Thames Crossing (LTC) will impact extensive cultural heritage assets along the length of the proposed route. The Historic Environment Record shows many archaeological sites will be impacted with the complete loss of a Scheduled Monument and three listed buildings. The settings of several Listed Buildings and Conservation Areas will also be affected. Following consultation, a programme of aerial photographic rectification and extensive trial trenching has been undertaken across Thurrock. The Listed Buildings proposed for demolition have had an initial historic building recording completed, which will be enhanced as the buildings are dismantled.

Table 10.6: Summary of Key Issues – Cultural Heritage

Summary of Key Issues
Appropriate identification of harm to associated non designated asset to the Scheduled Monument of Orsett Cropmarks.
Securing the appropriate level of mitigation to address the harm or loss of significance resulting from the demolition of three Grade II listed buildings (1-2 Grays Corner Cottages, The Thatches & Murrells Cottage, and Thatched Cottage) and the degradation of the setting of a fourth Grade II listed building (Baker Street Windmill).
The Council is still awaiting a revised Holocene report and therefore is unsure with the current document not providing a full assessment of the Holocene deposits.
Heritage assessment of the portal entrance has not been evaluated to the level of the remainder of the route. At present we do not know the significance of these deposits and no mitigation strategy has been discussed.
The Council is still in discussions with NH on a revised Outline Written Scheme of Investigation (OWRSI)
Role of Local Authority archaeological advisors should be clearly and consistently identified for their role of monitoring and signing off the mitigation strategy for each site within the REAC (APP-336).

Local Impacts Identified by Thurrock Council

- 10.4.2 The most significant impacts to built heritage within Thurrock resulting from LTC are the demolition of three Grade II listed buildings (1-2 Grays Corner Cottages, The Thatches & Murrells Cottage, and Thatched Cottage) and the degradation of the setting of Baker Street Windmill, also a Grade II Listed Building.
- 10.4.3 The most significant impacts to below ground archaeology is the destruction of the Cropmark complex Scheduled Monument (SM 1) at Orsett and certainly all the areas of archaeology that would contribute to the assets significance. The impact of LTC will result in the destruction of the vast majority of this monument. There would be a significant effect in EIA terms and in terms of the assessment the impact would be 'major adverse'. In policy terms this would be substantial harm. This has been identified in Chapter 6 ([APP 144](#))

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- 10.4.4 LTC will also result in the removal of an associated and related site (site 247), which sits to the north of Stifford Road and outside of the Scheduled Monument (SM1) red line, but should be considered to be of similar importance to the Scheduled Monument as defined in Policy NPSNN 5.124 . Sections 6.5.165 of Planning Statement 7.2 and 6.3.78 of Chapter 6: Cultural Heritage ([APP 144](#)) do not recognise the importance of site 247, even though it is part of the same complex that is Scheduled to the south (SM1).
- 10.4.5 Historic Building Recordings have been carried out for the three listed buildings proposed for demolition ([APP 374](#)) and this will be enhanced as the buildings are dismantled. This is a specific commitment in the Register of Environmental Actions and Commitments (REAC commitment: CH004) ([APP 336](#)). The REAC also commits to adhere to the AWS-OWSI ([APP 367](#)) (REAC commitment: CH001), which includes the Level 3 Historic Building Recording of Baker Street Windmill.
- 10.4.6 There is potential for further mitigation for the loss of the Grade II listed Thatched Cottage in particular. As a timber-framed building of a modest size, it is a good candidate for dismantling, relocating and reconstructing if an appropriate site can be located. It could have potential benefits of a legacy project involving the use of the building in training/upskilling in traditional building techniques. Whilst the building would lose its historic context and setting, its reconstruction would offer a level of mitigation as there would no longer be a complete loss of the building's significance.
- 10.4.7 Of the non-designated assets impacted an approximate total of 120 areas have been identified from the evaluation work which will require archaeological investigation in advance of the application being developed. Considerable knowledge will be gained; however, this will result in the complete loss of the archaeological resource where impacted.
- 10.4.8 The ES Cultural Heritage Chapter 6 ([APP-144](#)) Sections 6.4.398-3.4.431 and ES Figure 6.3 ([APP-189](#)) provide a summary of the key historical landscape components. This Section concludes that most of the features are of low to moderate value. This is considered appropriate as many parts of the Borough have experienced largescale impacts, such as from mineral extraction or draining of the fens and marshes.
- 10.4.9 The historic landscape assessment recognises that there would be significant effects on marshland and reclaimed marshland; open land, commons, heaths and fens; and farming landscapes. It is considered that the most significant effects on historic landscapes, which cannot be fully mitigated would be on the West Tilbury Conservation Area, due to the proximity of the Tilbury Viaduct and the Bulphan and Orsett Fens, due to the elevated section of LTC, including the Mardyke and Orsett Fen Viaducts.

Policy Compliance and Local Impacts

- 10.4.10 Paragraph 5.127 of the NSPNN states that an applicant must describe the significance of any heritage assets affected in order to understand the impacts of a proposal. ES Chapter 6: Cultural Heritage ([APP-144](#)) and its associated appendices have complied with this policy.
- 10.4.11 In regards to considering the impact of LTC on the setting of heritage assets, the methodology adopted complies with the established best practice Historic England guidance: The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3 (2nd Edition).
- 10.4.12 The applicants have completed archaeological field evaluation, in the form of aerial photographic assessment ([APP-367](#)) and trial trenching ([APP-364](#), [APP-365](#) and [APP-366](#)) along the majority of LTC in Thurrock to a satisfactory level and in compliance with the NPS policy. There is concern that the tunnel mouth has not been fully assessed and the detailed nature of the archaeological or paleoenvironmental deposits in this area remain unclear.

10.4.13 Design Principle LSP.08 ([APP-516](#)) specifically references the need to respect the historic landscape features. The landscape strategy set out in the oLEMP and EMP would not cause any adverse effects on the other historic landscape areas.

Heritage Mitigation Statement

10.4.14 The general mitigation strategy is defined in the Outline Written Scheme of Investigation, which is still under discussion ([APP-367](#)) and it is proposed that detailed Archaeological Written Scheme of Investigations for each area investigation will be agreed at a later date once a contractor is appointed. At this stage this work will comprise more than 120 areas of archaeological investigation north of the Thames. At this stage, it is recommended that the application should contain clear maps of the mitigation areas proposed, which are at a scale that is readable (potentially as part of the OWSI).

10.4.15 A revised Holocene report has been promised by NH for many months, but this has not yet been received by the Council.

10.4.16 The Council have commented repeatedly on the desirability of enshrining key underlying principles of archaeological mitigation within the CoCP and REAC. Though some progress has been made, the Council continue to press for archaeological management and especially the role of the local authority Archaeologists for monitoring and signing off the mitigation to be appropriately acknowledged and clearly and consistently defined as part of the wider environmental response ([APP-336](#) Table 7.1 CH007).

10.4.17 The design incorporates embedded mitigation to address the impact on Baker Street Windmill in the form of planting and the creation of an earth bund to limit the land required and provide visual and noise mitigation. The REAC ([APP-336](#)) and AMS-OWSI ([APP-367](#)) provide the commitment for the recording of the built heritage assets lost through LTC, which is considered to be 'essential mitigation'. There is a further commitment (REAC CH008) to implement Cultural Heritage Asset Management Plans for heritage assets remaining in their ownership at operational stage, which included a small part of Coalhouse Fort (a Scheduled Monument).

Further Work or Mitigation Required

10.4.18 The impact on the Scheduled Monument can only be mitigated by large scale open area excavation which has been agreed. This would be enhanced with the integration of site 247 excavated to the same standard.

10.4.19 There is potential for further mitigation for the loss of the Grade II listed Thatched Cottage in particular. As a timber-framed building of a modest size, it is a good candidate for dismantling, relocating and reconstructing. Further consideration is needed as to the appropriate location for its reconstruction and to the potential benefits of a legacy project involving the use of the building in training/upskilling in traditional building techniques. Whilst the building would lose its historic context and setting, its reconstruction would offer a high level of mitigation as there would no longer be a complete loss of the building's significance. The reconstruction of Thatched Cottage should be included within the REAC ([APP-336](#)), if a suitable site for its relocation is found.

10.4.20 With regards to Baker Street Windmill and the effects of LTC on its setting and significance, it needs to be clear within the AMS-OWSI that the Historic Building Recording is to have a particular emphasis on recording the setting of the Windmill.

10.4.21 It is important to have a clear programme of outreach defined for LTC and a proposal for long term storage and display of material. This has been discussed with the applicant's heritage consultants. Within Thurrock there may be the opportunity to link this with the restoration of Coalhouse Fort and the associated park proposed in the area.

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10.4.22 A number of Scheduled Monuments are in close proximity to the proposed route or land take, such as The Tilbury Battery, Bowaters Farm World War II site and Orsett Causeway enclosure would benefit from management strategies protecting and managing them into the future. At present these lie outside the red line, although in some cases are circled by it.

10.5 Landscape and Visual

Introduction

- 10.5.1 The LTC cuts through the centre of Thurrock, crossing through landscape of varying quality. The south of the Borough has experienced extensive pressure from large-scale mineral extraction and landfilling and industrial, port, logistics and infrastructure operations. The north of Thurrock, by contrast, remains primarily farmland retaining its rural, tranquil character.
- 10.5.2 Thurrock does not contain any designated landscapes, however, there are areas of landscape character of local significance associated with the Mardyke Valley and historic settlements, such as West Tilbury and Orsett.

Local Impacts Identified by Thurrock Council

- 10.5.3 Mardyke Valley is a relatively tranquil area with scattered farmsteads and hamlets which is assessed in the Landscape and Visual Assessment (LVIA) as having a High Landscape Sensitivity. The LTC would pass through this landscape on a viaduct and bridges creating a major, elevated feature transecting the landscape.
- 10.5.4 The Environment Statement Chapter 7 – Landscape and Visual (LVIA) ([APP-145](#)) confirms that the effects on landscape character on this area during construction and during opening year would be Very Large Adverse, only reducing to Large Adverse by Design Year (15 years after opening). Visual effects would be Very Large Adverse for users of Bridleway 219 and moderate or Large Adverse from other rights of way. The Mardyke and Orsett Fen Viaduct will be a Project Enhanced Structure, included in the Design Principles STR.04. However, only broad principles are included.
- 10.5.5 The Tilbury Viaduct would be a large, elevated structure approximately 300m from the edge of the West Tilbury Conservation Area with Order Limits extending to the Conservation Area boundary. The LVIA confirms that there would be a Large Adverse effect from the residential properties on Low Street Lane during construction. The effects on the residential properties would still be Large Adverse by Design Year. Despite this it has not been identified as a Project Enhanced Structure in the Design Principles ([APP-516](#)), which the Council has repeatedly challenged and NH has declined to change its designation.
- 10.5.6 Little detail has been provided regarding the features that would be contained within the construction compounds, however, within 6.2 Environmental Statement Figure 7.8 (1 & 2) ([APP-204](#)) and ([APP-205](#)) the Zones of Visual Influence (ZVI) plans allow for elements up to 25m tall. These ZTVs show the extent of the potential effects that such elements would have in a generally low-lying landscape, with potential for structures being visible across large parts of the borough. Although the compounds are considered to be temporary, they would be in operation for up to six years.
- 10.5.7 Paragraph 7.6.3 of the LVIA states that construction activities could give rise to adverse impacts over the short to medium term. Table 7.23 Schedule of Visual Effects on Representative Viewpoints north of the River Thames during construction confirms that Large Adverse effects will be experienced along many of the receptors close to the route as indicated by the ZTVs.
- 10.5.8 The construction phase essential mitigation measures (Table 7.14) include requirements to site compound facilities greater than 6m in height away from roads and residential properties. However, this will not help with mitigating the proposed elements of 15-25m in height to which NH has not proposed any mitigation.
- 10.5.9 The area around the North Portal has a long history of disturbance associated with landfilling and restoration, however, these activities did not require large equipment and therefore their visual

effects were contained. The construction of the tunnel and the earthworks at Tilbury Fields would have a significant effect on users and setting of Coalhouse Fort and the Two Forts Way/England Coast Path.

Policy Compliance and Local Impacts

- 10.5.10 Paragraph 5.144 of the NSPNN states that where the development is subject to EIA the applicant should undertake an assessment of any likely significant landscape and visual impacts in the EIA and describe these in the environmental assessment. Chapter 7 of the Environmental Statement – Landscape and Visual ([APP-145](#)) and its associated Appendices comply with this policy.
- 10.5.11 The methodology that has been adopted complies with the industry best practice. The Council has been consulted regarding local policy documents and to agree appropriate viewpoints and night-time views.
- 10.5.12 Paragraph 7.3.66 of ES Chapter 7 states that the new Thurrock Integrated Landscape Character Assessment, which was provided in draft was not used, as it was not publicly available before the DCO submission. While unfortunate, it is agreed that this is appropriate given that the completed assessment is still not on the Council website.
- 10.5.13 The embedded mitigation has been secured within the REAC CoCP ([APP-336](#)) and ([APP-339](#)) and Design Principles controlled documents

Design Principles

- 10.5.14 The Design Principles ([APP-516](#)) has been used to embed the proposed mitigation within a control document. These include Project-wide design principles and area-specific design principles. The principles were subject to detailed discussion with the Council and so are considered to be broadly acceptable. As noted above, however, the document only secures the broad principles and not the detailed designs.

Further Work or Mitigation Required

- 10.5.15 A key constraint to the provision of additional landscape mitigation has been the narrowness of the Order Limits corridor. This has resulted in landscape mitigation relying on measures such as false cuttings to achieve screening. This, however, limits the opportunity to provide more significant mitigation that would have a more positive outcome for the local landscape. A primary concern is the lack of robust screening around the Tilbury Viaduct to help mitigate the effects on nearby residents, as well as to provide improved north-south habitat connectivity. A wider mitigation area would allow more naturalistic shaped ponds to be provided as part of the water management requirements.
- 10.5.16 The narrowness of the landscape and ecology mitigation areas through the Mardyke Valley (see Plate 7.2 Ockendon Link – 6.6 Outline Landscape and Ecology Management Plan (oLEMP) ([APP-490](#))) restricts the scope for meaningful landscape mitigation and any enhancement that could help address the Very Large Adverse effects experienced in that area. While it is proposed that the viaduct will be a Project Enhanced Structure there is little scope to create fenland landscape that would help not only soften the visual effects but would be a positive addition helping to the restoring the historic landscape character.
- 10.5.17 Much of the new wetland would be situated very close to the structure which, while addressing the water management issues, limits its potential to contribute to achieving wider landscape benefits. The Council remains disappointed that the proposed landscape and ecological mitigation remains constrained within a narrow section of the Mardyke Valley, falling far short of the initial areas shown to environmental stakeholders, which was included within the LTC Green Infrastructure

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Study ([APP-503](#)) (EWT-01a&b). The objective was to recreate fenland habitat within the Orsett and Bulphan Fens. Such an appropriate measure would have delivered significant landscape benefits increasing natural screening of the viaducts, restoring historic landscape features and benefiting biodiversity.

- 10.5.18 The creation of Tilbury Fields and the earthworks at the junction of A13/LTC have been largely driven by the need to reduce the amount of material being taken off site.
- 10.5.19 The location and design of Tilbury Fields and its use for ecological mitigation and recreation means that this is considered broadly acceptable. The Council, however, has previously raised concerns following the revision to the site layout regarding the potential visual impacts of the mounds, particularly for users of Coalhouse Fort Park, now that they extend further inland compared to what was originally proposed. NH's rationale for not including a north-south bridleway through Tilbury Fields is that where it would connect to the Two Forts Way that section is currently a Public Footpath (FP146), rather than a bridleway. NH recognises there is scope for at least part of FP146 to be upgraded, however, this is outside the Order Limits and therefore NH cannot commit to providing such a route. While this is accepted in principle, the Council wishes to see an aspiration within the Design Principles that that NH would support the upgrading their route if Two Forts Way can be upgraded. There is no information as to how the paths and interpretation will be managed in the long term, as these elements are not included within the oLEMP ([APP-490 – APP-493](#)).
- 10.5.20 The Council has also raised concerns in early 2022 when there were discussions with DHLUC and DfT about moving the previous Tilbury Fields area proposal to accommodate land for the Thames Freeport. Once agreed, the Council were not provided with an options appraisal for potential areas in the vicinity to accommodate the new Tilbury Fields area and this remains so, despite it is acknowledged that areas in the vicinity/adjacent are limited. In particular, the Council were keen to explore use of the unused East Tilbury Landfill site and retrieve it from disuse and remedy its long-standing contamination. It is understood that that area may now be important for invertebrates. The Council, therefore, we like to understand the option appraisal to arrive at the current smaller site and higher landform for Tilbury Fields.
- 10.5.21 In addition, proposed section plans have been provided by NH showing the earthworks in relation to the existing and proposed carriageways. These show the mix of land raising and excavations to achieve the A13 junction and based on these it is considered that the gradients would not be excessive. Success of establishment will depend on factors such as soils and site preparation, which can be dealt with at the detailed design stage.

10.6 Terrestrial Biodiversity

Introduction

- 10.6.1 The terrestrial ecology associated with the Order Limits within Thurrock is highly varied and includes habitat and species types that are not well understood. Large parts of the Order Limits area comprise arable farmland, which is relatively poor in biodiversity. However, there are extensive areas of previously developed land comprising former mineral and landfill sites and extensive industrial, commercial and infrastructure sites, which have developed as important grassland or open mosaic habitats. Many have high biodiversity value, particularly for invertebrate assemblages. Many of these sites are currently not covered by any designations despite LTC survey results confirming that five sites have nationally important invertebrate assemblages.
- 10.6.2 The ES Chapter 8 – Terrestrial Biodiversity ([APP-146](#)) and its associated appendices provide a detailed assessment of all aspects of the biodiversity within Thurrock

Nitrogen Deposition Methodology, Impacts and Mitigation

- 10.6.3 The method for calculating Nitrogen Deposition (NDEP) and its potential to adversely affect designated sites and habitat changed during the preparation of the DCO, requiring additional compensation sites to be identified. The effects of NDEP would be a potential degradation in habitat quality rather than a direct loss of habitat.
- 10.6.4 The Council had sought further details regarding the NDEP methodology (SoCG 2.1.272 ([APP-130](#))). It is now confirmed that the methodology was developed in consultation with Natural England to achieve a more robust model. Additional details have been provided in ES Chapter 8: Terrestrial Biodiversity. The Council is now satisfied with the methodology.
- 10.6.5 Two compensation sites have been identified with Thurrock and these are the Hoford Road NDEP and Buckingham Hill landfill site.
- 10.6.6 The oLEMP ([APP-490](#)) LE8.7 Nitrogen deposition compensation habitat states that the overarching aim is to achieve an overall 70/30% split between woodland and over associated habitat across the compensation sites. The intention is to allow the woodland to develop through natural regeneration where possible. This principle is supported by the Council.
- 10.6.7 The Council has highlighted to NH that the soil and capping depths at Buckingham Landfill site are not known; therefore, it is not possible to be certain that the site would be able to support 70% woodland. This was discussed recently with NH in an SoCG workshop, but there was no full resolution, as the NH explanation was that the 70% ambition for woodland was an overall figure covering all sites earmarked for Nitrogen Deposition mitigation; and, that woodland on this site may not be appropriate, a position accepted by the Council.

Local Impacts Identified by Thurrock Council

- 10.6.8 The Council has been engaged throughout with the LTC project ecologists to seek to minimise adverse effects on sensitive sites and to develop a package of mitigation and compensation sites have been grouped where possible to create large, robust areas that link existing valuable sites to achieve larger, more strategically significant blocks of habitat. This has resulted in a cluster of mitigation and compensation sites being located around Tilbury Fields and Coalhouse Fort and connecting to other similar large sites to the east of East Tilbury. This has the potential to create an extensive area of grassland and open mosaic habitat, which supports nationally important invertebrate assemblages and provides a buffer to the adjacent Thames Estuary and Marshes SPA, which is highly sensitive to recreational pressures.

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- 10.6.9 There are to be a number of features within the Mardyke Valley close to the proposed viaduct that would create areas of wetland and grassland which are supported in principle. However, these were significantly scaled back compared to the areas originally identified during the development of the first DCO. While it has been demonstrated that there is sufficient area to deliver the ecological mitigation needs the limited space means there is a reliance of features, such as the spiral of water vole habitat rather than a wider network of ditches. This significantly lessened the scope to recreate the former fenland habitat, benefiting the landscape character and contributing to water management as well as mitigating for biodiversity.
- 10.6.10 LTC will not have any direct effects on statutory designated sites within Thurrock.
- 10.6.11 The ES Chapter 8 ([APP-146](#)) identifies a total of 29 Local Wildlife Sites within Thurrock within 500m of the Order Limits. It is predicted that the scheme would result in the loss or significant loss of three Local Wildlife Sites, Low Street, Rainbow Shaw and Blackshots Nature Park (as known as Ron Evans Memorial grounds). Compensation measures have been identified for each of these sites, which have been agreed in principle with the Council and secured within the oLEMP.
- 10.6.12 The scheme will result in a significant barrier to biodiversity connectivity through the Borough, with most protected and priority species, including bats, reptiles, amphibians and badgers and small mammals not being able to cross the route. The proposed green bridges would achieve some localised links once they have developed, however, over most of the project length the road would create a barrier species movement. The revised design of Tilbury Fields provides grassland and open mosaic habitat that benefits invertebrates and there is other suitable habitat to the north, however, there is no linking habitat provided around the Tilbury Viaduct, which creates a significant break in the connectivity, as this was refused by NH despite several Council requests for a linking wildlife corridor until the existing Tilbury Loop rail line.

Policy Compliance and Local Impacts

- 10.6.13 Paragraphs 5.22 – 5.23 of the NSPNN states that where the project is subject to EIA the applicant should ensure that the ES clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems.
- 10.6.14 The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.
- 10.6.15 Chapter 8: Terrestrial Biodiversity of the ES ([APP-146](#)) and its associated Appendices provide details of the survey results for habitats and protected species recorded within the Order Limits, together with avoidance, mitigation and compensation requirements which comply with this policy. The survey methodologies for the Terrestrial Biodiversity assessment were agreed with the Council prior to their commencement.

Habitats Regulation Assessment

- 10.6.16 The detailed assessment of the Habitats Regulation Assessment will be undertaken by Natural England and PINS will make the final decision in its role as competent authority.
- 10.6.17 The Council has concerns, however, that the scheme could result in indirect effects on the European sites and their functionally linked land due to the potential of the scheme to prevent repair works to the river frontage to prevent future contamination. These are summarised in Section 10.7 Marine Biodiversity below.

Further Work or Mitigation Required

- 10.6.18 A key concern is that the proposed biodiversity mitigation is constrained along significant sections of LTC due to the narrowness of the landscape corridor. This has restricted the opportunities to provide good quality fenland habitat within the Mardyke Valley and to provide robust connectivity to enable species to cross the route.
- 10.6.19 Appendix 8.21 of the 6.3 Environmental Statement Appendices – Biodiversity Metric Calculations ([APP-417](#)) confirms that for the overall project LTC will result in a 7% increase of Area-based units, a -11% loss of Hedgerow units and a -7% loss of rivers and streams units. It is accepted that these calculations are based on the preliminary design and a number of limitations and assumptions, which is a worst-case scenario. However, given the wider environmental damage associated with LTC it is considered that the scheme should be able to demonstrate a minimum of 10% overall increase in all types of units.
- 10.6.20 It is noted that in Item 2.1.199 of the SoCG ([APP-130](#)) NH stated that the Project ensures that it meets Biodiversity Net Gain in line with emerging policy. It currently does not.

10.7 Marine Biodiversity

- 10.7.1 The Council has taken the position throughout the DCO process to defer the technical review of Marine Biodiversity to the Marine Management Organisation, Environment Agency, Natural England and Port of London Authority. However, the Council has raised concerns throughout the process regarding the condition of the river frontage south of the North Portal and the adjacent East Tilbury Landfill and absence of measures to reinforcement or replace the existing bank. This raises an increasing risk as the erosion continues that pollutants from the buried landfill will enter the River Thames immediately upstream of the Thames Estuary and Marshes SPA/Ramsar.
- 10.7.2 The ES Chapter 9 – Marine Biodiversity ([APP-147](#)) focuses on the habitat features within the estuary but makes no reference to the adjacent riverbanks. The Council has raised concerns about the need to manage the erosion of the river frontage adjacent to the North Portal/Tilbury Fields and East Tilbury Landfill with NH throughout the project design. The Geology and Soils Section 10.10 of this LIR confirms the lack of assessment that has been made of landfill as a manmade geohazard and that no survey of the river frontage has been undertaken (Section 10.10.16). It considers it 'extremely concerning that such significant contamination sources are not robustly understood.'
- 10.7.3 The Goshems Farm site, where it is proposed to construct the North Portal and the East Tilbury Landfill, which is situated east of the North Portal and west of the Coalhouse Point compensation site are two former landfill sites. The Environment Agency has stated that East Tilbury Landfill has potentially high levels of contamination including leachates. If the river frontage continues to fail, as set out in Section 10.10 of this LIR, there is a real risk that these pollutants will enter the river. It does not appear that the implications of this on the marine biodiversity and associated functionally linked land to the SPA have been considered within ES Chapter 8 ([APP-146](#)).
- 10.7.4 LTC would significantly constrain access to the river frontage from the landside to enable works to reinforce the bank to take place once construction has commenced as the north portal and carriageway and HRA mitigation to the east would prevent all access from the land side. The mudflats fronting the site are part of the SPA functionally linked habitat and therefore it is not considered possible that works could be undertaken from the river.
- 10.7.5 ES Appendix 10.7 East Tilbury Landfill Risk Assessment ([APP-428](#)) only considers the potential impacts of the proposed North Portal construction on groundwater quality. The assessment confirmed that the site contained hazardous waste types and that the only active pathway is likely to be that of the leachate from East Tilbury Landfill into the River Thames. While LTC would not directly alter this potential pathway, the construction of the North Portal and HRA High Water roost would prevent access to reinforce the river frontage to prevent this leachate entering the river in ever-increasing quantities.

10.8 Water Resources (Surface and Groundwater, Road Drainage and Flood Risk)

Introduction

10.8.1 The Lower Thames Crossing DCO Application crosses multiple surface water catchments and has the potential to impact groundwater and surface water bodies, impacting on flood risk, water quality and hydro-morphology and the overall water environment. Assessment has been carried out on a catchment basis, as shown in Figure HE540039-CJV-EFR-SZP_GNZZZZZZZZ-DR-LF-00100 in (APP-469), recreated in **Figure 10.1** below, with 4 out of the 5 catchments located within Thurrock. Those catchments are, as follows:

- a. EFR-2 North Portal to Chadwell St Mary;
- b. EFR-3 A13 junction;
- c. EFR-4 Ockendon Link; and,
- d. EFR-5 North Section

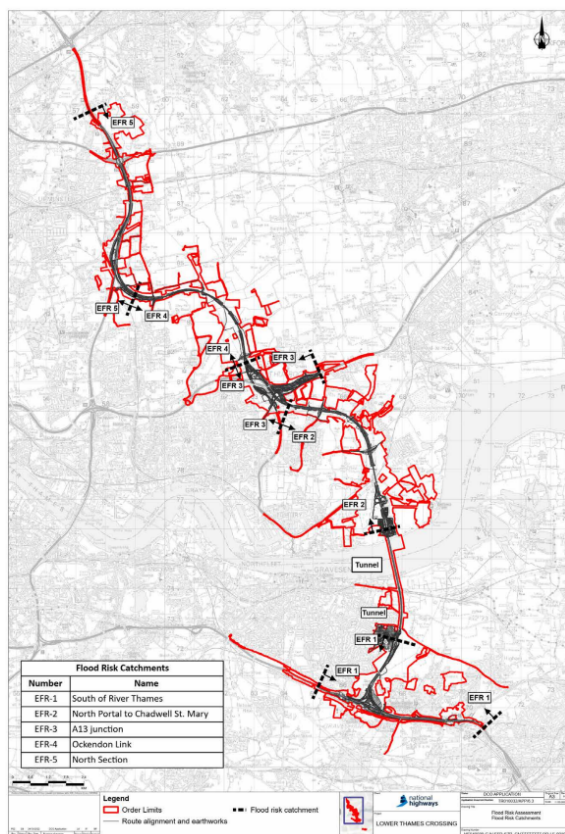


Figure 10.1: FRA Flood Risk Catchments (HE540039-CJV-EFR-SZP_GNZZZZZZZZ-DR-LF-00100)

10.8.2 As set out within the Statement of Common Ground between National Highways and Thurrock Council (APP-130), the majority of matters had been agreed with regard to Road Drainage and the Water Environment, including:

- a. SoCG Item 2.1.260 Flood risk mitigation and water quality improvement through SuDS;

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- b. SoCG Item 2.1.261 Design matters related to flood risk mitigation and water quality improvement through SuDS; and,
- c. SoCG Item 2.1.262 Commitments related to flood risk mitigation and water quality improvement through SuDS.

10.8.3 The review of the 2022 submission documents has focussed on ensuring that the principles established previously have not been eroded. Although, there was a further recent issue noted as being under discussion, regarding the Coalhouse Point flood defences, which is described below.

Table 10.7: Summary of Key Issues Flood Risk

Summary of Key Issues
<p>The flood risk modelling has been updated to incorporate up to date climate change guidance (May 2022), no other updates have been carried out to the modelling, for example using the FEH hydrological methods and 2022 software versions for Flood Modeller and Tuflow , as the Environment Agency (EA) typically requires.</p>
<p>Confirmation must be provided that the assumptions within the biodiversity calculations are consistent with the surface water drainage strategy.</p>
<p>Clarification is required regarding the phasing at the North Portal junction with regard to the drainage strategy and whether temporary measures are required.</p>
<p>Further information must be provided regarding the proposed pumping station in relation to the North Portal junction. This should include location, access proposals, maintenance and operational requirements and also definition of adoption responsibilities.</p>

Local impacts identified by Thurrock Council

- 10.8.4 The LTC has potential to increase flood risk locally, contrary to national and local planning policy. Part 6 of the FRA ([APP-465](#)) and ES set out essential and embedded mitigation measures and Design Principles in Chapter 6. The measures set out within this Section are described in a satisfactory level of detail at this stage.
- 10.8.5 The LTC has the potential to impact on both water quality, hydro-morphology and the wider water environment. Part 7 of the FRA ([APP-466](#)) sets out pollution control measures to manage any impacts on water quality in accordance with DRMB methodologies for each catchment. The WFD assessment ([APP-478](#)) sets out potential impacts on water quality and hydro-morphology and how these will be managed and the detail presented indicates that the proposals are compliant with the WFD and the level of detail presented is satisfactory.
- 10.8.6 Overall, the documents set out a framework which manage potential impacts satisfactorily, however, there are a few issues requiring further clarification, as set out in the sub section entitled 'Further Work Or Mitigation Required' below.

Policy Compliance and Local Impacts

- 10.8.7 A comprehensive Flood Risk Assessment (APP-460 to APP-476) has been prepared, in accordance with 5.93 of the NPSNN. This demonstrates that the Sequential Test and the 2nd part of the Exception Test has been met. The first part of the Exception Test relates to wider sustainability benefits (described in NPSNN paragraph 5.108 bullet 1).

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- 10.8.8 Sustainable Drainage Systems (SuDS) have been proposed to manage surface water drainage, set out within ([APP-466](#)) as per NPSNN Paragraph 5.111, with specific measures varying dependent on local conditions. The sustainable drainage features include pollution prevention measures as per NPSNN Paragraph 5.230. The measures overall are compliant with NPSNN, although further clarification is required as set out in sub section entitled 'Further Work Or Mitigation Required' below.
- 10.8.9 A Water Framework Directive Assessment has been prepared ([APP-478](#)) and the findings are in accordance with NPSNN Paragraph 5.223.

Flood Risk Assessment

- 10.8.10 The Flood Risk Assessment is comprehensive and sets out the baseline flood risk and describes the mitigation measures required to ensure the proposals are in accordance with NPSNN and local policy with regard to flood risk and the methods used to determine these. The level of detail provided is appropriate at this stage in the design.
- 10.8.11 It is noted that the hydrological and hydraulic model methods and software versions have been superseded. From a hydrological point of view, the statistical method utilised WINFAP v3 with NRFA v7 data; where the latest software version is WINFAP v5 with NRFA 11.1 data. The rainfall runoff modelling utilises the FEH Rainfall Runoff method, which is superseded for all but reservoir safety work in England and while the more recent ReFH method is dismissed, no consideration is given to ReFH2. The latest method at the time of writing is ReFH2.4 supported by FEH22 data. Recent EA guidance is that justification should be provided where hydrological assessment is greater than 6months over and outdated software and data is used.
- 10.8.12 The 1 dimensional hydraulic modelling has been carried out using Flood Modeller versions 4.5 and 4.6; the latest version is version 6.2. The 2d modelling has been carried out using Tuflow version 2018-03-AD; the latest version is 2023-03-AB. It would typically be expected that these would be updated to the latest versions and this is something that the EA would request. The DCO has included modelling undertaken since 2020 to consider the most up to date climate change allowances, but no other updates have been undertaken, such as updating to latest software versions. It would be useful to understand whether this scope was agreed with the EA, and why the updated methods and software versions were not utilised when the latest climate change allowances were simulated.
- 10.8.13 As discussed in the SoCG EIA Workshop on 11 July 2023 with NH, it is noted that the Environment Agency (EA) has accepted the modelling approach as set out in SoCG item 2.1.56 of the EA's Statement of Common Ground (October 2022 ([APP-094](#))). However, it is further noted that the EA's SoCG predates the 2022 DCO submission documents.

Further Work or Mitigation Required

- 10.8.14 As noted above, the flood risk modelling which supports the FRA, described in ([APP-463](#) and [APP-464](#)), has not been updated to latest methods and software versions, as the EA would typically require, when climate change scenarios have been updated. It is acknowledged that updated modelling is unlikely to change design parameters significantly and is very unlikely to alter the findings and recommendations. It may, however, impact the compensation flood storage areas proposed, in catchments EFR-2, EFR-4 and EFR-5. Confirmation that this approach was agreed with the EA is required. Further, additional information is required to confirm that there is sufficient area and volume available to accommodate any changes at detailed design when later methods are used.
- 10.8.15 Further information is required regarding the amenity and biodiversity benefits from SuDS. The allocated areas and assumptions made within the Biodiversity calculations ([APP-417](#)) must be checked against the proposed drainage strategy. As discussed in the SoCG EIA Workshop on the

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11 July 2023 with NH, it is noted that defining BNG values for SuDS is challenging, especially at concept design stage. Some detailed issues such as embankment profiles and planting regimes may necessarily be only verified at detailed design stage. However, there are some broad assumptions that should be coordinated at concept stage:

- a. Assumptions about Water Bodies: type (attenuation, infiltration), retained water depth, area allocated for embankment, water quality/treatment performance, planting regime;
- b. Assumptions about swales: as the swales are generally utilising infiltration, there is a possibility of standing water and therefore this assumption may not be valid; and,
- c. Assumptions about ditches: area allocated for slope of ditch verge and embankments, allowance for vegetation and water vole habitat.

10.8.16 At the Northern Portal, the pond POS08-001 was designed to collect runoff from the North Portal ramp in the 2020 submission. The proposals in the 2022 submission ([APP-048](#) Sheet 20 and [APP-049](#) Sheet 23) include a junction that requires a different drainage strategy and consists of two retention basins to receive runoff from the North Portal Junction. The concern raised is that pond POS08-001 would have to be relocated when the proposed junction is constructed and further information is required regarding temporary measures. Further information is therefore required regarding phasing and the design decisions in this location. As discussed in the SoCG EIA Workshop on the 11 July 2023 with NH, the construction team will also need to be consulted to determine phasing of the North Portal Junction and any requirements for interim or temporary attenuation basins.

10.8.17 In relation to the management of surface water at the North Portal junction, Section 3.5.6 of the FRA Part 7 ([APP-466](#)) states that *'Runoff that cannot gravitate to the retention ponds will be collected at the foot of the North Portal ramp and pumped up to RP-01'*. More information must be provided on the proposed pumping station in relation to the North Portal junction and RP-01 & RP-02; including the location, access proposals, maintenance and operational requirements and also definition of adoption responsibilities. Additionally, since the RP-01 and RP-02 will be confined by a junction, the access to these retention ponds for maintenance and inspection must be clearly defined. As discussed in the SoCG EIA Workshop on the 11 July 2023 with NH, the request for clarifications relating to the North Portal Junction will be directed to the drainage designer.

10.8.18 **Coalhouse Fort Drainage Proposal by NH (SoCG Item 2.1.263 in the soon to be updated SoCG)** – in October 2022 the Council received information from NH that it was considering options for ensuring a water supply to the functionally-linked land mitigation adjacent to Coalhouse Fort to the west. That mitigation requires a 'wet' field (ponds with ditch network and marshy grassland) for overwintering birds (and invertebrates), which requires NH to demonstrate to Natural England that it has secured a reliable source of water for HRA. A hydrology study has demonstrated that water in the catchment would not be sufficient to sustain water within the mitigation area. Therefore, alternative options for water supply needed to be investigated. The current proposal at that time within the DCO (as it is now) was to allow ingress of water from the River Thames through a water inlet with a self-regulating valve and the current Order Limits do allow for provision for working area to install the water inlet structure within the existing flood bund. However, supply from the Coalhouse Fort Moat would require agreement from the Council, which is not yet achieved.

10.8.19 Feedback has been received from Council officers and the Coalhouse Fort Ranger and there has been a meeting in late-November 2022 between NH and the Council and then a site visit including Historic England, Natural England, the Environment Agency, the Council and NH on 20 April 2023. Although notes have been received there has been no further progress from NH and the Council remains uncertain of any progress with this proposal. However, at the SoCG EIA Workshop on 11 July 2023 with NH, NH confirmed that it is unlikely to proceed with this option, preferring the option for the water inlet from the River Thames that is included within the DCO application, but would be undertaking further studies to confirm.

10.9 Geology and Soils

Introduction

- 10.9.1 The Council has a legacy of historical land uses and current land uses that could cause ground contamination. The land to the north of the River Thames (including the proposed location of the North Portal) has been subjected to significant land raising and authorised and historical waste disposal activities (including Tilbury Ash Disposal Area C and C2 and Goshams Farm Landfill). Tilbury Sewage Treatment Works and the former Tilbury Power Station also fall within the west of the study area. Further north (North Portal to A13) the Scheme includes several sites with a history of industrial land use, including Princess Margaret Road Landfill, East Tilbury Quarry, Low Street Brickworks and Linford Quarry and Petrol Filling Stations. Appendix 10.6 – Preliminary Risk Assessment Report ([APP-427](#)) paragraph 1.1.5 states that *'over 200 potential contamination features that may credibly affect or be affected by the construction and operational phases of the Project have been identified.'* Paragraph 11.2.2 states that of these potential sources, six were identified high-risk sources and a total of 33 sources as medium-risk.
- 10.9.2 In addition to contamination, unexploded ordnance is identified as a potential hazard present in the borough. Figure 10.9 – Unexploded Ordnance Map ([APP-307](#)) pages 1 and 2 shows locations of land identified having a Moderate hazard ranking within the Borough.
- 10.9.3 Within the Borough there are potential geohazards arising from both natural geology and man-made activities. Appendix 10.2 – Stability Report ([APP-423](#)) paragraph 5.2.1 defines geohazards as *'geological and geomorphological processes, landforms and ground materials that may pose a hazard to proposed engineering works during design, construction or operation.'* Paragraph 5.2.5 states that the geohazards identified on the site include slope instability, chalk solution hollows, running sand deposits, materials susceptible to shrink/swell, compressible deposits and collapsible deposits.
- 10.9.4 Appendix 10.6 – Preliminary Risk Assessment Report ([APP-427](#)) paragraph 1.1.6 states that the receptors identified included human health, controlled waters, drinking water supplies, ecological and built environment. Groundwater in the Borough is a very important resource due to the presence of both principal and secondary aquifers, which provide significant quantities of drinking water, and water for business needs. They may also support rivers, lakes and wetlands. The North Portal is in a particularly sensitive area, as it is within a groundwater Source Protection Zone (SPZ) 1 Inner Zone. An SPZ1 is defined as a 50 day travel time to the point of abstraction, which is the Linford Pumping Station.
- 10.9.5 Appendix 10.6 – Preliminary Risk Assessment Report ([APP-427](#)) paragraph 7.6.3 states that construction works beneath the Thames Estuary have the potential to disturb contaminated sediment. Depending on the type and concentration of sediment contamination, potential effects on river and estuary biota, including benthic organisms, may also occur as a result of this activity.

Status of Statement of Common Ground (SoCG) Issues

- 10.9.6 There are 30no Group 2 Geology and Soils (GS) Statement of Common Ground (SoCG) issues relating to comments on the Register of Environmental Actions and Commitments (REAC) ([APP-336](#)) and comments on ward summaries. The status of the ward summary comments are identified as resolved and/or superseded by the Application documents. It is uncertain whether the REAC comments (8no) are resolved as the actions identified include 'review of wording'. Within the REAC revised wording is considered necessary on the following matters:
- a. GS001 (to be added by NH) - the Contractors would provide ground investigation method statements and scope of working (including schedule of exploratory holes with depths and testing) for acceptance;

- b. GS003 (to be added by NH) – the assessment will include off-site receptors;
- c. GS006 (to be added by NH) – the re-use criteria and locations for re-use are to be submitted for acceptance of National Highways in consultation with the Environment Agency and relevant Local Authorities prior to commencement of the works;
- d. GS018 (to be added by NH) – the gas migration prevention measures identified in Appendix 10.11 - Remediation Options Appraisal and Outline Remediation Strategy will be implemented;
- e. GS025 (to be added by NH) – the proposed measures are to be submitted for acceptance of NH in consultation with the Environment Agency and relevant Local Authorities, prior to commencement of the works; and,
- f. GS027 (to be added by NH) – where supplementary investigation is undertaken to assess residual contamination risks in accordance with GS001, appropriate assessment in accordance with LCRM (Environment Agency, 2021) would be undertaken and the reports provided the LPA. Where unacceptable risks are identified (subject to agreement with the LPA), the Contractors would develop proposals for site-specific remediation strategies and implementation plans in consultation with the relevant local authorities prior to implementation. The Contractors would have regard for ES Appendix 10.11, Remediation Options Appraisal and Outline Remediation Strategy (Application Document 6.3), which identifies techniques that could be implemented by the Contractors for the remediation of contamination.

10.9.7 A further 57no comments were made on in August 2021 on documentation provided in the first DOC, which NH responded to on 23 December 2022 and all were identified as Group 2 (Tranche 5) Issue ID: THURROCK-ES-NEW-CC. Of the 57no 11no are considered resolved (002, 007, 009, 012, 033, 036, 040, 042, 048, 051, 054) and six no longer applicable (031, 032, 034, 035, 038, 039). There are 40no comments that are considered to be unresolved.

Missing Information and Evidence

- 10.9.8 Appendix 10.11 - Remediation Options Appraisal and Outline Remediation Strategy ([APP-434](#)) paragraph 3.1.8 presents a list of identified contaminants of concern, however, it is not stated whether there are potential contaminants of concern that were identified but not tested for such as PFAs. The Applicant should amend this document to identify potential contaminants with no or limited data.
- 10.9.9 Following our review of the Application documents requests for clarifications/further information relating to Geology and Soils were made on the 12 and 27 June 2023, to date we have not received a response from NH.
- 10.9.10 The factual ground investigation reports have not been provided despite the need for this data being identified for the first DCO Application (Group 2 (Tranche 5) Issue ID: THURROCK-ES-NEW-CC-#021). We are therefore unable to determine where intrusive works have been undertaken, the quantum and depth of the testing, whether the testing addresses all the identified contaminants of concern for the source of contamination and essentially where there are data gaps and uncertainty. It is considered that there is a high degree of uncertainty regarding the ground conditions and are therefore concerned that the identified preferred remedial options will not prove to be appropriate. The following information should be provided:
 - a. All the factual ground investigation reports;
 - b. A figure added to 6.2 Environmental Statement Figures (Figure 10.10) showing the location of the exploratory holes in relation to the identified sources of contamination;

- c. A table of all the sources showing the risk rating, number of exploratory holes within the source, number of soils tested, number of leaching tests, number of groundwater samples and number of unflooded gas monitoring wells. The table should include a comment column to identify robustness of the data, if the testing undertaken addressed all the identified COC and uncertainty including whether additional ground investigation is considered necessary;
- d. The revised risk table in Appendix 10.9 – Generic Quantitative Risk Assessment Report ([APP-430](#), [APP-431](#), [APP-432](#)) should be redone to show those sources within the study area that will not be disturbed and/or are not credible gas sources as Low, the remainder of those currently identified as Low to be reassigned as Medium/Low for differentiation. Where the risks associated with Medium/Low sources are considered to be adequately managed using measures in the EMP, this should be identified and justified; and,
- e. For all other sites not identified as Very Low or managed through the EMP a table presenting the site, the commitment to undertaking additional ground investigation together with the objectives for the investigation to address, which will be specific to each source and reflective of the activity to be undertaken.

The Council's LIR and Evidence

- 10.9.11 Point 9 of the Principal Areas of Disagreement (PADs) relates to Geology and Soils and our request to have an additional Requirement. The reply from NH ends '*That measure (GS027) means that a specific requirement which requires a "investigation and assessment report" is not necessary*'.
- 10.9.12 GS027 requires assessment of the additional GI data and **where unacceptable risks are identified** the submission of a remediation strategy to be accepted by NH in consultation with LPA. This potentially means that Thurrock would not have sight of the additional GI data and would have to accept without review the contractor's assessment of what is acceptable risk, noting that the DCO definition of contaminated land is for Part 2A rather than the minimal risk or low level of toxicological concern that is required by planning.
- 10.9.13 The proposed wording of the additional Requirement for Geology and Soils relating to ground conditions and ground stability is provided below.
- a. (1) No part of the Works may commence until an investigation and assessment report to identify ground conditions and ground stability has been submitted to and approved by the relevant planning authority;
 - b. (2) The report submitted pursuant to sub-paragraph (1) must identify the extent of any contamination and the remedial measures to be taken to render the land fit for its intended purpose, together with a management plan which sets out long-term measures with respect to any contaminants remaining on the site;
 - c. (3) In the event that the report submitted pursuant to sub-paragraph (1) identifies necessary remedial measures, no part of the Works may commence until a remediation verification plan for that part has been submitted to and approved by the relevant planning authority; and,
 - d. (4) The authorised development must be carried out in accordance with the approved report referred to at sub-paragraph (1) and, where necessary, the approved plan referred to at sub-paragraph (3).
- 10.9.14 The following table summarises the key issues identified by Thurrock Council; these issues are then expanded in the text below.

Table 10.8: Summary of Key Issues Identified by Thurrock Council

Summary of Key Issues
<ul style="list-style-type: none"> ▪ Outdated data has been used to inform the baseline conditions which is not considered robust. ▪ The river frontage is potentially being eroded by the river and where this frontage is formed by landfill waste is being exposed. This potential has not been investigated/identified and there is the potential for increased exposure being generated by the development. ▪ The creation of a destination point and improved recreational amenity at Tilbury Fields could result in people using the Thames Estuary Path inadvertently being exposed to leaking landfill waste. ▪ The Stability Report does not reference relevant planning guidance and does not provide a statement of competency. ▪ The factual ground investigation report has not been provided and here is insufficient information provided to allow the Council to determine if the assessment is robust, for example, a plan showing where the exploratory holes are located is not available, nor is it possible to determine the adequacy of the data to inform the ground conditions assessment. ▪ The contamination status of medium and high-risk credible contaminant is stated to be unknown or not fully characterised due to limitation ground investigation. These are significant sources of contamination. Potentially the additional work could reveal ground conditions that cannot be managed through the identified approach, meaning that the actual impacts have not been assessed. ▪ Whilst other environmental control regimes are assumed to mitigate environmental impacts associated with the processing activities these regimes do not limit impacts arising from the transportation of material to a temporary storage area or processing compound. ▪ Impacts due to vermin (birds, insects, flies and rodents) arising from the excavation of landfills, temporary storage and processing of materials. ▪ The proposed processing and reuse of excavated material including that from landfills is not explicitly stated to be done under an Environmental Permit (EP). If these activities are not to be undertaken under an EP, there are potential impacts that cannot be assumed to be adequately mitigated. ▪ The implications of restoration/level raising by Ingrebourne Valley Ltd are not presented and potentially these activities could result in a greater volume of material requiring excavation, disposal and/or re-use.

Local Impacts Identified by Thurrock Council

- 10.9.15 Appendix 10.6 – Preliminary Risk Assessment Report ([APP-427](#)) Table 3.1 identifies that the environmental dataset was obtained in 2019. Many of these datasets are updated on a regular basis and therefore the data may well change in the four years since it was obtained. The ES Chapter 10 – Geology and Soils ([APP-148](#)) Table 10.1 describes the walkover surveys as *'Targeted site walkover surveys were conducted between July 2017 and October 2017, and in September 2018 plus a geomorphology visit in August 2020. A review of the geology walkover survey study area using Google Earth aerial photography was undertaken in 2021 and 2022 to confirm that the baseline information'*. It is noted that the last time there was a physical inspection was three years ago. In the absence of a robust baseline, it is considered that there may be impacts that have not been identified. A current dataset should be obtained and a comparison undertaken to ascertain the presence of differences that require additional assessment. A current and thorough walkover by a competent person for each of the elements being inspected should be undertaken. The need for a current and thorough walkover is further demonstrated in the text below regarding the condition of the river frontage.
- 10.9.16 Appendix 10.2 – Stability Report ([APP-423](#)) Table 5.1 does not identify landfill as a manmade geohazard and from Figure 10.1 – Geology Site Walkover ([APP-299](#)) page 3, it would appear that a visual inspection of the river frontage within the Order Limits has not been undertaken. The photograph below is from an article in the Guardian in May 2023 (The rubbishscapes of Essex: why our buried trash is back to haunt us) Waste from the former landfill site in Thurrock, slowly falling into the Thames.



Source: Photograph: Jill Mead/The Guardian

- 10.9.17 It is considered that the Application has the potential to cause further degradation and/or destabilisation which is identified as a negative impact. A visual inspection of the frontage should be undertaken by a competent person and the Stability Report should be revised identifying landfill as a potential man-made stability hazard. The potential for negative impacts due to compressibility and slope failure should be assessed and mitigation measures to be implemented identified.
- 10.9.18 The ES Chapter 2 ([APP-140](#)) sets out a description of Tilbury Fields in Section 2.4.179 – 2.2.180, including stating it will be a ‘destination point’ and will provide ‘improved recreational amenities.’ The extent of WCH improvements are set out in Section 2.4.122 stating that there will be ‘improved connectivity.’ This proposal will potentially lead to an increase in footfall along the Thames Estuary Path and potentially adverse effects due to exposure to the waste. The Applicant should provide betterment to the current situation as part of the promise to provide ‘improved recreational amenities.’
- 10.9.19 Appendix 10.11 - Remediation Options Appraisal and Outline Remediation Strategy ([APP-434](#)) Table 3.1 identifies that for all medium and high risk sources ‘*the potential source requires further assessment and possible remedial works / specific design*’ and paragraph 3.1.15 identifies a number of data gaps and uncertainties including:
- a. ‘*The contamination status of medium and high-risk credible contaminant sources detailed in Table 3.1 is unknown or not fully characterised due to limitation ground investigation.*’
- 10.9.20 It is extremely concerning that such significant contamination sources are not robustly understood. From paragraph 3.1.16 the Applicant is relying on the REAC ([APP-336](#)) to secure additional works to address the data deficiencies. Such an approach is not considered appropriate for significant sources of contamination. Potentially the additional works could reveal ground conditions that cannot be managed using the stated preferred remedial techniques and alternative solutions would not have been assessed in the ES.

10.9.21 Appendix 10.11 - Remediation Options Appraisal and Outline Remediation Strategy ([APP-434](#)) identifies that 'processing' will occur (see paragraph 7.10.5 Excavated made ground/ contaminated soils and reworked natural soils shall designated for assessment at soil processing compound at the Project and note to Table 8.2 * – *Reuse of soils from excavations assumes soils have been subject to some form of treatment.*) The nature of the processing is not identified in this document and whilst it is possible that such activities would be undertaken under an Environmental Permit it is not certain that this is the case. Without this certainty and the associated assumption of adequate control it is considered that potential negative impacts have not been identified and assessed. The Applicant should provide further information on the nature and location of the processing operations.

Policy Compliance and Local Impacts

Instability

10.9.22 The Application addresses the NPS policy instability requirements (Sections 6.5.141-6.5.150) in so far that it includes a preliminary assessment of potential ground instability. However, the NPS also requires that *supporting guidance* is also taken into account. Planning Practice Guidance (PPG) - Land Stability published by the Ministry of Housing, Communities & Local Government in 2014 and updated in 2019 by the Department for Levelling Up, Housing and Communities (refer to **Appendix M**) is not referenced and it is noted that this guidance states that instability risk assessment reports should be prepared by an appropriately qualified person, such as chartered members of a relevant professional institution. The Council have identified above the need to revise Appendix 10.2 – Stability Report ([APP-423](#)). The revision should reference and be guided by the PPG and a statement of competency should be provided.

Contamination

10.9.23 For contamination NPS 5.168 requires – *'for developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this'*. Whilst the Application complies with the policy in that consideration has been given to the presence of and risk posed by land contamination, the factual ground investigation report are not provided and there is insufficient information provided to allow the Council to determine if the assessment is robust. For example, a plan showing where the exploratory holes are located is not available, nor is it possible to determine the adequacy of the data to inform the ground conditions assessment.

Pollution Control and Other Environmental Protection Regimes

- 10.9.24 The NPS assessment principles state that *'Decisions under the Planning Act should complement but not duplicate those taken under the relevant pollution control regime'*. It is noted that the Application 3.3 Consents and Agreements Position Statement ([APP-058](#)) identifies the following key matters:
- a. Environmental Permit - *Multiple permits are likely to be required for construction activities, e.g., storage and treatment activities such as materials crushing, concrete/bitumen plants, remediation plant, transfer stations, short-term (less than three years) material storage. Locations where such permits would be required are primarily construction compounds across the Project. During construction, construction compounds would be located along the Project route. Larger compounds would be required at the North and South Portals to allow for tunnelling operations and materials management;*
 - b. Environmental Permit - *Permits will be required where treatment or storage of waste is proposed during construction or operation where it exceeds the provisions/requirements of an appropriate waste exemption. At the northern tunnel entrance compound, a permit(s) will be*

required where construction activities interact with the extant and currently permitted waste activities (operated by others); and,

- c. Control of Asbestos Regulations – works identified as Notifiable.

10.9.25 Whilst works undertaken under the above consents are to be assumed to be appropriately controlled to prevent environmental impacts, a permit does not set limits on travel therefore the Applicant should provide further information on what transportation impacts are being incorporated into the Application associated with the processing of excavated material.

Common Law Nuisance and Statutory Nuisance NPSNN, Sections 4.57 and 4.59

10.9.26 The Application identifies noise and vibration and notes that other nuisances are identified, however, this identifies dust, odour, artificial light, smoke and steam. There is no mention of vermin or attraction of birds to excavations in the former landfills. However, the Council notes that with regard to statutory nuisance, birds are not considered a nuisance under Section 79 of the EPA 1990. But insects are identified as a nuisance, in fact, Section 79 (fa) any insects emanating from relevant industrial, trade or business premises and being prejudicial to health or a nuisance.

10.9.27 Vermin is not considered a nuisance because it is covered by other legislation, namely the Prevention of Damage by Pests Act, 1949 (PDPA), which requires all landowners to keep their property free of vermin defined as rats and mice.

Further Work or Mitigation Required

10.9.28 The following collates the identified further work and/or mitigation set out above:

- a. In relation to complying with NPSNN requirements for common law nuisance and statutory nuisance we note that Requirement 4 relating to the reparation of EMP (second iteration) does not identify control of vermin and whilst Appendix 2.2 – Code of Construction Practice, First iteration of Environmental Management Plan - Annex C - Preliminary Works Environmental Management Plan ([APP-336](#)) Section 1.10 'Construction site layout and good housekeeping' does identify vermin control, this is not in relation to excavated landfill waste stockpiling and processing. A Nuisance (Vermin) Management Plan for the excavated materials from the former landfills should be prepared;
- b. To address the uncertainty and potential negative impacts associated with the proposed processing of material for re-use and specifically excavated materials from former landfills Application 3.3 Consents and Agreements Position Statement ([APP-058](#)) should be revised to identify that an Environmental Permit to permanently deposit waste on land as a recovery activity will be obtained. Under the directions of the NPS we would assume that the environmental impacts arising from processing are adequately controlled;
- c. Further work is required to show that the proposed development will not lead to an increase in the erosion/failure of the river frontage and release of landfill waste. In addition, given that the Application seeks to promote the use of the Thames Estuary Path, mitigation measures to prevent exposure to the existing exposed waste are necessary and could lead to beneficial impacts;
- d. Further work is required to understand the interaction/implications of the land raising by Ingrebourne Valley Ltd are unclear, particularly in respect to the volumes of materials to be excavated and whether the raised restoration profile has been incorporated in the proposed landscape plans and volumes required;
- e. The Applicant should provide information on what transportation impacts are being incorporated into the ES associated with the processing of excavated material;

- f. A number of the SoCG issues for Geology and Soils relate to re-wording of the REAC ([APP-336](#)). The REAC wording does not appear to have been revised and so alternative wording has been provided for the convenience of the ExA;
- g. The Applicant should identify which potential contaminants of concern have no or limited data and as such still require assessment;
- h. The Applicant should provide all of the factual ground investigation reports;
- i. The Applicant should provide a figure showing the location of the exploratory holes in relation to the identified sources of contamination;
- j. The Applicant should provide a table of all the sources showing the risk rating, number of exploratory holes within the source, number of soils tested, number of leaching tests, number of groundwater samples and number of unflooded gas monitoring wells. The table should include a comment column to identify robustness of the data, if the testing undertaken addressed all the identified COC and uncertainty including whether additional ground investigation is considered necessary;
- k. The revised risk table in Appendix 10.9 – Generic Quantitative Risk Assessment Report ([APP-430](#), [APP-431](#), [APP-432](#)) should be redone to show those sources within the study area that will not be disturbed and/or are not credible gas sources as Low, the remainder of those currently identified as Low should be reassigned as Medium/Low for differentiation. Where the risks associated with Medium/Low sources are considered to be adequately managed using measures in the EMP, this should be identified and justified; and,
- l. For all other sites not identified as Very Low or managed through the EMP a table presenting each of the sources, the commitment to undertaking additional ground investigation together with the objectives for the investigation to be addressed (which will be specific to each source and reflective of the activity to be undertaken).

10.10 Materials and Waste

Introduction

- 10.10.1 The assessment of the minerals and waste impacts considers the management of the excavated materials and wastes generated within the Lower Thames Crossing (LTC) Order Limits during its construction.
- 10.10.2 Wastes and excavated materials will be generated from the excavations of the development of the roads to the north and south roads, north and south portals and the tunnel boring process. The nature of these wastes and materials will depend upon the properties of the excavated materials but will broadly fall within three categories:
- Clean excavated soils and minerals, these would only be definitively considered waste if exported off site for management.
 - Wastes placed under an Environmental Permit which will require management under an Environmental Permit.
 - Contaminated excavated materials which may be suitable for use on site under the Contaminated Land in a Remediated Environment (CL:AIRE) Definition of Waste Code of Practice (DoWCoP).

Table 10.9: Summary of Key Issues Materials and Waste

Summary of Key Issues
<p>Within Section 2.1 of Appendix 11.1 – Excavated Materials Assessment (APP-435) NH identify that the development of LTC will produce 12.5 million m³ of excavated materials over the 6 years of its construction. Of the total excavated material NH identify that 11,176,500 m³ will be re-used within the Order Limits, the remaining material will be considered a waste and will require management outside of the Order Limits in line with the waste hierarchy. NH assume the excess will be exported at a constant rate of 1,680t/day over the 5 years that excavated materials will be generated totalling 200,000 m³ annually. The basis for the identification of these figures is not provided, therefore it is not possible to determine whether the quantities identified is not appropriate.</p>
<p>NH have not identified where or how excavated materials will be utilised within the construction, therefore it is not possible to determine whether excavated materials are to be used within the compound or may require movement between compounds, which would potentially change the classification to wastes requiring additional management and mitigation measures and increase transport impacts with potential transport taking place on the public highways.</p>
<p>Within Section 3.1 of Appendix 11.1 – Excavated Materials Assessment (APP-435) identifies the evaluation criteria for the selection of local and regional waste sites suitable to manage the excavated wastes exported from the Order Limits and the output from the assessment identifying the acceptable sites is provided in section 4. The assessment approach appears to consider the relevant criteria for the identification of suitable receiver sites.</p>
<p>Within the oSWMP (APP-337) NH set out how they will comply with the waste hierarchy through their REAC commitments. Whilst the REAC commitments are largely appropriate the supporting statements in Section 4 provides only high-level actions that will be taken to achieve these aims. The document does not set out the actions that NH require/expect the contractor to deliver to achieve the REAC commitments and what regulatory requirements these may trigger.</p>

Local Impacts Identified by Thurrock Council

- 10.10.3 The management of the excavated materials either through temporary or permanent placement within the Order Limits or through reuse, recovery or disposal without the Order Limits will generate vehicle movements (considered in Section 9.8 above) with the associated noise, dust, vibration and air quality/emissions impacts on local residents. The ultimate magnitude of these impacts will be determined by the overall quantity of material generated and the proportion of materials directly placed, stored prior to use and managed outside the Order Limits.
- 10.10.4 NH recognise that the export of wastes beyond the Order Limits has the potential to impact upon the local and regional waste management market capacity due to the quantity of excavated materials that will require reuse, recovery or disposal throughout the duration of the works. The exact impact of the management of materials exported beyond the Order Limits will depend upon the overall quantity of material generated during the works and the proportion of the excavated material that can be reused, recovered or disposed of within the Order Limits. The assumption that the rate of waste inert material generated from the construction will be exported at a steady rate as stated within Appendix 11.1 – Excavated Materials Assessment ([APP-435](#)) is not justified and if incorrect could lead to a greater than stated impact on local waste sites which could further exacerbate these impacts.
- 10.10.5 Within Section 5.2 of 6.3 Environmental Statement Appendices Appendix 2.2 - Code of Construction Practice, First Iteration of Environmental Management Plan - Annex A - Outline Site Waste Management Plan ([APP-337](#)), NH identify that there will be a '*... space within a compound for segregation and storage*' of wastes. However, there is no detail provided on the segregation processes proposed or the quantities of storage that will be undertaken at any individual compound to determine whether the sites will require consideration under the Environmental Permitting regime or whether an exemption is proposed. The two routes have significantly differing levels of regulatory rigour, impact control requirements and third party monitoring associated with them therefore without understanding the regulatory environment that will be in place it is not possible to understand potential for the generation of environmental impacts from the management of wastes in the compounds.

Policy Compliance and Local Impacts

- 10.10.6 Paragraph 5.39 of the NPSNN states that government policy is to '*... protect human health and the environment by producing less waste and by using it as a resource wherever possible*', furthermore paragraph 5.40 states that '*Sustainable waste management is implemented through the waste hierarchy*.' The Environmental Statement Appendices Appendix 2.2 - Code of Construction Practice, First Iteration of Environmental Management Plan - Annex A - Outline Site Waste Management Plan ([APP-337](#)) sets out the principles of managing the wastes from the construction phase of LTC in accordance with the waste hierarchy, but lacks details on how this will be delivered specifically.
- 10.10.7 Paragraph 5.43 of the NPSNN states that the SoS should be satisfied that '*... the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available*.' Appendix 11.1 – Excavated Materials Assessment ([APP-435](#)) sets out the infrastructure that is available and appropriate for the management of the waste inert material generated. However, the lack of verification of the assumptions on excavated material arisings and the ability to reuse it within the Order Limits means that it is not possible to confirm the quantities of waste arising. The assumption of a flat rate of inert waste arising from the works is also not justified or validated, therefore it is not possible to accurately identify the impact on the local waste infrastructure.

Further Work or Mitigation Required

- 10.10.8 Without NH demonstrating the basis for the waste/excavated material arisings and ability to place materials within the Order Limits it is not possible to identify the local impacts. Due to the large quantities of excavated materials generated even relatively small percentage differences in projected the rates of generation or consumption would have a significant impact on the quantities of material. NH need to identify how the excavated material arisings and usage within the Order Limits has been calculated to provide confidence in the figures presented.
- 10.10.9 The identification of the impact on the shortlisted receiver sites should split the sites to separately consider the impact on the sites allocated as reuse/recover or disposal allocations based on the expected arisings of each waste management route within the ES Appendix 2.2 - Code of Construction Practice, First Iteration of Environmental Management Plan - Annex A - Outline Site Waste Management Plan ([APP-337](#)) and Appendix 11.1 – Excavated Materials Assessment ([APP-435](#)). This would provide a more appropriate identification of the impact on the local waste markets.
- 10.10.10 The assessment of the impact on the receiver sites should be based on the maximum quantity of material to be sent to each route under either the baseline or high recycling scenarios considered. At present the calculation potentially underestimates the quantities of recycled or recovered materials to be managed, as it only considers a 70% recycling/recovery level, in the event that the higher level rates are achieved, then those sites receiving the material would be receiving ~20% more material.
- 10.10.11 Within Table 5.2 of the ES Appendices Appendix 2.2 - Code of Construction Practice, First Iteration of Environmental Management Plan - Annex A - Outline Site Waste Management Plan ([APP-337](#)) NH should identify an initial estimation of the quantities of each material to be sent for reuse, recycling, recovery and disposal based on industry good practice. This would provide guidance for any contractor to be appointed and also validate the claims of the recycling rates that will be achieved. It would also provide a similar level of detail for each material within the oSWMP setting an appropriate base for the development of the SWMP by the contractor.
- 10.10.12 The ES Appendix 2.2 - Code of Construction Practice, First Iteration of Environmental Management Plan - Annex A - Outline Site Waste Management Plan ([APP-337](#)) should consider both the temporal phasing and location of waste arisings to provide an appropriate basis for the assessment of the impact of the management of the wastes, the identification of appropriate regulatory regimes to be implemented and to set an appropriate framework for the management of wastes throughout the construction phase by the contractor.

10.11 Land Use and Open Space

Introduction

10.11.1 There are three Appendices to the Planning Statement that address open space and green infrastructure, which have been provided by NH. These are:

- a. **Planning Statement Appendix D Open Space** ([APP-499](#)) has focussed solely on providing compensation land for open space and common land directly impacted by the scheme. Lower Thames Crossing would directly impact three open space sites, one informal public open space and two areas of registered common. It has not considered the indirect effects on open spaces close to the route arising, for example, from increased noise and air pollution. Further issues related to compensation for temporary use of open space are dealt with below in Section 14;
- b. **Planning Statement G – Private Recreation Facilities** ([APP-502](#)) confirms that only one private facility, Thames View Camping would be permanently lost to the scheme. This is a new operation that operates under pd rights. None of the other 10 operations would result in significant permanent losses of land, most would have temporary impacts associated with utilities works. No assessment has been provided, however, regarding the indirect effects on public open spaces close to the route; and,
- c. **Planning Statement Appendix H – Green Infrastructure Study** ([APP-503](#)) is an update of the document created for the first DCO in October 2020. While some of the policies have been updated, no attempt has been made to review the projects which were identified via a small number of stakeholders, mainly comprising biodiversity-focussed NGOs in 2018/2019. The Council has previously identified numerous issues with the project list.
 - The project list is made up of principally small projects, nearly all below £150,000 and some as low as £4,000, so they would not deliver any strategic benefits.
 - Many of the projects are situated significant distances from LTC which dilutes any impacts and means areas most affected by LTC would get fewer benefits.
 - Many of the projects were short-term schemes, for example, the Land of the Fanns project has already ended.
 - Several projects proposed by stakeholders include sites that now form part of LTC mitigation or have been developed, e.g. sites within Tilbury 2 and Ockendon Landfill.
 - The project list has not been updated to reflect the proposed LTC mitigation.
 - Of the very few projects within Thurrock none were aimed at addressing health and wellbeing issues, such as open space improvements and with no focus on those communities most adversely impacted by the scheme.

10.11.2 The list was prepared without any discussion with local authorities or the Council.

Local Impacts Identified by Thurrock Council

10.11.3 Thurrock contains several communities with relatively high population densities and which have high levels of deprivation, including low car ownership levels. These settlements often only contain small parks and play areas. This makes access to these open spaces particularly important.

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- 10.11.4 The Open Space assessment has focussed solely on those open spaces where there would be a direct and permanent loss of land as a result of LTC. The proposed compensation land for each site is considered appropriate and has been designated to integrate with other LTC landscape and biodiversity mitigation, as much as possible.
- 10.11.5 No consideration has been given to indirect effects such as visual, noise or air quality effects and the general amenity of these open space sites during construction or operation to those open spaces close to the route despite this being raised during the first DCO application process. For some open spaces access will be impacted by road or rights of way closures or diversions.
- 10.11.6 New masterplans have been produced for six public open spaces within the Tilbury and Chadwell St Mary areas, funded by NH Designated Funds as part of the LTC Legacy programme, however, other sites, for example, in Orsett and South Ockendon have not been assessed.
- 10.11.7 The original LTC Green Infrastructure Study ([APP-503](#)) was produced in mid-2019 with little direct consultation with local authorities, despite the claims made in its Executive Summary. Since it was produced it has been necessary to 'retrofit' mitigation and legacy projects to try to deliver the scale of improvements necessary to achieve the GBI benefits required.
- 10.11.8 The Green Infrastructure Study was originally produced in mid-2019 and has not been updated and so is considered to be out of date and so does not have a clear function. The South Essex and Thurrock GBI strategies that have been published based on much wider stakeholder consultation, since the LTC document was prepared. Legacy development work funded through NH Designated Funds is not informed by the document. The LTC Legacy team has tried to progress green infrastructure projects, however, most local authorities do not have the resources to development, implement and manage projects and it is felt that LTC should have taken a more proactive role in ensuring green infrastructure delivery.

Policy Compliance and Local Impacts

- 10.11.9 It is considered that the Open Space compensation sites for permanent loss accords with NPS policy. The Council has been engaged in discussions with NH regarding the design of the compensation sites.

Further Work or Mitigation Required

- 10.11.10 The Planning Statement Appendix D - Open Space study ([APP-499](#)) has focussed solely on those open spaces where there would be a direct and permanent loss of land. It has not considered any indirect effects on existing open spaces. A package of measures should have been provided for those open spaces close to the route to help lessen air quality, noise and visual intrusion arising from LTC.
- 10.11.11 Through the Legacy programme new masterplans have been prepared for six open spaces and Conservation Management Plan for Belhus Park. It is important that funding is made available through the Legacy programme to enable these plans to be implemented.
- 10.11.12 The proposed Tilbury Fields and the associated additional permissive footpath links through the adjacent mitigation areas will help extend open space provision close to Coalhouse Fort. However, there are real concerns regarding the lack of detail concerning wardening to ensure this provision does not attract antisocial behaviour.

10.12 Walkers, Cyclists and Horse Riders (WCH)

Introduction

- 10.12.1 Thurrock has a relatively low density of Public Rights of Way (PRoW) with large parts of the Borough having few if any routes. This is due to the large areas of historic marshland and fenland and extent of largescale mineral extraction, heavy industry and national ports.
- 10.12.2 There is approximately 172km of rights of way within the Borough with a total of 198 routes listed on the Definitive Rights of Way statement. These include 151km are Public Footpaths and only 21km of bridleway, despite the high levels of horse ownership in the Borough. Where rights of way do occur, they often do not form usable circular routes.
- 10.12.3 Project Design Report Part E: Design for Walkers, Cyclists and Horse Riders ([APP-512](#)) (PDR E) Sections 4.2 and 5.2 illustrates the current provision for walkers, cyclists and horse riders.

Local Impacts Identified by Thurrock Council

- 10.12.4 This low number and poor connectivity of routes means the prolonged closure of any, be it permanent or 'temporary' for up to 5 years for some key routes, will have a significant impact on walkers, horse riders and cyclists. While it has been possible to divert some routes, it is not possible for routes, such as BW219 that follows the Mardyke from South Ockendon to Bulphan.
- 10.12.5 An issue throughout the DCO process has been that responsibilities for different aspects of WCH, such as assessing the existing network and mitigating effects, arranging diversions and closures, and identifying legacy opportunities, have been dealt with by separate LTC teams. This has made trying to achieve a coordinated package of measures very difficult. In addition, the provision of new permissive provision, primarily around Tilbury Fields and Coalhouse Battery has been developed separately as part of the Tilbury Fields design work.
- 10.12.6 There has been no single plan showing the existing network, the proposed temporary and permanent changes and the legacy opportunities although the Project Design Report Part E: Design for Walkers, Cyclists and Horse Riders ([APP-512](#)) and the Rights of Way and Access Plans Volume B & C ([APP-204](#) and [APP-205](#)) have started to draw some of the strands together, but not comprehensively as required by the Council.
- 10.12.7 The information contained in these documents and plans accord with discussions regarding permanent changes to the rights of way network and additional permissive routes focussed in the mitigation areas close to Coalhouse Fort and at Tilbury Fields. What is not included is any detail regarding types of surfacing, structure and signage. Although, Design Principle S9.02 Tilbury Fields makes reference to the provision of the accessible permissive routes, but does not refer to a specific standard. It is assumed that PEO.04 – WCH detail design standards covers permissive routes, as it refers to WCH rather than PRoW, however, this is not explicitly stated.
- 10.12.8 A positive measure has been the NH policy to upgrade all affected public footpaths to public bridleway. This is welcome as it has enabled a near continuous bridleway connection to be provided between Coalhouse Fort and Thames Chase Visitor Centre, which forms a useful spine route through the Borough. However, there has been little opportunity to create or enhance other routes that would create the additional recreational loops identified in Design Principle PEO.10 ([APP-516](#))
- 10.12.9 Project Design Report Part E: Design for Walkers, Cyclists and Horse Riders ([APP-512](#)) is useful in providing a summary of the proposed changes to the PROW network. However, it is not a control document and is purely illustrative and therefore not acceptable to the Council.

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- 10.12.10 Design Principles ([APP-516](#)) contains a total of 11 principles relating to WCH. PEO.01-PEO.04 provide high level statements regarding the quality of provision. PEO.04 states that WCH routes shall be designed in accordance with a suite of standards including Local Transport Note 1/20. PEO.10 commits to creating improved recreational loops north of the Thames.
- 10.12.11 The Council as Highways Authority has sought to obtain more details regarding future design and maintenance, e.g. types of surfacing (SoCG Issue 2.1.103) and future maintenance liabilities (SoCG Issue 2.1.142), but NH have not provided further details.
- 10.12.12 Streets Subject to Temporary Restrictions of Use Plans Volume B & C ([APP-028](#) and [APP-029](#)) show those routes that will be subject to temporary alternation. However, they do not show the proposed diversions routes. DCO Schedule 5 Part 6 – Other public rights of way and permissive paths ([AS-038](#)) lists all routes that are affected. Outline Traffic Management Plan for Construction [APP-547](#) Appendix B provides a summary of WCH mitigation measures.
- 10.12.13 Structure Plans Volume A & B ([APP-043](#) and [APP-044](#)) do provide indicative plans showing the proposed bridges, including the green bridges.
- 10.12.14 For the green bridges incorporating roads, Muckingford Road and North Road, the Council is unclear what the purpose of the 'raised verges' is. For example, are these the areas for horse riders and what they will comprise.
- 10.12.15 In addition, the Council has proposed that sufficient width to incorporate a future dedicated cycle path or bus route at crossings of the LTC, which complements an intent from the Council to promote and increase active travel and public transport use along routes that cross the proposed LTC alignment. This requirement is reflected in the Council's emerging transport strategy. The Council is highly concerned that NH has unilaterally decided, without substantiation, that people in Thurrock are never likely to adopt cycling and bus use to the level that would warrant the need for dedicated facilities. The Council is concerned that the approach adopted by NH will mean that LTC acts as a future constraint to active travel and bus use and to restrict the provision associated with emerging major developments in the borough. It will not be cost-effective to widen the crossings once they have been constructed. To avoid LTC becoming a constraint on the potential for Thurrock to promote active travel and bus use, NH must ensure that the crossings are of adequate width to accommodate these requirements. NH argue that it needs only to provide capacity for shared-space standards, at best, stating simply that the rationale for this is to achieve best value for investment. The Council has not been provided any details of NH's assessment of the benefits of a future-proofed design with wider bridge widths compared to its preferred approach and is concerned that NH is basing decisions likely to leave a lasting negative legacy with an over-reliance on bias and anecdote.
- 10.12.16 The Council would like NH to agree to engage with Active Travel England and their remit is to help arbitrate on such matters. NH should also include sufficient width for dedicated bus facilities in the locations noted by the Council.
- 10.12.17 **Baker Street Closure/Impacts and its Implications (including SoCG Issues 2.1.81, 2.1.163 and 2.1.242)** – the Council has had several meetings about the construction effects on PRoW routes along and near Baker Street on 9 August and 23 November 2021, 12 May and 9 August 2022. Further, there was a Hatch meeting in which NH set out its proposals for Baker Street dated 19 November 2021. The Council believed these were interesting ideas that you stated would be reviewed and shared again. Unfortunately NH did not share these proposals again or develop further. Baker Street was also No. 5 on the list of 39 locations in the identified issues in the Council's work on construction impacts issued to NH in early May 2022. This set out clearly the Council's concerns and which was the subject to a range of subsequent technical discussions.
- 10.12.18 The significant construction impacts on Baker Street within Orsett Ward are set out/summarised in Section 6.13 (Pp 203 – 238) of the Community Impacts Report within the DCO

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application ([APP-549](#)). Table 6.30 makes it clear that Baker Street will be closed several times in different locations, as follows:

- a. For 5 years south of the A13 for road realignment;
- b. For 10 months (February – November 2026);
- c. Utility modifications for 7 months; and,
- d. Weekends for bridge works and for alignment changes.

10.12.19 NH also intends to impose a range of access restrictions, traffic, bus, pedestrian and cycle diversions for various periods. Bus journey times would increase on affected routes. In addition, there would be noise and air quality and cultural heritage effects and significant visual effects and impacts that will seriously impact the health and wellbeing of residents. These all comprise very significant individual impacts and especially cumulative impacts. It remains a matter of upmost concern that insufficient and very limited mitigation is being proposed by NH and there is inadequate commitment to legacy improvements to help compensate for a pro-longed period of serious disruption.

10.12.20 These issues are referred to in the SoCG as a 'Matter Not Agreed', especially within SoCG Issue 2.1.242 referred to above. The proposed options previously set out by NH (and referred to above) were for the post LTC completion treatment of Baker Street, in recognition of the severe impact and disruption caused by LTC over a prolonged period. NH have now taken a unilateral and wholly inappropriate decision to do nothing, without consulting the Council or residents. NH cites various justifications to renege of commitments previously made to local residents. The Council fails to see how doing nothing within the DCO application to Baker Street in terms of additional mitigation or legacy, after the construction disturbance is completed, cannot be considered just. Furthermore, NH have confirmed that such works cannot be included within any Designated Funds application, as it would not meet the criteria. The NH response on this matters was received on 4 January 2023 and stated:

'Further review has been undertaken on the proposals on WCH improvements on Baker Street. This review has identified that these works are not necessary to address any severance or other issues created by the Lower Thames Crossing project. As a result, it is not appropriate to seek powers through the DCO process. The proposals do not meet the criteria for Designated Funds, due to the limited size of the community benefitting from the improvements and the relatively short section of improvements reduces the amount that could be invested'.

10.12.21 The approach set out above by NH is unacceptable. The Council is strongly of the opinion that NH amend their approach, as set out below. Furthermore, the Council's response on 13 February 2023 has not yet been responded to by NH.

Policy Compliance and Local Impacts

10.12.22 NPSNN paragraphs 3.17, 3.22, 5.184 and 5.216 all relate to WCH and protecting and enhancing routes for walkers, cyclists and horse-riders during construction and operation. In principle, it is considered that the requirements have been met. However, the mitigation measures will still result in long term closures of important routes, where there is no way to provide a temporary diversion where it is cut by LTC. It has been outlined above that the Borough has a restricted PRoW network, therefore the long term closure of key routes, such as BW219 would be a significant concern to the Council.

Further Work or Mitigation Required

- 10.12.23 Through the LTC development it has been difficult to identify opportunities to create improved networks that connect to the enhanced routes within the Order Limits. As part of first DCO a Walking, Cycling and Horse Riding Assessment was commissioned covering the wider area. A summary of its recommendations is set out in Project Design Report ([APP-512](#)). That sought to focus on longer distance active travel routes rather than identifying opportunities to enhance the PROW network.
- 10.12.24 More recently several routes have been subject to feasibility studies funded through the NH Designated Funds. However, resource issues at the Council has meant that it has not been possible to progress these matters.
- 10.12.25 The Council has sought to include bridleway/permissive horse/cycle route north from the Two Forts Way to the upgraded FP200 into the Tilbury Fields design to create an alternative route. This has not yet been shown.
- 10.12.26 The proposed new permissive routes proposed as part of Tilbury Fields, but which run through the ecological mitigation areas are listed as not surfaced. These are routes that could experience significant use due to their location close to Coalhouse Fort. It is considered that these will need to have some form of surfacing and details are required from NH.
- 10.12.27 **Baker Street Closure/Impacts and its Implications** – A range of additional mitigation or legacy options for Baker Street is necessary following construction completion and consideration by the Council and residents. These options should offer a range of alternatives for residents covering the following matters (as covered in the November 2021 presentation):
- a. On-street parking;
 - b. Footpath improvements/provision/widening (possibly as shared use);
 - c. Provision for cyclists;
 - d. Possible traffic calming; and,
 - e. Bus stop improvements and bus route provision that help to mitigate the significant and deleterious effects of construction.
- 10.12.28 It is appreciated that this will require some preparation and surveys, but NH has had ample time over the last 18 months. These options should then be shared with residents, views obtained and then taken forward, as appropriate.

10.13 Human Health, Equalities & Wellbeing

Introduction

- 10.13.1 LTC has multiple, complex human health, equalities and wellbeing impacts across the entire scheme, but particularly in Thurrock where the majority of construction and operation is planned. In order to meet one of its scheme objectives the DCO must demonstrate it can ‘minimise adverse impacts on health and the environment’. The applicant has produced a standalone Health and Equalities Impact Assessment (HEqIA) ([APP-143](#)), which directly informs the human health portion of the ES Chapter 13 - Population and Human Health ([APP-151](#)) and therefore, both will be discussed here, as well as their supporting appendices and related documents. Further detail is also provided by ward within the Community Impact Report ([APP-549](#)) and there a nine wards within Thurrock covered in this document, although impacts and mitigation is only dealt with at a broad level but using ES topics to structure its content.
- 10.13.2 The HEqIA ([APP-143](#)) identifies two significant negative human health impacts (mental health and wellbeing during operation for the general population and sensitive communities and noise and vibration during construction for both general populations and sensitive communities) and six significant positive human health impacts. Alongside this, eleven topic assessments note differential or disproportionate impacts on specific protected characteristic or sensitive population groups within the assessment table, with one being noted as significant adverse (noise and vibration during construction). Given the nature of the scheme and the scale of construction the confidence in these outcomes being reflective of the human health and equalities impacts on Thurrock’s residents is limited due to the methodological limitations of the HEqIA and that Chapter of the ES, alongside specific local concerns, which have not been addressed in the HEqIA due to the aggregation of impacts across the scheme.
- 10.13.3 It should be noted that the HEqIA uses the term ‘health outcomes’ to define positive, negative, uncertain and neutral outcomes. The term ‘outcomes’ has been used below to describe broader matters, whereas the term ‘impacts’ has been used for specific local impacts.
- 10.13.4 Table 10.10 below outlines the key issues that remain, these are drawn from issue references within the Statement of Common Ground (SoCG).

Table 10.10: Summary of Key Issues Human Health, Equalities and Wellbeing

Summary of Key Issues
<p><i>Independent Review of the HEqIA (SoCG issue 2.1.208):</i> twenty recommendations were raised in the 2021 Independent Review of the HEqIA. Most of these recommendations have been carried over into the SoCG and are discussed here, demonstrating that these recommendations have not been fully met. Appendix E contains the response to NH written response to the recommendations after the submission of DCO on the 8 June 2023.</p>
<p><i>Integration of local health policies into assessment (SoCG issue 2.1.209):</i> It is not clear what weight local policy objectives and JSNA priorities have had in the assessment how that they have been included under each topic assessment. Specific topic assessments which have omitted reference to Thurrock policies or objectives are outlined below.</p>
<p><i>Information provided regarding construction phasing (SoCG issue 2.1.209 and now merged with Issue 2.1.220):</i> it is noted that description of construction phases is now included in the HEqIA. An issue remains regarding clarity on how construction phases have been considered alongside ward sensitivity within the cumulative assessment of intra-project effects, especially for those communities closest to the scheme, of which Thurrock has the majority and how mitigation addresses the potential health inequalities associated with these cumulative impacts.</p>

Summary of Key Issues

Information regarding scoping of HEQIA (SoCG issue 2.1.211): further information should be provided regarding what potential health topic assessments had been discussed with the Community Impacts and Public Health Advisory Group (CIPHAG) and been scoped out and why, and clear justification for scoping out equalities groups (specifically sex and faith and belief).

Further information regarding how consultation has informed the assessment (SoCG Issue 2.1.212): Information should be provided regarding how consultation has fed into the design and mitigation. Each topic assessment contains a section regarding consultation where issues regarding the topic during consultation are raised, however multiple topics do not clearly lay out how these concerns have been addressed (these are outlined below) or how these concerns relate to engagement with protected characteristic groups or the Hard to Reach Focus Groups (Table 5.1). There is a risk that due regard under the Equalities Act 2010 has not been demonstrated through the HEqIA and its appendices.

Justification of how criteria set out in paragraph 3.6.13 within the HEqIA has been applied to justify significance and how this interacts with aggregation of the baseline (SoCG Issues 2.1.213, 2.1.214 and 2.1.215): these issues relate to the overarching limitations of the HEqIA (SoCG Issue 2.1.208), where it is unclear from the methodology how considerations outlined in paragraph 3.6.13 of the HEqIA (criteria to determine significance) have been used systematically to determine whether or not an effect is significant. Specific topic assessments that need clarification are outlined below. Specific topic assessments where negative effects on sensitive groups or specific ward sensitivities are identified within the assessment, but the overall effect has been deemed neutral or non-significant and therefore clarification is needed on how these outcomes have been justified are also outlined below.

Information regarding further technical information (SoCG issues 2.217 and 2.1.237): concerns regarding specific technical assessments are raised under the Local Impacts section below. It is important to note that the HEqIA relies on multiple technical assessments. There are specific concerns in Thurrock regarding the air quality and noise and vibration modelling, if any changes or fundamental queries are raised regarding these assessments a clear update or caveat will need to be reported regarding the HEqIA. It is recognised that findings from the Distributional Impact Assessment are reflected qualitatively in the HEqIA, but clarification is needed as to why only income and children/schools are considered in the air quality assessment and not prevalence of long-term health conditions as a relevant characteristic.

Further information on the effectiveness of mitigation (SoCG issues 2.1.218, 2.1.230, 2.1.232 and 2.1.236): specific concerns regarding topic assessments and mitigations are raised under the further work or mitigations required section. Overall, it is not clear what evidence has been used to justify the residual health outcomes assigned to each topic assessment after mitigation. Specific topic assessments where this is the case and examples of further clarification needed regarding mitigation for specific topic assessments is outlined below.

Specific issues regarding the granularity of the EqIA and meeting the Public Sector Equality Duty (SoCG Issue 2.1.222): the issues regarding the EqIA are explored below. There is still uncertainty that the HEqIA fully demonstrates the due regard shown to equalities characteristics comprehensively.

Impacts on the traveller community (SoCG issue 2.1.229): impacts on traveller communities within Thurrock, specifically Gammonfields way have not been fully explored within the HEqIA and further clarification is needed to ensure that negative health impacts are not expected to occur, this is further outlined in the Local Impacts section below.

Specific impacts regarding noise impacts on Whitecroft Care Home (SoCG Issue 2.1.231): paragraph 7.9.21 of the HEqIA identifies that noise impacts on the Whitecroft Care Home would not constitute a significant effect in construction once mitigation measures (specifically acoustic screening) is applied that is secured through the Register of Environmental Actions and Commitments (REAC) ([APP-336](#)). This is disputed and further outlined in the Local Impacts section.

Summary of Key Issues

Specific impacts/mitigation regarding areas of common land and private facilities (SoCG Issue 2.1.238): there is still uncertainty regarding mitigation secured for loss of land, particularly Wild Thyme Outdoors. Additionally, as well as issues raised regarding the impact of land take outlined planning statement regarding temporary land take within Thurrock and demonstrating sufficient mitigation.

Specific impacts regarding health impacts on residential areas at the A13/ A1089 Junction and Orsett Cock (SoCG Issue 2.1.240): within the REAC ([APP-336](#)), there are no specific mitigations outlined regarding these areas and the issues raised within the relevant representation regarding light pollution and VISSIM modelling. This is outlined further below.

Information regarding enhancing vehicular travel (SoCG Issue 2.1.259): it is recognized that in Table 4.1 Design Principles are laid out (PE-1 – PEO13) that ensure standards for WCH which impact safety for NMU's. However, there is no detail provided above and beyond the building of new cycle paths to help ensure a move away from vehicular travel.

Further clarification regarding the Workers Accommodation Report WAR (SoCG Issue 2.1.233, 2.1.234 and 2.1.235): further clarification is needed regarding how mitigation laid out to reduce the effect of worker accommodation needed in the Thurrock housing market will reduce impacts on access to safe, secure and affordable housing for low-income residents in Thurrock. This matter is still to be discussed further with the applicant but is currently unresolved.

Specific impacts regarding proposed construction traffic routes, long term effects of road closures and how this impacts access to hospitals (SoCG Issue 2.1.194): it is not clear that the detail provided in the HEqIA ([APP-143](#)) and the ES Population and Human Health Chapter 13 ([APP-151](#)) demonstrates that congestion and impacts on construction routes have been fully mitigated against, particularly in regard to access to hospitals, this needs to be seen in conjunction with the Transport Assessment ([APP-529](#)) and Cumulative Impacts Assessment ([APP-154](#)).

Local Impacts Identified by Thurrock Council

10.13.5 As most of the scheme is to be built in Thurrock there are likely to be a majority of impacts on Thurrock residents. Thurrock populations are already at risk of poor health conditions and higher levels of deprivation, for example, the baseline Health and Equalities Impact Assessment Appendix C Baseline ([APP- 542](#)) Plates 5.1 to 5.8 demonstrates multiple areas within Thurrock which are within the top 20% most deprived areas in England. Specific local impacts in Thurrock are discussed below.

Information regarding further technical information (SoCG Issue 2.217 and 2.1.237)

10.13.6 **Air Quality:** the assessment currently identifies a neutral health impact in both construction and operation for the scheme regarding air quality, which is disputed given the wards affected, length of impact and amount of people affected, alongside the mitigations proposed. The assessment that, at a ward level the following Thurrock Wards, are the more sensitive to air quality changes, Tilbury St Chads, Aveley and Uplands, Belhus and West Thurrock and South Stifford. However, no further information is provided in the HEqIA on how these areas would be affected by the LTC and a key issue is that the HEqIA does not deal with the detail of specific air quality effects on specific areas. Additionally, it is noted that communities close to construction, or construction traffic routes should be considered be highly sensitive. These impacts are said to be mitigated by measures in the REAC and the CoCP, so would result in no physical health impacts, although no additional mitigation is highlighted in the HEqIA for sensitive wards.

10.13.7 Thurrock has raised concerns regarding the adequacy of the air quality assessment and technical data used during the assessment, most recently within the Council's Relevant Representation (Principal Issue VIII) ([PDA-009](#)). This is in particular regarding the increase in the number of

people affected by air pollution and increase in traffic on local roads, even if under the permissible standards outlined by Air Quality Standard (AQS), as health effects can be felt below these standards. This is in alignment with the UK Health Security Agency's Relevant Representation ([RR-1116](#)) *'the UKHSA would welcome further assessment and clear presentation on the summary of impacts on human receptors where there is a change in air quality, where the AQS is not exceeded'*. Further detail of these concerns can be found in Section 10.2 above. It is unclear from the DCO documentation if the concerns raised by the Council regarding the level air quality have been acknowledged in DCO. A neutral outcome is assigned for both construction and operation through applying mitigation to reduce mental health impacts of environmental changes, alongside controls during construction. However, it is disputed that the current mitigation (just establishment of the Community Liaison Groups) is adequate. Upon review of the CoCP ([APP-336](#)) it is unclear document how many Community Liaison Groups will be formed and there is limited fixed detail on how they will function and what remit these groups will have. It is recognised that findings from the DIA are reflected qualitatively in the HEqIA, but clarification is needed as to why only income and children/schools are considered in the air quality assessment and not prevalence of long-term health conditions as a relevant characteristic.

- 10.13.8 **Noise:** a similar concern is raised to air quality regarding noise, significant concern was raised in the Council's Relevant Representation (Principal Issue VIII) ([PDA-009](#)) regarding the adequacy of the noise assessments and modelling and analysis submitted to NH from the Council in 2022 demonstrated that the scheme will significantly increase noise disturbance and tranquillity of public space – further detail of these concerns can be found in Section 10.3 above. It is not clear what changes, if any, have been made in this assessment in light of this information, although negative significant impacts are noted for construction and both positive and negative impacts are noted for operation. Second, NH responded to SoCG issue 2.1.232 to provide a qualitative assessment of noise impacts on PRoWs and WCH routes, but this has not been included in the DCO submission, this was in particular reference to the shared path in the A13/A1089 area proposed for walkers, cyclists and horse riders between Green Lane and Stifford Clays Road that is now proposed slightly closer to LTC to avoid impacting farmland. It is noted that the noise assessment in the HEqIA outlines specific effects on wards, including years that they are affected, which is welcomed.

Impacts on the Traveller Community (SoCG Issue 2.1.229)

- 10.13.9 Currently, the traveller community are only considered within the Human Health portion of the assessment under housing and services within Environmental Statement Chapter 13 - Population and Human Health ([APP-151](#)) (this is despite Table 13.5 identifying traveller communities as a sensitive population within the topics of mental health and wellbeing) and within noise within Health and Equalities Impact Assessment ([APP-143](#)). However, specific reference to traveller communities are not carried over into the ES chapter regarding consideration of noise impacts. The Council seeks assurances that the health of the traveller community will not be adversely impacted and will not suffer worse health outcomes as a result of proposed relocation at Gammonsfield Way. For example, it must be ensured that, once the relocation site is operational noise levels are monitored in line with standards outline in the REAC (in particular NV001 and NV009 if agreed as appropriate). Within the HEqIA and the ES Human Health Chapter there is no mention of specific air quality assessments regarding traveller sites, in Thurrock or elsewhere. Specific assessment of the potential noise impacts undertaken on all traveller sites (including Gammonfields Way) is referenced in paragraph 7.9.41 of the HEqIA and after mitigation no significant effects are found. However, details of this assessment cannot be found in the HEqIA, therefore this will need to be shared with the Council in order to understand any impacts and if further mitigation is required.

Specific impacts regarding health impacts on residential areas at the A13/ A1089 Junction and Orsett Cock (SoCG Issue 2.1.240)

Thurrock Council Local Impact Report
Lower Thames Crossing

10.13.10 It is unclear how mitigation outlined in Health and Equalities Impact Assessment ([APP-143](#)) and the Environmental Statement Chapter 13 - Population and Human Health ([APP-151](#)) address specific concerns raised in the Council's Relevant Representation (Principal Issue VIII) ([PDA-009](#)) regarding the A13 Junction 2 and the link between Orsett Cock Roundabout and the A1089. These are regarding the effects on health of light pollution and VISSIM modelling these impacts are not referenced. Whilst the ES Chapter considers health impacts along the Project route as a whole, there is no specific mitigation outlined demonstrating reduction of human health impacts in these areas. Further clarification is needed.

Further clarification regarding the Workers Accommodation Report WAR (SoCG Issue 2.1.233, 2.1.234 and 2.1.235)

10.13.11 The ES Chapter 13 - Population and Human Health ([APP-151](#)) and the Workers Accommodation Report ([APP-551](#)) currently does not demonstrate that potential uptake of private rented accommodation will not have an impact on the ability of Thurrock residents to secure accommodation or not impact. The baseline data is from the Census 2011 (more recent ONS population predictions could have supplemented this data) and it is unclear how a designation of negative but not significant has been arrived at in the human health assessment. This is given the highly sensitive communities and vulnerable (including older people, low income households, families with children and rural communities) described in the assessment and the potential vulnerable groups affected by knock on impacts of a lack of available accommodation (particularly those at risk of homelessness given reference to use of visitor accommodation). The mitigation outlined does not detail how anxiety or access to homes will be managed for these groups. The relevant chapter does not include information regarding how workers will use the accommodation across the timescale of the project and if this affects the health or equalities outcome. Further details of the Council's concerns on this important matter are set out in Section 13.5 below.

Specific impacts regarding proposed construction traffic routes, long term effects of road closures and how this impacts access to hospitals (SoCG Issue 2.1.194)

10.13.12 Appendix 4.4 of the Environmental Statement – Transport and Traffic ([APP-343](#)) is intended to signpost where within the DCO documents the environmental assessment of traffic and transport are considered in the absence of a dedicated ES Chapter, where the following topics are claimed to be covered: severance, driver delay, pedestrian amenity, fear and intimidation, accidents and safety and driver stress. The Council requires a clear and concise summary table of the transport and traffic environmental impacts, including the significance of impacts and mitigation of any residual significant impacts. It is not considered reasonable for the Council to attempt to piece together the transport environmental assessment from a vast array of DCO documents and determine what are the project impacts. **The Council reserves its judgement on the transport environmental impacts until this is provided.**

10.13.13 There is no one singular place within the ES where these impacts and their mitigations are outlined. It is disputed that these are fully covered within the assessment as no geographic locations are noted or sensitive groups are considered that would be particularly vulnerable to driver stress or fear and intimidation related to transport. Severance, driver delay and accidents and safety are covered in more detail, however, as noted under paragraph 10.14.6 the outcomes are disputed given the potential negative impacts identified. This comment should be seen in conjunction with the LIR's responses to the ES Cumulative Assessment Chapter 16 as set out in Section 10.16 below.

10.13.14 Appendix 4.4 of the ES ([APP-343](#)) refers to the Institute of Environmental Management and Assessment (IEMA) 'Guidelines for the Environmental Assessment of Road Traffic' (1993) and seeks to demonstrate compliance with it. No consideration has been given to pedestrian delay, which is required to be assessed within the IEMA guidance. Likewise, the screening rules set out in IEMA guidance (Rules 1 and 2) have not been applied to determine the study area for transport environmental impacts.

10.13.15 The ES Population and Human Health Chapter 13 ([APP-151](#)) concludes that there are no hospital facilities to consider within the 500m buffer or the Order Limits. However, it suggests that wider community asset receptors have been considered within the assessment in Table 13.16, but it is unclear how these have been included in the outcome assessment. There is currently no evidence of consideration of impacts on access to hospitals outside of the buffer area or order limits within the HEqIA or Transport Assessment. Whilst the oTMPfC ([APP-547](#)) suggests that access to facilities will be maintained, it is not signposted in the HEqIA how specifically this will be achieved, especially if no assessment has been made on the impacts regarding local hospitals used by Thurrock residents, such as Basildon and Thurrock University Hospital and Queen's Hospital, Romford.

Policy Compliance and Local Impacts

- 10.13.16 The NPSNN covers the suggested principles for understanding health impacts for nationally significant infrastructure projects. Paragraphs 4.79 to 4.82 of the NPSNN do not define a specific approach or methodology to assess health impacts and note that projects considered under the NPSNN can have direct and indirect impacts on health.
- 10.13.17 Health is referenced under guidance for multiple technical assessments (including air quality, waste management, land instability and noise and vibration). Any implications relating to the robustness of these other technical assessments in relation to the NPSNN raised in this LIR, and this has implications for the validity of the conclusions within these HEqIA and ES Chapter 13 technical assessments, should then need to be reflected in the Health and Equalities Impact Assessment ([APP-143](#)) and the Environmental Statement Chapter 13 - Population and Human Health ([APP-151](#)), but currently are not adequately covered.
- 10.13.18 Whilst there is no specific guidance or methodology outlined in the NPSNN regarding considering health impacts, paragraph 4.81 suggests that significance needs to be considered during the assessment. It is noted that the primary source for the methodology used in the Population and Human Health Chapter is the LA 112, the DMRB Population and Human Health Guidance. This guidance does provide a methodology assessment which assigns significance for the land access use portion of the assessment, but it does not require consideration of significance regarding human health determinants. Both the ES Chapter and the underlying HEqIA refer to further guidance (from IEMA, the IAIA, WHIASU and the Mental Health and Wellbeing Impact Assessment Toolkit) used in the assessment to assign significance to health outcomes. Then paragraph 13.3.3 of the Population and Human Health ES Chapter 13 outlines that 'where no specific guidance is available to determine impacts and significance of effects, professional judgement has been used'. However, it is unclear how these guidance documents have been integrated into the health outcome assessments (positive, negative, neutral and uncertain) and what thresholds are needed to result in a significant effect identified (whilst recognising that some level of professional judgement is needed) resulting in a lack of confidence in the replicability of the outcomes assigned. There are eight health outcomes within the assessment that have been designated as significant, however, no specific limits for thresholds for significance have been determined in the assessment methodology. Therefore, both the Population and Human Health ES Chapter 13 and the standalone HEqIA that informs it, are limited in terms of identifying significant adverse health impacts (in particular for topics where other technical chapters may not provide information specifically regarding impacts on human health).
- 10.13.19 As mentioned, the NPSNN does not provide detail on applying the duties under the Equalities Act within this guidance. The equalities duties mean that public authorities need to have due regard to achieving the objective set out under S149 of the Equality Act 2010 to: (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act 2010; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and, (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. To demonstrate this due regard the public authority must demonstrate that due regard has been

shown towards protected characteristic groups, the section below outlines that there is doubt that the current HEqIA demonstrates this consistently across the screening tool and HEqIA.

Health and Equalities Impact Assessment

10.13.20 Engagement regarding health, equalities and wellbeing has been pursued over many years, including via the Community Impacts and Public Health Advisory Group (CIPHAG), as well as an Independent Review of the HEqIA in June 2021, which was followed by initial responses to the 20 recommendations from NH in July 2021 and until very recently NH has made no further responses to those recommendations. Unfortunately, many of the issues raised with regard to the robustness of the assessment within the HEqIA have not been addressed (a full breakdown of the 20 recommendations made and adequacy of responses to them can be found in **Appendix E** (the latest response from NH is dated 8 June 2023), most of these points are covered within discussion of SoCG matters in this LIR.

Independent Review of the HEqIA (SoCG Issue 2.1.208)

10.13.21 The overarching criticism of the HEqIA is that it is not clear how or by what thresholds significance criteria has been consistently applied throughout the assessment, resulting in a lack of confidence in the health outcomes identified. Specific issues regarding these concerns are raised within discussion of below.

Integration of local health policies into assessment (SoCG Issue 2.1.209)

10.13.22 Whilst each assessment box for each health topic notes that local policies highlight the importance of the issue, further clarification is needed regarding what weight local policy objectives and JSNA priorities have had in concluding significance in the assessment. Additionally, specific topic assessments that have omitted reference and discussion of Thurrock specific policies or JSNA priorities highlighted in Health and Equalities Impact Assessment Appendix A Local Policy and Strategy Context ([APP-540](#)) are:

- a. Accessibility (Thurrock Whole Systems Obesity Strategy 2018-2021, Thurrock Council, 2018d);
- b. Affordability, Work and Training (JSNA 2017 – Children and Young People, Thurrock Council, 2017);
- c. Housing and Community Services Training (JSNA 2017 – Children and Young People, Thurrock Council, 2017); and
- d. The Thurrock Health and Wellbeing Strategy (2022) is only considered within the Active Travel and Work and Training domains and should be integrated across the assessment.

10.13.23 It is important to note here that it is not sufficient to just reference the policies, but as a key criteria used to help determine significance (as outlined in the methodology), further clarification is needed regarding how policy considerations have been used to inform the health outcomes identified. Additionally, there is no consideration of if mitigations or enhancements help meet specific policy objectives.

Justification of how criteria set out in paragraph 3.6.13 within the HEqIA has been used to determine significance and how this interacts with aggregation of the baseline.

10.13.24 It is unclear what criteria the assessments have met to be considered significant. The following topic assessments have been noted as having a significant impact, however, further clarification is needed regarding what threshold these have met to be considered significant: Noise and Vibration (construction); Working and Training (construction); Accessibility (operation); Access

to green space and outdoor space (operation); Active Travel (operation); Work and training (operation); and, Mental health and wellbeing (operation).

10.13.25 The approach of aggregation has resulted in a disconnect between the description of negative outcomes for sensitive populations described in the health outcome sections and summary tables and the outcome assigned, as well as a lack of clarity on how ward sensitivities have been incorporated into the assessment (and how wards identified as sensitive and sensitive populations have been integrated). There is inconsistency in regards to sensitive wards identified being considered across the assessment, for example Tilbury St Chads and Tilbury Riverside and Thurrock Park are high sensitivity wards, but it is not clear how they have been considered within the health outcome identified as part of the traffic severance assessment for operation (neutral), despite there being an unmitigated severance issue for older people at Brennan Road. Additionally, Tilbury St Chads is not considered within traffic related severance for construction, despite it being affected by severance issues on St Chads Road. Furthermore, no specific highly sensitive wards are referenced within the light pollution assessment. This issue is also covered under SoCG Issue 2.1.194, as the human health assessment within the Population and Human Health Chapter 13 solely relies on the HEqIA, the same issue occurs across both documents. The following are specific topic assessments where negative effects on sensitive groups or specific wards are identified, but it is not clear how potential negative effects outlined in the assessment summaries have been integrated within the final health impact identified. This approach to aggregation is disputed. Further clarification is needed to justify why the following effects are not considered negative or significant: accessibility (construction); traffic related severance (construction); traffic related severance (operation); road safety (construction); air quality (construction and operation); and, impacts on housing and community service (construction and operation).

Information provided regarding construction phasing (SoCG Issue 2.1.209 and now merged with Issue 2.1.220)

10.13.26 It is noted that description of construction phases is now included in the HEqIA. An issue remains regarding clarity on how construction phases and ward sensitivities are considered in the cumulative assessment of intra-project effects, especially for those communities closest to the scheme, i.e. those within 1km of the scheme and host authorities where potential negative effects have been identified in the assessment. It is currently unclear where NH view these effects happening (given the majority of environmental topics health been designated a neutral health impact during construction) and how mitigation addresses the potential health inequalities associated with these impacts.

Information regarding scoping of HEqIA (SoCG Issue 2.1.211)

10.13.27 Further information should be provided regarding what topics had been discussed with CIPHAG and been scoped out and why and clear justification for scoping out equalities groups (specifically sex and faith and belief).

Meeting the Equalities Duty (SoCG Issue 2.1.222)

10.13.28 There is concern with the HEqIA that there is a lack of evidence that the equalities duty has been met. The Equalities Act 2010 requires public authorities to demonstrate due regard to eliminating discrimination, advance equality of opportunity and fostering good relations. This is typically demonstrated through a process of engagement and incorporation of equalities considerations, and cannot rely on the production of a desk-top EqIA as evidence alone. Each topic assessment contains a section regarding consultation where issues regarding the topic during consultation are raised. However, the following topics do not clearly lay out how these concerns have been addressed or how these concerns relate to engagement with protected characteristic groups or the Hard to Reach Focus Groups (Table 5.1): accessibility, traffic-related severance, affordability, noise and vibration, mental health, light pollution and climate change.

Additionally, a Hard to Reach Strategy was agreed to be supplied as part of the DCO, but this has not been referenced or included.

10.13.29 Additionally the following points require clarification:

- a. There is no definition of what criteria would need to be met to have a disproportionate or differential equalities impact and how this relates to the baseline characteristics of the impact area, as well as limited integration of intersectional characteristics within the HEqIA;
- b. Additionally, clarification is requested regarding providing rationale for gender and religion and belief being excluded from assessment; and,
- c. There is no discussion of how mitigation will help meet the Public Sector Equality Duty or of having due regard to eliminating discrimination, advancing equality, and fostering good relations under the Equalities Act.

Further Work or Mitigation Required

10.13.30 The Health and Equalities Impact Assessment ([APP-143](#)) and the Environmental Statement Chapter 13 - Population and Human Health ([APP-151](#)) and its appendices contain extensive information, yet, within the assessment it is difficult to discern how specific impacts on health will be mitigated. The mitigation summarised in the HEqIA is not explicitly linked to reducing health inequalities or addressing impacts on sensitive or protected characteristic groups identified or often tied to specific wards, making it difficult to assess how the mitigation is considered within outcomes provided. There is also no mention of how health impacts are suggested to be monitored during construction. This severely limits the HEqIA as a standalone assessment.

10.13.31 Specific examples of where mitigation is viewed as inadequate or needs clarification are:

- a. **SoCG Issue 2.1.236** – mitigation regarding workforce construction and healthcare services and mental health outcomes is addressed through a secured commitment whereby the Contractor will provide an appropriate range of medical and occupational healthcare services to meet the physical and mental health needs of the construction workforce. However, this is vague and details of requirements are not outlined and will rely on later negotiation as to what is appropriate. This is not sufficient at this stage as there is no outlined definition of what is considered appropriate by NH, if this is tied to financial viability and how the engagement with the local Integrated Care Partnerships will be pursued and implemented.
- b. **SoCG Issue 2.1.238** – some areas of common land and private recreational facilities will be requisitioned (temporarily or permanently) resulting in changes to the availability of open space. Where effects are anticipated, such as effects to the operation of the Wild Thyme Outdoors centre (should it recommence operations), discussions are ongoing, but no secured mitigation is noted. Additionally, there is no mitigation proposed for the temporary land take at Linford Allotments, Walton Common and the common land at Parsonage, despite being within the Order Limits. This is in addition to the adverse impacts identified at Tilbury Fort and Coalhouse Fort regarding amenity during construction (with no mitigation referenced within Table 13.58 within the ES Chapter Population and Human Health), as well as the slight adverse impact assigned regarding the permanent acquisition of land at Tilbury Green (replacement land is noted in operation but there is a six year disruption stage). A slight adverse impact has been put forward within the ES Chapter Population and Human Health Chapter 13 regarding access to community assets, which is disputed based on the above. The HEqIA identifies a negative health outcome during construction regarding access to green space and recreation (although further clarification is required regarding why this is not considered significant and why further mitigation has not been considered). This also needs to be seen in conjunction with issues raised regarding temporary land take in the Section 14

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below and the potential loss of open space for up to six years without re-provision or compensation.

- c. **SoCG Issue 2.1.259** – there is no description of specific enhancement measures to encourage use of the active travel routes by members of the public. Given the positive, significant health benefits ascribed to use of the WCH routes this is lacking. Specific Community Liaison Groups (CLG) could be specified to be created to promote and monitor this **outcome**.
- d. **SoCG Issue 2.1.240** – concerns raised regarding design and mitigation outlined addresses health concerns about impacts on the residential areas surrounding the A13 junction link between Orsett Cock roundabout and the A1089 regarding traffic and congestion modelling have not been addressed. It is noted that NH has replied in the SoCG that no further **mitigation is suggested**.
- e. **SoCG Issue 2.1.233 and 2.1.234** – the assessment of the health impacts from the construction workforce on accommodation is considered neutral after mitigation. It is unclear which specific mitigations would enable it to be considered a neutral impact on residents on a low income.
- f. **SoCG Issue 2.1.218 and 2.1.230** – mitigation mentioned in the report regarding providing funding or support to the affected Boroughs, namely the Community Fund and S106 agreements are noted, but there is a lack of detail tied to how these will reduce or address specific health outcomes in specific areas and the mechanisms by which they will be delivered and monitored. Consequently, it is unclear if the mitigation described within the relevant HEqIA or ES Chapter will effectively prevent the negative impacts identified within the assessment, particularly in areas where it is noted will experience greater adverse effects than others. The detail provided in the CoCP regarding CLG's does not specify how many will be supported in each affected authority, what the likely terms of reference will be, including what remit these groups will have and any additional funding that will be supplied to support these groups, particularly if any capacity building is needed.

10.13.32 Further information requests include:

- a. NH were to provide access to a 'Hard to Reach Engagement Strategy' within the DCO application to demonstrate adequate engagement with these groups;
- b. Clarification on what mitigation is proposed for sensitive wards outlined within the air quality assessment and how a neutral impact has been justified;
- c. Information needs to be provided regarding noise assessment baselines for Traveller sites;
- d. Further clarification if there has been consideration of noise and vibration impacts on NMUs during construction;
- e. Further clarification on numbers of CLG's proposed, where these might be and a list of topics/themes that these will cover and if any additional funding will be provided for them. Clarification is needed on if the Council and other stakeholders will have input into the ECP to inform the development of the CLGs;
- f. Rationale to be provided for consideration of affordability within visitors' accommodation;
- g. Further information provided on scoping process for the HIA with CIPHAG and what topic assessments and equalities groups were scoped out and why;

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- h. Clarification on further modelling undertaken regarding noise and air quality impacts post 2022 assessment provided by the Council, referenced in the Council's Relevant Representation (Principal Issue VIII) ([PDA-009](#));
- i. Further clarification is needed regarding intra-cumulative effects, including the phasing of these effects, where they will be felt and what mitigation measures will be in place regarding cumulative impacts, including in reference to the transport assessment regarding severance, pedestrian delay, amenity and fear and intimidation;
- j. Further clarification is needed regarding intra-cumulative effects, including the phasing of these effects, where they will be felt and what mitigation measures will be in place regarding cumulative impacts;
- k. Further information provided regarding what enhancement measures are in place to encourage a move away from vehicular travel in operation to achieve a positive significant effect; and,
- l. How the term 'appropriate' is defined within mitigation regarding healthcare facilities should be defined.

10.14 Climate and Decarbonisation

Introduction

- 10.14.1 The boundaries that define climate change impact are complex. The boundaries through which greenhouse gas emissions (referred to here in as 'carbon emissions') are emitted will be greater than just the tail pipe emissions. The supply chain for the construction of LTC and the manufacturing of the additional vehicles that will be enabled by its presence is both national and international. The impact from climate change is already being felt in the Borough, the United Kingdom and across the world.
- 10.14.2 The local to international boundaries set by climate change requires transparency and integrity in the approach taken to analyse the effects of Nationally Significant Infrastructure Projects. By the very nature of the importance defined to National Significance Infrastructure afforded through the Development Consent Order (DCO) process, the requirement for transparency and integrity in the approach taken to assessing climate change should reflect the significance of scale and importance of climate change globally.
- 10.14.3 Article 4 of the Paris Agreement (Paris Agreement, IPCC November 25), paragraph 13 page 3 states:
- 'Parties shall account for their nationally determined contributions. In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement.'*
- 10.14.4 To determine a Nationally Significant Infrastructure Project as having nationally significant economic benefits, but no significant climate change impact, does not afford LTC the transparency of assessment on climate change that it requires.
- 10.14.5 The UK Government ratified its signatory to the Paris Agreement in 2016, as the legally binding international treaty on climate change. This treaty includes a range of articles requiring signatories to deliver action, including Article 4, which requires countries to ensure transparency in emission reporting to ensure environmental integrity, transparency, accuracy, completeness, comparability, and consistency across a broad range of issues.
- 10.14.6 The assessment of climate change (Chapter 15 of the Environmental Statement ([APP-153](#))) fails to meet the basic principles of ensuring environmental integrity, transparency, accuracy, completeness, comparability, and consistency across a broad range of issues.

Table 10.11: Summary of Key Issues Climate and Carbon

Summary of Key Issues
<p>The project does not allow Government to meet their requirements of the Paris Agreement Article 4 for transparency in emission reporting. The lack of transparency (as defined in Article 4) in measuring, reporting and verification relates to the:</p> <ul style="list-style-type: none"> ▪ Comparative emission boundaries set within the project carbon assessment in comparison against the total national emission boundaries; ▪ The difference in greenhouse gas calculation methodologies between the project emissions and those developed for national emissions budgets, the national atmospheric emissions inventory and the climate change committees carbon budgets. <p>The approach holds no consistency, completeness, comparability or accuracy between the calculated project emissions and national emission budgets in order to form an opinion of significance of impact.</p>

Summary of Key Issues

The lack of transparency in the approach to reporting and comparing carbon emissions results in the project not meeting the tests defined in NPSNN for significance of impact against the Government's ability to meet their net zero target.

There is no consistency between claims of the benefits from the reduction in traffic from DfT's future transport scenarios taken into consideration in the carbon emissions calculations and the subsequent economic disbenefit to the project with the same reduced road transport numbers. Whilst the benefits of reduced traffic numbers from the future decarbonisation in transport is highlighted as a benefit, these same traffic number reductions are not accounted for in the economic benefits of LTC. If there is less traffic on the road due to transport decarbonisation, the DCO has not assessed the financial justification of the scheme. With a reduction in vehicle use and as per the Planning Act S104(7) balance the potential costs of the scheme could outweigh its benefits. This has not been tested.

Chapter 15 of the ES has not considered the impacts on Thurrock meeting its own net zero transition, in particular, how LTC responds to the DfT's upcoming Local Transport Plan requirements for district level emission measuring, reporting and verification to net zero carbon by 2050.

The DCO application does not provide evidence of how the investment into LTC will accelerate the Climate Change Committee Sixth Annual Carbon Budget (Chapter 3, Section 1 page 36), recommendations for decarbonisation of transport especially within the host community of Thurrock.

No carbon mitigations targets have been set that will allow verification of progress in decarbonisation during construction. The verification of carbon reduction is not secured through the DCO during construction and therefore not guaranteed.

The lack of meaningful targets is further evidenced in its reference in the low commitments made to the independent verification processes BREEAM Infrastructure and Carbon Literacy, not representative of the 'pathfinder' status the scheme wishes to brand itself with.

No local benefit has been identified for investing in decarbonisation to offset project emissions against the claim of carbon neutral status being defined (ES Chapter 15, Paragraph 15.6.3, page 67).

The project has explicitly disregarded best practice guidance 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (IEMA, 2022) and not followed the internationally recognised methodology for appraising carbon emissions Greenhouse Gas Protocol (GHG Protocol for Project Accounting, World Resources Institute 2003), especially relating to setting boundaries for assessment and the use of industry specific guidance for greenhouse gas reporting.

ES Chapter 15 states (paragraph 15.6.5, page 67) states the project is compatible with the budgeted science-based 1.5°C trajectory. There is no scientific explanation or justification for this statement.

The detailed calculation workbooks have not been submitted with the DCO application. It is therefore not possible to audit verify the emission calculations undertaken. The raw data has been subject to numerous requests since December 2022 and forms part of the unresolved issues within the Statement of Common Ground between the Council and NH.

The impact of decarbonisations measures identified in the Carbon and Energy Management Plan have not been tested within the Environmental Impact Assessment. For example, no environmental risk appraisal or impact assessment within the ES Chapter 15 has been undertaken for the use of hydrogen during construction, the impact of utility impact on the decarbonisation plans of the Council and maximum electrical demand for the full 'electrification' of construction activities.

No consideration of the local power capacity impact from LTC power demand on the host communities uptake of electric led decarbonisation technology, e.g. heat pumps, EVs, solar etc.

Summary of Key Issues

Within the ES Chapter 15 there is no assessment of adaptation benefit on how LTC can improve the Council's resilience to climate impacts to address the environment benefits of the scheme.

National Highways has adopted its own Net Zero goals and this suggests that NH and the traffic on their networks makes them a sufficiently significant agency to demonstrate that the budget for the SRN itself is a matter of significance (and not just their own activities).

10.14.7 Please note Chapter 7 of this report assesses the lack of evidence in how the economic benefits of LTC failed to take into consideration Government's position that emissions reductions will be delivered through a system of five year carbon budgets to 2050, which include a reduction in vehicle use, as described in paragraph 5.16 page 49 of NPSNN.

Local Impacts Identified by Thurrock Council

- 10.14.8 The impact of LTC on Thurrock's carbon emissions and approach to managing climate risk are significant and weight should be applied to the role of LTC on Thurrock meeting its own climate targets. If Thurrock were to propose a development that would have a material impact on the performance of NH's SRN network then it is most likely that NH would refuse that development or ask for mitigation measures. The principle is the same for the impact of NH on the Council.
- 10.14.9 In 2018 the carbon emissions within the Council's area have been estimated to be 892,000 tonnes (all emission segmentations), with transport accounting for 372,852 tonnes (UK Road Transport Energy Consumption at Regional and Local Authority Level 2005-2020, BEIS 2020). The emissions presented within Chapter 15 of the ES present a major increase in local emissions over such a pre-construction local baseline. Such emission data is known and is important and relevant for the purposes of S104(2)(d) of the 2008 Planning Act, especially when determining significance within the environmental impact assessment.
- 10.14.10 The following local impacts have been identified by the Council that have not been addressed within the DCO:
- a. The assessment of transport emissions has not considered local impact on Thurrock's carbon budgets;
 - b. The EIA has not tested the local impact of construction decarbonisation measures, such as electrification of construction vehicles or the use of hydrogen fuels. Without securing the parameters for use of such available technology their use will not be available to NH;
 - c. No strategy or assessment has been provided of how the 'pathfinder status' of the scheme will contribute to the local green skills agenda to leave a zero carbon economic legacy in Thurrock;
 - d. No strategy or assessment has been provided of how legacy infrastructure developed during construction can be provided to support clean and inclusive growth of Thurrock, such as renewable supply, power capacity, hydrogen infrastructure, etc.;
 - e. The limited commitments to verification of performance, such as BREEAM (targeting contractors to achieve very good, two tiers below the highest rating of Outstanding) and Carbon Literacy Project (targeting silver standard two tiers below the highest rating of Platinum) offer no meaningful advancement from business as usual. In turn no enhanced benefits to the local economy in supporting green skills will be achieved through these commitments; and,
 - f. No assessment, strategy or action has been developed on how the investment into LTC can reduce the host community's climate vulnerability (see **Appendix K** of this document).

Policy Compliance and Local Impacts

- 10.14.11 At the time of the December 2014 NPSNN, the Climate Change Act was legislating for an 80% reduction in emissions and the pathway out to the period in which the construction of projects, such as LTC were not established by the CCC and endorsed by Parliament. There was no framework other than the national emission targets against which the significance of projects could be assessed at that point in time. Indeed, the presence of a 20% budget, which would not be reduced meant that Government argued that there was no need to establish indicative sectoral budgets, because this would lead to distortion of sectoral actions.
- 10.14.12 As of 2020 the Climate Change Act was amended such that there is a commitment to 100% emission reductions (net Zero) now by 2050. In December 2020 the CCC published its 6th carbon budget assessment for the period 2033-2037 and in 2021 the Government responded with the Net Zero Strategy (NZS), which included indicative sectoral budgets which were identified as a range of emission reduction pathways. These are both important and relevant data sets that should be considered as part of the assessment, as defined by S104(2)(d) of the Planning Act 2008.
- 10.14.13 The pathway range for transport in the NZS was a subset of those identified in the Transport Decarbonisation Plan and considerably narrower. It is important to note that the indicative sectoral budgets have no statutory status, but like the annual carbon emission totals defined within the National Atmospheric Emissions Inventory, which are broken down geographically and within sectors, they exist to be able to support comparison to ensure consistency between project level emission reporting and national reporting of emissions.
- 10.14.14 As of March 2023, the Net Zero Strategy was reviewed and the Carbon Budget Delivery Plan was produced. This provided a single indicative pathway for transport, rather than a range. Again, this signals a national government perspective that it is now in a position to define a pathway for transport emissions.
- 10.14.15 Compliance with NPSNN centres around the interpretation of the December 2014 NPSNN, i.e. pre Paris Agreement, tests for defining significance. It should be noted that in paragraph 4.37 of the new draft NPSNN states that *'Should a revised set of UK Climate Projections or associated research be applicable after the preparation of the environmental assessment, the Examining Authority should consider whether they need to request further information from the applicant.'*
- 10.14.16 The December 2014 NPSNN describes in pages 49 to 50, the approach to assessing carbon emissions. In paragraph 5.17, page 50, the document notes carbon budgets should be compared to National Carbon Budgets (last three words paragraph 5.17 page 50 of the NPSNN).
- 10.14.17 The test defined within the NPSNN is determine whether a nationally significant transport project defined by the NPSNN affects the ability of the Government to meet its national budget for transport.
- 10.14.18 ES Chapter 15 only compares predicted emissions against the total National Budget. It fails to consider temporal and sectoral budgets set by Government, the sector budgets set by the Government's Climate Change Committee and the UK's total emissions reported to the UNFCCC through the UK's National Atmospheric Emissions Inventory. Again these long term data sources and benchmarks are important and relevant to consideration of significance of impact.
- 10.14.19 In determining significance (Chapter 15, Section 15.9, Page 59) NH have only used the total National Budget for comparing the project emissions budget (Table 15.17 page 65d). This total National Budget includes all sectoral emissions, including manufacturing, housing, energy, agriculture and other non-road transport. The boundaries of the National Budget are significantly broader than those established for the Project budgets and therefore not comparable.

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- 10.14.20 As noted above in paragraph 10.15.3 of this LIR the Paris Agreement Article 4 (Paris Agreement, IPCC November 2015) requires transparency in measuring, reporting and verification of carbon emissions. It is critical therefore that any net increase in national emissions can be scrutinised against national (i.e. Paris Agreement), sub-national (i.e. Net Zero), and sectoral (i.e. sector emission budgets and pathway) commitments to qualify whether the scheme would materially impact on the ability of Government to meet its carbon reduction targets (which is the test for significance established within ES Chapter 15 ([APP-153](#))).
- 10.14.21 Without any consistency or comparability in assessing the project emissions against the national budget it is not possible to conclude GHG emissions from the project would not have a material impact on the ability of the Government to meet its carbon reduction targets (Chapter 15, paragraph 15.6.6, page 68). The assessment therefore does not provide the appropriate evidence for decision making purposes defined in paragraph 5.18, page 50 of the NPSNN.
- 10.14.22 In its 2023 Report to Parliament the Climate Change Commission (2023 Progress Report to Parliament, CCC 2023) reported that the transport sector was not on a satisfactory trajectory to meet its carbon targets and drew particular attention to the essential need for changes to the treatment of carbon in the appraisal of road schemes. On page 128 it specified the inclusion of:
- a. *'Measures to reduce car demand';*
 - b. *'Support for local transport authorities in refreshing their local transport plans', especially on carbon;*
 - c. *'All scheme appraisals (including road building decisions) must explicitly consider the National Road Transport Plan Decarbonisation scenarios;'*
 - d. *'At the UK level, various road-building projects have recently been pushed back due to fiscal headwinds. The Government should launch a more strategic review (similar to the Welsh roads review) to assess whether these projects are consistent with its environmental goals; and,'*
 - e. And on page 426: that its proposed roads review should include *'current and future road--building projects' and 'permit schemes to be taken forward only if they meaningfully support cost-effective delivery of net zero and climate adaptation.'*
- 10.14.23 It is understood that this report was published on 28 June 2023, subsequent to NH submission of the DCO. However, the document now should be treated as one of the most important 'successor documents' provided for in the NPSNN and its implications are so great that work to implement it would clearly be proportionate to the scale of the project, the largest in the programme.

Further Work or Mitigation Required

- 10.14.24 The following work would be needed to appropriately consider local impacts and compliance with NPSNN:
- a. Assessment of local impact on carbon emissions is required;
 - b. Consistency in boundaries and calculation methodologies are required between project emission reporting and national budgets;
 - c. The impact of Government's decarbonisation pathways on the economic benefits of LTC requires assessment;

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- d. Legacy benefits from infrastructure investment during construction should be established and planned for;
- e. Host community climate vulnerability assessment is required in line with international best practice; and,
- f. Inclusion of tests recommended by the CCC in relation to the effects of demand reduction and explicit consideration of the NRTP decarbonisation scenarios, and its proposed test for taking schemes forward.

10.14.25 National Highways should provide all calculations and workbooks used in developing emission assessments and sensitivity analysis for stakeholder review. Until such time as the calculations are independently verified, NH cannot determine the project as not affecting Government's ability to achieve their net zero target.

10.15 Cumulative Impacts

Introduction

10.15.1 This sub section considered the ES Chapter 16: Cumulative Effects Assessment ([APP-154](#)) and its related Figures and Appendices (APP-329 – APP-331 and APP-483 – APP-485).

10.15.2 In summary, the Council consider that the combination impacts reveal that the projects when taken together, would have a significant adverse impact on the receiving landscape, ecology, heritage and local residents. There is insufficient commitment within the submission to secure minimisation of the scale and impacts of the scheme. The mitigation proposals presented to date do not satisfactorily address the Council's concerns. There is also considered to be insufficient information in relation to the long-term monitoring of impacts.

Table 10.12: Cumulative ES Chapter – Summary of Key Issues

Summary of Key Issues
<p>The Zone of Influence for the cumulative effects on Population and Human Health is limited to 500m from the Order Limits, but there are likely to be impacts on Population and Human Health beyond this study area, due to the changes in traffic flows as a result of LTC.</p> <p>There is a lack of and incorrect reporting of effects in the ES Cumulative Chapter, just a few examples are listed below:</p> <p><u>For Noise:</u></p> <ul style="list-style-type: none"> ▪ Tilbury Riverside and Thurrock Park ward – effects concluded as moderate rather than large despite significant adverse impacts relating to construction traffic. ▪ Chadwell St. Mary ward – effects concluded as large rather than very large despite significant adverse impacts at receptors relating to operational traffic which are permanent effects. ▪ Inter-project effects for both construction and operation relating to Tilbury Link Road have not been quantified and therefore there is no evidence to conclude that impacts are not significant. <p><u>For Air Quality:</u></p> <ul style="list-style-type: none"> ▪ Table 16.9 Chadwell St. Mary ward – effects concluded as being not significant as the DMRB LA105 methodology does not consider the effect of substantial increases in pollutant concentrations at levels below the legal thresholds. ▪ Inter-project effects for emissions from the Thurrock Flexible Generation Plant have not been quantified and therefore there is no evidence to conclude that cumulative impacts would not be significant. <p><u>For Population and Human Health:</u></p> <ul style="list-style-type: none"> ▪ The assessment does not included the assessment of severance, driver delay, pedestrian amenity, pedestrian delay, fear and intimidation, road safety and driver stress.

Lack of and Incorrect Reporting of Effects

10.15.3 There is a lack of reporting of effects as well as incorrect reporting of effects in the Cumulative ES Chapter 16 ([APP-154](#)). Further detail on a few noise, air quality and population and human health examples are provided below.

Incorrect Reporting of Noise Effects

10.15.4 Within Table 16.8, for Tilbury Riverside and Thurrock Park ward, significant adverse noise effects are specified in association with construction traffic. However, given that no further noise mitigation measures are applied and these construction traffic noise impacts remain as well as having impacts relating to air quality and visual impacts, it is questioned why only a moderate adverse effect has been concluded instead of a large adverse effect.

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- 10.15.5 Within Table 16.9 for Chadwell St Mary ward, significant adverse road traffic noise effects are predicted for receptors on the north-eastern edge of Chadwell St. Mary. These receptors are likely to exceed the significant observed adverse effect levels as defined in DMRB and therefore not comply with NPSNN. It is expected given the impact and with no further mitigation being applied by NH to these receptors the resulting impact should be 'very large' adverse. It is currently being concluded as being no worse than large adverse effects.
- 10.15.6 Paragraph 16.5.50 concludes that inter-project effects are not likely to be significant for construction traffic. However, there is no evidence or assessment undertaken to provide justification for this conclusion. Construction activity associated with Tilbury Link Road could provide a potential significant impact.
- 10.15.7 Similarly, paragraph 16.5.51 concludes that inter-project operational traffic noise effects are unlikely to be significant. However, there is no evidence that cumulative impacts associated with developments including Tilbury Link Road are unlikely to lead to significant effects.

Air Quality Issues

- 10.15.8 Paragraph 16.5.14 concludes that inter-project effects are unlikely to be significant. Confirmation is required that consideration of emissions from industrial sources, such as the Thurrock Flexible Generation Plant have been considered within the cumulative assessment.
- 10.15.9 Similarly, Table 16.12 determines that inter project cumulative effects are unlikely to be significant, as the DMRB LA105 methodology does not consider the effect of substantial increases in pollutant concentrations at levels below the legal thresholds.

Lack of Reporting of Transport and Traffic Effects

- 10.15.10 In the Memo 'Traffic and Transport Assessment in DCO 2.0' issued by National Highways to stakeholders on 22 April 2022 (refer to **Appendix J**), it stated at Table 4.1 that the assessment of severance, driver delay, pedestrian amenity, fear and intimidation, road safety and driver stress would be included in Chapter 13 Population and Human Health. The assessment of these transport effects is not included in Chapter 16 of the ES on Cumulative Effects with regards to Population and Human Health ([APP-154](#)). IEMA Guidance also requires the assessment of pedestrian delay, which is not included within the ES assessment.
- 10.15.11 Appendix 4.4 of the ES on Traffic and Transport ([APP-343](#)) is intended to explain and sign post to where the environmental assessment of traffic and transport impacts are covered within the application documents. The assessment of transport environmental effects (e.g. pedestrian amenity, fear and intimidation, etc.) is claimed to be covered across a number of application documents, but this makes it extremely difficult for the Council to determine what the adverse effects of LTC are from those documents. The Council requires the ES to include a summary table setting out the adverse impacts on all transport effects, with signposting to the exact location of the evidence base of the ES assessment.
- 10.15.12 Table 16.11 of Chapter 16 on Cumulative Effects ([APP-154](#)) summarises the intra-project effects on people during the construction and operational phases. No evidence is provided to support the cumulative effects on population and public health and it is therefore not possible for the Council to determine if the assessment is acceptable or not.
- 10.15.13 The only significant adverse effects on the population are those where there would be adverse effects on access and adverse construction phase dust and emissions, noise, visual and human health effects would combine. Table 16.11 of Chapter 16 on Cumulative Effects ([APP-154](#)) does not identify any significant adverse impact on driver delay or stress during the construction phase, despite there being a need for significant traffic management and road closures during the construction phase.

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- 10.15.14 No population effects are reported to occur during the operational phase as set out in Table 16.11 of Chapter 16 on Cumulative Effects ([APP-154](#)). This is not considered to be reasonable given the increase in traffic forecast on the local road network during the operational phase as a result of LTC.
- 10.15.15 Table 16.12 summarises the Inter-project effects during the construction and operational phases. No evidence is provided within the chapter to support the conclusions reached. For example, it is stated that there will be potential positive inter-project effects arising from the potential to create new green infrastructure for walking and cycling opportunities. Commitments to improvements to walking and cycling infrastructure are not secured in the DCO, which would provide a positive environmental effect.

Local Impacts Identified by Thurrock Council

Comments on LTC 6.2 Environmental Statement Figure 16.1 - Cumulative Zones of Influence ([APP-329](#))

- 10.15.16 The scale of the plans in ([APP-329](#)) makes it difficult to focus on specific areas in any detail and consequently it makes the plan overly confusing and difficult to comment on. The Thurrock area is very complex and the Thurrock section (Page 3) should be provided in a format that is easier to view and scrutinise.
- 10.15.17 The Zone of Influence (Zol) for the population and human health cumulative impact assessment has been taken as *'500m from the Order Limits for both construction and operation effects on private property and housing; community land and assets; development land and businesses; agricultural land holdings; and effects on WCH'* (Table 16.3 of [APP-154](#)). The Council is concerned that the Zol excludes roads and communities that are likely to be adversely impacted by LTC as a result of the increase in traffic.
- 10.15.18 Design Manual for Roads and Bridges (DMRB) 'LA112 Population and Human Health' (National Highways 2020b), states that *'Where likely effects are identified outside the 500m area surrounding the project boundary, the study area should be extended accordingly.'* As such, the Council considers that the Zol should be expanded.
- 10.15.19 In the Memo 'Traffic and Transport Assessment in DCO 2.0' issued by NH to stakeholders on 22 April 2022, it states in Table 4.1 that the traffic and transport assessment in the ES would be based on DMRB LA112 and 'Guidelines for the Environmental Assessment of Road Traffic' published by the Institute of Environmental Assessment in 1993 (now Institute of Environmental Management and Assessment (IEMA)).
- 10.15.20 Within the IEMA guidance, two broad rules are suggested that can be used as a screening process to define the scale and extent of the study area and assessment:
- a. Rule 1: include highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%); and,
 - b. Rule 2: include any other specifically sensitive areas (where sensitivity is defined as high) where traffic flows have increased by 10% or more.

LTAM identifies that there are increases in traffic on the local road network in Thurrock of greater than 10% and 30%. It is not considered that the IEMA screening approach has been undertaken to establish the study area for the assessment.

- 10.15.21 The traffic modelling summarised in the Transport Assessment and its supporting Appendices ([APP-529](#) and APP-530 – APP-538) identifies that there are increases in traffic on the local road network in Thurrock of greater than 10%, beyond the 500m study area applied by NH to

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the cumulative impact assessment on Population and Human Health. The Council considers that the Zol should be based on Rules 1 and 2 of the IEMA guidance.

10.15.22 Certain roads have been omitted from the Zone of Influence (Zol) and the following should be included:

- a. Fobbing High Road;
- b. Lampitts Hill;
- c. B1007 South Hill and Lower Dunton Road (being the link between A127 and A13) - this is because of the impact at Manorway interchange being severe that rat running will likely occur at Five Bells interchange and onto these routes;
- d. Rectory Rd / Prince Charles Ave / Conways Rd – Orsett;
- e. Orsett Road – Horndon On The Hill; and,
- f. B186 Pilgrims Lane / South Rd – Ockendon.

Comments on LTC ES Figure 16.2 - Developments in the Cumulative Shortlist (APP-330)

10.15.23 This document is dated October 2022 and will therefore exclude a number of recent planning applications, which may influence cumulative environmental effects. For example, the following applications have been submitted since October 2022:

- a. 22/01370/FUL Mardyke application – demolition of existing buildings / structures and provision of employment hub comprising of 44,463 sqm of general industrial (Use Class B2) / logistics floorspace (Use Class B8) on land adjacent to Watts Wood including Mardyke Farm Ship Lane and Broomhill Arterial Road;
- b. 22/01606/FUL Titan application – demolition of existing buildings and the redevelopment of the site to provide 38,026 sqm of flexible Use Class E(g)(iii), B2 and B8 at Titan Works, Titan Road in Grays; and,
- c. 23/00033/FUL Weston Avenue application – demolition of existing retail units (Units 1-9) at part of Thurrock Shopping Park to enable the redevelopment of the Site for a multi-level logistics building to provide 61,893 sqm of flexible Use Class E(g)(iii), B2 and B8.

10.15.24 **Appendix F**, to the LIR, lists all Thurrock Major, Minor and Pre-Application sites from 1 October 2022 to 14 June 2023. All Major or determined applications will need to be included when updating the DCO. Consideration should be given to the effect these developments may have on the cumulative environmental effects set out in Chapter 16 on Cumulative Effects ([APP-154](#))

10.15.25 Furthermore, the Plan ([APP-330](#)) is very difficult to read and so the following questions/queries have been highlighted below:

- a. East Tilbury indicates Local Plan projection but there is a live planning application 16/01232/OUT;
- b. There are two live quarry applications at Orsett Quarry and the Dansand Quarry 19/1709/FUL and 21/00754/MIN respectively;
- c. Other applications that may need to be considered:

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- 19/01373/OUT - Land Adjacent to Wood View and Chadwell Road, Residential Development of up to 75 Dwellings;
 - 21/02110/FUL - Land Adjacent to 39 and 41 and to the south of St John's Road Chadwell St Mary Essex;
 - 20/00242/FUL - Tilbury Football Club, Residential Development for 112 Dwellings; and,
 - 17/00403/FUL - Land to the rear of Caldwell Road Kingsman Road and adjacent to A1013 Stanford Road Stanford Le Hope Essex (this may be nearly completed).
- d. It is unclear if Purfleet Port is included or if it needs to be;
- e. It is unclear if Purfleet New Town scheme is included or if it needs to be;
- f. It is unclear if Arena Essex site is included, which will severely impact at M25 J30; and,
- g. The Thurrock Airfield is a live application 19/01556/OUT, but it has only referred to the scoping application.

Further Work or Mitigation Required

- 10.15.26 The Zone of Influence should be updated in line with the IEMA Rules 1 and 2 to ensure that the environmental effects on transport are properly assessed.
- 10.15.27 A summary table of all transport related cumulative environmental effects should be provided as part of Chapter 16 on Cumulative Effects ([APP-154](#)) (i.e. severance, pedestrian delay, pedestrian amenity, fear and intimidation, driver delay, road safety).
- 10.15.28 Notwithstanding that the Council considers that the assessment of cumulative impacts is incomplete within Chapter 16 on Cumulative Effects ([APP-154](#)), the assessment identifies significant adverse effects on population and human health which have not been mitigated

11 Emergency Services and Safety Provision

11.1 Introduction

- 11.1.1 The Council would draw the ExA's attention to Principal Issue X of the Council's Relevant Representation (RR) dated 4 May 2023 ([PDA-009](#)), which set out the Council's serious concerns with the limited satisfactory response from the applicant to requirements of the emergency services and safety partners (of which the Council is part) to date. In addition, there are a number of related issues set out in the Council's PADs Summary Statement ([PDA-008](#)), namely numbers 3, 37, 43 and 87.
- 11.1.2 The Council draws attention to the response to applicant's Community Impacts Consultation made by the Emergency Services and Safety Partners Steering Group (ESSPSG) (of which the Council is a key member) in September 2021, which set out their concerns in detail offering 56 recommendations. The ESSPSG obtained all the members' approval to submit this written response. Despite an interim response from the applicant in November 2021 to each recommendation and a number of ESSPSG and other 'Scoping Group' meetings, there has been limited progress on resolving and agreeing these recommendations and ensuring they are 'secured' within the DCO. This continues to be a serious concern to the Council and to all members of the ESSPSG. Furthermore, the ESSPSG submitted a RR by the ExA deadline of 24 February 2023 ([RR-0291](#)) and it set out the lack of progress on all the previous 56 recommendations referred to above.
- 11.1.3 This concern was amply demonstrated when the ESSPSG formally refused to allow the applicant to submit any draft SoCG within its DCO submission. This was because the draft SoCG was provided very late in autumn 2022, just prior to DCO submission and besides matters of incorrect detail, was considered far too positive in specifying the status of many issues, which have had little progress over almost the last two years.

11.2 ESSPSG Statement of Common Ground (SoCG) Process and Timetable

- 11.2.1 The ESSPSG (including the Council) has continued to progress its comments on the draft SoCG and review of the DCO application (providing its own Relevant Representation and Written Representations) and the Council provides below further broad assessment of the issues separately within this LIR. The ESSPSG draft SoCG has now been considered by ESSPSG members, but despite several technical meetings since the DCO submission very limited further progress with the original 56 recommendations has been made.
- 11.2.2 The ESSPSG has been discussing the programme for submission of its joint SoCG to the ExA by Deadline 1 on 18 July and has agreed a four-step process to agree its first draft. The first and second step in that process has been completed in that the ESSPSG submitted its comments on the latest draft SoCG on 28 June to the draft received from the applicant on 15 June 2023. The draft SoCG has now been reviewed by the applicant and has been returned to the ESSPSG for review on 4 July to enable final comments from the ESSPSG to be undertaken and this has been progressed. This final draft SoCG will now be progressed by NH for submission to the ExA at Deadline 1, however, the track changed version of this SoCG will be part of the ESSPSG WR because it shows the amount of changes and the development of this SoCG made with NH.
- 11.2.3 The ESSPSG has provided many comments to its issue statements and to the applicant's response and indeed the status of each matter. In summary, in the ESSPSG view there are many amendments and progress yet to be made with the SoCG and its key issues; and, there are a total of 38 SoCG matters of which only 2 are 'matters agreed', with 5 'matters not agreed' and the remaining 31 are in various stages of 'matters under discussion'.

11.2.4 The process of discussing/negotiating the original 56 recommendations from the CIC consultation in September 2021 has been extremely slow with very little commitment from the applicant and very few issues secured within the DCO process. Further details of this deficient process will be set out in the ESSPSG Written Representation (WR) at Deadline 1.

11.3 Summary of Outstanding Key Issues

11.3.1 The key matters that are still outstanding between the applicant and the ESSPSG can be summarised below.

- a. Inadequate content of the draft DCO Order (dDCO), its drawings and its relevant Control Documents in securing a range of matters for the ESSPSG, including appropriate consultation arrangements within Control documents for a range of subsequent details. Also, a lack of a legal definition of 'emergency services' or 'safety partners';
- b. Slavish compliance with the relevant DfT 'guidance' documents;
- c. No progress on many requested amendments to a range of Control documents;
- d. No adequate framework for several emergency preparedness and response plans (or any DCO Requirement to cover it) or the consultation arrangements to be followed following any DCO grant;
- e. The northern Rendezvous Point (RVP) is considered unsuitable and not adequately described in the dDCO Schedule 1 and emergency services require greater consultation to reach agreement during the Examination process;
- f. Lack of any 'Protest Plan' being prepared and the inadequacy of its consultation arrangements;
- g. No agreement on the emergency services being consulted on any subsequent detailed tunnel design;
- h. Issues with the emergency services role within the Traffic Management Forum (TMF) being proposed by the applicant;
- i. No agreement on role of the emergency services for the location and design of the tunnel evacuation assembly areas being prepared at detailed design;
- j. No agreement on the appropriate spacings for the tunnel cross passages;
- k. Inadequate detail or modelling on the effect of construction activities over the 6-year construction period and its 11 phases on emergency services response times;
- l. Complete lack of funding to support the emergency services and local authority resources/staffing in undertaking these additional functions over the 6-year construction period and beyond;
- m. Inadequate consultation with the emergency services for the tunnel emergency access roadways;
- n. No consultation with the emergency services on the preliminary design of the emergency hubs located within the tunnel service buildings; and,

- o. Lack of understanding of emergency and incident management planning procedures either in the event of an incident/emergency, closure of LTC or Dartford Crossing or both.

11.4 Assessment of Scheme Proposals and Commitments

- 11.4.1 This assessment will be partly contained in the ESSPSG SoCG and in its WR to be submitted at Deadline 1.

12 Utilities

12.1 Introduction

- 12.1.1 As part of the LTC utilities diversions, temporary utilities works and new supplies will be required.
- 12.1.2 The National Policy Statement for National Networks (NPSNN) looks predominantly at linear infrastructure, specifically road and rail networks. As such, the NPSNN is relevant to LTC as a whole, rather than specifically the utilities infrastructure.
- 12.1.3 Compliance with the NPSNN in relation to local impacts is covered in various Sections of this Local Impact Report (LIR).
- 12.1.4 In addition to the NPSNN, the National Policy Statements for Energy Infrastructure is very relevant to the LTC scheme. The utilities infrastructure – diversions, new supplies, and temporary works – must be reviewed to determine whether any works are identified as Nationally Significant Infrastructure Projects (NSIPs), and show compliance with the following NPSs:
- a. Overarching National Policy Statement for Energy (NPS EN-1);
 - b. National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (NPS EN-4); and,
 - c. National Policy Statement for Electricity Networks Infrastructure (NPS EN-5).
- 12.1.5 Four NSIPs have been identified Work No. G2, Work No. G3, Work No. G4 and Work No. OH7, and are listed within Table 5.18 of the Planning Statement Volume 7 ([APP-495](#)). Of the four NSIP's only Work No. OH7 is located north of the River Thames within the Council's area. The remaining three NSIP's are south of the River Thames. The NSIPs are listed below for information.
- a. Work No. G2 – Diversion of National Grid HP Gas Pipeline (Feeder 5, Phase 1) in the vicinity of Claylane Wood (*South of the River Thames*);
 - b. Work No. G3 - Diversion of National Grid HP Gas Pipeline (Feeder 18) in the vicinity of Claylane Wood (*South of the River Thames*);
 - c. Work No. G2 – Diversion of National Grid HP Gas Pipeline (Feeder 5, Phase 2) in the vicinity of from Thong Lane to the A226 (*South of the River Thames*); and,
 - d. Work No. OH7 – Diversion of National Grid Electricity Transmission network (ZB Route) around the A13 (*North of the River Thames*)
- 12.1.6 NSIP Work No.OH7 relates to the diversion of the National Grid Electricity Transmission (NGET) network (ZB Route) around the A13. The location of this NSIP is shown on Plate 3.3 'Location Works No. OH7' of the Planning Statement Volume 7 ([APP-495](#)), which serves a reference to see the length and route of this diversion as a whole. In addition, the diversion is shown on sheets 28, 29 and 33 within both Works Plans (Volume C) Composite ([APP-020](#)) and Works Plans (Volume C) Utilities ([APP-026](#)). The information provided on these, whilst more detailed, is the same on both Works Plans – the Council would have expected more detail on the sheets within Works Plans (Volume C) Utilities ([APP-026](#)), as well as further separate drawings providing the OH7 NSIP in more detail as the main focus. It should be noted that the hatching over the proposed diversion route and the existing route being of grey colour, the same colour as the background OS mapping and proposed road layout, means it gets lost in the drawing and is difficult to see clearly.

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- 12.1.7 In addition to the identified NSIPs, further utilities infrastructure works are proposed, including diversions of electricity lines, gas mains, water mains and temporary utilities logistics hubs for use during the construction works associated with the diversions.
- 12.1.8 Issues associated with the utilities information included within the DCO have been raised previously and are included within the submitted Statement of Common Ground (SoCG) Volume 5 ([APP-130](#)). These issues include the following matters: 2.1.1, 2.1.35, 2.1.39, 2.1.64, 2.1.66, 2.1.77, 2.1.111, and 2.1.257. The SoCG Volume 5 and the Group 2 issues relating to utilities infrastructure have either been only partially resolved or not resolved at all, despite adequate time allowance for these issues to be resolved.
- 12.1.9 In addition, there are two Group 2 issues that have not been resolved. One issue is THURROCK-CIC2021-CIC-K-057, regarding 'Mitigation and Monitoring – Access/Traffic Diversions for Utilities Works' in terms of temporary footpath and bridleway closures and clarity on whether this is the OH7 NSIP diversion and/or associated development. The second issue is THURROCK-OTHER-NEW-CSt-#001, regarding the clarity as to which works qualify as NSIPs with no plans showing the detail of the NSIPs.
- 12.1.10 The Sections of this LIR below provide a review of the DCO in terms of NPS EN-1, EN-4 and EN-5 compliance, existing and any additional issues with the DCO submission and the impacts of the utilities infrastructure works on the local area.
- Section 12.2 'NPS Policy and Local Impact' reviews the sections within the NPS EN-1 and EN-5 policies for the identified OH7 NSIP and how compliance is related to impact on the local area.
 - Section 12.3 'Issues with DCO Submission' outlines where and how the DCO submission falls short with regards to information provided for the proposed utilities diversions, new supplies and temporary works.
 - Section 12.4 'Assessment of Impacts' reviews the DCO documentation in terms of the local impact of the proposed utilities diversions, new supplies and temporary works, particularly in relation to the OH7 NSIP.

12.2 Policy Compliance and Local Impact

- 12.2.1 As outlined above in Section 12.1.4, due to the requirement for utilities diversions as part of the proposed works for LTC, NPS EN-1, EN-4 and EN-5 policy compliance must be evidenced. The majority of the sections within NPS EN-1, EN-4 and EN-5, as part of policy compliance require assessment of the impacts of the proposed NSIP. These impacts, i.e., sections within NPS EN-1, EN-4 and EN-5, are outlined below in paragraphs 12.2.2 – 12.2.14.
- 12.2.2 NH clarified in its email to the Council in mid-June 2023 that utility diversions were covered in some 10 main DCO documents, making clarity difficult. Reference to NPS EN-1, EN-4 and EN-5 is in Cover Letter ([APP-001](#)), Application Form ([APP-002](#)), the Introduction to the Application ([APP-003](#)), the Explanatory Memorandum ([APP-057](#)), the Environmental Statement – Chapter 2 ([APP-140](#)), Appendix 1.3 of the Environmental Statement ([APP-334](#)), the Environmental Statement – Appendix 12.8 ([APP-448](#)), the Planning Statement Volume 7 ([APP-495](#)), Appendix B of the Planning Statement Volume 7 ([APP-497](#)), Section 3.3.3 of the Project Design Report – Part A ([APP-506](#)), and the Health and Equalities Impact Assessment – Appendix D ([APP-543](#)). The assessment of which proposed utilities diversions could be identified as NSIPs is split between gas infrastructure and electrical infrastructure, of which each assessment is found within two separate DCO documents: Appendix 1.3 of the Environmental Statement ([APP-334](#)) for gas infrastructure; and, Annex 2 of the Explanatory Memorandum ([APP-057](#)) with no reference to these locations found anywhere else in the DCO. Both of these assessments are summaries rather than the full assessments that would have been expected as part of the DCO submission.

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- 12.2.3 Whilst only one of the identified NSIPs, as described above in Sections 12.1.5 and 12.1.6, is within the Council's area, there are unclarified elements within the NSIP assessment for gas infrastructure within Appendix 1.3 of Environmental Statement 6.3 ([APP-334](#)). It is unclear whether the works outlined in the Schedule of Works G1 to G10 documents are to local high pressure (LHP) or national high pressure (NHP) gas pipelines. If so, there is a question of how these pipelines do not operate at above 7 bar, considering that operating pressures of a LHP pipeline is 7-16 bar, with NHP pipelines operating at 16-100 bar. If these works are to LHP or NHP pipelines, they should be operating above 7 bar and therefore raises the question as to why these works do not constitute additional NSIP's. As explained in NPS EN-4 paragraph 1.8.1 (iii) gas pipelines with a design operating pressure of more than 7 bar gauge are likely to have a significant effect on the environment. This is further explained in Sections 2.19, 2.23 in NPS EN-4, and includes proximity to existing and planned residential properties, schools and hospitals, railway crossings, major road crossings; below surface usage; environmentally sensitive areas; main river and watercourse crossings; other utilities services (existing and planned); pollution to watercourses; collapse of underground tunnels; usage below the surface; noise and vibration; limits on ability to replant landscape features; and, any unstable ground conditions.
- 12.2.4 The overhead line labelled as OH7, which is the identified NSIP within the Council's area, must show compliance with NPS EN-1 and EN-5 policies, of which the majority of these policies are associated with the local impact of this overhead line (OH7).
- 12.2.5 Appendix B of the Planning Statement Volume 7 ([APP-497](#)) breaks down the policies within EN-1 and EN-4, providing responses to each, as well as the draft NPS EN-1 and EN-5 policies, which have not yet been formally released. The following Sections 12.2.6 – 12.2.12 refer to NH's responses in Appendix B of the Planning Statement Volume 7 ([APP-497](#)).
- 12.2.6 One such policy within NPS EN-1, similar to NPSNN's policy, but with this looking specifically at the gas and electricity NSIPs is paragraph 4.2.1 of Section 4.2 'Environmental Statement', which requires an ES to be produced that describes the aspects of the environment likely to be significantly affected by the project. The ES (APP-138 – APP-486) is for LTC as a whole and does not specifically assess the NSIPs. Only two sections of the Environmental Statement provide any specific information on utilities infrastructure: Appendix 1.3 of the Environmental Statement ([APP-334](#)) provides specific information on utilities infrastructure; and, as previously described in Section 12.3.3, this is a summary of an assessment of the proposed gas works for the purposes of section 20 of the Planning Act 2008. The ES Appendix 12.8 ([APP-448](#)) includes the National Grid Electricity Transmission Network, Assessment for Audible Noise.
- 12.2.7 This would, therefore, denote a lack of policy compliance, with NPS EN-1 and sections 2.6 – 2.8 of NPS EN-5, meaning that it is unclear as to the local impact of this overhead line diversion (OH7).
- 12.2.8 For Section 2.4 'Climate Change Adaptation' in NPS EN-5, NH has referenced Chapter 15 - Climate of the Environmental Statement ([APP-153](#)). As described in Section 12.3.6 the ES is for the whole of LTC and does not specifically look at the OH7 NSIP. Effects of wind and storms on overhead lines and higher average temperatures leading to increased transmission losses are also not covered. Therefore, this shows is a lack of policy EN-5 compliance, which subsequently means that consideration has not been given regarding the local impact of climate change adaptation, by means of an increased risk to the resilience of the infrastructure, i.e. risk of damage to the local area by infrastructure collapse, a power outage to the local and wider communities and regular maintenance the infrastructure then being required.
- 12.2.9 There is a lack of detail in both the assessments and plans, which are listed and further described in Section 12.3 below, which allows a suitable review to determine whether good design of the OH7 overhead diversion has been demonstrated as per Section 2.5 of NPS EN-5.
- 12.2.10 It is noted that for the section 2.9 'Noise and Vibration' policies within NPS EN-5, NH has included within Appendix 12.8 of the ES ([APP-448](#)), a National Grid Electricity Transmission Network,

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Assessment for Audible Noise. Whilst this covers with the noise requirements of Section 2.9 within NPS EN-5, which look at the impact of noise from the proposed overhead lines diversions (including the OH7 NSIP) on the local environment, vibration has not been covered and therefore local impact from vibration of the overhead lines cannot be reviewed by the Council.

- 12.2.11 It is noted that for the Section 2.10 'Electric and Magnetic Fields EMFs' policies within NPS EN-5, NH has included within Appendix D of the Health and Equalities Impact Assessment ([APP-543](#)), a National Grid Electric and Magnetic Field Report, which aligns with the EN-5 requirements regarding direct and indirect impact of EMFs on human health.
- 12.2.12 Although not included within the current NPS EN-5, the draft NPS EN-5, section 2.14 'Sulphur Hexafluoride', there is a requirement to avoid, if possible, the use of sulphur hexafluoride (SF6) in new electricity networks. Sections 6.6.49 – 6.6.52 of the Planning Statement Volume 7 ([APP-495](#)) provides further detail of the NPS EN-5 requirement, with Section 6.6.52 saying that '*National Grid Electricity Transmission has confirmed in writing that the Project would not involve the use of SF6.*' However, although it should be part of the evidence towards NPS policy compliance, this piece of evidence is not included within the DCO.
- 12.2.13 The assessment of the overhead line diversion (OH7) impacts and any mitigation is not clearly explained and is spread across several documents, with limited supporting drawings. This is considered a significant deficiency. Notwithstanding this, NH have subsequently confirmed in separate correspondence that '*In line with best practice and the requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 the Environmental Statement generally assesses the impacts of the A122 Lower Thames Crossing as a whole, rather than the disaggregation of its parts. For clarity, National Highways have, however, assessed the proposed utility works against the relevant provisions of the Planning Act 2008 to confirm which qualify as Nationally Significant Infrastructure Projects in their own right.*' This is not considered by the Council to be acceptable.
- 12.2.14 To summarise Section 12.2 within this LIR, the minimal and lack of detail provided within the DCO regarding the utilities diversions, as well as the non-specific documentation, which looks at the project as a whole rather than specifically for the electric overhead diversion NSIP, shows a lack of policy compliance and therefore assessment of impacts, for both NPS EN-1 and EN-5.

12.3 Issues with DCO Submission

- 12.3.1 NH clarified in its email to the Council in mid-June 2023 that utility diversions were covered in over 15 main DCO documents, making clarity difficult. Therefore, with this assistance and following an assessment of documents related to proposed utility diversions [Cover Letter ([APP-001](#)), Application Form ([APP-002](#)), Sections 3.14, 13.2.10, 13.4.7, 13.4.11-13.4.15 and Table 13.2 of the Introduction to the Application ([APP-003](#)), Works Plans and Temporary Works Plans ([APP-018](#), [APP-019](#), [APP-020](#), [APP-021](#), [APP-022](#), [APP-023](#), [APP-050](#), [APP-051](#), [APP-052](#), [AS-024](#), [AS-026](#), [AS-034](#) and [AS-036](#)), Volume H – Overhead Diversion Routes and Pylon General Arrangement of the Engineering Drawings and Sections ([APP-037](#)), the Explanatory Memorandum ([APP-057](#)), notably Annex 2, which assess the overhead electric lines for the purposes of Section 16 of the Planning Act 2008, to determine whether any of them are NSIPs, ES Chapter 2 ([APP-140](#)), Environmental Statement – Appendix 1.3 ([APP-334](#)), Environmental Statement – Code of Construction Practice ([APP-336](#)), ES Appendix 12.8 ([APP-448](#)), paragraphs 5.6.1 – 5.6.25, 6.4.27 – 6.4.41, 6.4.53 – 6.4.58, and 6.6.1 – 6.6.52 of the Planning Statement ([APP-495](#)), Planning Statement Volume 7 – Appendix B ([APP-497](#)), Section 3.3.3 of the Project Design Report Part A ([APP-506](#)), Sections 4.4, 5.4 and 6.4 of the Project Design Reports Part D ([APP-510](#) and [APP-511](#)), the HEqIA Appendix D ([APP-543](#)), and Outline Traffic Management Plan for Construction ([APP-547](#))] and having requested information from NH as part of the Community Impacts Consultation on 8 September 2021, the Local Refinement Consultation on 20 June 2022, within the submitted SoCG Volume 5 ([APP-130](#)), within the submission of the PADs Summary Statement ([PDA-008](#)) and within the Procedural Deadline C (PDC) submission ([PDC-008](#)), it is clear and

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notable that information and drawings within the DCO relating to utility diversions, their impacts and mitigation is not clear and is spread across several documents with limited supporting drawings. This is considered a significant deficiency.

- 12.3.2 Information on the proposed utilities diversions, new supplies and temporary works that is provided in the above documents (refer to Section 12.3.1 above) lacks the detail expected for a project of this size, which is also considered as a significant deficiency. Of particular note in this regard are the gas and electric NSIPs, which lack detail regarding impact, policy compliance, design, mitigation, background, alternative considerations and the reasoning behind the final routing choices, and timescales. Whilst it is evident that NH has liaised with the statutory providers on these proposed utility works, the associated evidence showing this and the assessment of the diversions by NH itself is not clear within the DCO documentation.
- 12.3.3 The Work Plans ([APP-018](#), [APP-019](#), [APP-020](#), [APP-021](#), [APP-022](#), [APP-023](#), [AS-024](#) and [AS-026](#)) and Volume H – Overhead Diversion Routes and Pylon General Arrangement of the Engineering Drawings and Sections ([APP-037](#)), whilst useful as high-level plans to reference each element of work, do not provide the detail expected for both the NSIP utility diversions and the other utility diversions. Without the detail on the plans the ability to fully review the proposed utility diversions is lost. Generic lines showing routes of ‘multi-utility corridors’ without providing an explanation of the nature and type of utilities proposed within each multi-utility corridor is a failure to adequately provide the information expected and required and creates a difficulty to allow a suitable review of the proposals to be carried out.

12.4 Assessment of Impacts

- 12.4.1 Annex 2 of the Explanatory Memorandum ([APP-057](#)) assesses the possibility of electricity infrastructure NSIPs for the purposes of Section 16 of the Planning Act, 2008.
- 12.4.2 Whilst it is clear that the proposed works labelled as ‘OH7’ constitute an NSIP and have been considered against relevant legislation such as the Electricity Act 1989, no reference whatsoever has been made to the NPS EN-1, NPS EN-5 or any of the other DCO documentation listed above in Section 12.3.1.
- 12.4.3 The assessment of the proposed overhead electrical diversions within Annex 2 of the Explanatory Memorandum ([APP-057](#)) is acknowledged to be in line with Section 16 of the Planning Act 2008, although it is more of a 16-page summary, rather than a full detailed report. The Council would have expected accompanying drawings or reference to detailed drawings showing compliance or non-compliance with each item within Section 16 of the Planning Act 2008. For example, reference to Volume H – Overhead Diversion Routes and Pylon General Arrangement of the Engineering Drawings and Sections ([APP-037](#)), highlighting the pylon details for existing and proposed to see the height difference. The Council would also expect accompanying, or reference to, location plans showing the existing and proposed routes and locations of pylons, as well as reference to the Work Plans ([APP-018](#), [APP-019](#), [APP-020](#), [APP-021](#), [APP-022](#), [APP-023](#), [AS-024](#) and [AS-026](#)) showing the location of OH7 in relation to the wider LTC site. This is a deficiency and prevents the Council’s review and assessment of the proposals.
- 12.4.4 As part of the requirements within NPS EN-1 and NPS EN-5, in order meet policy compliance the NSIP ‘OH7’ electrical overhead line diversion would need to demonstrate that the potential impacts outlined in Sections 3.3, 3.7, 3.8, 4.2, 4.5, 4.8, 4.10 - 4.15, 5.2 – 5.4, and 5.6 – 5.15 of NPS EN-1, and Sections 2.4 – 2.10 have been assessed and either mitigated or shown to not be impacted. Since each of these sections relates to the local impact of the identified NSIP, lack of compliance of the policies also means that the local impacts have not been adequately assessed.
- 12.4.5 Appendix B of the Planning Statement ([APP-497](#)) breaks down each section within NPS EN-1 and NPS EN-5 with NH providing a response and reference to other DCO documentation that is supposed to show how each section has been addressed, i.e. the impacts of the NSIP. As

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previously discussed in Section 12.2.6 above, the ES (APP-138 – APP-486) covers LTC as a whole and does not go into specific detail about the environmental impacts of the NSIP, nor any other proposed utilities diversions, new supplies and utilities logistics hubs. Therefore, Sections 4.2, 4.8, 4.10 – 4.15, 5.2 – 5.4 and 5.6 – 5.15 of NPS EN-1 and Sections 2.4 – 2.8 of NPS EN-5 have not been fully addressed for the OH7 electric overhead line NSIP and as such do not adequately cover the impacts of this NSIP, thus preventing the Council's review and assessment of the proposals.

- 12.4.6 For a gas or electricity infrastructure NSIP the Council would expect either a separate ES or a separate Chapter within the ES (APP-138 – APP-486), which covers all impacts outlined above in paragraph 12.4.4 in NPS EN-1 and NPS EN-5.
- 12.4.7 Of the impacts outlined in NPS EN-1 and NPS EN-4, there is one section within NPS EN-1 – Section 5.11 and two sections within NPS EN-5 – Sections 2.9 and 2.10, where assessments have been carried out that are specific to the OH7 NSIP.
- 12.4.8 A National Grid Electricity Transmission Network, Assessment for Audible Noise has been included within Appendix 12.8 of the ES ([APP-448](#)). This looks at the noise impact for the permanent proposed overhead line diversions for LTC and, from a utilities perspective, is deemed as acceptable and in accordance with the noise aspects of Section 5.11 of NPS EN-1 and Section 2.9 of NPS EN-5. However, vibration assessment and impacts are not covered. It should be noted that comments from an acoustics perspective is not included within this Section of this LIR.
- 12.4.9 Appendix D of the Health and Equalities Impact Assessment ([APP-543](#)) includes a National Grid Electric and Magnetic Field Report. This covers the assessment and impacts of EMFs from the OH7 NSIP and other proposed overhead electricity diversions as part of LTC and is deemed as acceptable and in accordance with Section 2.10 of NPS EN-5, i.e. impacts of EMFs from electricity overhead line NSIPs.
- 12.4.10 The Council would have expected further investigation and information regarding the significant environmental impacts on the identified electrical overhead line NSIP. Little information has been provided to demonstrate how the impacts have been minimised and what mitigation measures have been put in place, if any.
- 12.4.11 The aforementioned Appendix 1.3 of the ES ([APP-334](#)) looks at gas only and does not cover the electrical infrastructure. The three gas infrastructure NSIPs have been identified in the document, with a brief description of locations. No reference has been made to the Project Design Reports Part D ([APP-510](#) and [APP-511](#)) and drawings within it, paragraphs 5.6.1 – 5.6.25, 6.4.27 – 6.4.41, 6.4.53 – 6.4.58, and 6.6.1 – 6.6.52 of the Planning Statement ([APP-495](#)) or Appendix B of the Planning Statement ([APP-497](#)). This is a deficiency and prevents the Council's review and assessment of the proposals.

12.5 Summary of Further Information or Mitigation Required

- 12.5.1 The overarching concern regarding the utilities infrastructure, including diversions, new supplies and utilities logistics hubs (ULHs), is the spread of information across the DCO, with little to no reference to information location. It is also acknowledged that the information provided is not detailed enough to be able to determine the impacts of the utilities diversions, new supplies and ULHs. It is usual for a project of this size and complexity, particularly with regards to the gas and electric NSIPs, for a standalone Utilities Section to be included, which provides a lot more detail than has been given for LTC and with detailed drawings provided. It is clear from what has been included within the DCO that further detail and information is available, however, this has not been provided.
- 12.5.2 Furthermore, it is clear from the assessment of the relevant DCO documents above in Sections 12.1 – 12.4, that many of the matters raised in both the latest previous consultations and item

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numbers 3, 6, 9, 10, 13, 18, 21, 22, 27, and 55 of the recent PADs Summary Statement ([PDA-008](#)) have not been dealt with, despite claiming successful engagement in a number of other DCO documents provided by NH.

- 12.5.3 With regards to gas infrastructure, due to the nature of several gas infrastructure diversions, the Council would have expected a separate Utilities document outlining the gas diversions, with drawings highlighting each one. Aside from this, the Council notes that NH has been liaising with the statutory gas providers and National Grid, such that the diversions are approved by said parties, but not yet confirmed within the DCO process. We also note that LTC's design has been modified to avoid the need for some of these gas diversions.
- 12.5.4 With regards to electricity infrastructure, due to the nature of several electrical infrastructure diversions, the Council expected a separate Utilities document outlining the electrical diversions, with drawings highlighting each one. Aside from this, it is noted that NH has been liaising with the statutory electricity providers and National Grid, such that the diversions are approved by said parties. The Council also note that several diversions have been modified to mitigate impacts on certain areas, such as residential areas. The Council would require a section explaining the choice between overhead and undergrounding diversions in order to assess the validity of those decisions.
- 12.5.5 With regards to water and telecommunications infrastructure, the Council expected a separate Utilities document outlining the water main and telecommunications diversions, with drawings highlighting each one.
- 12.5.6 The Council would also expect a separate Utilities document detailing the proposed utility supplies for LTC, as well as temporary supplies for the construction compounds.

13 Skills, Employment and Legacy

13.1 Introduction

- 13.1.1 The Council recognises that LTC proposal has the potential to deliver some skills, employment and education benefits for the local area. The Council has been proactive in engaging on this topic and has made four main requests from an early stage:
- a. First, that we were provided with sufficient information to understand the derivation of employment forecast numbers that have been used by NH in their scheme publicity;
 - b. Second, that there were ambitious and stretching targets in place for NH, and its contractors, to deliver positive skills, employment, and education outcomes;
 - c. Third, that all targets are suitably 'localised'. By localised we mean that any skills, employment, and education benefits must flow primarily to those local areas within which the proposed LTC works take place. Circa 70% of the proposed LTC construction works and scheme are located within Thurrock and the Council has made repeated requests that a commensurately high share of labour market and skills benefits flow to Thurrock; and,
 - d. Fourth, that the Council be properly resourced by NH to help secure positive labour market outcomes. This means having a dedicated internal team to work on a range of matters including labour market readiness, skills, recruitment and supply chain development.
- 13.1.2 As will become clear from the remainder of this Section, the Council is extremely disappointed by the response of NH on all of the above matters. The Council's position is that there are insufficient mechanisms in place to deliver substantive local skills and labour market benefits.
- 13.1.3 The Council is also disappointed with the lack of a proper engagement process on the topic of skills, employment and education. Whilst a Skills, Education and Employment Working Group (SEE WG) was established by NH in February 2021, it failed to meet regularly. NH has produced a Skills, Education and Employment Strategy (the latest version being appended to the NH Section 106 Agreements – Heads of Terms document ([APP-505](#)), but the involvement of the Working Group in the production of the Strategy was extremely limited and the group was not kept involved nor updated on the emerging content of the Strategy. More details of this lack of engagement are provided below.

13.2 Summary of Previous Consultations and Comments

- 13.2.1 Thurrock Council's first substantive inputs on the topic of skills, employment and education were in a submission of July 2020. The submission was in response to the initial draft of the Skills, Education & Employment (SEE) Strategy produced by NH in June 2020. Extracts from the submission show that our concerns were set out very clearly at the outset:
- a. *'All SSE KPIs should be suitably ambitious';*
 - b. *'We need a definition or definitions of 'local'. There could be core and outer 7definitions and Thurrock should be prioritised on the north side';*
 - c. *'Should be a local labour target for workforce as a whole'; and,*
 - d. *'The delivery of support to residents and businesses should not be left to HE (now NH). We would expect HE (NH) to fund the Council to deliver this so that the Council can*

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effectively build on local delivery arrangements/ links. Our initial request will be funding for a Local Labour and Business Team which includes flexible commissioning budgets’.

- 13.2.2 Not long after the production of the first draft of the SEE Strategy, Thurrock Council published the Hatch LTC Mitigation Benefits Report in October 2020. The report was published on the Council’s website and remains available – it is included as Annex K1 to this LIR. The Hatch LTC Mitigation Report was a companion document to the February 2020 Hatch LTC Economic Costs Study – see Annex K2. The Economic Costs report set out the likely costs to Thurrock of LTC, with the Mitigation report setting out measures need to, in part, offset these costs.
- 13.2.3 The Hatch report contains 58 specific requests of NH to help mitigate the negative impacts of LTC on Thurrock. Two of the 58 requests were explicitly concerned with skills, education and employment matters and are outlined in the next sub-section of this Section. Both measures were entirely in line with the submissions outlined above.
- 13.2.4 It is worth noting the following items on the timeline of skills, education and employment matters, all of which substantiate our view that NH have not seen the SEE strategy document as a priority and have not engaged sufficiently with partners on its production:
- 13.2.5 After production of the first draft of the SEE Strategy in June 2020, the next draft the Council received was in August 2021, over 12 months later. It took NH seven months to acknowledge and respond to the Council’s comments on that draft of the SEE Strategy.
- 13.2.6 In October 2021 a paper was prepared for the Council’s LTC Taskforce (see Annex K3) that summarised the Council’s concerns about the SEE strategy. All of these concerns were relayed to NH.
- 13.2.7 The Council repeatedly asked on a monthly basis for an updated SEE Strategy throughout the remainder of 2021 and the first half of 2022. The Council eventually received the next version of the SEE strategy in July 2022 (which was actually dated November 2021). None of our concerns had been addressed.
- 13.2.8 The first meeting of the SEE Working Group was in February 2021. It met again in May 2021 but then not gain until mid-2022. Commitments from NH to ensure the meetings were held more regularly were not upheld.
- 13.2.9 The Council prepared a further detailed SEE critique document in September 2022 (see Annex K4 Thurrock Council – Further Comments on SEE Strategy & SEE HoT - 8 September 2022) that strongly criticised the NH approach to the SEE strategy and the contents of the document. The main points/recommendations we made were, as follows:
- a. We wanted a much tighter definition of ‘local’. We specifically requested that the ‘host’ authorities are refined down from five areas to include three only, namely Thurrock Council, LB Havering and Gravesham Borough Council. We also requested that the SEE strategy makes clear that within these three areas the majority of works, greater than 70%, are expected to take place in Thurrock and that the sourcing of labour and other SEE targets should reflect this concentration of host-area activity in Thurrock;
 - b. We provided more stretching targets for each of the 12 headline targets in the SEE Strategy and provided a justification of each. The Council requested that these more stretching targets be adopted by NH;
 - c. The Council pointed out there was no explanation in the SEE Strategy of the staffing resource that will be put in place to help deliver the SEE Strategy and secure target outcomes. The Council repeated the request that to deliver the SEE Strategy effectively

the Council requires the provision of six new support posts to deliver positive labour market and business outcomes for Thurrock (as per the Hatch CLS1 request); and,

- d. We again requested that NH reconsiders its claim to be creating 22,000 jobs. The Council expressed our view that this number and claim, which was being widely used in NH communications, was misleading (see below). The Council again asked for evidence on the calculation of the 22,000 number.

13.2.10 NH replied to our September 2002 paper in October 2022. None of the recommendations in our September 2022 were accepted by NH. Our whole relationship with NH on the SEE Strategy over the last three years has been one of the Council making sensible and well-reasoned requests and not being accepted or resolved by NH.

13.3 Summary of Hatch Mitigation Measures

13.3.1 As set above, there are two Hatch measures that are explicitly concerned with skills, education and employment matters.

13.3.2 These two Hatch measures are also explicitly identified as items in the Thurrock/NH Statement of Common Ground ([APP-130](#)). Both are ‘Matters Not Agreed’ – see below:

Table 13.1: Hatch Measures for Skills, Education and Employment

Hatch identifier	Description	SOCG identifier	Current status
CLS1	Request that a Council team (of 6 staff) be funded by NH with the responsibility for supporting residents and businesses secure economic benefits from LTC.	2.1.170	Matter not agreed. NH has refused throughout to fund Council posts on SEE matters.
CLS3	Request that a target be set for both local labour and local apprentice use	2.1.171	Matter not agreed, as Thurrock Council are unhappy with the level of ambition in the SEE strategy targets, and the definition of ‘local’.

13.4 Assessment of Scheme Proposals

Skills, Education and Employment Strategy

13.4.1 We cover the Council’s assessment of scheme proposals under the four main topics that it has used throughout the last three years to structure the comments on matters relating to skills, education and employment.

Clarity Over Job Creation

13.4.2 The level of job creation as a result of LTC scheme remains unclear.

13.4.3 The latest NH position in the October 2020 SEE Strategy is that the project ‘will engage more than 22,000 people during construction including 10,000 jobs at peak. This is made up of both direct and indirect jobs’ (p8).

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- 13.4.4 The current NH LTC website states that *'The Lower Thames Crossing will provide work for more than 22,000 people'*. The NH Roadmap to Growth document lists what NH see as the main labour market benefits of LTC and states the project will provide *'work for more than 22,000 people'* (p4).
- 13.4.5 The number 22,000 has been used by NH for at least three years and described by NH in various different ways over the period. The Council has requested information throughout on the derivation of this number and a precise definition of what it is measuring.
- 13.4.6 The Council remain unconvinced that there will be 22,000 different individuals employed throughout the life of LTC. The Council contend that the figures used by NH are a summation of annual jobs numbers, irrespective of the duration of each job. It follows that as many, if not most, employees will work on the project for more than one year, then the actual number of jobs created/people employed will be considerably lower than 22,000. The Council's views on this matter are reinforced by the content of the NH Workers Accommodation Strategy ([APP-551](#)). The document (p19) states that *'the workforce for the (LTC) Project would reach an overall peak of 4,514'*. The Council contend that NH has added together annual peak numbers to arrive at 22,000. This practice is highly misleading.
- 13.4.7 The Council stated in our September 2022 SEE submission that *'it is important that NH confirm and clarify these (jobs) figures and refrain from quoting the 22,000 figure in any LTC communications until such time that it has done so'*. This was a repeat of earlier request the Council made for a derivation of the 22,000 number. The Council have had no reply on this matter in over 2.5 years.

The Extent to which SEE Targets are Ambitious

- 13.4.8 There are 12 main targets listed in the October 2020 version of the applicant's SEE Strategy ([APP-505](#) (at pages 26/27)). These are the same targets that also appeared in the November 2021 version of the SEE Strategy and the August 2022 SEE Heads of Terms document that the Council were provided with by NH.
- 13.4.9 Despite our detailed comments and requests on each of the 12 targets, not a single target has changed.
- 13.4.10 There has been ample opportunity for NH to raise the ambitions of the SEE Strategy and numerous prompts from the Council, and other partners, to do so. NH have declined to raise ambition at every opportunity. The Council remain very disappointed with the stance of NH. The Council set out below suggestions on how the SEE Strategy targets can be improved and become more ambitious. This is not the first time we have made these requests:

Table 13.2: SEE Targets Comparisons

Target Name	Quantified Target as set out in October 2022 SEE Strategy	Council Request (made originally in September 2022, and repeated now)
Training for local communities	350 people	The Council has suggested below a target of 2,000 new qualifications across the workforce overall. Qualifications flow from training so if 45% of workers are 'local' as per NH suggestion, then this means a minimum of 900 training programmes with certification will be delivered for local workers. In addition, there will be additional training that is not necessarily certificated. An overall target of 1,500 local

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Target Name	Quantified Target as set out in October 2022 SEE Strategy	Council Request (made originally in September 2022, and repeated now)
		people receiving training (with or without a subsequent qualification) would be a reasonable target.
Sector skills qualifications (also labelled 'industry skills')	500 people	500 qualifications over the course of a 7-year build programme and across 22,000 employment opportunities is a woeful and unambitious target. The Council requests that each year contractors are required to secure new qualifications for at least 10% of their workforce. This would equate to an overall target in excess of 2,000 sector skills qualifications.
Apprentices	437 people	The Council notes that only 60% of this target will be met by new apprenticeships, with the remaining 40% being existing contractor staff who are 'converted' to apprentices. The target must be increased to 500 apprentices and this should relate solely to <u>new</u> apprenticeship opportunities. The 500 apprentices should also be resident in one of the three 'host' authorities.
Graduates/trainees	291 people	The Council is unclear on the meaning or purpose of this target. It appears to suggest that LTC delivery contractors are required to provide employment to 291 new graduates. It is not clear what relevance this target has to securing local labour market outcomes.
Newly employed (also known as 'returners to work')	500 people	This target requires clarification. The SEE Strategy states ' <i>LTC delivery contractors are targeted to support at least 500 local people who were previously unemployed</i> '. It is not clear if delivery contractors will be required to <u>employ</u> these individuals. This target should be clarified to say that 500 unemployed local people (using the Thurrock definition of local = three host boroughs) will be <u>employed</u> by LTC delivery contractors.
Pre-employment programmes	650 people	The Council requires that the vast majority of this pre-employment support (>90%) is undertaken with residents in the three host authorities as set out elsewhere. For a project of this scale the target should be substantially greater than supporting only circa 100 people each year. A figure closer to 200 people each year is more appropriate.
Education engagement	5,000 hours	NH has set out a target for 7,000 hours of engagement with local schools, broken down to 5,000 hours supporting students and 2,000 supporting educators. Whilst the volume of activity appears reasonable, NH must commit to undertake the vast majority of this activity in 'local' schools. The majority of activity (>90%) must be undertaken in schools in the three host authorities as set out elsewhere in section.
Support to educators	2,000 hours	See above.
Work placements	470 people	Increase target to 1,000 people. This requires reinstating the previous target of 650 and increasing by approximately 50%. A high proportion of these work placements (>90%) must be offered to 'local' school children (using the required Council definition of 'local').

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Target Name	Quantified Target as set out in October 2022 SEE Strategy	Council Request (made originally in September 2022, and repeated now)
SME spend	£1 in every £3	See below. There must be a 'local' component to this target. So, for example: '£1 in every £3 with SMEs, of which half will be local SMEs' (using the required Council definition of 'local').
Business upskilling	1,000 businesses	This target must relate to 'local' businesses. This target should qualify the depth of business upskilling that NH and its contractors will engage in. For example, sending a mailshot to 1,000 businesses should not count against this target. The intervention needs to be in depth upskilling and awareness raising work. Depending on how the target is qualified, 1,000 <u>local</u> businesses may be a sufficiently stretching target.
Supply chain payment	Within 30 days	The Council is content with this target. It aligns with current reforms to the UK prompt payment policy, which is also seeking to reduce payment terms to 30 days on all government contracts. The Council requests that NH publishes a regular performance dashboard to hold itself accountable and measure performance against its targets.

'Localisation' of SEE Outcomes

13.4.11 The current version of the SEE strategy (dated October 2022) states:

'We want at least 45% of our workforce to be recruited from within 20-miles of the project. This consists of 20% from postcodes that sit within the local authorities that the Lower Thames Crossing 'impacts directly' plus 25% from postcodes that are within a 20- mile radius of the project' (p6).

13.4.12 The definition of 'impacts directly' is provided on p16 of the current SEE Strategy, where it is made clear that the target is for 20% the workforce labour to be sourced from postcodes in the five authorities of Gravesham, Medway, Thurrock, Havering and Brentwood.

13.4.13 This target for localisation is not adequate for the Council. Some 70% of LTC route falls within Thurrock with a commensurate share of construction disbenefits (noise, traffic, delay etc). As it stands, the only explicit targeting of local labour from Thurrock is that we are identified as one of five authorities sharing 20%. All other things being equal, this target seeks to source 4% of labour from Thurrock. This (lack of) targeting is wholly inadequate given the scale and share of LTC disbenefits that Thurrock will experience.

13.4.14 We have made clear to NH our requests for more extensive local targeting, namely that:

- a. The list of 'directly impacted' authorities is refined down from five areas to include three only, namely Thurrock Council, LB Havering and Gravesham Borough Council, which are the most directly affected Las; and,
- b. The SEE strategy makes clear that within these three areas the majority of works, circa 70%, are expected to take place in Thurrock and that the sourcing of labour and other SEE targets should reflect this concentration of host-area activity in Thurrock.

Funding for Council SEE Team

- 13.4.15 The Council has consistently requested that a Council team (of six staff) be funded by NH with responsibility for supporting residents and businesses secure economic benefits from LTC. Detailed costings on the team and role description were provided to NH via the Hatch Mitigation report in October 2020 and in subsequent Hatch meetings where the Council provided the applicant with a year-by-year spreadsheet breakdown of the likely costs of the team. Further updates to these costs will be submitted shortly to NH as their request.
- 13.4.16 Rather than meet this request, NH has pursued a path of assembling their own SEE team. The proposed composition and experience of the SEE team is surprisingly not covered in the SEE Strategy. There is, however, reference in the Thurrock/NH Statement of Common Ground to how NH see the SEE team working ([APP-130](#) within, item 2.1.170)) NH state:
- a. There will be five 'pre-construction' SEE roles. One of these roles is identified as a 'SEE Advisor North'. North referring to north of the Thames covering all Boroughs; and,
 - b. There will be six SEE posts maintained during the construction phase. None of these six posts appear to have a specific geographical remit.
- 13.4.17 As is clear from the role description provided by NH, there is very little SEE staffing resource being explicitly provided to Thurrock. Thurrock has a share of one 'northern' post pre-construction and no dedicated resource once construction begins.
- 13.4.18 Some 70% of LTC's route falls within Thurrock with a commensurate share of construction disbenefits (noise, traffic, delay etc). It is wholly inadequate that we are not being furnished with targeted staffing resource to help secure positive skills, education and employment outcomes for Thurrock 'in return' for these disbenefits.
- 13.4.19 There is a significant mis-match between what we have requested consistently for the last 2.5 years (six SEE posts hosted by the Council) and what is being proposed by NH.

13.5 Worker Accommodation Provision and Impact

Introduction

- 13.5.1 The applicant has produced a Worker Accommodation Report (WAR) ([APP-551](#)) within the DCO application, and this has been reviewed, along with previous consultation responses and the applicant's responses and the current status of the relevant SoCG and PADs Summary Statement matters.

Previous Consultations, SoCG Matters and Previous Technical Comments

- 13.5.2 A draft of the WAR Summary (only) was originally offered to the Council for comment in May 2020 and the Council provided both general and detailed comments in October 2020, in summary these comments at that time were:
- a. The WAR **summary underestimates the level of demand for the private rental sector in Thurrock**. New and existing housing supply in the Borough will be affected due to the construction of LTC; 20 homes will be lost to make way for the construction of LTC, directly reducing the number of residential properties available in the Borough, with a further 1,400 residential properties are estimated to be affected (i.e. to the extent that they should be regarded as being unsuitable for accommodation and therefore be regarded as being removed from the housing stock) by the development of LTC due to their proximity

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to the project, with 160 dwellings located within 200m of LTC scheme and a further 1,240 homes located within 500m;

- b. The WAR summary states that **land with the potential for up to 3,500 new homes will either be lost** or will see construction delayed due to LTC, further impacting upon the ability of the Borough to meet its future housing needs;
- c. The surge in **additional demand for accommodation for LTC construction workers would not only stretch the already limited supply of available private rental sector accommodation in the Borough**, but it would also be likely to lead to an increase in private rental sector evictions if landlords seek to increase their rents in line with the NAECI accommodation allowance and/or attempt to convert their family-sized homes into houses in multiple occupation (HMOs). Rather than the local rental market being able to 'reasonably absorb the temporary increase in population during the course of the project', LTC proposals may instead lead to the direct and indirect displacement of Thurrock residents to other areas to secure accommodation which is safe, secure and affordable;
- d. Many of the current costs within the private rental sector are unaffordable to existing residents in Thurrock and private rental sector landlords are continuing to seek opportunities to achieve higher levels of rental income. From a supply and demand perspective, **any significant uplift in demand for rental accommodation as result of LTC would increase the cost of renting in Thurrock**. Although local landlords and investors would benefit from this, an increase in costs could have significant implications for low-income private renters in the borough who are not receiving housing support;
- e. The WAR summary **does not consider the direct and indirect impacts on the Borough's local services**, such as health, leisure, and recreational services as a result of an increased population during the construction of LTC. It is recommended that an impact assessment is carried out on local services as well as housing. These should be reported in the HEqIA and the EIA and should be considered as part of LTC Accommodation Strategy; and,
- f. **Further engagement with the Council is required on the principles of NH providing lasting, high quality on-site accommodation for LTC construction workforce**, which would subsequently remain for the benefit of residents. This could provide an ideal way to achieve many of the objectives which the Council has concerning housing and accommodation and could deliver additional outcomes for both organisations and stakeholders to celebrate. For the Council, the implementation of more on-site and/or campus-based modular accommodation would alleviate some of the pressure which residents and officers would be facing regarding the local housing market in the short-term, lessen the impact of travel and traffic in the medium-term. Also, it would provide a longer-term benefit through increased accommodation to be used for supporting households who are homeless or at risk of homelessness in the future.

13.5.3 NH finally provided comments to the Council review of the WAR Summary document in January 2021 and then the Council responded further (by reiterating its previous comments) in its response to the CIC consultation in September 2021 (Section 2.10.15 of that response). Essentially the NH responses was largely to add comments to the SoCG logs for further discussion, although some clarifications were provided in January 2021 and in mid-2022.

13.5.4 At NH's request a meeting was held with the Council's housing team in mid-August 2022, where NH offer a presentation on the way forward, but largely concentrating on the 'Accommodation Helpdesk' and seeking further information from the Council, which was provided to NH in mid-September 2022, but not followed up with the Council subsequently. The information that the Council provided related to the number of households supported into private rental sector; how many landlords accommodate such households; that there is no current landlord accreditation scheme but incentives exist for discounts on HMO license fee;

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and, that there was a Landlord Forum in October 2022 and could provide details (but none were requested by NH).

13.5.5 Given DCO submission was in October 2022, at no time has the Council received any full draft of the WAR and only received the WAR Summary in October 2020, with no subsequent updates.

13.5.6 Although the WAR issues are captured in the submitted SoCG (Items 2.1.233 – 2.1.235 and 2.1.239) and within the Council's PADs Summary Statement ([PDA-008](#)) (Items 140 – 144), there has been little resolution and limited technical engagement between mid-2020 and now.

Assessment of Local Impacts

13.5.7 Given the paucity of technical engagement and the lack of resolution of issues raised over a two year period prior to DCO submission, the WAR remain entirely unsatisfactory. In particular, the matters unresolved include the following:

- a. No recognition of the use of 'bedrooms', with 'bedspaces' as the preferred term, which are different;
- b. There is no explanation of how the figure of 480 (400 bedrooms and 80 hyperbaric bedrooms) on-site accommodation bedrooms was derived;
- c. There is no assessment of the potential reduction in emergency accommodation available to homeless households;
- d. The assessments have been limited to existing accommodation supply data and not forecast data. Furthermore, there is no consideration given to the housing supply figures in the local authority areas and undersupply of housing. Demand that exceeds supply contributes to the rising levels of housing unaffordability within Thurrock, this needs to be considered within the Accommodation Assessment, as it may identify that there will be a greater impact on affordability in Thurrock than currently identified;
- e. Rising rental value levels mean that there are shortfalls between maximum LHA rates and private market rents across Thurrock, which in addition to the construction works seeking accommodation could have significant impacts on housing and homeless households;
- f. The Accommodation Assessment is flawed and needs to be updated with LPA's housing figures (historical and proposed) (market and affordable) and forecasted data is necessary to ensure that the full impact of the workers accommodation on the private rental market;
- g. There is no evidence which has been provided which demonstrates that the project will not lead to unintended homeless due to landlords seeking higher rates;
- h. The NAECI National Agreement figure has not been updated to reflect the 2022 figures of £295.47 per week or £42.21 daily rate). There is now an updated weekly rate which came into force on 9 January 2023, which is £302.89 or £43.27 per day;
- i. There is no information within the WAR with regards to the impact of the need for workers accommodation and dwellings being turned into HMO's;
- j. There is no consideration of how the loss of visitor accommodation could impact on emergency homeless provision or if there will be any impact on visitor accommodation costs, which could impact on accommodating emergency homeless households;

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- k. There is no evidence which has been provided which demonstrates that the project will not lead to the direct and indirect displacement of Thurrock residents. The measures set out in Section 7 (pro-active measures relating to accommodation) does not provide any clarity on how emergency accommodation will be safeguarded;
- l. There is no acknowledgement of the potential impact or any proposed mitigation in terms of how the project will result in the loss or delay of up to 3,500 new homes, which will further affect the ability of the Borough to meet its future housing needs; and,
- m. The WAR needs to be updated following an assessment of the pressures from inner and outer London and the potential impact on private sector housing in Thurrock.

13.5.8 The number and scale of these local impacts clearly demonstrate that the issue has not been dealt with adequately by the applicant over a period of time. Furthermore, without resolution and satisfactory adjustments (as requested) to the worker accommodation issues the impact on the Thurrock housing market could be significant and affecting the most deprived households, further worsening the need for housing in the local area.

Further Work or Mitigation Required

13.5.9 The Council required adequate responses to all previous comments and resolution of the issues and local impacts set out above.

13.5.10 It should be noted that the Council and the applicant have arranged a workshop on 9 August 2023 to discuss the SoCG issues related to the inadequacies of the WAR, namely SoCG items 2.1.233 – 2.1.235, as referred to above.

13.6 Community Fund Measures and Wider Legacy Provision

13.6.1 As set out earlier, the Hatch LTC Mitigation Benefits Report (produced in October 2020 – see Annex K1) contains 58 specific requests of NH to help mitigate the negative impacts of LTC on Thurrock.

13.6.2 Several of the Hatch measures (three in number) are connected with the Council's request for an appropriately large Community Fund to be established to help offset disbenefits and the establishment of a Council-led Community and Public Health team for the duration of LTC works.

13.6.3 A significant number of the Hatch measures (some 23) are labelled as 'Legacy' measures and are collectively seeking to secure a series of investments from NH to deliver positive outcomes for Thurrock residents in return for 'hosting' LTC.

13.6.4 Progress against securing the items identified above is covered in the following two sub-sections.

Community Fund and Community Team

13.6.5 NH is proposing to deliver a Community Fund, the details of which are set out in Section 7.3 of the NH Section 106 Agreements – Heads of Terms document ([APP-505](#)). The Council has made clear and consistent requests in respect of the Community Fund, which are summarised in a paper we prepared jointly in December 2022 with other impacted authorities – see Annex K5 Collective Position of Directly Impacted Local Authorities: Proposed LTC Community Fund. The key points in this joint paper are, as follows:

- a. The Council requested that NH increase the overall scale of the Community Fund from £1.89 million over 7 years to £3.75 million. This uplift was based on benchmark evidence

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collected on a wide range of UK infrastructure projects, and previously shared with NH. The Council also requested that the Fund is subject to an annual index-linked review, whereby the remaining unallocated amount is increased in line with the Consumer Prices Index with Housing (CPIH) each year. Also, that if the overall LTC capital cost increase above the current £8.2 - £9 billion budget envelope, then the Fund should increase proportionally in line with any revised budget envelope. NH has resisted all calls for an uplift in the Fund value and the related requests for indexation;

- b. The Council requested some modest changes, agreed amongst all relevant local authorities (Gravesham BC, LB Havering and Medway Council), to the percentage distribution of any Fund across local authorities; and,
 - c. The Council asked for clarification, and more explanation, on the reach and remit of each of the proposed four themes of the Fund and also requested confirmation that capacity building support would be made available so that less well-resourced community groups are able to successfully access the Fund.
- 13.6.6 The scale of the proposed Community Fund is dealt with in the Thurrock/NH Statement of Common Ground ([APP-130](#)) at SoCG item 2.1.177, the distribution is dealt with at SoCG item 2.1.178, the need for more specificity on the themes at SoCG item 2.1.179 and the need for capacity building support at SoCG item 2.1.181. The scale of the proposed Community Fund is a 'Matter Not Agreed'. At the time of writing, all other Community Fund matters outlined above are marked as 'Matter Under Discussion'.
- 13.6.7 The clear position of the Council is that all requests set out in our Community Fund Joint Paper need to be accepted by NH, including our request for a larger scale Fund.
- 13.6.8 The results of the recent NH Community Fund Pilot (that ran during February 2023 only) reveal the need and demand for a larger scale Fund. Our understanding, based on information provided by NH, is that even under a quick 1-month turnaround Pilot there were 106 applications from Essex, with 70 of these being from Thurrock. 40 of the Essex applications were successful (31 of these from Thurrock) with total funding of £165,000 (£127,000 of which was for Thurrock projects). These numbers demonstrate both the level of demand for the Fund and the potential over-subscription that will ensue if the Fund value is not increased. If the £165,000 per month was extrapolated for a likely 7-year construction period it would sum to £13.8 million and that is just for Essex. This is significantly in excess of the currently proposed £1.89 million for the Fund overall.
- 13.6.9 The Council has also requested resource for a four person Community and Public Health Team (see Thurrock/NH Statement of Common Ground ([APP-130](#)) – item 2.1.172. At the time of writing, NH has agreed to fund two posts, focussed on supporting the EHO, coordinating the community liaison workstream and to support the skills/business advisor within the NH team. The Council require full agreement to our original request, which in addition to the two posts offered by NH also included an administrative and apprentice post, the inclusion of 15% 'on-costs' and a commitment to fund the posts for 7.5 years. The matter is currently marked as 'Matter Under Discussion'.

Wider Legacy Provision

- 13.6.10 As set out above, a significant number of the Hatch mitigation measures (some 23) are labelled as 'Legacy' measures and are collectively seeking to secure a series of investments from NH to deliver positive outcomes for Thurrock residents and to serve as a partial offset to the negative impacts of LTC in our area.
- 13.6.11 The Council recognises that NH has in place a programme of Designated Funds that have the potential to deliver many, if not all, of these legacy measures.

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13.6.12 Given that the Council outlined its target 23 legacy measures at an early stage of the process (October 2020), the experience NH has in deploying Designated Funds elsewhere in England and the clear negative impacts of LTC on Thurrock, we had been expecting rapid progress in agreeing to our requests.

13.6.13 Against these expectations, we are extremely disappointed at the level of progress that has been achieved and the reluctance of NH to agree to our legacy requests:

- a. At the time of writing, only three of the 23 measures are classed as 'Matter Agreed' in the LTC/Thurrock Statement of Common Ground ([APP-130](#)). These being works to facilitate the restoration of Belhus Woods (Hatch L17, SoCG Item 2.1.281), enhanced greenspace at key sites in close proximity to LTC (Hatch L15, SoCG Item 2.1.280) and agreement on DCO wording that will require internet and 5G cables within the alignment and make provision on all bridges and tunnels, as appropriate (Hatch L10, SoCG Item 2.1.105). One out of 23 is marked as a 'Matter Not Agreed' (Hatch L20, Low-emission vehicle usage targets with financial penalties payable to Thurrock in the event of exceedance, SoCG Item 2.1.284).
- b. The vast majority of our requests (19 in number) are marked as 'Matters Under Discussion'. After over 30 meetings over two years on these measures, the Council are not hopeful that NH will agree to these requests. The Council attach at Annex K6 the December 2021 report on Hatch items as presented to the Thurrock Council Taskforce. The same 19 items were identified as being 'Matter Under Discussion' in late 2021. There has been no movement from NH in enabling them to be converted to 'Matter Agreed'.
- c. At the time of writing, some £1.3 million of Designated Funds have been approved for deployment in Thurrock. Whilst this is a welcome investment, it is far below the investment required to deliver the 23 legacy measures we have requested and also represents a very poor 'offset' against the many disbenefits that LTC will deliver in Thurrock.
- d. Legacy provision for Baker Street residents is an area unresolved and not agreed with NH (Hatch Measure L14), as NH are proposing no mitigation or legacy benefit to very significant construction disturbance for several years. This is covered in more detail in Section 10.13 above.

13.6.14 NH has missed an opportunity to agree to our legacy requests. These requests were made nearly three years ago and were all clear and potentially fundable.

14 Proposed Order Limits, Land Interests and Compensation

14.1 Introduction

- 14.1.1 The Council has a significant number of land interests affected by LTC, this includes land it holds as the following categories:
- a. Investment (including woodland and agricultural land);
 - b. Public open space;
 - c. Private roads; and,
 - d. Public highways.
- 14.1.2 Should the DCO be granted and implemented as drafted, then NH will be entitled to acquire those interests identified within its DCO and, at present, pay compensation in accordance with the 'so called', compensation code (being the various Acts of Parliament, Statutory Instruments and decided Case law used to assess compensation following the use of compulsory purchase powers). The Council is very concerned as it considers that this compensation methodology fails to address, in full, the impact of the scheme on the Borough and the Council's land interests.
- 14.1.3 The Council has sought to meet with NH to better understand the scheme impacts on both the Council owned parcels and the wider Borough. In March 2022 *and* following an initial meeting LTC provided a schedule of plots which allowed the Council's to better understand the impacts. This led to a series of meetings during 2022 with the LTC team seeking clarification as to the rationale for plots being included and then to assess the compensation implications (this being a reflection of the extent of the impact).
- 14.1.4 It was clear from these meetings that LTC had adopted a cautious approach, identifying large areas which might be required. These included plots identified for permanent acquisition, temporary possession and over which rights were required. At an early stage LTC and the Council recognised that there was a need for an overarching legal Agreement that would address land take, timing of land, condition of return and compensation liability, as such detail was not part of NH's Statement of Reasons ([APP-060](#)). LTC undertook to provide a draft legal Agreement in April 2021, but this has yet to be produced.
- 14.1.5 The NH project team advised the Council in August 2022 that the details provided in 2021 as to which plots had been identified for permanent acquisition, temporary possession and over which rights were being sought had been revised. Details were promised in the same format as previously. Notwithstanding that the information was published on the PINS website in November 2022, it was not until July 2023 that the NH team provided details in the previously provided format, the effect of which was to allow the Council team insufficient time to properly assess the changes. However, **Appendix H, Annex 1** does provide a summary of these latest changes.
- 14.1.6 A schedule of the Councils' directly affected plots is at **Appendix H, Annex 2**. This schedule identifies the following:
- a. The plots to be taken (by reference to the DCO plan reference);
 - b. LTC's description of the plot;

- c. The type of acquisition (permanent, temporary or rights);
- d. Reason(s) for acquisition/possession; and
- e. Plot area.

14.1.7 Subsequent to it being provided the Council has added additional columns including:

- a. Comments (highlighting queries);
- b. Construction commentary; and

14.1.8 It must be noted that whilst the Council now understands that the affected land parcels have subsequently been adjusted, the information was provided so recently that a proper analysis has not yet been possible. In addition, the Council has retained land interests, which will be impacted by the construction and/or use of LTC

14.2 Proposed Order Limits

14.2.1 Land is required under 3 categories, as follows:

- a. Permanent acquisition;
- b. Permanent acquisition of rights and temporary possession; and,
- c. Temporary Possession.

14.2.2 The extent of the land take/occupation by NH is, in some instances, very significant. In only limited instances has there been an attempt to justify the requirement for the area identified (in each instance), much less any attempt to justify the extent of the area identified.

14.2.3 NH is seeking to take land permanently then return it to the Council at a number of locations include the following:

- a. Land at Brentwood Road (LTC Parcel No. 27074);
- b. Land on the west side of Muckingford Road (LTC Parcel No. 17994);
- c. Sections of the Council owned A13 (LTC Parcel No. 33682); and,
- d. Orsett Cock Roundabout (LTC Parcel No. 33682).

14.2.4 The following points arise:

- a. It is unclear on what basis NH considers there is a compelling case to permanently acquire land, when NH has acknowledged that it does not require the land permanently;
- b. There is no binding commitment to return land;
- c. The identity of the plots to which the proposal to return land has yet to be provided;
- d. There is no indication as to when the land will be returned; and,
- e. There is no clarification as to the condition of the land that may be returned.

- 14.2.5 It is for NH, as applicant, to make a compelling case for both the nature and extent of each interest identified in DCOv2. NH has failed to do this and, in fact, has confirmed that in some instances it is seeking a greater interest than it requires.

14.3 Thurrock-Owned Land Interests Impacts

- 14.3.1 The implications on the Council's property (updated as per the information provided in July 2023) are referenced above and in **Appendix H, Annex 2**. The impacts on Thurrock-Owned Land interest are, as follows

- a. Land interests held as an investment can be adequately addressed by compensation;
- b. The impacts on highway and verge land will include disrupted traffic flow. This will particularly impact residents and businesses within the Borough with in general no provision for compensation; and,
- c. Loss of public open space – the disbenefit of this will be felt particularly keenly by the residents of the Borough, whose access to public open space will be heavily constrained and where there is currently no provision for compensation or re-provision (except with permanent acquisition).

- 14.3.2 The Council has, in addition to a responsibility for the interests it owns, a responsibility to residents and businesses within the Borough. This responsibility includes:

- a. Ensuring, as far as possible, that threats to public health are minimised; and,
- b. That the Council is able to demonstrate a minimum of a 5-year housing land supply (HLS) (HLS). In this respect LTC severs a number of sites identified as part of the 5-year HLS meaning that not only will there be less land allocated in the emerging Local Plan, but that those sites which are directly impacted are less attractive to develop. This directly impacts the Council's responsibilities to ensure the proper planning of its area.

- 14.3.3 The Council considers it imperative that it understands the following:

- a. What land is being taken permanently and when
- b. What land is being taken temporarily and when, and, where that happens:
 - Whether it is being taken temporarily on more than one occasion;
 - What triggers return of the land; and
 - The condition of land on its return.

14.4 Lack of Compensation Provision

Engagement with NH

- 14.4.1 As referenced above, the Council had met with NH on 21 April 2021 and requested details and nature (permanent, temporary, etc.) of land take to allow a view to be formed of the impact of the scheme on both land owned by the Council and, more widely, the impact on the Borough.
- 14.4.2 At the end of May 2021 and following further engagement between LTC and the Council, NH provided the Council with the revised plot plans and also gave an undertaking that NH's

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lawyers were to be instructed to prepare a draft of an agreement that would be binding on LTC to take the plots identified in the DCO only (in preference to a Memorandum of Understanding which is not binding).

14.4.3 LTC have, subsequent to the provision of revised plots plans, sought to provide a rationale for the acquisition/possession of identified plots.

14.4.4 Notwithstanding the assurances given in May 2021, LTC has still yet to provide a draft of the agreement reference at Section 14.1.4 (above).

14.4.5 Until this draft is provided the Council the following remains true:

- a. It is unclear which plots are being taken permanently and when;
- b. It is unclear which plots are being taken temporarily, when and for how long. It is important to understand that temporary possession could mean the LTC project could occupy land for 7 or 8 years;
- c. It is unclear which plots might be returned as well as to timing of and condition on return; and,
- d. The Council has to adopt the working assumption that the compensation entitlement will follow the, 'so called', compensation code (being the various Acts of Parliament, Statutory Instruments and decided Case law used to assess compensation following the use of compulsory purchase powers). The Council recognises and understands that the, 'so called', compensation code applies in respect of direct impacts on interests in land.

Compensation

14.4.6 The Council is aware that a number of schemes have policies which are an enhancement to the statutory position and offer assistance to those impacted (but not directly, that is that they have not been identified for land take but who are clearly in a disadvantaged position and where a discretionary policy can assist mitigating the impact) and where there might be a pressing need to sell or for compensation to mitigate the effect. Schemes referenced include:

- a. Thames Tideway, which had policies, including:
 - Non-statutory Off-site Mitigation and Compensation Policy; and
 - Exceptional Hardship Procedure.
- b. Heathrow Third runway, which had a number of non-statutory policies, including:
 - Property Bond Scheme; and
 - Interim Property Hardship Scheme.
- c. High Speed 2, which has a number of non-statutory policies, including:
 - Exceptional Hardship Scheme; and
 - Need to Sell Scheme.

14.4.7 The Council considers that a responsible promoting authority should implement similar schemes to mitigate the impact of the scheme on residents of the Borough.

Brochures and Policies

14.4.8 NH has highlighted a number of brochures which set out the scheme's policies, as follows:

Your Property and Blight

14.4.9 This describes the process of blight, how the affected property could be affected by blight, compensation applicable and referral of the blight notice to the Upper Tribunal. This policy goes no further than the statutory position, both in terms of the blight process and the compensation that is offered, that being the full unaffected market value of the property (plus additional home loss if the property is residential). A number of large infrastructure schemes have recognised the deficiencies of the current blight regime and offered enhanced terms.

Your Property and Compensation or Mitigation for the Effects of our Road Proposals

14.4.10 NH has indicated that it will seek voluntary agreements with landowners to mitigate the adverse effects (e.g. noise) on land from the construction works or the new or improved road in use, by planting and then maintaining trees, shrubs or plants on the land, or taking other mitigation measures. Several issues arise, as follows:

- a. It is not clear at what stage these agreements will be sought;
- b. In setting out a policy NH is acknowledging that there are impacts from its proposal that exist and require mitigation but where there is no enforceable proposal to address these impacts;
- c. Notwithstanding this proposal, and as is well understood, trees, shrubs and plants do not mitigate noise, unless considerable distance or barriers are involved;
- d. When it comes to persons in movable homes the NH policy (which, as above, is the statutory policy) allows for claims for disturbance either from construction works or from traffic using the new or improved road. To qualify for a noise payment due to construction noise, the noise from the construction of a new or altered highway must have seriously adversely affected the enjoyment of a mobile home for a continuous period of six months. So those affected will have been seriously affected for that lengthy continuous period before qualifying for compensation (notwithstanding that the level of compensation is considered to be insufficient);
- e. NH has proposed a discretionary policy to meet the reasonable additional expenses of residents to allow them to move into temporary suitable alternative residential accommodation. In order to qualify the residents must live adjacent to the site of the construction works and where the physical effects of the works are causing such significant disruption and discomfort as to make their continued occupation not reasonably practicable. The challenges include the following:
 - Those impacted must have already suffered;
 - No procedure or response timeframe for application is included within the policy. There is concern therefore that a resident could be living in very challenging conditions awaiting a response and living with significant uncertainty;
 - The period for which a payment might be made is limited to 5 months;
 - A payment will only be made where the occupier's additional expenses are likely to be less than the cost of noise insulation;

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- The policy is only available to occupiers living adjacent to scheme works. This does not take into account occupiers (including vulnerable persons) that might live close to but not adjacent to the works and who have also been significantly impacted, potentially, in some cases, more severely;
- There is no allowance for support in maintenance of impacted properties;
- There is no support for medical expenses that might arise from the increase air or noise pollution;
- Compensation should include any double overheads the resident incurs; and,
- There is no provision within this policy to provide temporary support to local businesses that are impacted by construction work.

14.4.11 The policies set out in this brochure go no further than the statutory position.

Your Property and Compulsory Purchase;

14.4.12 This policy sets out the process for compulsory acquisition and the compensation mechanism. No guidance is given as to when land might be acquired. This brochure sets out the statutory position only.

Your Property and Discretionary Purchase

14.4.13 This policy sets out the circumstances when NH might acquire discretion to acquire properties that are not required for the scheme. As with the policies listed above this brochure goes no further than the statutory position.

14.4.14 Copies of each brochure are at **Appendix H, Annex 3.**

Public Open Space

14.4.15 NH proposes taking possession of significant areas of Public Open Space for, potentially, very significant period(s). These plots include the following:

- a. Land lying to the North West of Stanford Road, Grays – known as Orsett Heath Academy Playing field and extending to 13,876.25 sqm (LTC Parcel No. 26981);
- b. Land on the south side of the A13 Orsett – known as Memorial Ground and extending to 198,207 sqm (LTC Parcel No. 26985);
- c. Land on the south side of the A13 Orsett- known as Heath Farm and extending to 24,556.688 sqm (LTC Parcel No. 27213);
- d. Land lying to the east of Baker Street, Orsett, Grays and extending to 100,962.33 sqm (LTC Parcel No. 47627); Land lying to the south of School Lane, Orsett, Grays, known as Orsett and Thurrock Cricket Club and extending to 40,233.17 sqm (LTC Parcel No. 27048);
- e. Land lying to the north of Linford Road, Grays – which includes part estate recreation ground and extending to 63,628.77 sqm (LTC Parcel No. 17709);
- f. Land on the east side of Brentwood Road, Grays – which includes part estate recreation ground and extending to 19,147.90 sqm (LTC Parcel No. 17756);

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- g. Land on the north west side of Brentwood Road, Grays – known as Old House Wood and extending to 51,801.05 sqm (LTC Parcel No. 39144); and,
- h. Marisco Hall, Brentwood Road, Grays and extending to 717.25 sqm (LTC Parcel No. 35320).

14.4.16 It is unclear, principally because NH does not yet know, in each instance;

- a. How long the temporary possession may last; and,
- b. Whether occupation of these areas will take place once or on multiple occasions

14.4.17 Where public open space (defined as '*part of a common, open space or fuel or field garden allotment*') is permanently acquired, provisions set out in S19 of the Acquisition of Land Act 1981 require (in all but a limited number of cases) an acquiring authority to ensure that there will be provided as replacement land to fulfil the function of the land acquired and that other land will be of no lesser area and no less advantageous. The Council sees no reason why this requirement should not apply both in respect of land permanently acquired and that acquired temporarily. Failure in either circumstance would leave the residents of Thurrock with less of this particular land type. The Council considers that where land is taken temporarily (which as is highlighted above could be a 7-8year period) NH should be compelled to provide replacement land to no lesser amenity than that existing.

Conclusion

14.4.18 The Council considers that NH should undertake the following commitments:

- a. Be required to identify the following:
 - In each instance how long a period its temporary occupation will be;
 - Whether it intends to remain in occupation throughout its period of temporary occupation or whether it intends to take multiple occupations; and,
 - The extent to which, in each instance, it can minimise the land it occupies.
- b. Confirm that those plots which it seeks to take permanently, but only requires temporarily will only be taken temporarily;
- c. Undertake further design work, such that it can reduce the extent of the land take;
- d. Provide a draft of the legal Agreement it undertook to commission approximately two years ago and enter into meaningful negotiations with a view to concluding an Agreement in the next few months;
- e. Introduce non-statutory policies to address the identified shortcomings in the statutory schemes for the following matters:
 - Blight; and,
 - Those who suffer hardship as a result of the LTC scheme.
- f. Provide replacement Public Open Space to replace that lost both permanently, but especially temporarily during construction.

15 Adequacy of Key Application Documents

15.1 Introduction

15.1.1 This Section's purpose is to review the existing dDCO and supporting 'Control Documents' to determine their adequacy, weaknesses and to identify additional work or commitments that the Council requires to make certain aspects acceptable.

15.1.2 It covers the following documents in the following sub sections:

- a. Draft DCO Order ([AS-038](#));
- b. All relevant Legal Agreements, including the Section 106 ([APP-505](#) and its successor Agreement);
- c. The Stakeholder Actions and Commitments Register (SAC-R) ([APP-554](#));
- d. Wider Networks Impacts Management and Monitoring Plan (WNIMMP) ([APP-545](#));
- e. Code of Construction Practice (CoCP) ([APP-336](#));
- f. Register of Environmental Actions and Commitments (REAC) ([APP-336](#));
- g. Framework Construction Travel Plan (FCTP) ([APP-546](#));
- h. Outline Traffic Management Plan for Construction (oTMPfC) ([APP-547](#));
- i. Outline Materials Handling Plan (oMHP) ([APP-338](#));
- j. Outline Site Waste Management Plan (oSWMP) ([APP-337](#)); and,
- k. Carbon and Energy Management Plan (C&EMP) ([APP-552](#)).

15.1.3 The Council has no further comments, except those set out in the above relevant sections) on the following Control Documents – Outline Landscape and Ecology management Plan (oLEMP) (APP-490 – APP-493), Design Principles ([APP-516](#)), Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation (AMS-OWSI) ([APP-367](#)) and Environmental Masterplan (EMP) (APP-159 – APP-168).

15.1.4 The Preliminary Works Environmental Masterplan ([APP-339](#)) has not been reviewed in detail, except to state that it has not been shared with the Council until the DCO submission and there has been no technical engagement about its content. The Council therefore may require to make a subsequent submission on this 'Control Document'.

15.1.5 However, even though it is not a 'Control Document', it is considered important that the Planning Statement and its accompanying Appendices (APP-495 – APP-504) are assessed and that review is set out below.

15.2 The Draft DCO

15.2.1 This Section considers the current draft DCO (dDCO) and its impact on the Council's area, including impacts on the Council itself and local residents. A detailed analysis of the individual proposed Articles and Requirements are set out in **Appendix I, Annex 1** and the Council's detailed responses to Issue Specific Hearing 1 (ISH1) Actions Points and individual questions

(which are also a separate submission at Deadline 1) are set out in **Appendix I, Annex 2**. One of the key ways in which adverse effects of the DCO are proposed to be mitigated is through legal agreements. In addition, the proposed Section 106 Agreement and two Side Agreements are considered in detail below in a separate sub section.

The Draft DCO (dDCO)

15.2.2 The Council has been discussing the version of the draft DCO with the applicant since the end of 2020. This has resulted in four detailed reports shared between the Council and the applicant, two meetings and supplementary correspondence on specific articles within the DCO. Some of our concerns, such as limiting some of the ancillary works powers in Schedule 1 have been taken into account in the current draft of the DCO. However, many other points, which the Council view as having a significant negative effect on the Council's residents, do not appear to have been taken into account. Broadly, these are:

- a. **Uncertainty**, for example caused by uncertain Order Limits, length of time CPO powers can be used for, timeframes within which the project is going to be commenced and the potential adverse effects of disapplying legislation.
- b. **Loss of control and coordination over the impact of the project on how the Council discharges its statutory functions**. For example, because of the effects of the Council not being the discharging authority for certain requirements, control over works to the highways, different drainage enforcement regime and deemed discharge.

Uncertainty

15.2.3 It is accepted that a scheme of this size requires some flexibility to overcome unforeseen technical issues and avoid the need to amend the DCO. However, that flexibility needs to be within defined parameters, so that those potentially impacted can input into the DCO process.

15.2.4 Our main concern is about the uncertainty of flexibility, especially in relation to Order Limits. Article 6(3) sets out that the maximum Limits of Deviation do not apply when it can be demonstrated by the applicant to the Secretary of State's satisfaction that disapplying limits would not give rise to any materially new or materially different environmental effects in comparison with those reported in the ES.

15.2.5 This raises a number of concerns. First, why are non-environmental effects not part of the consideration as to why the Limits of Deviation, which are considered as part of the draft DCO dis-applied? Non-environmental effects could include the impact on new landownership. It could also include adverse effect on businesses. Environmental effects are very important, but they are not the only effects.

15.2.6 Second, it makes it very difficult for all stakeholders to actively take part in the Examination, if they do not know if their land will be affected. This uncertainty is likely to have a chilling effect on the use of land even though it is outside the Order Limits (because it will discourage investment). No explanation has been given to as to why the Limits of Deviation cannot be limited to within the Order Limits, as an absolute maximum.

15.2.7 It is appreciated that the applicant has not yet completed sufficient design work to enable it to demonstrate precisely what land it requires. However, the degree of flexibility given to the applicant should have clear limits, so as to provide certainty for those likely to be impacted by the project. The applicant is likely to state that some powers, such as CPO, are clearly limited and that this provides sufficient certainty. However, in the Council's position the ability for the scheme to continue, outside of Order Limits and not to have all those impacts fully assessed, it not acceptable. The Council requires sufficient certainty to the scheme, to allow it to fully comment on the impacts and allow those potentially affected to take part in the Examination.

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This means that the scheme should not extend outside of the existing DCO application Order Limits.

- 15.2.8 Another area of uncertainty is around the time limits for acquisition. Article 27(1) allows a period of 8 years for the exercising of compulsory purchase powers. The Council has suggested that where elements of the project may require a period in excess of 5 years, that the time period is extended to these sections of the land only. In particular, consideration be given to:
- a. Limiting the land to which this provision applies; and,
 - b. Limiting the categories of work to which this provision will apply.
- 15.2.9 The applicant has consistently rejected this approach, citing a lack of precedent for a mechanism that would allow for different time periods to be applied over different parts of the Order Limits land. Given the applicant is seeking a much extended time period, the fact that a proposal has not been used in previous DCOs, clearly should not preclude a full consideration of its appropriateness. The drafting to achieve this is not complicated and the applicant should by this stage have a clear project plan on a plot by plot basis.
- 15.2.10 As such, the Council considers it inconceivable that there are not any plots where the applicant is confident at this stage that they will be able to make a determination on requirements in less than 8 years.
- 15.2.11 Even if the number of plots affected by this provision were limited, it would be entirely consistent with compulsory purchase principles that the applicant should seek to have the minimum possible impact on landowners.
- 15.2.12 At this stage, the Council are not satisfied that evidence for an 8 year period has been provided.
- 15.2.13 The points made above apply equally applicable to the rights granted under Articles 28, 35 and 36, which are all affected by the same time limit.
- 15.2.14 Uncertainty is also present due to the reasoning given by the applicant for provisions, for example, due to the disapplication or amendment of legislation/statutory provisions in Articles 53 and 55. The Council have raised with the applicant on a number of occasions the need to explain the impact of the disapplication of statutory provisions, in accordance with Section 25 of Advice Note 15. Good practice point 10, in section 25 of Advice Note 15 states:
- 'Applicants should provide in the Explanatory Memorandum a clear justification for the inclusion of such provisions in the particular circumstances.....'*
- 15.2.15 In our opinion significant additional justification is required to explain the rationale for such a wide approach. This uncertainty of impact makes it difficult for the Council and other stakeholders to fully understand the impacts of the scheme promoted by the applicant.
- 15.2.16 Despite this we do not disagree with the fact that primarily the draft DCO should take precedence, it is just that we need to understand the impact better, so we can assess whether any specific mitigation is required.
- 15.2.17 Overall, we consider that the applicant needs to ensure that the limits of the draft DCO are clear, allowing certainty for those potentially impacted to engage effectively. The applicant frequently justifies its position based on precedent and the size and complexity of the scheme. It is the Council's position that, pursuant to paragraph 1.5 of Advice Note 15, the applicant needs to explain why particular wording is relevant to the proposed draft DCO.

15.2.18 Paragraph 1.5 of Advice Note 15 states:

'If a draft DCO includes wording derived from other made DCOs, this should be explained in the Explanatory Memorandum. The Explanatory Memorandum should explain why that particular wording is relevant to the proposed draft DCO, for example detailing what is factually similar for both the relevant consented NSIP and the Proposed Development. It is not sufficient for an Explanatory Memorandum to simply state that a particular provision has found favour with the Secretary of State previously; the ExA and Secretary of State will need to understand why it is appropriate for the scheme applied for. Any divergence in wording from the consented DCO drafting should also be explained. Note, though, that policy can change and develop.'

15.2.19 It is not sufficient to state that a particular provision has found favour with the Secretary of State previously, it needs to be established the provisions are appropriate for the scheme applied for in this DCO application.

15.2.20 It is the size and complexity of the scheme which makes certainty so important. It is already a significant task for the Council and other stakeholders to understand the impact of the scheme upon them. Allowing additional flexibility to the applicant, without clear limit, favours the applicant over the interests of local residents who are going to be directly impacted by the scheme.

15.2.21 Uncertainty is exacerbated due to the project stage of design reached by the applicant. The fact that the applicant has not provided more certainty in the current design should not, however, have an unjust impact on the Council or other local stakeholders. Whilst flexibility may reduce costs and delay for the applicant, there is a cost to the uncertainty, which negatively impacts both other public bodies and private business.

Loss of control and co-ordination over the impact of the project on how the Council discharges its statutory functions

15.2.22 Another key area of concern is the loss of control and co-ordination over the impact of the project on how the Council discharges its statutory functions. It is appreciated that the applicant would find it more convenient to use its own discharge mechanism, with the Secretary of State as the discharging authority. However, the Council does not consider that adequate justification has been provided as to why it is the most appropriate option in relation to this scheme.

15.2.23 It is the Council's position that Requirements 3 (detailed design), 4 (Construction and Handover EMPs), 5 (landscaping and ecology), Requirement 6 – (contaminated land), 8 (surface and foul water drainage at a local level (with the Environment Agency responsible for those elements not at a local level), 9 – (historic environment), 10 (traffic management), 11 (construction travel plans), 12 (fencing), 14 – (traffic monitoring), 16 – (carbon and energy management plan) and 17 (amendments to approved details) should be discharged by the relevant local planning authority, with any appeal going to the Secretary of State. Whilst it is not uncommon for transport DCOs to have the Secretary of State as the discharging authority, it is by no means universal (see for example the West Midlands Rail Freight Interchange Order 2020, the Lake Lothing (Lowestoft) Third Crossing Order 2020, the Silvertown Tunnel Order 2018 and the Port of Tilbury (Expansion) Order 2019 (Tilbury 2)). In addition, the Council are not aware of any other Secretary of State (for example DHLUC, DEFRA or BEIS) being the discharging authority in connection with non-transport DCOs. In relation to this scheme, the Council is the local highways authority for 70% of the route. Accordingly, the applicant's concerns regarding coordinated discharge of functions is not well founded in relation to this scheme.

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- 15.2.24 In the Council's view, locally elected local authorities, who are experienced in discharging similar planning conditions, should be the discharging authority. It is precisely because of the complexity of the project that a detailed understanding of the locality, including the local highway network, is required. It is accepted that changes to local highway sections will need to consider the impact of those changes on trunk road sections (and vice versa) and accordingly it is suggested that the relevant planning authority will discharge requirements in consultation with relevant parties, such as the applicant and other key stakeholders. The current proposal, of the Secretary of State being the discharging authority, after consulting the Council (but without being required to follow the Council's views), is likely to lead to unnecessary expenditure as the relevant local planning authority will have to commit significant resources to explaining to the Secretary of State the impact of proposals, with no guarantee of such views being accepted.
- 15.2.25 This is further exacerbated by Article 9 and the disapplication of the New Roads and Street Works Act 1991 ('NRSWA'). The Council's concerns regarding permitting have already been raised with the applicant. This is an area of significant concern to the Council. It is very important that the Council remains in control of its highways network, for which it has statutory responsibility.
- 15.2.26 Article 9(3) dis-applies a number of the provisions in NRSWA. Section 58 protects the Council and integrity of any works it is undertaken. The Council understands the need for the programme to progress smoothly, however, this is best achieved through a joined-up approach and having a joint Network Management Team or through the provision of additional resources to the Council's team, which are in the process of being agreed with the applicant.
- 15.2.27 If works need to be undertaken on a Section 58 street, then it would be important that there is a full width reinstatement.
- 15.2.28 Disapplying Sections 56 and 56A is also a significant problem as it could lead to clashes and wider impact on the network. Ultimately the Council needs full control of its highways network, so that it can be managed effectively and in accordance with the Council's statutory responsibilities.
- 15.2.29 In previous correspondence the applicant has noted that this has been agreed in previous DCOs. Whilst this is the case, it is not agreed in every DCO. For example, see the Thames Water Utilities Limited (Thames Tideway Tunnel) Order 2014 or the Model Provisions (which specially apply these parts of NRSWA). It is the Council's position that the applicant should utilise the Council's usual permitting scheme, which will ensure a coordinated approach across the Council's area.
- 15.2.30 Article 9(9) restricts the contents of permits. The applicant has previously stated that this is needed in order to avoid a situation where the applicant cannot comply with conditions. The Council is not aware of any conditions that are likely to be imposed which would need to be a breach of the Order or that the applicant would be unable to comply with. Accordingly, this provision is not needed. If the applicant has particular concerns then these should be raised now.
- 15.2.31 In addition to a loss of control of works to the highway, the applicant proposes in the protective provisions for drainage authorities (the Council is a drainage authority). The provisions in Part 3 of Schedule 14 disapply Land Drainage Act powers. The Council appreciates the applicant's reasoning around disapplying Land Drainage Act Powers, when the scheme spans multiple LLFA areas. However, the Council considers that that ultimately enforcement action should be carried out at the discretion of the LLFA in accordance to their respective enforcement policy and protocols.

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- 15.2.32 In relation to previous examples of this in DCOs, we note that it is far from universal that the usual enforcement provisions in the Land Drainage Act 1991 are disapplied. For example, see the A30 Chiverton to Carland Cross Development Consent Order 2020.
- 15.2.33 Schedule 14, Part 3, Paragraph 23(5)(b) refers to the removal of obstructions in watercourses. The Council maintains that the current wording places an unacceptable risk on residential properties. The Council understands NH's comments about the fact that, in some instances, it may not be practical to remove an obstruction within 14 days. However, the applicant should be aiming to remove obstructions within set timescales and where there are exceptions to be made, these can be negotiated with the LLFA on a case by case basis.
- 15.2.34 This will ensure that the risk of watercourse flooding is reduced as it will place some urgency on the applicant to remove obstructions from any watercourses under their care. The risk is that only including 'as soon as reasonably practicable' will mean that bias is placed on the practicality for the applicant of carrying out the work, rather than the increased flood risk the obstruction will cause (which could put residential properties at greater risk).
- 15.2.35 The above are not the only examples of where the Council's ability to discharge its functions are amended or lost due to the DCO as currently drafted. For example, the numerous deemed consent provisions seek to take control from the Council and other public bodies, for the benefit of the applicant and to the detriment of the general public. One of the main explanations by the applicant is that it is required by the size and complexity of this scheme. However, it is the size and complexity of the scheme, which is why the Council needs to be able to coordinate and manage further consents being issued to minimise the negative impact of the scheme (and also to maximise any potential benefits).

Consideration of DCO Order Articles DCO Requirements, and Protect Provisions

- 15.2.36 Further to our comments above, the Council have reviewed the draft DCO and have a number of more detailed comments which relate to the impact upon the Council's area and which remain outstanding from two years of discussions with the applicant. Refer to **Appendix I, Annex 1** for these detailed comments and **Appendix I, Annex 2** sets out supplementary points about the dDCO that were raised at ISH1 and which are also covered in the ISH1 Submission at Deadline 1.

15.3 Legal Obligations/Agreements

Section 106 Agreement (or Heads of Terms)

- 15.3.1 DCO application document ([APP-505](#)) sets out that a Section 106 agreement pursuant to Section 106 of the Town and Country Planning Act 1990 is proposed to support the application for DCO and is required in order to make the scheme acceptable in planning terms. It was promoted by the applicant since early 2022 as an alternative due to concerns the applicant had regarding the implications of making further changes to the DCO.
- 15.3.2 The Council set out its expectations for mitigation matters that would need to be addressed through Section 106 agreement and communicated these clearly to the applicant in advance of the DCO submission in an email of January 2022, following the applicant reminders in the latter part of 2021 and early 2022. This was to enable the applicant and the Council to work together to progress the technical work necessary to define and cost the schemes and initiatives to be funded via S106 and several meetings were held up to August 2022 (February, April, June and August 2022).
- 15.3.3 Given this spirit of collaboration the Council was surprised to receive communication from the applicant through which the applicant has set out its unsubstantiated unilateral decision to re-write the list of S106 matters. This significantly reduces the number of matters the applicant is

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now, many months since its DCO submission in October 2022, prepared to discuss and address with the Council, preferring instead to load yet more issues for the ExA to arbitrate within an already highly constrained timetable. Such behaviours are, in the Council's experience, not typical of public sector collaboration and recent patterns of behaviour by the applicant cause some considerable concern regarding ability to resolve outstanding matters in the remainder of the Examination period. As the Council consider that having the ExA refused its request to delay the start of the Examination by 7 weeks, it is clearly the ExA's expectation that the applicant will adopt a collaborative and constructive approach in order to facilitate the Council's fair engagement in the Examination process (and behind the scenes thereof), as opposed to the intransigent approach, which is currently being adopted by the applicant .

- 15.3.4 The Council has written to the applicant on 6 July 2023 expressing its serious concerns about their approach to S106 matters, following an email from NH dated 5 July 2023; and then the applicant has responded on 18 July 2023 to the Council's previous email. All three emails are set out in **Appendix I, Annex 3**.
- 15.3.5 It was the applicant 's choice to resolve mitigation identified through the local modelling through the Section 106 agreement and not via the DCO. It is now apparent that the applicant is backing away from this position, leaving many areas neither dealt with in the DCO nor Section 106 agreement.
- 15.3.6 The areas the applicant are now refusing to engage on, and which the Council considers are required to help mitigate the effects of the scheme that were included within the Council's initial list of items in January 2022, are, as follows:
- a. Orsett Cock Roundabout (Hatch M19). Additional mitigation to negate the negative impacts of the LTC scheme, especially upon the A128 approach to the junction;
 - b. Manorway Roundabout (Hatch M20). Additional lane capacity on the A1014 and A1013 approaches to ensure port and local traffic movements are not impaired by the LTC;
 - c. Asda Roundabout requires additional mitigation during construction;
 - d. Daneholes Roundabout (Hatch L9). Bus lane added to the outside lane of the approach to the A1013;
 - e. Medebridge Road Upgrades (Hatch L8). Delivery of existing the applicant plan to upgrade Medebridge Road to use as haul road to allow permanent adoption by the Council;
 - f. Contributions towards studies and the recommended mitigation measures resulting from traffic increases on local roads;
 - g. Orsett and Horndon villages and approach roads and the implementation of Orsett Village and Horndon traffic calming measures to avoid/reduce 'rat-running'. Although some studies are covered by Planning Performance Agreement (PPA) for preparatory work by Thurrock Council, based on impact assessment and mitigation work undertaken in 2022 (Hatch M21 & M22) the follow-on works are not covered;
 - h. Contributions to Local Labour & Business, Network Management, Community and Public Health teams resources (not agreed numbers and securing/funding mechanism not clear) (Hatch CLS 1);
 - i. Funding for compliance monitoring officers during construction;
 - j. Contributions for an ongoing study to determine the feasibility of MRT;

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- k. A1013 Bus Priority and Active Travel Corridor development;
- l. Local premises improvement grant and green business support scheme to support local businesses (Hatch CLS 6 and 7);
- m. Commitment to compliance with Thurrock Social Value Framework principles in supply chain and procurement (Hatch CLS 5);
- n. Community Fund, including small capital grants (total sum available currently too small and maximum project sum too small; and, eligibility criteria and SG membership not defined) (Hatch CLS 4 and 11);
- o. Commitments to cross section details for bridge crossings to comply with LTN 1/20 (Hatch Measure L12); and,
- p. Contributions to or commitment to restore all construction compounds to an agreed standard (also covered in our comments on dDCO).

15.3.7 In addition to the above, we are concerned about the legal basis for the Section 106 agreement. DCO application document ([APP-505](#)) sets out that the plan is to secure the land against the permanent route alignment of the A122 Lower Thames Crossing. Part of this land is currently owned by the applicant, with compulsory acquisition powers being sought through the DCO for those sections are not currently owned by the applicant. The Council will need to be confident that sufficient land is owned by the applicant prior to any DCO grant now that a Section 106 agreement, which could be effectively enforced, could meaningfully be entered into prior to the close of the Examination. If it is not possible to enter into a Section 106 agreement that could be effectively enforced, then other methods of securing the obligations needed make the scheme acceptable in planning terms would be required (if the scheme is to proceed), such as a Deed of Obligation.

Side Agreement – Land Take

15.3.8 NH and the Council have been negotiating in relation to land use and take. The current document which has been agreed is titled ‘Land requirement information from Thurrock 1.2’ and is dated 5 July 2023 and is covered in more detail in Section 14. This is an important issue for the Council, as it provides more clarity on how the applicant propose to use the broad powers in the DCO and importantly it provides greater certainty to local residents. It is relevant in connection with Articles 28, 35(1) and 36.

15.3.9 Unfortunately, despite promises that this would be secured via a legal agreement, this has not yet been provided. Without this then the Council will need to seek additional certainty within the DCO itself.

Side agreement – Design and Operation of Highways

15.3.10 Discussions have been had with the applicant regarding a side agreement covering the design and operation of highways, termed a Detailed Local Operating Agreement (DLOA) . This is to include a 12-month maintenance period of relevant works being transferred to the Council by the applicant. It also included provisions in relation to road safety audits, inspecting and testing of materials and design input. The detailed operating agreement (DLOA) and a local operating agreement would cover:

- a. Communications and Customer Care: arrangements for communication with stakeholders including who will be responsible therefore;

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- b. Scheme Operational Areas: definition of scheme extents for the works areas, zone of influence, Traffic Management and diversion requirements and free recovery areas (as appropriate);
- c. Arrangements for the submission to the Council of digital copies of all as-built drawings for the relevant work area including adoption limits;
- d. Winter Maintenance and Severe Weather: arrangements to apply during the construction period and the Maintenance Period;
- e. Continuity of Technology: arrangements to apply during the construction period and the Maintenance Period;
- f. Incidents: arrangements for dealing with and recording incidents during the construction period and the Maintenance Period; and,
- g. Traffic Management: during the relevant works.

15.3.11 This agreement was designed to set out the agreed operational and communication protocols for the LTC Project that will enable handover into Operational Maintenance. It is not yet agreed or signed, despite the Council providing detailed comments in January 2023. Current areas of disagreement include:

- a. Timeframes for repairing defects;
- b. Who is responsible for winter gritting;
- c. The need to retain powers under the TMA and NRSWA to control road space activities;
- d. Details of managing insurance claims;
- e. Combined kerb drainage systems;
- f. Timeframes for comments by the council; and,
- g. The strength of the obligation on the applicant to entering to both a detailed and local operating agreement (the council considers that this should be best endeavours taking in to account the importance of this agreements).

15.3.12 It should be noted that there has been little progress on this over the last 7 months, which considering the importance of this document is of concern to the Council.

Conclusion

15.3.13 The applicant has acknowledged, through the proposal of the above documents, that additional safeguards are required outside that contained within the DCO. The fact that the Section 106 agreement has now been significantly reduced in scope and the two side Agreements have not been provided, means that the Council is likely to be significantly adversely affected by the scheme. The mitigation secured through these agreements is, in the Council's opinion, necessary to make the scheme acceptable in planning terms. Failure to provide these represents an unacceptable negative impact on the Council.

15.4 Stakeholder Actions and Commitments Register (SAC-R)

15.4.1 This Control Document ([APP-554](#)) sets out to provide a list of design, construction, and operational related commitments given to stakeholders that are secured within the DCO, but

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which do not naturally sit within the REAC, the outline management documents or other Control Documents secured under Schedule 2 to the DCO and are not contained within side agreements (agreed with specific stakeholders outside of the DCO). The SAC-R commitments are legally secured through Article 61 of the Draft Order ([AS-038](#)).

15.4.2 The Council received no consultation/engagement on a draft of this document or its commitments prior to the DCO submission in October 2022 or subsequently, this is despite the claims in Sections 3.1.1 – 3.1.3 of this document. However, the Council considers that it has potential to cover many required additional commitments not related to environmental matters (which are/should be contained within the REAC ([APP-336](#))) that are not yet covered within the DCO.

15.4.3 There are currently no commitments with the Council and only six commitments listed in the SAC-R and no mapping to identify their locations – one related to Orsett Fen in Thurrock but committed with Natural England, Green Lane and Brentwood Road farm accesses during construction located in Thurrock and agreed with the landowner and landowner access to land near the North Portal with the landowner. The remaining two commitments are broad and project-wide and not directly related to the Council.

15.4.4 An additional commitment within the SAC-R has recently been negotiated and agreed with the Council relating to the relocation of the travellers site near the A13 junction. The commitment is expected to be added to the updated SAC-R at an ExA Deadline soon. It states:

'Without prejudice or limitation to the approval required under Requirement 13 of the Development Consent Order, the undertaker must not carry out Work Nos.7E, 7Z and MU54 in or over any part of the existing travellers' site until the replacement Gammon Field travellers site is laid out and capable of occupation by the residents of the existing travellers site and Thurrock Council agrees in writing (acting reasonably and such agreement not to be unreasonably withheld or delayed that the site is capable of occupation), except that the undertaker may exercise powers under the Order to take possession for the purposes of, and carry out non-intrusive and intrusive surveys and investigations on the existing travellers site- provided that such non-intrusive works, surveys, and investigations must not prevent access or use of the existing site by residents. In the event of a disagreement about the replacement site being capable of occupation, an appeal may be made to the Secretary of State under article 65 (appeals to the Secretary of State) of the Development Consent Order.'

15.4.5 Therefore, it is possible to include further SAC-R commitments during the DCO Examination process and in the Council's view it may lend itself to a range of additional commitments on design, construction and operational matters that are currently missing or inadequate within the current DCO application. In the Council's view this could include the following (although below is an initial list derived from comments throughout this LIR) and which may be contingent on further discussions, Hearings and submissions during the Examination.

15.4.6 These additional commitments could therefore cover the following matters.

- a. **Thatched Cottage** – there is potential for further mitigation for the loss of the Grade II listed Thatched Cottage in particular. As a timber-framed building of a modest size, it is a good candidate for dismantling, relocating and reconstructing if an appropriate site can be located. It could have potential benefits of a legacy project involving the use of the building in training/upskilling in traditional building techniques. Whilst the building would lose its historic context and setting, its reconstruction would offer a level of mitigation as there would no longer be a complete loss of the building's significance;
- b. **Green and Open Space** – mitigation commitment to be developed in response to the negative effects during construction and to support achieving the positive operational effect. In particular at Ockendon, Stifford Clays, Little Thurrock/Blackshots, Chadwell St Mary, Tilbury St Chads and East Tilbury areas. Suggested mitigation could be a

programme of engagement with remaining green and open spaces during construction period to counter the construction effects. This could be a green and open space engagement team, which have both Borough-wide and targeted activity in the affected areas;

- c. **WCH** – mitigation commitment to be developed in response to the neutral effect during construction and to support the achievement of the positive operational effect. In particular at Ockendon, Little Thurrock/Blackshots and Tilbury St. Chads. Suggested mitigation could be a programme of training and engagement with WCH routes in the Borough during construction period, to counter the construction effects and in support of achieving the operational benefits, when the new and reconnected WCH routes open;
- d. **Severance** – mitigation for severance for Older People at Brennan Road in Tilbury, such as a pedestrian crossing and other traffic related severance at Chadwell St Mary and Linford Road; and,
- e. **Housing and Community Service Impacts** – mitigation for breakdown in change in sense of community, i.e. how can stronger links into the main village of Orsett be supported through physical schemes in the Baker Street/Orsett area.

15.5 Control Documents – Transport

Wider Networks Impacts Management and Monitoring Plan (WNIMMP)

- 15.5.1 The Council has consistently objected to the stance that NH has adopted in overlooking the responsibility for mitigating impacts on the wider network that are either directly or indirectly created through the introduction of LTC into the network through Thurrock.
- 15.5.2 The WNIMMP ([APP-545](#)) has been created as a consequence of the Council's objections to the absence of proposed resolution to the predicted impacts. At paragraph 2.4.6 of the WNIMMP ([APP-545](#)) NH states that the document '*has been produced to demonstrate sufficient management of the impacts of the Project on the road network*'. The output is a document that proposes a system of network monitoring that is an extension of the Post Opening Project Evaluation process that NH would have to undertake as part of the standard DfT evaluation process. It is not a management document or process to resolve impacts.
- 15.5.3 At paragraphs 2.4.4 to 2.4.6 NH acknowledges that assessments of impacts have been carried out as part of the evidence base for DCO. Paragraph 3.3.5 does, however, record that through the Road Investment Strategy 2 (2020-2025) that the creation of LTC '*will have an impact on the road networks of Kent and Essex*', which includes Thurrock. At paragraph 4.3.2 NH claims that the impacts created by LTC and assessed within the Transport Assessment (APP-529) '*are not considered to have an unacceptable impact*'.
- 15.5.4 The above 'considered' opinion is not shared by the Council.
- 15.5.5 NH recognises in the WNIMMP other schemes on the SRN across a wider area of South East England, of which many have little relevance to LTC. NH neglects to record the recent investment by Thurrock Council and DP World/London Gateway (DPWLG) on the un-trunked section of A13 associated with the continued growth of London Gateway port and the anticipated development growth within Thurrock. This was network capacity created for the value of the local community that LTC proposes to subsume for a nationally-focussed project.
- 15.5.6 NH reports at paragraph 4.2.6 that '*there are forecast to be traffic improvement around the Dartford Crossing and on roads in Gravesham and Thurrock as a result of the Project*'. This statement is contested throughout this LIR, however, there are many locations where there is harm to the LRN and communities. NH states in paragraph 4.2.6 that '*In a number of areas, the percentage of volume to capacity on some roads would increase...*'. It is the Council's opinion that this acknowledges that there are impacts from the introduction of LTC, which

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should have mitigation secured through the DCO. The list of impacted locations is reported in **Appendix C, Annex 1** and in Section 9 of this LIR.

- 15.5.7 Schedule 2 Requirement 14 of the dDCO ([AS-038](#)) stipulates that the undertaker prepares an operational monitoring scheme to be approved by the SoS, following consultation with the Council and other affected Local Highway Authorities.
- 15.5.8 The process of data collection and analysis is, however, only the beginning of the process to confirming impacts. It does not provide a mechanism to resolve those impacts. The Council will therefore not accept a monitoring system that is only a data gathering and assimilation exercise. In spite of the wording at paragraph 2.4.2 on the WNIMMP, NH would report its findings to the SoS, with no apparent need to reflect on the Council's position.
- 15.5.9 There is no commitment by NH to 'manage' or mitigate the impacts of LTC on the wider network. NH absolves itself of the duty to resolve that harm to the local communities and the disruption to the LRN. NH instead proposes that the Council should use the data from the WNIMMP process to bid with all other Local Authorities for funding from other Central Government sources, as stated at paragraphs 1.1.5, 4.3.3 and 5.6.1 of the WNIMMP ([APP-545](#)). At paragraph 5.7.2 NH proposes that if the WNIMMP monitoring '*identifies that future investment would be suitable*', i.e. there is a need to mitigate impacts, then the Council should develop solutions to address those impacts. This stance by NH ignores that community harm and network impacts have already been identified and should be addressed as part of the DCO authorised works.
- 15.5.10 Irrespective of the flawed basis for the submitted WNIMMP, the Council would require other alterations to the document, including:
- a. Paragraph 5.1.1 has the list of stakeholder bodies missing;
 - b. Paragraph 5.2.5 proposes the use of WebTRIS data. That data is often based on extrapolated non-empirical information and so would not be suitable for the WNIMMP process;
 - c. Paragraph 5.3.4 does not include the community around Corringham and Stanford-le-Hope, which are affected by the displaced traffic from A13 Five Bells interchange and directly impact in the London Gateway, Thames Enterprise Park and the emerging London Freeport;
 - d. Paragraph 5.4.2 should include measurement of the severance and delay to walkers/footway users, cyclists and horse-riders. Observations and reviews of junction queues must also accompany junction performance observations and a strategy not just to maintain current usage by active travel but to attract and improve those uses;
 - e. Paragraph 5.5.1 should stipulate that baseline data must be gathered free of disruption from the construction works, which must include not monitoring during period of temporarily displaced traffic; and,
 - f. Paragraph 5.5.2 needs to stipulate who will prepare the assimilation and analysis report.
- 15.5.11 **SUMMARY: the position proposed through the WNIMMP completely neglects the requirement to secure the mitigation of LTC's impacts through the DCO and that stance is unacceptable to the Council.**

15.6 Control Documents – Construction

Code of Construction Practice (CoCP)

- 15.6.1 The oMHP ([APP-338](#)) sets out NH's Baseline Commitment for the transportation of material by marine transport and refers to a contractors' Better than Baseline proposal. That document is commented on in more detail in this sub section below of this LIR. The Council proposes that a much stronger stance by NH should be adopted to respond to minimising the effects of the transportation of materials, plant and equipment. Any commitment in the oMHP should be cross referenced in the CoCP ([APP-336](#)). Whilst the oMHP is Annex B to the CoCP, paragraph 6.1.6 of ([APP-336](#)) simply states that contractors will 'investigate the use of multimodal transport including use of the River Thames' (SoCG Item 2.1.110).
- 15.6.2 As stated in SoCG Item 2.1.116 and THURROCK-DCO-CIC-A-OTMPFC-071, the Council has sought to increase the safe and effective operation of NH's fleet and that of its contractors and subcontractors. There is now a clear commitment from NH in the CoCP for their contractors to operate to the Construction Logistics Community Safety (CLOCS) national standard and the Fleet Operator Recognition Scheme (FORS) (Silver or above). However, there are no details within the CoCP with regards to when those operators must achieve FORS Silver or above and what happens if there is 'non-compliance'. NH has stated that 'strategies to address non-compliance will need to be prepared by the Main Works Contractors'. Strategies for non-compliance should be included within the CoCP. It is the Council's opinion that it is inappropriate for the contractors to set their own standards.
- 15.6.3 NH states that it will provide at least two weeks advanced notice before planned works are carried out (paragraph 5.3.2). This is two weeks shorter than the timescales recommended by the Council, which states should be at least 4 weeks.
- 15.6.4 There is no detail within the CoCP with regards to how communications will be managed to ensure communities are kept informed, in particular traditionally hard to reach communities. There is, however, a section on how NH intends to produce an Engagement and Communications Plan (ECP), which will be produced with LPAs, post consent, if the DCO is granted. There is a commitment by NH to consult with specific protected groups as defined in the Equality Act 2010, which is welcomed.
- 15.6.5 There is no information on cumulative effects during construction within the Register of Environmental Actions and Commitments (REAC), which forms a part of the CoCP. That cumulative impact must be covered through close co-ordination between all of the construction Control Documents including the oMHP ([APP-338](#)) and subsequent more detailed MHPs; the FCTP ([APP-546](#)) and subsequent more detailed SSTPs; oTMPfC ([APP-547](#)) and subsequent more detailed TMPs and the oSWMP ([APP-337](#)) and subsequent more detailed SWMPs.
- 15.6.6 The following lists the outstanding items within the SoCG that are largely unresolved and are added here for completeness and to illustrate the scale of unresolved issues relating to the CoCP ([APP-336](#)).
- 15.6.7 **SoCG Issue 2.1.134** – no commitment has been made by NH with regards to providing the Council advanced notice of when and where temporary road diversions will occur. The oTMPfC ([APP-547](#)) proposes mechanisms for the management of traffic and a response on that document is provided in a sub section below of this LIR. That response proposes that NH and its contractors provide weekly lookaheads to assist with network planning and coordination.
- 15.6.8 **SoCG Issue 2.1.137** – there are no details within the CoCP that set out how contractors will optimise the use of autonomous plant and equipment. NH at paragraph 6.1.7 of the CoCP

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sets out that *'contractors will be encouraged to optimise the use of autonomous plant and equipment and a modernised fleet'*. However, other than this single reference in paragraph 6.1.7, there is no further detail on how this will be encouraged. This topic has been raised with NH through the unresolved SoCG Item 2.1.137.

- 15.6.9 **SoCG Issue 138** – there is no information on cumulative effects during construction within the Register of Environmental Actions and Commitments (REAC) ([APP-336](#)), which forms a part of the CoCP.
- 15.6.10 **SoCG Item 2.1.140** – there are no details provided in the CoCP with regards to how access to accommodation and welfare facilities within the compounds will be managed outside of working hours. The only reference is at paragraph 6.4.3 where NH state that *'activities outside normal working hours that could give rise to disturbance will be kept to a reasonably practicable minimum'*. However, no further details are provided.
- 15.6.11 **SoCG Issue 2.1.197** – there is no commitment from NH in the CoCP with regards to providing Thurrock and other Local Planning Authorities with the opportunity to comment and make recommendations on whether dust monitoring is required. NH has stated that a dust and particulate monitoring risk-based approach will be implemented. NH sets out that if monitoring is required, then the monitoring locations will be approved by the Secretary of State (SoS) in consultation with the relevant local authorities. There is no detail on how long this proposed process will take and if there is disagreement between the SoS and the LPAs. It is considered that Thurrock and other LPAs are in the best position to comment and approve on dust monitoring locations. As stated previously, the Council believes that dust monitoring should begin at least six months in advance of construction, to ensure seasonal variations are understood.
- 15.6.12 **SoCG Issue 2.1.198** – NH has stated that a dust and particulate monitoring risk-based approach will be implemented. NH sets out that if monitoring is required, then the monitoring locations will be approved by the Secretary of State (SoS) in consultation with the relevant local authorities. There is no detail on how long this proposed process will take and if there is disagreement between the SoS and the LPAs. Furthermore, there is no commitment within the CoCP ([APP-336](#)) to monitor air or noise levels up to three years following completion of the works as recommended by the Council.
- 15.6.13 **SoCG Issue 2.1.201** – it is considered that the CoCP makes reference to avoiding primary materials in the first instance in favour of recycled or secondary content. However, the wording within the REAC commitment MW001 in the Table 7.1 in ([APP-336](#)), as written does not provide enough comfort that recycling and reducing use of primary materials is a commitment, rather than an aspiration. There is reference to *'key construction materials'* being recycled/reduced primary materials however this should be a scheme wide commitment.
- 15.6.14 **SoCG Issue 2.1.202** – within the REAC commitment MW005 in Table 7.1 in the CoCP ([APP-336](#)) has not been updated to include details of mitigation measures that would be implemented in the event that contaminated materials are discovered. There are also no details of how the contaminated or suspected materials will be disposed of. Furthermore, within the REAC commitment AQ001 in the Table 7.1 (REAC Table) in CoCP ([APP-336](#)) confirms that all on-road heavy vehicles would comply with the standards set within the London Low Emission Zone (LEZ) across all sites within Order Limits for the relevant class of vehicle.
- 15.6.15 **SoCG Issue 2.1.236** – there is no summary in the CoCP that sets out the impacts on healthcare and other services from construction workers residing in Thurrock during the construction period. There is a reference in Table 7.1 in ([APP-336](#)) (REAC Ref. No. PH002), which states that the Contractor will provide an appropriate range of medical and occupational healthcare services (including on-site facilities) to meet the physical and mental health needs

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of the construction workforce. However, there is no further information provided on the range of healthcare services or the impact on other services.

15.6.16 Section 5.2 of the CoCP sets out the proposed content of the Engagement and Communications Plan. However, there is no information in the CoCP with regards to how the Community Liaison Groups (CLG) will be coordinated and constituted. However, NH has stated that this information is available in the oTMPfC. NH has confirmed that an experienced community relations person will implement the Engagement and Community Plan and support the contractors to resolve community issues. However, no details of the company/person leading this work has been provided or any relevant qualifications.

15.6.17 The report title has not been updated, it should be 'Unexploded Ordnance Desk Study Report and Risk Assessment'. There appears to be no update to the REAC to account for this yet.

15.6.18 There is no reference to the proposed DQRA in the CoCP or the REAC table.

15.6.19 The Council has raised an issue previously about the standard working hours. Table 6.1 in ([APP-336](#)) sets out that standard working hours for a Saturday is 07:00-16:00. However, the Council consider that Saturday hours should be limited to 07:00-13:00 only, as is normal practice.

Register of Environmental Actions and Commitments (REAC)

15.6.20 The Council's comments on the adequacy of the REAC as part of the CoCP ([APP-336](#)) are set out in Sections 10.2 to 10.16 above and in this sub section.

Framework Construction Travel Plan (FCTP)

15.6.21 At peak construction of LTC, NH estimates in the Worker Accommodation Report (WAR) ([APP-551](#) Table 1.2) there will be 3,802 workers employed across the northern compounds of which 1,991 will require accommodation outwith their normal residences or the temporary accommodation at the North Portal compound. That influx of workforce will have direct impacts on the LRN within Thurrock and therefore requires a robust approach to the management of travel demands, particularly around the key compounds at the North Portal; Brentwood Road; Stifford Clays Road and Medebidge. Further details of other Council concerns about the WAR are set out above in Section 13.5 above.

15.6.22 The impacts of workforce and construction traffic movements on the LRN are discussed elsewhere in this LIR through the analysis of the construction period modelling undertaken as 11 phase scenario iterations of the strategic LTAM. This section considers NH's proposals to mitigate the impacts of workforce travel through measures delivered through a suite of Site-specific Travel Plans (SSTPs) to be prepared by its contractors.

15.6.23 The Council has provided feedback to NH during the engagement process on the need for enhanced commitments within the FCTP that will have to be adopted by its main works' and utilities' contractors through their SSTPs. These points, feedback and concerns are expressed through SoCG Items 2.1.127, 2.1.139 and 2.1.243 – 2.1.255.

15.6.24 The FCTP ([APP-546](#)) provides a generally good basis from which to develop the SSTPs and to provide a method of reporting and governance. It is not, however, compliant with PAS500:2008 the BSI 'National specification for workplace travel plans' (a copy of which is included at **Appendix C, Annex 5**). The FCTP does not:

- a. Provide an assessment of the accessibility of the compounds (e.g. site audits) by the various modes and it only includes statements in the generality;

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- b. Identify realisable and committed measure and interventions to reduce car usage;
- c. Define car parking ceilings consistent with achieving the mode shift aspirations; or
- d. Provide a robust baseline for the contractors and utilities contractors to set their targets and includes aspirations for walking, cycling and public transport use that are questionable.

15.6.25 Section 7 of the FCTP ([APP-546](#)) indicates general objectives (paragraph 7.1.5) and aspirations, but does not provide a baseline from which Contractors and Utilities Contractors should progress. The Council also notes that NH has not proposed to prepare a Travel Plan to cover its own 'client' workforce across the construction period, since those people would not be covered by the SSTPs (paragraph 4.4.3 of the FCTP refers).

15.6.26 Whilst the FCTP proposes the creation of a monthly Travel Plan Liaison Group, which would include representation from the Council, the role of the Council on that group would be nothing more than an interested stakeholder since approval of the SSTPs rests with the SoS, as set out in Requirement 11 of the dDCO ([AS-038](#)). It is feasible for NH and its contractors to ignore matters raised by the Council during preparation of the SSTPs and once approved by SoS there is no mandate for those parties to react to concerns raised by the Council during the construction period. Where the SSTPs affect the operation of the LRN, the Council should be provided with the draft SSTP for approval before submission to the SoS. Approval or rejection would be provided in accordance with the terms stipulated within the dDCO ([APP-038](#)) and resultant granted DCO.

15.6.27 The associated Worker Accommodation Report (WAR) ([APP-551](#)) assesses an assumption of 35% of the workforce living locally to the worksites and targets a ceiling of 70% single occupancy car mode share for larger worksites, as repeated within the Transport Assessment ([APP-529](#)). Whilst the 70% single occupancy car mode share is not a ambitious target, it is a basis from which to improve, provided adequate contractor incentives exist within the DCO. The FCTP should reflect the assessments in the WAR and provide basic commitment targets, which reflect NH's 'Pathfinder' project status.

15.6.28 The WAR bases part of the analysis of access to worker accommodation on a journey of 60 minutes to the most appropriate transport hub, broken down as a 40-minute main journey with 10-minute transfers at each end of the journey ([APP-551](#), paragraph 5.1.13). That analysis is flawed because access between the transport hub and worksites is extremely unlikely to be made within ten minutes. That in-turn reduces the available time for the remainder of the journey, which reduces the accommodation range.

15.6.29 NH should revisit the WAR analysis with a realistic reflection on the transfer times between the north compounds and the transport hubs, bus services, railway stations and appropriate walking and cycling routes.

15.6.30 The FCTP states that walking and cycling as methods of accessing the compounds will be encouraged but only '*in a safe, lit highway environment, with footways for pedestrians*' ([APP-546](#), paragraph 3.1.4a) and '*where safe and practical*' ([APP-546](#), paragraph 7.1.5). The Council agrees that workers should only be encouraged to walk or cycle in safe locations and so that condition substantially reduces the viable opportunities for workers to access the compound by Active Travel means. The primary North Portal worksite and the associated Station Road compound are neither accessible via lit footways nor cycle corridors. The same is true for most of the compounds, such as Medebridge, Mardyke and Brentwood compounds. The indicated welfare locations within the North Portal compound are to the east of Station Road. The most direct walking and cycling route from Tilbury Town station is via the internal Port of Tilbury Road and the compound access road. It is approximately 5.0 - 5.5 km between the station and the welfare, approximately a 50-minute walk (at 6.4 kph/4mph) or 15-minute cycle ride (at 18 kph/12mph). Only part of that journey would be along dedicated walking and cycling corridors. The compound 5 welfare is geographically closer to Linford station (circa

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2.5 km) accessed via Love Lane and Station Road, each unlit and without footway provision. The ES Chapter 2 - Project Description ([APP-140](#)) at paragraph 2.6.192 states that workforce will access the compound via a link from Station Road. This effectively rules out access to the North Portal by walking or cycling. Similar access strategies for other compounds would effectively rule out access by walking and cycling.

- 15.6.31 At paragraph 6.3.1 of the FCTP ([APP-546](#)) NH claims that there is '*an extensive walking, cycling and horse-riding network (situated in proximity to the Project's construction sites) that would be expected to be used for workforce travel.*' However, in accordance with its own criteria for safe use, many of those links would not be considered suitable for use by workers as they are either unlit semi-rural or do not connect to the compounds. NH has not provided any analysis of the suitability of this network for the prospective workforce.
- 15.6.32 NH has not presented any assessment of the viable accessibility to each compound and instead bases its assumptions of mode share on the numbers of workers anticipated to be based at each compound. The two aspects are not mutually compatible and so accessibility analysis should be undertaken to demonstrate the real potential to minimise single car use to access the compounds by workers.
- 15.6.33 Overall, the Council considers that the assumptions within the FCTP for access to compounds by means other than private car are flawed.
- 15.6.34 The Contractors and Utilities Contractors will therefore have to consider alternative strategies to minimise single occupancy car travel to and from the worksites and agree mitigation measures with the Council. As expressed by the Council at SoCG Item 2.1.127, NH should include in the FCTP evidence that contractors are to be incentivised to meet stretching targets and to report on how they are performing to those targets. Without that the FCTPs and the resultant SSTPs will be weak documents with no binding commitments.
- 15.6.35 The Council would, for instance, encourage NH to undertake a review of its proposed shuttle services, which might include a more comprehensive park and ride system, which would operate zero-emissions crew buses via appropriate modal interchanges and rail stations. This would intercept workforce and link to train and public bus services. It would enable workforce parking to be minimised within the compounds; give workers an environmentally sound connection to the compound; provide a useable service for interchange from public transport or walking and cycling to the park and ride hub; and, demonstrate NH's commitment to reducing workforce travel impacts.
- 15.6.36 There is an inconsistency between the WAR and the FCTP in that the WAR refers to the workforce destination interchange within Thurrock as Tilbury Town Station ([APP-551](#), Section 5.5 and Table 5.40), whilst the strategy within the FCTP proposes an interchange at Grays station ([APP-546](#), paragraph 6.4.2 etc). Workers would be at liberty to travel to either railway station, however, the assessments within the two documents are not aligned and the associated proposal for a workforce shuttle bus system does not match the assessment within the WAR. The FCTP does not set out any assessment of how suitable Grays station would be as a hub location and this strategy has not been considered with the Council. There is also no detail as to which compounds that hub would serve and the likely frequency of the shuttle service. The road network at Grays station is configured to optimise the operations of local bus services. The proposed workforce shuttle bus service would not be classified as a local bus and so the proposal needs to be verified and agreed with the Council to ensure that the shuttle services could operate.
- 15.6.37 The aspiration to provide a zero-emissions public transport connection to the compounds is admirable, however, the detail should be considered prior to any conclusion of the DCO Examination and reflected in an updated FCTP to ensure it is a realisable initiative, which does not conflict with other services and does provide a viable connection strategy. Prior to any conclusion of the DCO Examination NH should work with the Council to agree a strategy

for interchange between modes and co-ordination between contractors. The proposed shuttle service between the transport hubs and compounds is a major component of the mitigation strategy for workforce travel and yet is undeveloped with no evidence of its effectiveness. The Council reserves judgement on the appropriateness and success of the shuttle service in providing a suitable connection to the compounds at high enough frequency to suit all shift patterns across the roads, tunnelling and utilities contracts north of the River Thames.

15.6.38 Further weakness in the FCTP ([APP-546](#)) is illustrated by the proposal for Tier 1 and Tier 2 initiatives, as set out in Section 8.2. The Tier 1 initiatives are largely standard Travel Plan initiatives, which have not been honed to meet the specific challenges of accessing the construction compounds and the Tier 2 measures will either be met as part of the standard set up of the workforce welfare facilities or should be included within the Tier 1 list as standard offers to workers. The realism and robustness of the Tier 1 initiatives has not been demonstrated through the FCTP as assessed against the compound locations. The initiatives are therefore unsubstantiated statements.

15.6.39 **SUMMARY: as with many other DCO 'Control Documents', the FCTP does not provide an assessment of effectiveness or a robust basis of viable initiatives and binding commitments. Much of what is proposed relies on the goodwill of the contractors, over which neither the Council nor NH has any control.**

Outline Traffic Management Plan for Construction (oTMPfC)

15.6.40 The oTMPfC ([APP-547](#)) provides a reasonable basis from which to monitor the flow of construction traffic during the construction phases and, when combined with the LTAM modelling of the construction phases and local operational modelling, provides a mechanism to understand the headline magnitude of re-routing traffic within the LRN. It does not, however, provide sufficient commitment to mitigating the observed impacts. The Council has, however, noted there are deficiencies with the LTAM to reliably reflect impacts on the LRN.

15.6.41 The Council's concerns regarding the predicted impacts on the LRN during the construction period are set out in Section 9 of this LIR. This section considers the specifics of the oTMPfC and its effect on the Borough.

15.6.42 There has been engagement with NH over the aspects of the oTMPfC prior to DCO submission and NH has made progress towards reflecting on a number of the Council's concerns, however, the Council continues to have concerns that the impacts are not adequately mitigated, especially around the harm to local communities during the construction period.

15.6.43 The oTMPfC outlines the phase of traffic management but does not cover the management of construction traffic numbers visiting the compounds. It is of significant concern to the Council that there are differences between the modelled scenarios and the commitments to traffic management within the oTMPfC. There are no controls proposed that would cap the number of daily movements at each compound and hence no assurance to the Council that the effects that are proposed by NH would not be exceeded. There are no controls on the contractors to adhere to the predicted division of movements, such that the contractors are at liberty to exceed those predictions.

15.6.44 As stated, there are a number of positives that have been incorporated in the submitted oTMPfC following engagement with the Council. NH has acknowledged at paragraph 2.3.4 that the contractor must take account of the feedback from the Council when preparing its TMPs and that that feedback should be reported to the SoS and demonstrated that if there are matters that are not agreed, giving the SoS the opportunity to understand why and to determine accordingly.

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- 15.6.45 Plates 3.2 and 3.3 constitutes the Traffic Management Forum (TMF) well and indicate the route for collaboration, coordination and escalation. These plates demonstrate some progress towards setting the governance process for temporary traffic management during the construction phase but does not indicate the cross-linkage with the logistics planning and the construction workforce management. The timeframe for governance by the Council is insufficient for its normal determination, as described within Relevant Representation Principal Issue XIV and it is not set out clearly the procedure for escalation to the Joint Operating Forum and the consequences of that escalation. Therefore, although the TMF may help resolve issues, there is still uncertainty regarding its set up and terms of reference, the detail of which has not been provided to the Council or discussed. The draft oTMPfC does not address how conflicts between NH and other developers would be managed, so as to avoid significant negative impact on the wider road network. In summary, the Council requires details of the TMF membership, structure, terms of reference and powers set out in the CoCP/REAC.
- 15.6.46 Furthermore, it is noted that the requirement for revision to the TMP is shown as only by NH, which proposes that the Council is not able to inform whether the TMP should be updated (this matter is covered within Section 15.2 and its accompanying **Appendix I, Annex 1**). The Council would work with the Traffic Manager and the TMF, if there is a clear reason to update the TMP due to factors such as project programme over run; a change in approach to the works or other external changes that would influence the works.
- 15.6.47 The Council notes that a separate TMF would be established for the works north of the river, which will assist with geographically focusing the forum, albeit with the stated pan-project co-ordination through the Traffic Manager. The Council supports that at paragraph 3.3.17 NH proposes to establish the TMF early, which will allow early coordination and collaboration before significant project planning takes place. It will be essential that both the TMF and the associated roles are maintained through the life of the construction period.
- 15.6.48 NH recognises the linkages between the control documents and mechanisms, such as at paragraph 2.2.10, albeit the linkage to the FCTP ([APP-546](#)) should be strengthened with communication between the TMF and the TPLG. This will allow the management of construction and general traffic, covered through the TMPs, to link to the management of workforce travel, covered through the SSTPs. Furthermore, the linkage to the contractors' logistics planning is recognised by the connection to the CoCP ([APP-336](#)), however, that linkage should be much stronger. Together with the linkage to the oMHP ([APP-338](#)) and the oSWMP ([APP-505](#)), the management of traffic, workforce travel, logistics, materials, plant and equipment would be linked.
- 15.6.49 The guidance to contractors on the key consideration for stakeholders at Table 2.3 of the oTMPfC is a robust starting point, albeit the matters such as enforcement of vehicle speeds and parking are not in the gift of the contractor and will require co-operation with Essex Police and the Council.
- 15.6.50 The Council propose that topics that should be added to the schedule would include: communicating changes to public transport users, protecting routes near compounds from workforce parking and construction traffic.
- 15.6.51 The management of parking in the vicinity of compounds would continue to require close working with the Council to enforce parking and introduce appropriate parking restriction as needed. The likely challenge areas could be around the Stifford Clays Road compounds, Brentwood Road and on the approaches to the north and east of the North Portal compound – from where access is proposed (ES Chapter 2 Project Description ([APP-140](#)) paragraph 2.6.192). That workforce parking management must be carried out in coordination with the FCTP and SSTP initiatives, which would require collaboration between the TMF and the TPLG to ensure no overspill or inappropriate parking on the approaches to the compounds.

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- 15.6.52 The Council is not aware of NH's engagement with the local bus operators to establish strategies for managing services during the phases of construction. The oTMPfC should include the approach to mitigating the effects on bus services in sufficient detail to inform contractors of what will be needed, such as the potential for additional buses to maintain service headway and additional bus stops on amended and diverted routes. The contractors must also ensure that mobile traffic signals are actively managed to minimise the delays to the services. It is noted that bus operators would be a stakeholder at the TMF and the Council will seek their input to the reviews of the TMPs. The Council's concerns regarding impacts on public transport are set out at Section 9 of this LIR.
- 15.6.53 The proposed coverage of traffic during the construction period as set out at paragraphs 2.4.11 through to 2.4.19 and plate 2.4 represent the data coverage that has been discussed through the engagement process. Ensuring that data is electronically and consistently captured, including the construction fleet compliance checks, will greatly assist in the assimilation and review of the data.
- 15.6.54 The Council was concerned that early and final works such as site establishment and demobilisation would not be covered by the controls within the TMPs and the CLPs. However, the definition of preliminary works in the CoCP ([APP-336](#) Table 3.1) clearly states that site establishment and demobilisation are not included in preliminary works and would be covered by the TMPs and CLPs.
- 15.6.55 NH has indicated that a DLOA or LOA would be established with the Council, but this should be advanced before the completion of the DCO Examination to ensure an acceptable agreement is reached. An initial draft was provided by NH but that has not been progressed – this matter is covered in more detail in Section 15.3 above. Either through the DLOA or as part of the operation of the TMPs, NH and its contractors should provide weekly lookaheads of key logistics operations and any changes to traffic management to assist in network management. The DLOA will require full coordination across NH's contractors with their joint buy-in to the agreement. This has been raised with NH through the SoCG Item 2.1.30. The agreement would allow the efficient management and governance of the network and interfaces between LRN management and management of the network within the Order Limits.
- 15.6.56 As expressed through SoCG Item 2.1.9, the Council continues to require that contractors provide notification of works through the established permitting system and note that NH will adopt that. The right to refuse a permit is noted and this could cause challenges where emergency works are required by third parties either within or adjacent to the Order Limits. Those emergency works would continue to be managed by the Council and would need to be co-ordinated with NH and its contractors.
- 15.6.57 The Council has raised with NH that the ongoing management of the network and the works to construct LTC will significantly increase demands on Council officer time. As such NH should provide funds through the S106 agreement to provide additional resource and this matter is dealt with further in Section 13.6 above. The REAC at Section 7 of the CoCP ([APP-336](#)) notes the potential to assist with resource funding at the Council, but the S106 Heads of Terms submitted do not include for that resource.
- 15.6.58 The inadequacy of the LTAM model to predict to sufficient detail the effects on local junctions and routes has been raised elsewhere in this LIR. The Council notes, however, the statement at paragraph 2.4.20 that contractors would undertake localised modelling. That impact modelling should be carried out prior to the completion of the DCO Examination and appropriate mitigation proposed that contractors would then adopt. The locations that should be modelled are set out at Section 9 of this LIR.
- 15.6.59 **SUMMARY: the Council notes the progress made since initial drafts of the oTMPfC were shared prior to the submission of DCO, however, there are continued concerns**

that the predicted impacts have not and would not be resolved. The oTMPfC should be revised prior to completion of the DCO Examination to address the Council's concerns.

- 15.6.60 **NH has previously committed to agreeing a DLOA or side agreement and to funding additional network management resource during the construction period. Those agreements must be secured prior to completion of the DCO Examination.**

Outline Materials Handling Plan (oMHP)

- 15.6.61 NH sets out in its oMHP ([APP-338](#)) the totality of its projection to capitalise on the juxtaposition of the construction of LTC to marine and rail transportation opportunities. The Council is of the opinion that NH has withdrawn from all but the minimum commitments to minimising road transport for materials, plant and equipment during the construction of LTC and is not incentivising its contractors to use marine or rail transport. This is contrary to the ethos of LTC being a 'Pathfinder' project, as claimed by NH.
- 15.6.62 The Council has previously presented a joint Technical Note with the Port of London Authority (PLA) which expressed that NH should review and extend its commitment to marine transportation. That joint Technical Note and the NH response to it is provided at **Appendix C, Annex 4** to this LIR. The letter provided guidance to NH on the types of material, plant and equipment that should be considered with a view to extending the Baseline Commitment. That aspiration to maximise the use of marine transport for construction related activity is reiterated by the PLA in its Principal Areas of Disagreement submission to the Examination (AS-078).
- 15.6.63 NH has not seized this initiative and as such the Council remains unconvinced that a robust commitment is being made to minimising the use of road transport for materials, plant and equipment. Annex B to the preliminary Navigational Risk Assessment ([APP-548](#)) presents the notes of meetings between NH's representatives and the PLA, at which NH's representatives are minuted as referring to the possible movement of precast segments and the import/export of other materials using marine transport and existing riparian facilities.
- 15.6.64 This is at odds to the proposal for an on-site segment factory within the North Portal (ES Chapter 2 Project Description ([APP-140](#)) paragraph 2.6.149). NH should commit within the oMHP ([APP-338](#)) that segments will be cast within the confines of the North Portal. ES Chapter 2 Project Description ([APP-140](#)) Paragraph 2.7.125 further states that segments for the ground protection tunnel will not be cast within the compound and would be transported by road. Those segments should be cast within the segment factory within the compound and the associated materials included within the oMHP commitments to be moved by non-road transport.
- 15.6.65 It is further noted that NH had intended to prepare a River Transport Strategy, but this has not formed part of the DCO application documentation and NH has also reduced the proposed Order Limits to now exclude operating jetties close to the North Portal, stating that they would not be available during construction due to existing commitments. The previously stated justification for excluding the jetties was that they would be used by the Silvertown Tunnel and Thames Tideway Tunnel projects, however, these will have completed exporting material before LTC construction begins (oMHP [APP-338](#) paragraphs 4.3.4 and 8.2.24).
- 15.6.66 In analysing the impact of moving material, plant and equipment associated with the construction period, NH indicates in the oMHP ([APP-338](#)) a 'Baseline Commitment' for the project, which proposes to import 35% of all bulk aggregates to the project by river. That baseline is proposed to be met by importing 80% of bulk aggregates to be used at the North Portal compound. NH uses a basic description of 'bulk aggregates' at the North Portal, such that it *includes sand and aggregate for the manufacture of concrete, aggregates for the construction of permanent and temporary infrastructure such as roads, haul routes and*

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working platforms' ([APP-338](#) paragraph 6.2.13a). NH has not been prepared to further specify the materials or processes for which the bulk aggregate would need to be used, e.g. for segment manufacture or for permanent pilling or sprayed concrete lining.

15.6.67 The Council is concerned that the current definition of the use of the bulk aggregates will allow the tunnelling contractor inappropriate and extensive flexibility. No other contractors will be bound by the commitment in the oMHP. Paragraph 6.2.15 of the oMHP ([APP-338](#)) sets out exemptions that the contractor can apply at its own discretion if it wishes to bring bulk aggregates in by road. The Council would have no ability to question that decision, which is a serious concern to the Council. The proposed commitment is therefore little more than a stated aspiration and has no derogation approval process.

15.6.68 Whilst the oMHP includes statements on a prospective 'Better than Baseline Commitment' ([APP-338](#) paragraph 6.2.11), that continues only to refer to the import of bulk aggregates and does not constitute a commitment. Paragraph 1.3.7 states that '*Contractors would engage with aggregate and material suppliers collaboratively to proactively maximise utilisation of river transport for the import of bulk aggregates to the north portal construction area beyond the Baseline Commitment so far as is reasonably practicable*'. The statement allows so much flexibility and has no commitment that it is a 'hollow' statement.

15.6.69 The Council has sought to encourage NH to maximise and commit to using non-road transportation (i.e. marine and rail), such that those methods would reduce the impact of the construction period on the LRN and SRN within the Borough. Through the oMHP ([APP-338](#) paragraph 8.2.11) NH dismisses rail as a viable option on the basis that there are no existing rail heads available to the project. It is the Council's opinion that NH could further explore the opportunity of collaborating with the operator of the current railhead within the Port of Tilbury and/or amending that to derive a useable facility for the project and eventually a legacy for the wider port. The stated reason of the recently created ecology zone is not insurmountable. NH acknowledges at paragraph 2.1.5 of the oMHP that '*upgrading of existing infrastructure*', might be appropriate for the construction of LTC. At paragraph 2.6.188 of ES Chapter 2 Project Description ([APP-140](#)) NH states that allowance has been made for the establishment of a conveyor to the Tilbury2 Construction Materials and Aggregate Terminal. That conveyor would be used to move aggregate to the North Portal compound, however, NH should explore further the opportunities to use that corridor for the export of waste excavated material by rail or marine transport.

15.6.70 The oMHP ([APP-338](#)) covers only the consideration of 'final mile' travel for bulk aggregates and neglects that the construction process will generate a significant quantum of material to be removed from the works and that there are many other bulk materials, plant and equipment that could conceivably be moved by marine or rail operations.

15.6.71 Table 7.1 of the oMHP ([APP-338](#)) indicates a quantum of excavated material that is predicted to be moved from, to or between the compounds north of River Thames. In NH's predictions that quantum amounts to approximately 660,000 m³ of material which NH currently proposes to move by road. At a load capacity of approximately 8.5 m³ per load NH predicts that there will be approximately 155,300 HGV movements at the northern compounds across the construction period. When predicting HGV movements NH has typically used an unrealistic flat profile across the six-year construction period. When applying that to a five-day working week, this equates to approximately 100 HGV movements each day to and from the Roads North and North Portal construction works for excavated material alone. That estimate excludes the 314,000m³ (74,000 HGV movements) of material that is to be moved from the Roads North contract to the Northern Portal. Approximately a quarter of those HGVs would be removed from the road network if NH was to commit to exporting the 154,000 m³ hazardous excavated material from the North Portal compound by non-road transport. NH recognises at paragraph 1.3.6 that riparian facilities are available for use by the project to export material from the construction works.

15.6.72 **SUMMARY: further HGV reductions could be made if NH was to commit to importing other bulk and bulky materials and plant and equipment by non-road transport. This approach has seen significant benefit when adopted by the Thames Tideway project and other Nationally Significant Infrastructure Projects. NH dismisses importing cement either for onsite batching or to local batching plants, however, existing local batching uses marine import of cement.**

15.7 Control Documents – Environment

15.7.1 The only document the Council has any additional comments that are not captured in Section 10 is set out below.

Outline Site Waste Management Plan (oSWMP)

15.7.2 Within the oSWMP ([APP-337](#)) NH provide an overview on the approach to the management of wastes generated during the construction of LTC and how the relevant commitments within the REAC apply.

15.7.3 Whilst the REAC commitments are appropriate at a high level, the oSWMP ([APP-337](#)) does not contain sufficient detail on the approaches to the management of the wastes to provide confidence that these measures will be achieved.

15.7.4 The oSWMP ([APP-337](#)) provides an overarching view of the management of waste at a high level, but the scale and duration of the construction phase of LTC is such that a standard SWMP template does not provide sufficient granularity of data to understand the impacts. The document should provide temporal phasing of arisings and also consider the arisings being generated/managed at each of the compounds. Annual breakdowns by compound fit the typical use profile of an SWMP more appropriately and would allow a greater understanding of the appropriate regulatory environment that will be necessary and therefore the level of environmental impact control and scrutiny that each site will be subjected to during construction.

15.8 Control Documents – Climate and Carbon

15.8.1 The only document the Council has any additional comments are captured in Section 10.15 and is set out below in more detail.

Carbon and Energy Management Plan

15.8.2 The content of the Carbon and Energy Management Plan ([APP-552](#)) provides the methodology on how NH intend to manage contractors to achieving carbon and energy demand reduction. It does not provide clear links between how these actions achieve the carbon reduction quantum defined within ES Chapter 15.

15.8.3 It provides no evidence on how LTC supports the host community of Thurrock in both decarbonisation and climate adaptation. It therefore provide no analysis of local impact or mitigation at a local level to Thurrock.

15.9 Planning Statement

Introduction

15.9.1 LTC Planning Statement ([APP-495](#)) is not a Control Document. However, it is the overarching document for the whole DCO submission and therefore a significant document in the DCO submission. It is important for the Council to provide comments on the document.

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15.9.2 The submitted Planning Statement ([APP-495](#)) includes nine Appendices: four Appendices (A – C and I) are policy compliance tables; Appendix F relates to Kent Downs Area of Outstanding Natural Beauty and is not relevant to Thurrock; and four Appendices relate to specific policy topics, as listed below:

- a. Appendix D – Open Space ([APP-499](#))
- b. Appendix E – Green Belt ([APP-500](#))
- c. Appendix G – Private Recreational Facilities ([APP-502](#))
- d. Appendix H – Green Infrastructure Study ([APP-503](#))

15.9.3 NH submitted a Planning Statement as part of the DCOv1 submission (October 2020) (**Appendix L, Annex 6**), which was subsequently withdrawn. The Council reviewed the document and provided NH with comments (**Appendix L, Annex 5**) on the Planning Statement DCOv1 in October 2020.

15.9.4 NH consulted the Council on a revised structure for LTC Planning Statement in March 2022. The Council provided comments to NH on the structure on 23 August 2022. At that time, the Council were broadly comfortable with the structure listed for the Planning Statement. However, the Council have not seen any content for the Planning Statement until the DCO application was submitted in October 2022.

Recommended/Best Practice Content of Planning Statement

15.9.5 The aim of a Planning Statement is to provide a balanced justification for development. A good Planning Statement should include the elements listed in the table below (left-hand column). The Council concludes that LTC Planning Statement ([APP-495](#)) does not cover matters adequately, as explained in the table below (right-hand column).

Table 15.1: Planning Statement Best Practice Recommendations

What a Planning Statement should include:	LTC Planning Statement (PS) (APP-495)
Local context.	The ES and HEqIA do provide an accurate baseline of Thurrock’s cultural heritage, environmental and social assets, however, there are a number of areas where that are not robust, e.g. NH have not used existing local evidence to inform NH’s own LTC assessments, such as the Thurrock Strategic Green Belt Assessment Study (2019).
The need for the proposed development.	The need for LTC is not adequately demonstrated by NH, as set out in Section 7 above.
How the proposed development accords with relevant national, regional and local planning policies. Whether emerging policies should be taken into consideration.	Emerging national policies are set out in the Planning Statement (APP-495). Although not adopted policy, it is acknowledged that there may be some national policies that are adopted before the end of the Examination.

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What a Planning Statement should include:	LTC Planning Statement (PS) (APP-495)
<p>Include a full list of all DCO application documents with a summary contents of application documents.</p>	<p>The Planning Statement does signpost to other key DCO documents. However, this does not provide a summary for all key DCO documents These are documents that identify issues and their identified issues and need to be summarised in the Planning Statement, e.g. the HEqIA, ComMA, Transport Assessment, Project Design Report, ES, etc. There should be a section that outlines issues that emerge from other DCO documents. In the Council's view, NH cannot undertake the planning balance exercise until all impacts and issues are properly identified and assessed and mitigation identified.</p>
<p>Summary of all identified issues and impacts in the DCO application, to base judgement on planning balance. Include a comprehensive project-wide planning assessment. Summary of EIA effects and mitigation.</p>	<p>There is no coverage of SoCG issues at all for each Local Planning Authority (LPA), including Thurrock, in the Planning Statement. The Council would expect it to draw out the main SoCG issues identified by key stakeholders, providing a link to the Consultation Report. In the Council's view, NH cannot undertake the planning balance exercise until all impacts and issues are properly identified and assessed and mitigation identified.</p> <p>The Planning Statement does not include a chapter covering a robust assessment of planning issues/impacts and how they are dealt with and a summary of other key document findings.</p> <p>Due to missing information or lack of evidence studies/DCO documents for some technical topics, such as Green Belt and traffic modelling, some issues have been incorrectly reported or missed altogether.</p> <p>Planning Statement Chapter 6, sets out NH's assessment of environmental, social and economic impacts, which should be clearly cross referenced, for all topics, to the relevant DCO documents, which have identified mitigation measures.</p>
<p>Any Planning Statement should set out a planning balance. This is based on the social, economic and environmental benefits of the proposal and should demonstrate how these outweigh any of the negative impacts.</p>	<p>The planning balance does not adequately set out the balance of benefits and adverse effects and need for the project. Further detail and commentary is provided in Section 16. The DCO application documents do not provide sufficient depth of information for the ExA to make a judgement on the planning balance.</p>

Planning Policy Compliance

15.9.6 Appendices to the Planning Statement ([APP-495](#)) set out NH's policy compliance assessment against national and local policy, in the documents listed below:

- a. Appendix A – National Policy Statement for National Networks (NPSNN) Accordance Table ([APP-496](#))
- b. Appendix B – National Policy Statements for Energy Infrastructure Accordance Tables ([APP-497](#))

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- c. Appendix C – Local Authority Policy Review ([APP-498](#))
 - d. Appendix I – Carbon Strategy and Policy Alignment ([APP-504](#))
- 15.9.7 Section 4 of this LIR provides an overview of the national and local policies, and other planning guidance of relevance to LTC. The Council broad comments on policy compliance is set out below.
- 15.9.8 National policy has been changing since LTC was first proposed, in terms of national policy relating to climate change and the environment (NPSNN paragraph 2.7). Public consultation on the draft revised NPSNN has just closed in June 2023, with an updated NPSNN potentially published towards the end of 2023. Public consultation on the revised NPSs EN1 to EN5 were held in 2021 with an additional recent public consultation, which closed on 23 June 2023. A review of the NPS was announced in the 2020 Energy White Paper: ‘Powering our net zero future’. This review was to ensure the NPSs were brought up to date to reflect the policies set out in the Energy White Paper (2020). It is anticipated that the updated Energy National Policy Statements will be published towards the end of 2023, subject to consultation responses.
- 15.9.9 LTC does not meet several of NH's strategic policy tests and scheme objectives, such as option testing, delivery/facilitation of economic growth and achieving sustainable local growth, which is analysed in Section 7 above.
- 15.9.10 There is a long list of strategic issues still remaining, which are fundamental to the design of LTC, reducing impacts on Thurrock communities and helping to facilitate future growth in the most sustainable way possible. (NPSNN paras 1.2, 1.18, 2.6-2.9, 3.3, 3.5, 3.19, 4.3-4.4, 4.26-4.33, 4.37, 4.40, 4.79-4.82, Chapter 5). NPSNN paragraph 1.2, 3.3 and 3.5, 4.3-4.4, 4.15, 4.79-4.80 and Chapter 5 in particular relate to the assessment and avoidance of potential adverse impacts.
- 15.9.11 Not all necessary data/information, to inform LTC alternatives and best design for both national and local level, has been collated by NH (and not provided to the Council to make an informed response) (NPSNN paras 1.2, 2.6, 2.8, 2.9, 3.3, 3.5, 4.3-4.4, 4.15-4.20, 4.26-4.27, 4.79-4.82, Chapter 5). NPSNN paragraphs 4.28-4.33 in particular, require design to be included as an integral consideration from the outset and for a good design to eliminate or substantially mitigate the identified problems by improving operational conditions and simultaneously minimising adverse impacts. NPSNN paragraphs 4.26-4.27 require projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant’s choice, taking into account the environmental effects.
- 15.9.12 Without resolving many of the strategic issues and without all the necessary data/information:
- a. There are potential significant impacts on Thurrock communities which the Council are unable to comment on (NPSNN paras 1.2, 2.7-2.9, 3.3, 3.5, 3.19, 4.3-4.4, 4.15-4.20, 4.79-4.82, Chapter 5). For example, Thurrock Council have not received the air quality and noise assessments and cannot therefore make an informed response on potential impacts on Thurrock communities. There is particular concern for vulnerable communities, such as Whitecroft Care Home and Gammonfields traveller site which are both located adjacent to LTC. Significant daytime construction impacts are likely at Whitecroft Care Home. Baseline sound levels at this receptor are 55 dB, $L_{Aeq,T}$. Construction noise levels are predicted to be over 70 dBA. Impacts are therefore significant and specific mitigation measures are required for this receptor. The Gammonfield traveller site has also not been assessed in the construction assessment. Given the sound insulation for such receptors is likely to be less than for typical residential dwellings, impacts could be more significant.

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- b. LTC does not support local economic activity and facilitate growth (does not support Local Plan growth). (NPSNN paras 1.2, 1.18, 2.6-2.8, 3.3, 3.5, 3.19, 4.3-4.4, 4.15-4.20, 4.26-4.27, 4.33, 4.40). NPSNN paragraph 2.6 requires development on the national networks to support national and local economic growth and regeneration. LTC bisects Thurrock and takes up approximately 10% of Thurrock land, therefore, all sites being considered for the emerging Local Plan should be taken into account, including national port development in Thurrock, considering the level of impact LTC has without it.

15.9.13 Benefits have not been confirmed/legally binding – Hatch report sets out 58 measures, but only 16 have been technically agreed. (NPSNN paras 1.2, 3.3, 4.3, 4.4). NPSNN paragraphs 3.3 and 4.3-4.4 in particular require applicants to provide evidence that they have considered opportunities to deliver environmental and social benefits as part of schemes and requires the Secretary of State to weigh a proposed development’s adverse impacts against its benefits.

Main Planning Issues

15.9.14 Overall, the Council considers that there are fundamental issues with the DCO design and DCO documents, as set out in the sections above in this LIR. The main planning issues identified by the Council are summarised in Section 16 below.

15.10 Green Belt

15.10.1 Green Belt national policy is set out in NSPNN, paragraphs 5.164, 5.170, 5.171 and 5.178 and NPPF paragraphs 137 – 151.

15.10.2 Green Belt policy in the NPSNN is included under ‘*Land use including open space, green infrastructure and Green Belt*’. Paragraph 5.164 states that: ‘*The fundamental aim of Green Belt Policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. For further information on the purposes and protection of Green Belt, see the National Planning Policy Framework*’.

15.10.3 Paragraph 5.170 of the NPSNN sets out that there is a general presumption against inappropriate development in the Green Belt and ‘*...such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and, if so, whether their proposal may be considered inappropriate development within the meaning of Green Belt policy*’.

15.10.4 If it is determined that a proposal would involve inappropriate development in the Green Belt, paragraph 5.178 of the NPSNN sets out the decision-making policy:

*‘When located in the Green Belt national networks infrastructure projects may comprise inappropriate development. Inappropriate development is by definition harmful to the Green Belt and there is a presumption against it except in very special circumstances. The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. **Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt, when considering any application for such development.**’*

15.10.5 Paragraph 6.5.277 of the Planning Statement ([APP-500](#)) concludes that: ‘*Appendix E to this Statement provides a detailed assessment of the case for the Project within the Green Belt in order to show that very special circumstances exist sufficient to justify the location of the development in the Green Belt and so demonstrate accordance with the relevant requirements*

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of the NPSNN and Energy NPSs, and as far as this may be relevant, consistency with other relevant national and local Green Belt policies.'

15.10.6 Following review of LTC DCO documents, the Council concludes that NH have not demonstrated 'very special circumstances' for LTC. A full explanation, with relevant detail and reference documentation, is set out in **Appendix L, Annex 1**.

15.10.7 Following review of LTC DCO documents, the Council concludes that:

- a. LTC is within the Metropolitan Green Belt;
- b. LTC is 'inappropriate development' in the Green Belt; and,
- c. 'Very special circumstances' have not been demonstrated by NH for LTC (see **Appendix L, Annex 1** for further detail), because:
 - NH have not undertaken a robust Green Belt assessment for LTC, against the purposes of the Green Belt and impact on openness set out in the NPPF, which would robustly set out the harm in any location and for project as a whole;
 - NH have not properly identified or clearly set out the level of harm to the Green Belt, including to its openness and the purposes of the Green Belt, to inform the selection of alternatives (at a strategic level) or for the preferred option design (at a detailed level, e.g. for the A13/A1089/LTC junction) or for the construction sites, such as construction compounds;
 - In terms of 'any other harm', the impacts of LTC in Thurrock on air quality, biodiversity, climate change, geology and soils, health, heritage, landscape, noise, socio economics, transport (such as PRoW, public transport, wider network impacts), water, etc., is significant; and,
 - In terms of 'other considerations', NH evidence for the need for LTC has not been properly demonstrated (see Section 7 above); the level of benefits of LTC has been overestimated (see Section 7 above) and there is a lack of proper assessment of alternatives (see Section 8 above).

15.10.8 Therefore NH, through the LTC DCO application has not demonstrated 'very special circumstances'. The potential harm to the Green Belt by reason of inappropriateness, and any other harm, is not clearly outweighed by other considerations. Therefore, NH cannot demonstrate and the ExA cannot conclude that the DCO submission complies with national policy NSPNN 5.164, 5.171 and 5.178 and NPPF.

15.10.9 As the consideration of 'very special circumstances' relies on the considering of all the factors listed in NPSNN, it is suggested that the ExA programme the hearing for Green Belt matters towards the end of the ExA current programme, following deliberation of all other matters set out in **Appendix L, Annex 1**, such as need, impacts of the project, benefits and alternatives.

16 Overall Strategic Assessment of Impacts

- 16.1.1 Overall, the Council considers that there are fundamental issues with the DCO design and DCO documents, as set out in the sections above in this LIR. The LTC, as currently proposed, should not proceed given its high cost, poor economic case and the significant harm it would impose on residents of Thurrock.
- 16.1.2 The main planning issues identified by the Council are summarised below, which summarise the SoCG issues in Section 5 and throughout this LIR.
- a. **Need for the Project** – the need for LTC has not been adequately demonstrated. LTC does not relieve the congested Dartford Crossing and traffic levels return to existing levels five years after the opening of LTC – refer to the Council's review of LTC Need in Section 7.
 - b. **Scheme Objectives** - the Council believes that there are a number of valid concerns around LTC scheme objectives and believes that those in the Transport, Economic and Community & Environment areas are not met by the current scheme. The Council feels the scheme does not provide significant relief to the Dartford Crossing, may be incompatible with the UK's and NH's net zero ambitions and legal targets and additionally there are concerns around the safety impacts of the scheme. The Council also considers that the Value for Money of the scheme may be overstated due to cost pressures and the robustness of the evidence used in the economic appraisal (refer to the Council's review of the Scheme Objectives in Section 7 above).
 - c. **Costs and Disbenefits and Poor Value for Money** – the cost of LTC has increased with each revision of the proposals. The estimated cost in the NH RIS2 Report is £6.4 – £8.2bn dated March 2020 and in the NAO Report of November 2022 it is £5.3 – £9bn and so an increase in overall costs is shown in just two years. Furthermore, costs are based on an inflation forecast from February 2022, which does not reflect recent global events and economic challenges. Any increase in cost would further reduce the 'low' estimate of value for money calculated by NH. In particular, LTC provides 'low' value for money with a BCR based on journey time benefits of 0.48. The estimated margin of benefit of LTC is now so low, that even quite modest changes in the assumptions would wipe out the net benefit entirely. This would mean that the scheme would cost more than the benefits it could produce and could not be justified in terms of value for money (refer to the Council's review of the LTC scheme's Value for Money in Section 7 above).
 - d. **Consideration of alternatives** – the Council's list of issues relating to the consideration of alternatives is listed below and considered in detail in Section 8 above:
 - The Council considers that the analysis of alternatives provided by NH does not meet the requirements of the NPSNN and therefore the submitted analysis is not valid and needs updating;
 - The 'high' and 'low' traffic forecast scenarios used by NH do follow DfT's guidance concerning the use of Common Analytical Scenarios and do not reflect the wide range of possible future scenarios for the operation of LTC;
 - The traffic forecasts used by NH do not reflect the likely impacts of the delivery of Government policies, including decarbonisation, active travel and public transport;
 - The design of LTC provides limited access to development sites and national port facilities in Thurrock. This would be remedied by the inclusion of Tilbury Link Road

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(TLR) and changes to the operation of Orsett Cock junction, as part of the LTC scheme;

- The option selection for LTC is based on an initial decision made in 2009. This was reviewed and confirmed by NH in 2017, but despite requests, the underpinning analysis has not been made available to the Council. Since the initial decision there have been many substantial changes to transport patterns and the wider economy, which have not been considered as part of the decision-making process. Analysis by the Council shows that there are several potential public transport-based options, which would better meet NH's scheme objectives for LTC. There are also several alternative options for elements of the LTC, e.g. including TLR, which would better meet the objectives for LTC. The Council considers that these options should have been considered by NH and still could be to the betterment of the overall scheme; and,
 - The provision of facilities to enable public transport services to access LTC is poor leading to circuitous routes and increased journey times. The Council considers that the design of LTC should be refined to enable better facilities to be provided, e.g. at the Tilbury service vehicle junction. There are also insufficient facilities provided for electric vehicle charging.
- e. **Transport Modelling Issues** –the transport modelling to support the LTC design is not fit for purpose and inadequate and the main reasons for this conclusion are set out below:
- The current transport model is underpinned by data which dates from 2016. The Council contends that the traffic modelling supporting LTC does not represent an up to date or representative view of the current conditions and leads to the benefits of the scheme being overestimated;
 - Inadequate sensitivity testing has been undertaken as part of the scheme appraisal. This is inconsistent with the latest Uncertainty Toolkit approach from DfT published in 2021. Given significant changes, the level of uncertainty and in accordance with TAG guidance, the Council contends that the scheme assessment is outdated. Furthermore, a much more comprehensive framework for consideration of national and local uncertainty beyond just the implementation of Low and High Growth Scenarios should be followed by NH, with follow-up technical engagement and consultation with the Council and public;
 - NH need to provide the Council and ExA, with the following information to enable others understand how the design has been arrived at and what the impacts on the wider network and junctions are, as set below and in full in the sections above:
 - *Microsimulation/ junction modelling is required at the following locations for LTC operation and construction periods to understand the local impacts and the requirement for mitigation: Orsett Cock; Manorway; Daneholes and Marshfoot junctions; Five Bells junction; A1012/Devonshire Road; and, ASDA roundabout; and,*
 - *Scenario testing is required of the Tilbury operations and emergency access to demonstrate that it could accommodate the national importance of the Port of Tilbury's traffic, the development of the Thames Freeport and local development aspirations.*
- f. **Access to Development Sites Impacts** – the design of LTC provides limited access to development sites and the two national port facilities in Thurrock. This would be remedied by the inclusion of Tilbury Link Road and changes to the operation of Orsett Cock and probably Manorway's junction, as part of the LTC scheme (refer to the Council's review of Connectivity set out in Section 8.6 above).

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- g. **Transport Impacts** – the modelling assessment is inadequate and potentially underestimates impacts on the Local Road Network (LRN). NH's assessment shows that there are many communities, roads and junctions across Thurrock that are significantly adversely affected by LTC, but that no mitigation is proposed by NH. DCO application documents do not reflect the likely impacts of the delivery of Government policies including decarbonisation, active travel and public transport (refer to the Council's review of transport impacts set out in Section 9 above).
- h. **Environmental and Health Impacts** – the Council have set out analysis of the positive, neutral and negative impacts of the proposed development against each of the ES environmental topic areas in Section 10. The Council conclude that LTC will have significant impacts on the environment and health of people in Thurrock. Section 10 sets out the Council's assessment of environmental effects, which substantiates why the Council believe this is the wrong scheme and conclude that other alternatives have not been considered, which could result in less impact to the environment and health of the local community. There are a number of changes which would need to be made to the application to be more acceptable to the Council.
- i. **Flooding** – the flood Exception Test comes into play where the Sequential Test concludes there are no alternative options at lower flood risk and development is necessary in high-risk zones. In this case, the route has to cross areas of high risk. The Exception Test states (NPPG paragraph 164): *'It should be demonstrated that development that has to be in a flood risk area will provide wider sustainability benefits to the community that outweigh flood risk'*. Exception Test (and Sequential Test) is for the planning authority to judge. The Environment Agency (EA) will offer thoughts, but are not the relevant authority. The Council question whether the 'wider sustainability benefits to the community' outweigh the flood risk.
- j. **Emergency Services Provision** – the Council has serious concerns with the limited satisfactory response from NH to requirements of the Emergency Services and Safety Partners, which was previously set out in 56 recommendations made by the Emergency Services and Safety Partners Steering Group (ESSPSG), as set out in Section 11 above. Despite an interim response from the applicant in July 2021 to each recommendation and a number of ESSPSG and other 'Scoping Group' meetings, there has been limited progress on resolving and agreeing these recommendations and ensuring they are 'secured' within the DCO, which will be captured in a jointly submitted SoCG at Deadline 1.
- k. **Utilities** – several concerns have been raised regarding the DCO submission in relation to the proposed utilities works. Of key consideration is the lack of a cohesive review of the proposed utilities works, with reference to utilities spread across a wide number of documents within the DCO. This causes both confusion and difficulty in the Council's ability to review the proposals and impacts. This is considered a deficiency in the DCO submission. Another key concern is the limited information given on the proposed utility works, particularly in relation to the electrical and gas NSIPs and assessment of these NSIPs. For a project of this importance and complexity and for each identified NSIP, the Council would expect detailed plans, reviews of impacts, assessments and reports to be included, as one section, within the DCO. Referring to NPS EN-1, EN-4 and EN-5, there is a requirement to assess the impacts of the identified electrical and gas NSIPs, with either a separate environmental statement for each or specific sections within the wider environmental statement. This has not been provided for LTC and the Council is therefore unable to review the impacts of the proposed utilities works on the local area. This is considered a deficiency in the DCO submission. The Council would expect further and more detailed information to be submitted regarding assessment of the impacts of the proposed utilities works and for this information to be provided as a cohesive section within the DCO submission.

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- i. **Legacy** – the Council identified 23 legacy measures as part of the October 2020 Hatch Mitigation Report (**Appendix G, Annex1**). These are investments the Council are seeking from NH to deliver positive outcomes for Thurrock residents and to serve as a partial offset to the negative impacts of LTC in our area. The Council expected that Designated Funds would have the potential to deliver many, if not all, of these legacy measures. At the current time, only three of the 23 measures are classed as ‘Matters Agreed’ in the LTC/Thurrock Statement of Common Ground ([APP-130](#)). Some £1.3 million of Designated Funds have been approved for deployment in Thurrock. Whilst this is a welcome investment, it is far below the investment required to deliver the 23 legacy measures that the Council has requested and also represents a very poor ‘offset’ against the many disbenefits that LTC will deliver in Thurrock. NH has missed an opportunity to agree to our legacy requests. These requests were made nearly three years ago and were all clear and potentially fundable. Related to our legacy requests, the Council also engaged early and with clarity on the proposed NH Community Fund. Working with other impacted authorities, the Council requested that: (i) that NH increase the overall scale of the Community Fund from £1.89 million over six years to £3.75 million based on benchmark evidence collected from a wide range of UK infrastructure projects; and, (ii) some modest changes to the percentage distribution of any Fund across local authorities. Neither request has been accepted by NH.
- m. **Skills, Education and Employment Strategy (SEE)** – the Council recognises that the LTC proposal has the potential to deliver some skills, employment and education benefits for the local area. With this in mind, the Council have sought to engage at every opportunity on the NH Skills, Education and Employment Strategy (SEE Strategy). Unfortunately, NH has not prepared the SEE Strategy in an open and transparent way and has not listened to the Council’s requests. The Council wants all SEE targets to be suitably ‘localised’; and, by localised the Council mean that any skills, employment and education benefits must flow primarily to those local areas within which the proposed LTC works take place. Circa 70% of the proposed LTC works are located within Thurrock and the Council has made repeated requests that a commensurately high share of labour market and skills benefits flow to Thurrock. As it stands, the Council are explicitly targeted to receive only 4% of SEE outcomes. The Council have also made repeated requests that the SEE Strategy is more ambitious. Of the 12 key targets in the current SEE Strategy, all lack ambition in the Council’s view. The Council have provided NH with more stretching targets on each and every measure. The Council also needs to be properly resourced by NH to help secure positive labour market outcomes. This means having a dedicated internal team to work on a range of matters including labour market readiness, skills, recruitment, supply chain development etc. The Council’s requests on this matter have been rejected by NH. The combination of unambitious and insufficiently localised targets and the absence of any dedicated local resource means that the opportunity for NH to deliver positive SEE outcomes in Thurrock will not be taken.
- n. **Land and Property** – NH has identified a larger area of land interests for permanent acquisition, temporary possession and over which rights are required than it can fully justify. It also seeks to take greater interests in some parcels than it has acknowledged it requires. The Council considers that the impacts of both the compulsory acquisition and construction activity will be significantly adverse. Whilst the financial losses that the Council suffers will be compensable under the ‘so-called’ Compensation Code, NH offers little or no comfort for those indirectly affected – be that from noise, dust, fumes or traffic delays during both construction activity and subsequent use of the scheme. Furthermore, significant areas of public open space are to be occupied by the project and yet the Council does not know when this will happen, how often, when the land will be returned and in what condition. Furthermore, NH is not seeking to re-provide the temporarily acquired public open space or otherwise compensate those who will suffer because it is unavailable for public use.

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- o. **Adequacy of Application** – Section 15 sets out the Council’s position on the adequacy of the ‘Control Documents’ within the DCO application, covering the draft DCO Order and many of the ‘Control Documents’, concluding that many do not offer sufficient mitigation, compensation or mitigation.

- p. **Green Belt Impacts** – NH have not provided the Council with a robust Green Belt Assessment for the alternatives assessment or preferred route. Therefore, it is unclear how the Green Belt impacts have been assessed correctly (refer to the Council’s more detailed review of Green Belt methodology and impacts as set out in **Appendix L, Annex 1**).

Appendix A Costs and Disbenefits outweigh the Benefits and provide Poor Value for Money

Appendix B Transport Alternatives

Annex 1 – History of and Public Transport Alternatives and Alternative Options

Annex 2 – LTC Alternatives: TLR and A13 Junction

Appendix C Transport and Modelling

Annex 1 – Technical Summary of Local Junction Impacts

Sub-Annex 1.1: Thurrock Council Review of DCO Cordon Operational Model

Sub-Annex 1.2: Summary of Model Status

Sub-Annex 1.3: NH Assessment of Orsett Cock Microsimulation Modelling

Attachment 1.3.1: NH LTC-Orsett Cock VISSIM Model Operational Assessment, 2030 & 2045 Preliminary Results

Attachment 1.3.2: NH LTC Orsett Cock 2030 Operational Appraisal, Design Release 4.3 Operational Modelling

Sub-Annex 1.4: NH The Manorway Microsimulation Modelling

Sub-annex 1.5: Thurrock Council Model – Asda Roundabout

Annex 2 – Key Amendments Required to LTC

Sub-Annex 2.1: LTC-A13 Interchange, Design Consultation Scheme, Thurrock Council Safety and Operation Comments

Sub-Annex 2.2: LTC Preliminary Design Stage 1 Road Safety Audit

Attachment 2.2.1: NH Commissioned LTC Stage 1 RSA

Attachment 2.2.2: RSA1 NH Designers Response

Sub-Annex 2.3: Tilbury Junction Commentary and Appraisal

Sub-Annex 2.4: LTC Public Transport Access Concepts

Sub-Annex 2.5: LTC Crossing Structures Widths, Council Requirements to DCO Submission Comparison

Annex 3 – Construction Modelling Review and Governance Approach

Sub-Annex 3.1: LTC Construction Impact, Modelling Review Report

Annex 4 – Materials Handling Plan: Joint Council and PLA Technical Note

Annex 5 – BSI PAS 500: 2008 National Specification for Workplace Travel Plans

Appendix D Council Borough Wide Air Quality and Noise Modelling

Annex 1 – Thurrock Council: Borough Wide Air Quality Modelling

Annex 2 – Noise Environment International Article

Appendix E Independent Review HEqIA Review Recommendations and Response (received 8 June 2023)

Appendix F Major, Minor and Pre-Applications List from 01.10.2022 to 14.06.2023

Appendix G Skills, Employment and Legacy

Annex 1 – Hatch Mitigation Report

Annex 2 – Hatch Economic Costs Study

Annex 3 – Thurrock Council SEE Strategy Review

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Appendix H Land, Property and Compensation

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Annex 7 – LTC DCOv1 Planning Statement, October 2020

Annex 8 – Case Law on ‘Any Other Harm’ – ‘Secretary of State for Communities and Local Government, Reigate & Banstead BC, Tandridge DC vs Redhill Aerodrome Ltd

Appendix M Geology and Soils

DHLUC/MHCLG NPPG Guidance 'Land Stability – Advice on how to ensure that development is suitable to its Ground Conditions and how to avoid Risks caused by Unstable Land or Subsidence, July 2019'