

Chapter Nine ♦ Transport, accessibility and movement

INTRODUCTION

- 9.1 The Transport, accessibility and movement chapter sets out the methodologies adopted in the assessment and relates them to the relevant policies and guidance. Following the review of policies and guidance, the existing and future baseline conditions are outlined and assessed. This leads on to the assessment of the effects of the proposed London Resort and construction impacts. Consideration is then given to mitigation strategies (where deemed necessary) and any residual and in-combination effects. The chapter concludes with a summary of the results of the assessment.
- 9.2 The London Resort is likely to affect the existing highway network and its users to varying degrees depending on the season and visitor demand. This chapter provides a preliminary assessment of the potential effects arising from the land-based transport associated with the Proposed Development during both construction and operational phases. It should be highlighted that waterborne transport is discussed separately in chapter ten of this PEIR.
- 9.3 The Transport, accessibility and movement chapter is not intended to be read as a stand-alone document and the information provided should be considered in conjunction with chapter four and chapter five of the PEIR providing complete descriptions of the Project Site and the London Resort respectively, as well as other chapters discussing other matters.
- 9.4 The assessment includes the identification of sensitive receptors, roads and access points likely to be affected, the extent of any likely effects and potential mitigation measures to remove, reduce or mitigate identified effects at this stage. Figures and drawings intended to assist the understanding of the descriptions and assessments presented in this chapter are also provided. These are included in Volume 2 of the PEIR.
- 9.5 As indicated above, the assessment provided in this chapter is preliminary, and its results may alter as the Project progresses. However, the principles and premises outlined here remain constant and are applicable throughout the London Resort's lifetime. This is particularly relevant with regards to the future year modelling being undertaken.
- 9.6 This chapter precedes a detailed Environmental Statement (ES) forming part of the Environmental Impact Assessment (EIA) and Transport Assessment (TA), which will assess the impacts of the London Resort with regards to any potential effects associated with traffic and transport in greater detail. The proposed London Resort's access strategy is contained in the relevant DCO documents supporting the statutory consultation.
- 9.7 The Transport, accessibility and movement chapter provides preliminary information based on the development of the project to date and data gathered at the time of writing of this report that will subsequently be provided in full and final form as part of the EIA.

- 9.8 The baseline conditions, as set out later in this chapter, are based on several traffic surveys undertaken in 2017 as part of the work carried out previously. Given the current COVID--19 situation, new traffic surveys cannot be currently undertaken. Therefore, it is considered appropriate to utilise the existing data where applicable.
- 9.9 It should be noted that the assessment of effects in the future baseline as well as forecast scenarios is traditionally based on the detailed transport model outputs. At the time of writing this report, modelling is still in progress, and the data under review. As such, changes in traffic volume from current baseline to future scenarios is undertaken using the predicted number of vehicles estimated from the 2017 traffic surveys.
- 9.10 Given the preliminary nature of this chapter the predicted travel demand associated with the London Resort is used in the assessment. The effects of the traffic changes further afield from the proposed London Resort will be considered in detail as part of the EIA.
- 9.11 The Transport, accessibility and movement chapter is structured as follows:
- Methodology and data sources;
 - Relevant law, policy and guidance;
 - Baseline conditions;
 - Potential significant environmental effects of the proposals;
 - Proposed mitigation;
 - Residual and in-combination effects;
 - Climate change, and
 - Summary and conclusions.

Context

- 9.12 The London Resort is envisaged to create a significant leisure attraction not only for Kent but also for the rest of the UK. It is forecast that across the year in 2029 (when the full site is expected to be operational) the daily visitor travel demand will vary between 7,000 to 53,000 with a daily average of around 26,000 visitors. The TA and other supporting documents provide the rationale behind these values, including details of the variability of the demand.
- 9.13 Given the seasonal variability of visitors at the Resort, it is proposed that an 85th percentile assessment day is to form the basis of the assessment. The 85th percentile assessment day

represents the demand of circa 38,000 visitors with only 54 days a year exceeding this level which generally occur at weekends or during holiday periods.

- 9.14 The proposed access strategy, as discussed later in this chapter, seeks to promote sustainable transport access to the London Resort via a variety of transport modes.
- 9.15 The TA, as well as the EIA, will be supported by several individual Technical Notes setting out the forecast visitor and staff footfall at the London Resort, including:
- Technical Note 1 – Trip Generation
 - Technical Note 2 – Trip Distribution
 - Technical Note 3 – Mode Shares
 - Technical Note 4 – Current and Future Mobility
- 9.16 The documents outlined above, submitted as part of the ES, will inform the determination of the likely impacts expected as a result of the London Resort on the local transport networks.
- 9.17 Considering the distribution of visitors to the London Resort, robust forecasts were made, taking into account international visitors. It is forecast that the international visitors would initially (i.e. first year of operation 2025) make up approximately 23% of guests, rising to around 34% by 2038. The rationale behind these assumptions is explored in detail in Technical Note 1 and Technical Note 2 supporting the application.
- 9.18 To help inform the visitor demands and the Project Site selection, existing tourist travel patterns were considered. According to Visit Britain¹, the number of visits in the UK has been growing steadily since 2010, reaching a record number of visits of 41.1 million in 2017. Since then, the number of visits fluctuates between 40.2 million (2018) and 40.9 million (2019) visits. This represents approximately 290 million overnight stays² in the UK, more than half of which included a trip to London.
- 9.19 Visitors to the UK arrive from all over the world but, outside of Europe, the largest proportions (2019 data) arrive from:
- USA (11%)
 - Australia (3%)
- 9.20 From the visitors to the UK that travel from Europe the largest proportions (2019 data) arrive from:

¹ <https://www.visitbritain.org/2019-snapshot>

² <https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism/articles/traveltrends/2019>

- France (9%)
- Germany (8%)
- Ireland (7%)

9.21 Current statistics suggest (2019 data) that around 79%³ of the visitors to the UK travel by air. Visitors who do not travel by air are almost evenly split between those who travel by ferry (11%) or use the Channel Tunnel (10%). Since air travel is a less sustainable mode of transport, consideration is to be given to opportunities to reduce the number of air trips that might be undertaken through the selection of a more sustainable development site, as it is discussed later in this Transport, accessibility and movement chapter.

The London Resort site selection

9.22 WSP contributed to the selection of sites, providing a critique of site options relative to forecast demand and the existing infrastructure available at each site.

9.23 The Project Site was chosen based on several selection criteria, including its relative location and accessibility to major European cities, transport and service infrastructure, site availability and development plan designation. The selected location is believed to offer great locational advantages to domestic and international visitors.

9.24 It is forecast that many people would visit the London Resort as part of a combined trip, short break or holiday and therefore, stay overnight. The Kent Project Site has convenient access to many existing and planned accommodation facilities within a 60-minute drive of the proposed London Resort. Ebbsfleet International railway station offers fast and reliable connections to London, which is considered to be a primary location for many European and international guests staying in the UK and visiting the London Resort.

9.25 The Essex Project Site also benefits from being located in proximity to several ports, including Tilbury, which provides commercial cargo services as well as vehicle and passenger services from London's cruise ship terminal at Tilbury Riverside. The potential to exploit links to European cruise liners contributes to the Project Site being able to offer the highest level of accessibility for the development of its kind.

9.26 The Project Site location in a wider context is shown in Figure 9.1.

The London Resort site accessibility

9.27 The Kent Project Site lies approximately 30 km east-south-east of central London on the south bank of the River Thames, in the county of Kent. It occupies most of the

³ <https://www.visitbritain.org/2019-snapshot>

Swanscombe Peninsula and includes a corridor for transport connections generally extending southwards to the A2 trunk road (A2(T)).

- 9.28 The London Resort aims to capitalise on the proximity of public transport network by providing effortless and efficient access to and from the local rail, bus and coach stations.
- 9.29 A people-mover system will be developed to provide easy means of transfer between key stations and the Project Site, facilitating the transfer of visitors and staff, and thereby reducing the reliance on private vehicle travel.
- 9.30 A network of pedestrian and cycle routes will be provided on the Swanscombe Peninsula, combining existing with new routes. It will connect to the adjacent residential areas of Greenhithe, Swanscombe and Northfleet. This will improve connectivity through existing neighbourhoods and create linkages with the network of green spaces in the area.
- 9.31 One of the significant advantages of the Project Site's location, and one which sets the London Resort apart from any other major resort of this type, is the availability of public transport options available. Ebbsfleet International station provides connections with St Pancras International Station in the heart of London within a journey time of approximately 17 minutes.
- 9.32 In addition, the North Kent Rail Line provides frequent train services to and from central London (as well as eastwards to key destinations in Kent) with stations at Swanscombe, Greenhithe and Northfleet.
- 9.33 Rail services to the Essex Project Site are provided by c2c, which provide train services to the nearby Grays and Tilbury Town railway stations. Emerging plans submitted recently proposed improvements to Grays, including connections to the High Street and Shopping Centre, with the potential for upgrades to Grays Town station and links to the River Thames.
- 9.34 This proximity to available rail services, which includes the High-Speed Rail link (HS1), provides significant public transport benefits. Also, other UK rail projects have been considered at varying design stages from high-level feasibility studies to preliminary design sufficient for protected transport lines. Within the sub-region, these include Crossrail and Eurostar Velario, which would increase the attractiveness of rail as a mode of travel and increase the opportunity to utilise rail as a primary mode of travel to the Project Site. It is also proposed that the Fastrack bus service, operating in nearby Ebbsfleet and the Garden City development, will be essential to the transit of residents to and from the London Resort and create connectivity connecting to Dartford, Gravesend including Bluewater.
- 9.35 The Kent Project Site is located on the Swanscombe Peninsula, and it is highly accessible to the strategic road network (SRN), including the A2(T), M2, M25 and the Dartford Crossing. The road network provides the ability for local visitors and staff, as well as those from further afield, to access the London Resort by car, bus or coach. Additionally, the SRN provides connections to all key London airports within 120-minute driving times.

Current proposals for the Project Site include a four-lane dual carriageway access road approximately 2.3 kilometres in length to connect the A2/A2260 junction and the London Resort on the Swanscombe Peninsula.

- 9.36 The development also benefits from being located adjacent to the River Thames, providing a waterborne network not only for commercial and construction traffic arriving via the port at Tilbury but also for visitors and employees via water taxis from both London and Tilbury.
- 9.37 The proposals also include the introduction of a new car park north of the River Thames (within the Essex Project Site), at the Port of Tilbury (PoT). Access to this location is highly accessible also directly from the SRN via the M25, the A13 and the A1089.
- 9.38 The accessibility of the planned location for the London Resort provides a unique opportunity for the development of this type. The existing and proposed transport options available will enable the development to adopt a sustainable travel ethos and minimise the impact on local areas from the outset.

RELEVANT LAW, POLICY AND GUIDANCE

Introduction

- 9.39 Chapters two and three of this PEIR provide an overview of all relevant law, policy and best practice. As these chapters explain, the relevant EIA regulations are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
- 9.40 Building upon the information within these chapters, the following information summarises the specific policy and guidance related to transport relevant to the London Resort at a national and local level. These policies and plans were considered to help define the scope of the assessment in this chapter.

National policy

National Policy Statements

- 9.41 National Policy Statements (NPS) set out the need for and Government's policies to deliver Nationally Significant Infrastructure Projects (NSIPs) in England. Chapter three of this PEIR explains that there is no NPS for business and commercial NSIPs such as this project. However, to the extent that the London Resort proposals include transport, highways and port infrastructure, regard is given to relevant policy in the NPS for National Networks (2014) and the NPS for Ports (2012).
- 9.42 The proposals contain improvements to the Strategic Road Network, which are required to provide access to the London Resort. The NPS for National Networks recognises, in paragraph 2.6 that *'There is also a need for development on the national networks to*

support national and local economic growth and regeneration, particularly in the most disadvantaged areas. Improvements on new transport links can facilitate economic growth by bringing businesses closer to their workers, their markets and each other. This can help rebalance the economy.'

9.43 Part of the Proposed Development includes improvements to the Port of Tilbury and its associated facilities to allow for access to the Project Site via waterborne services. The NPS for Ports sets out the fundamentals for port development in general. However, more specifically, it requires the developments to meet the Government's objectives for transport, including the need (paragraph 4.1.1):

- *to promote economic growth through improving networks and links for passengers and freight, as well as ensuring an efficient and competitive transport sector both nationally and internationally;*
- *to create a cleaner and greener transport system through improving the environmental performance of ports and associated developments, including transport, as well as to help changing to support infrastructure needed for green technologies; and*
- *to strengthen the safety and security of transport.*

National Planning Policy Framework (NPPF)

9.44 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for non NSIPs in England and how these are expected to be applied. It emphasises the importance of the transport policy in facilitating sustainable development. It should be noted, however, that the NPPF does not set policy for testing the acceptability of NSIPs.

9.45 The NPPF was originally published in March 2012 and replaced all Planning Policy Guidance (PPG) and Planning Policy Statements (PPS) related to Transport. The NPPF was then updated in July 2018 and again in February 2019.

9.46 The NPPF retains its overarching presumption in favour of sustainable development and requires all plans and decisions to apply it. The requirement is set out in paragraph 10 of the document.

9.47 Section 9 of the NPPF focuses on promoting sustainable transport (paragraphs 102 to 111).

9.48 The main objectives in relation to transport are to consider the issues at early stages of plan-making and development proposals, so that:

- *'opportunities to promote walking, cycling and public transport use are identified and pursued' (Paragraph 102 c); and*
- *'the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and*

mitigating any adverse effects, and for net environmental gains’ (Paragraph 102 d).

9.49 Other objectives supporting the above main objectives are to:

- *‘...actively manage patterns of growth in support of these objectives’, with a focus on ‘...locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes’ (Paragraph 103);*
- *‘support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities’ (Paragraph 104 a); and*
- *provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans)’ (Paragraph 104 d).*

9.50 Paragraph 108 then outlines the requirements for a development that should be considered during the assessment of the proposals stating: *‘It should be ensured that:*

- *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *safe and suitable access to the site can be achieved for all users; and*
- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.’*

9.51 Importantly, the NPPF states in paragraph 109 that *‘...Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.’*

9.52 Paragraph 110 (a) considers that applications for development should *‘... give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use.’*

9.53 Paragraph 111 requires that *‘...All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.’*

9.54 The NPPF is consistent with the National Planning Practice Guidance (NPPG) in so far as both seek to exploit the potential for sustainable transport and reducing car travel.

DfT Circular 02/2013 - Strategic road network and the delivery of sustainable development

- 9.55 The DfT Circular outlines the core objective of *providing 'safe roads, reliable journeys, informed travellers'*. It accepts that the Government is only able to provide funding certainty for a short period (usually five years) thus the length of review period remains at the discretion of the Secretary of State (SoS) for transport where there is a broader political and economic imperative.
- 9.56 DfT Circular 02/2013 states that *'...developers must ensure that all environmental implications associated with their proposals are adequately assessed and reported so as to ensure that the mitigation of any impact is compliant with the prevailing policies and standards.'* It goes on to state that *'This requirement applies in respect of the environmental impacts arising from the temporary construction works and the permanent transport solution associated with the development, as well as the environmental impact of the existing trunk road upon the development itself.'*
- 9.57 Where the Proposed Development is likely to have a *'negative impact'* the Circular requires that the *'environmental impact [has] been appropriately considered'* and *'measures have been included within the proposals'* to mitigate the development *'...as fully as reasonably possible, and to enable residual impacts to be taken into account in the development consent process.'*
- 9.58 The DfT Circular explores how capacity enhancements are to be considered relative to new development and, supporting the NPPF, which requires developers to exploit sustainable transport options, suggests that *'Only after travel plan and demand management measures have been fully explored and applied will capacity enhancements measures be considered.'* While the Circular may not contemplate NSIP development, it goes on to clarify that *'The improvements will normally be delivered by means of funding agreement with the Secretary of State for Transport.'*
- 9.59 The DfT Circular also recognises that *'Where development will be brought forward in phases, any mitigation needs will be based on the opening of the final phase. However, it may be necessary to implement some mitigation measures in line with the opening of certain phases of development according to the impacts that they generate.'* In developing a *'heads of terms'* package of mitigation measures, it may be sufficient to understand what improvements might be necessary to accommodate specific phases of development. This would include the development not just associated with the DCO application but other developments in the sub-region, but to avoid the risk of induced traffic demand conflicting with steps to deliver sustainable travel choices, phased improvements may be appropriate.

Best practice guidance (national)

- 9.60 The methodology for assessing the Proposed Development's traffic and transport effects will be based on the following documents:

- Institute of Environmental Management and Assessment (IEMA), 2004; Guidelines for Environmental Impact Assessment;
- Institute of Environmental Assessment (now IEMA), 1993; Guidelines for the Environmental Assessment of Road Traffic ;
- Design Manual for Roads and Bridges (DMRB)⁴; and
- Web-based Transport Analysis Guidance (WebTAG)⁵

9.61 When considering other developments and infrastructure commitments, in line with WebTAG, consideration is to be given to the PINS Advice Note 9: Rochdale Envelope⁶. The Rochdale case identifies a series of objectives. Having established that a development is likely to have significant effects, to enable a competent authority to assess these effects, one could interpret that any EIA should:

- Consider if the development should be assessed individually or jointly with other developments (which might include infrastructure);
- Where reasonably practicable, consider proposals as an integral part of the ‘whole’ or cumulative development (consistent with the NPPF);
- Having regard to the cumulative effects of other development (which again might include infrastructure), should there be sufficient information to consider the development in the area as a whole (including the Proposed Development) and the potential successful delivery of mitigation measures; and
- Having concluded what the ‘*whole development*’ might entail, it is necessary to ‘*make [an] informed judgement*’ on the basis of information available, any gaps and uncertainties that may exist and the likelihood of significant effects arising from these.

9.62 On these matters, the courts have concluded that ‘*everything depends upon the circumstances of the individual case*’ thus one could interpret this reasoning to suggest that if one cannot judge the mitigation measures that might support developments, then the cumulative effect of that development should be considered at a subsequent point in time. As the Lower Thames Crossing (LTC) and emerging Ebbsfleet Garden City will need to consider a similar or possibly larger study area, it is, therefore, reasonable to conclude that the cumulative effects of all developments (in transport terms) will be reviewed again in coming years.

⁴ https://www.standardsforhighways.co.uk/dmr/b/search?discipline=SUSTAINABILITY_AND_ENVIRONMENT

⁵ <https://www.gov.uk/guidance/transport-analysis-guidance-webtag>

⁶ <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/05/Advice-note-9.-Rochdale-envelope-web.pdf>

- 9.63 It should be noted that Highways England (HE) have progressed a major improvement scheme for the A2(T) Bean and Ebbsfleet junctions for which they received consent in 2 June 2020, and the current programme is for the start of work on-site in 2020 with scheme opening 2023. The traffic modelling undertaken to support the scheme is based on a cordon of the latest Lower Thames Crossing (LTC) model. It has been agreed with the Highway Authorities that the traffic modelling to support the DCO application for the Resort should also use traffic flow information from the LTC traffic model combined with other sources as appropriate (including A2(T) Bean and Ebbsfleet cordon model). As such, it is assumed that the potential transport influence of the LTC will be captured within the model used to assess the London Resort. The modelling approach to be adopted is discussed further later in this chapter.

IEMA Guidelines for the Environmental Assessment of Road Traffic

- 9.64 The IEMA Guidelines for the Environmental Assessment of Road Traffic were published in 1993. The guidelines are still current and aim to contribute towards the improvement of EIA practice by setting out the requirements and the expectations relating to good practice.
- 9.65 The guidelines set out an assessment methodology to identify likely effects, which could be considered as potentially significant, and approach to informing of how changes in travel demand (particularly traffic) will affect the environment. Lastly, they inform ways to remove, reduce or mitigate the identified effects. These guidelines identify requirements to consider the effects on pedestrians, cyclists and other road users, including amenity, delays and severance. They also require an assessment of effects on drivers and ultimately, road safety.

Design Manual for Roads and Bridges (DMRB)

- 9.66 The Design Manual for Roads and Bridges (DMRB) has been recently updated (2018-2020). In line with the legislative framework, section L of the DMRB is concerned about sustainability and environment and provides guidance regarding the aims and objectives of environmental impact assessment, including EIA scoping, the assessment and management of environmental effects and the reporting of environmental assessments.
- 9.67 Specifically, DMRB LA 104 - Environmental Assessment and Monitoring provides the assessment principles to be used. Guidance on the environmental assessment of population and human health effects with respect to traffic and transport is set out in DMRB LA 112 - Population and Human Health. Methodology and sources section of this chapter provide a further summary of the DMRB guidance used in the assessments.

Regional policy

Kent and Medway Growth and Infrastructure Framework (2018)

- 9.68 The Growth and Infrastructure Framework (GIF) was developed by KCC who collaborated

closely with Medway Council, districts and boroughs, and key strategic partners in the preparation of this framework.

- 9.69 The purpose of the GIF is to provide a strategic framework for the county. The GIF is intended to support identifying and prioritising investment across a range of infrastructure, for planned growth up to 2031. It draws together information and data from a range of sources, including district Local Plans, Infrastructure Delivery Plans and infrastructure and service providers. The framework also provides a robust evidence to attract investment and engagement, including public funding bids and major private sector projects.
- 9.70 In the period from 2011 to 2031, the GIF identified a requirement of 178,600 new homes and 170,300 new jobs in order to support the growth in the area.

Local policy

(Kent) Local Transport Plan 4: Delivering Growth without Gridlock 2016-2031 (2016)

- 9.71 Local Transport Plan 4 (LTP4) sets out the Kent County Council's policies to deliver strategic outcomes for transport, and it is accompanied by implementation plans. It details the key transport priorities and longer-term transport objectives.
- 9.72 The aims of the LTP4 include:
- *'The delivery of resilient transport infrastructure that reduces congestion and improves journey time reliability;*
 - *Promotion of affordable, accessible and connected transport to enable access to all, education, health and other services;*
 - *To provide a safer road, footway and cycleway network to reduce the likelihood of casualties;*
 - *To deliver schemes that reduce the environmental footprint of transport and enhance the historic and natural environment; and*
 - *To provide and promote active travel choices for all members of the community to encourage good health and wellbeing and implement measures to improve local air quality.'*
- 9.73 The LTP4 also emphasise the importance of Public Rights of Way and highlights the opportunities and benefits they provide to residents and visitors.
- 9.74 The LTP4 is also concerned about the housing and commercial growth in the Thames Estuary. It acknowledges that unlocking its potential depends on the bringing forward of significant new infrastructure, given the existing levels of congestion and lack of resilience.

- 9.75 As a result of the above, the plan emphasises that priority should be given to the transport improvements that are required to deliver the major commercial and residential developments, one of which is the Proposed Development. The EIA will provide further details on the expected employment benefits both during construction and operation as a result of the Proposed Development.

Freight Action Plan for Kent (2016)

- 9.76 The Freight Action Plan (FAP) is a supporting policy document complementing the LTP4 and aims to:
- tackle the overnight lorry parking in Kent (as a result of Kent's linkages to continental Europe);
 - find a long-term solution to Operation Stack (as a result of disrupted services at the Eurotunnel and Port of Dover);
 - effectively manage the routing of HGV traffic so that it remains on the SRN as much as possible;
 - impose restrictions for HGV traffic travelling on the local road network; and
 - ensure effective use of planning and development control powers to reduce the impact of freight traffic.
- 9.77 The document ties the above aims to strategic transport priorities which include Lower Thames Crossing, the bifurcation of port traffic (i.e. dividing it between the A2(T)/M2 and A20/M20) and port expansion amongst others.
- 9.78 The FAP acknowledges that up to 41% of all vehicles on the SRN within the county is HGV traffic on M2/A2(T) and M20/A20 corridors. KCC fully supports the modal shift from road to rail as well as continuing use of the River Thames and Estuary to transport waste, construction materials and containerised goods. This modal shift would reduce HGV movements throughout the county and significantly reduce carbon dioxide emissions.

Gravesham Local Plan Core Strategy adopted version (2014)

- 9.79 The eastern part of the Kent Project Site is in the area of Gravesham Local Plan Core Strategy enables the transformation of previously developed land, strengthens the vitality and vibrancy of Gravesend to create modern, integrated, accessible and sustainable communities.
- 9.80 The Core Strategy sets out the Gravesham Borough Council's (GBC) long-term spatial vision for the borough. It covers the period from 1 April 2011 to 31 March 2028 and outlines the strategic objectives for the borough-based on the characteristics of the area and the key

issues to be addressed.

9.81 It identifies the areas where significant changes are likely to take place and allocates Key Sites for development which are considered key to the achievement of this strategy. While it is an adopted planning strategy, it does not include the potential of the Ebbsfleet Garden City.

9.82 The pertinent Strategic Objectives and Core Strategy Policies from the GBC Local Plan Core Strategy that are relevant to the Proposed Development are:

- Strategic Objective - SO1: Make the most efficient use of land by concentrating development on underused, derelict and previously developed land in the urban area of Gravesend and Northfleet, in particular former industrial sites along the Thames Riverside and Gravesend town centre, and at Ebbsfleet.
- Strategic Objective - SO3: Ensure that the right amount, size and type of employment sites are available in Gravesend and Northfleet to diversify and strengthen the local economy and reduce out commuting.
- Strategic Objective - SO7: Enhance the Borough's public transport network to serve existing and new neighbourhoods and communities in Gravesend, Northfleet and Ebbsfleet.
- Strategic Objective - SO11: Seek to retain and improve the provision of existing services and facilities and ensure that sufficient facilities are provided to meet the needs arising from new development.
- Policy CS03: Northfleet Embankment and Swanscombe Peninsula East Opportunity Area
- Policy CS07: Economy, Employment and Skills
- Policy CS11: Transport

9.83 The Core Strategy recognises the development potential of the Swanscombe Peninsula and Ebbsfleet, which will enable the regeneration process to continue beyond the plan period. Paragraph 4.4.4 of the Core Strategy states:

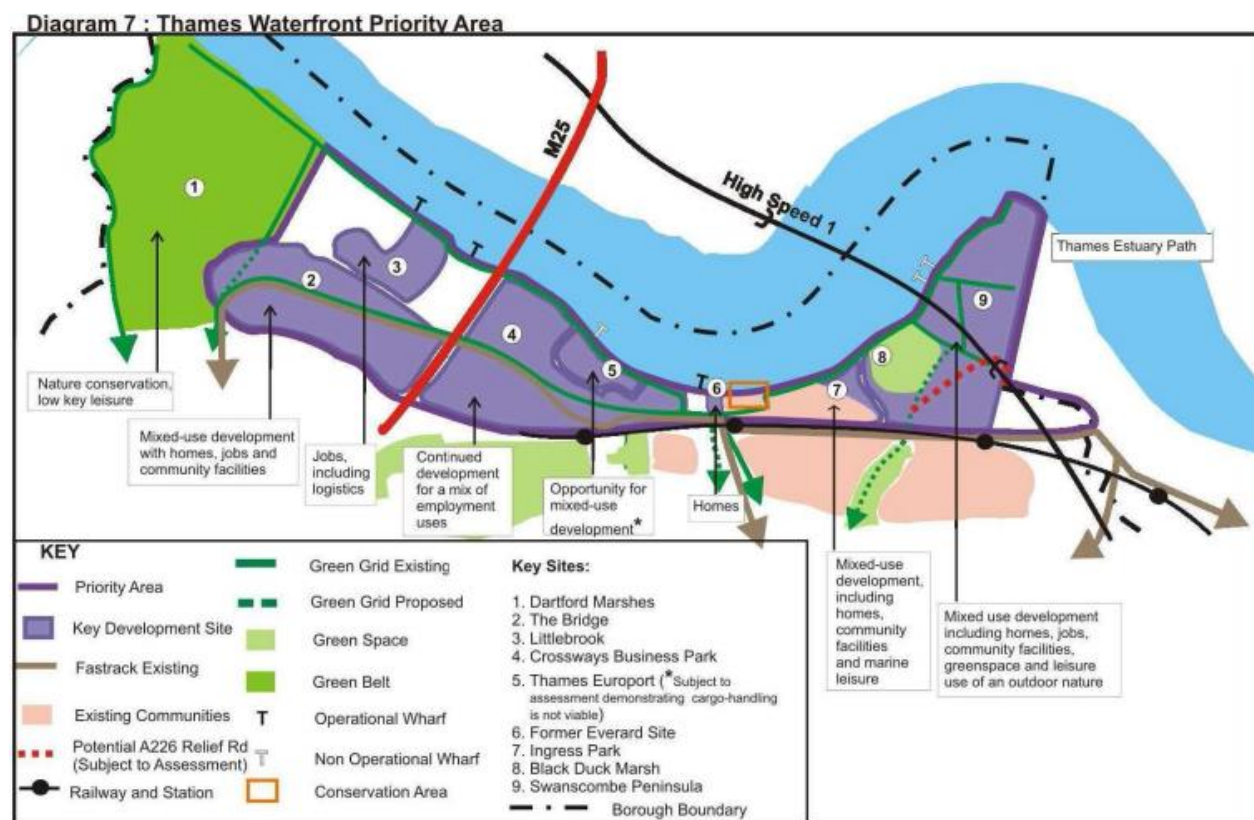
'The Council considers that there is development potential at Swanscombe Peninsula. However, the constraints and the absence of any definitive proposals showing how they could be overcome suggest that any development in this area is only likely to be deliverable in the longer term. As a result, any development should come forward using a comprehensive masterplan approach that has regard to proposals for the Dartford part of the peninsula, development phasing and the possible need for a new highway link to relieve the existing A226 and improve accessibility to the peninsula. The presumption is that any

development in this sub-area is most likely to comprise industrial/commercial uses together with greenspace to protect the biodiversity of the area. Residential development is not ruled out as part of a mixed use development of the site but would need to overcome the constraints and provide a sustainable form of development that integrates well with the adjoining urban areas'

- 9.84 In principle, the GBC Local Plan Core Strategy supports the transformation and revitalisation of previously developed land. It is considered that there are no policies or strategies relating to transport which would be contrary to the Proposed Development.

Dartford Core Strategy (2011)

- 9.85 The western and majority part of the Kent Project Site is in the area of Dartford Borough Council. Following public examination, Dartford Borough Council adopted its Core Strategy and accompanying Proposals Map in September 2011. The document sets out Dartford Borough Council's long-term spatial strategy for the borough to 2026. It acts as an implementation tool for those elements of the Sustainable Community Strategy, which can be delivered through spatial planning.
- 9.86 The Core Strategy document lists ten strategic objectives that will look to support the planning policies in the area. Strategic Objective 5 outlines that a key goal is *'...to provide an accessible and enticing Thames Waterfront with a high quality built and natural environment, offering a range of leisure and recreational activities.'*
- 9.87 The Dartford Core Strategy acknowledges the development opportunities available at the Swanscombe Peninsula while recognising that the area lies within both Dartford and Gravesham Boroughs. The Core Strategy suggests that joint working between the two boroughs will be required to maximise the potential of the area. Any development will need to relate well to existing and proposed communities and other development while addressing constraints as well as the opportunities offered by the riverside location and natural environment.
- 9.88 In particular to the Proposed Development area, Policy CS6 outlines that the *'...Council will promote the creation of a vibrant mixed-use riverfront, incorporating sustainable communities, new employment opportunities, leisure use of the river/riverside and use of the river for sustainable transport.'*
- 9.89 Policy CS6 conjoins a series of policy objectives to exploit the potential of the Thames waterfront. Part H of the Policy CS6 goes on to say that Proposals *'...which maximise the tourism potential of Ebbsfleet and provide fast and convenient public transport links to Ebbsfleet station as part of the scheme will be particularly encouraged.'* The Core Strategy also provides Diagram 7 (reproduced as Diagram 9.1 below), which is intended to be used to inform detailed proposals for the site.

Diagram 9.1: Thames Waterfront Priority Area (Diagram 7 of the Core Strategy)

Source: Dartford Core Strategy Proposed Adoption Document

9.90 As shown in Diagram 9.1, under Site 9, the Swanscombe Peninsula is identified as a key priority site. In principle, the Dartford Core Strategy supports mixed-use development that encourages economic activity and sustainable transport in the area. In accordance with Policy CS6, a mixed-use development, such as the Proposed Development, could exploit the value of the riverfront and enhance sustainable transport access to the area through enhanced infrastructure linking Ebbsfleet with Bells Wharf and possible water-ferry connections into London.

Thurrock Local Development Framework: Core Strategy and Policies for Management of Development (2015)

- 9.91 The Essex Project Site is in the area of Thurrock Council. The Thurrock LDF Core Strategy and Policies for Management of Development (referred to as Core Strategy) *‘is a strategic document providing broad guidance on the scale and the provision of supporting infrastructure.’* The document sets out the vision, objectives, strategies and policies for Thurrock to 2026 and beyond.
- 9.92 The Core strategy acknowledges Tilbury as a key location for employment in the borough providing employment in logistics, port and riverside industries. It also highlights the importance of infrastructure and transport links to increase the connectivity and accessibility in the area stating that *‘the connectivity of the transport system as a whole in Thurrock is therefore critical in enabling people to get to work and the freight sector to deliver goods.’*
- 9.93 The aims (transport-related) of the Core Strategy are translated into the following policies:
- Policy TTS1: Delivering sustainable growth
‘Thurrock Council will prioritise accessibility improvements by sustainable transport in areas accommodating significant new housing and jobs growth.’
 - Policy TTS2: Improving access by sustainable transport to key services and facilities
‘There will be an emphasis on delivering accessibility improvements by sustainable transport modes...’
 - Policy TTS3: Integrating with other service providers
‘Thurrock Council will provide accessibility planning expertise to other service providers to enable them to more accurately consider accessibility when making decisions such as where to locate or how to deliver new services.’
 - Policy TTS4: Walking and Cycling
‘Priority will be given to providing high quality walking and cycling infrastructure...’
 - Policy TTS7: Transport Interchange
‘Improved capacity and connections between modes of transport will be delivered at key transport interchanges, such as rail and bus stations, on the network of interurban public transport routes.’
 - Policy TTS10: Smarter Choices
‘...measures to encourage a modal shift to public transport, walking and cycling will be prioritised.’
 - Policy TTS17: Public Transport

‘Thurrock Council will develop a high quality network of public transport linking Thurrock with other Regional Transport Nodes, and linking the urban areas within Thurrock. Routes will connect town centres, key strategic economic hubs, further education, and hospitals.’

METHODOLOGY AND DATA SOURCES

Scoping opinion (2014)

9.94 London Resort Company Holdings Ltd sought and received a scoping opinion for the project in 2014. A summary of the pivotal transport-related responses received from various stakeholders during the 2014 scoping opinion consultation and how these have been/will be addressed as part of the current application is provided below.

- *Robust trip generation assumptions to support technical work* – Trip generation, distribution and mode share are addressed as part of the Technical Notes supporting the TA.
- *Important to consider thoroughly the quantum of developments within the local plan* – addressed by the use of the Highways England A2(T) Bean and Ebbsfleet (A2BE) model and the Lower Thames Area Model (LTAM), which includes most up to date development projections.
- *The requirement to disaggregate visitor, employment and servicing trips* – This is addressed as part of the Technical Notes supporting the TA.
- *Consideration of the Lower Thames Crossing* – This is being addressed through on-going discussions with Highways England. We are adopting ‘with’ and ‘without’ scenarios for modelling.
- *Request that stress and delay upon public transport users are assessed* – This will be considered in the TA and addressed in the Transport, accessibility and movement chapter of the ES.
- *Parking management* – A future mobility study will be undertaken to explore the options available with regards to parking management, alongside suitable ticketing strategies. An event management plan will also be developed that will address how the Resort could address parking using complementary initiatives (such as combined public transport tickets)

Consultation feedback

9.95 In 2014/15, London Resort carried out several stages of public consultation. This included general consultation on the scheme, to which the general public was invited, as well as a series of targeted workshop events, which included events related to transport effects.

9.96 Furthermore, consultation has been undertaken directly with the following stakeholders:

- Highways England
- Kent County Council (KCC)
- Dartford Borough Council
- Ebbsfleet Development Corporation
- Gravesham Borough Council
- Thurrock Council
- High Speed 1 (HS1)
- Port of Tilbury (London) Limited
- Thames Clippers (TC)

9.97 With regards to the general public, the key feedback was in support of the scheme, tempered by concerns over the transport impacts on the existing residents in the local area and how this would be mitigated.

9.98 Discussions continue with Highways England, KCC and highway authorities affected by the proposals. This is through submissions of technical work and associated feedback received from the authorities. The key feedback from these submissions is related to:

- the need for robust supporting evidence for the visitor forecasts used;
- a further consideration in how the development can support high public transport mode shares;
- a suitable parking management scheme to reduce reliance upon private vehicles; and
- support for the use of river and rail-based travel modes to the London Resort.

9.99 There has been a fundamental shift in the Transport Strategy with the introduction of facilities at Port of Tilbury, London (PoTL). PoTL has agreed to accommodate a new car park (plus ancillary visitor services) north of the river and to allow access to the river for a new ferry service(s) connecting the Resort to PoTL. Furthermore, PoTL will also now be the hub for the majority of construction material and operational servicing for the Resort.

9.100 In addition to the above, an agreement has been reached with Thames Clippers to provide

new river-based passenger services to the London Resort from PoTL and central London.

- 9.101 As part of the ongoing consultation with stakeholders in 2020, a series of Technical Notes (TNs) were submitted for review in June 2020. These notes covered Trip Generation (TN1), Trip distribution (TN2), Mode Share (TN3) as well as Current and Future Mobility (TN4). These notes form a suite of documents which will inform the modelling strategy, and therefore the modelling outputs used in the assessments of The Resort. Comments received from stakeholders will be responded to and where necessary updates will be applied to the notes and supporting analysis.

EIA scoping 2020

- 9.102 As part of the updated scoping exercise for the London Resort, an EIA Scoping Report has been produced and submitted to the Planning Inspectorate as part of an application for a further Scoping Opinion; this takes into account the Essex Project Site in addition to the Kent Project Site. The Scoping Report sets out the proposed method for assessing the environmental impact of the Proposed Development, including the traffic and transport elements.
- 9.103 As the London Resort is expected to make a significant contribution to UK tourism, it is difficult to forecast with any certainty the number of new (primary) trips that would occur, as many of the visits would also include visits to other attractions. Therefore, the London Resort visitor travel demands are considered in terms of their 'day of travel'. For the purposes of this assessment; where some trans-boundary effects are considered, they are further explored in chapter twenty-one of this PEIR.
- 9.104 The TA and EIA scopes will examine the existing and future highway networks with and without the London Resort proposals. This is consistent with UK statute and national guidance as set out in chapters two and three of this PEIR.
- 9.105 In line with these scoping documents, the TA and associated transport modelling consider network capacity, while the EIA Transport, accessibility and movement chapter considers transport network users' amenity and safety. Both documents (i.e. TA and EIA) will be submitted as part of the DCO application. To provide consistency with the strategic modelling methodologies and to recognise the varying levels of detail required for these assessments, the study area is considered as either 'local' or 'strategic'. The areas are explained in more detail in the following sections of this chapter.
- 9.106 The above assessments are typically based on neutral months, during the school term, which has seasonally higher baseline traffic levels than other times of the year. However, while the Resort will be designed to provide a year-round attraction, like much of the UK tourist industry, a higher proportion of visitors to the London Resort will be during holiday periods.
- 9.107 Consequently, the vast majority of visitors will be arriving/departing outside of the typical peak periods, at weekends or during months that are typically lower than neutral days.

Whilst it is accepted that demand for some modes of transport has different daily or seasonal profiles, and quantitative EIA assessment criteria tend to focus on the proportional change, it is considered that a consistent '85th percentile day' for all modes is reasonable.

9.108 The 85th percentile day was chosen as the most appropriate primary assessment day as it is considered to represent attendance that is significantly higher than the majority of days across the year and allows for the most robust assessment of the London Resort trips alongside average peak hour trips already forecast to be on the highway network.

9.109 The rationale behind determining the 85th percentile day is provided in detail in TN1 supporting the application. In comments received from KCC in July 2020 on the TN1, the Council agreed that the use of the 85th percentile day was appropriate for the assessments.

9.110 The EIA Scoping Report was submitted to the Planning Inspectorate (PINS) on 15 June 2020 as well as to the local planning and highway departments affected by the scheme. The Scoping Opinion consultation is expected to attract responses from numerous other consultees, including the Port of London Authority (PLA). It is anticipated that scoping responses will be provided from the planning authorities or highway authorities including, inter alia:

- Highways England
- Kent County Council
- Transport for London
- London Borough of Bexley
- Sevenoaks District Council
- Tonbridge and Malling District Council
- Gravesham Borough Council (GBC)
- Dartford Borough Council (DBC)
- Medway Council
- Thurrock Council
- Surrey County Council
- East Sussex County Council

- London Borough of Bromley
- Essex County Council

Study area

- 9.111 The extent of the 'local' study area is primarily based on the extent of the strategic traffic models used to assess the impacts of the significant infrastructure projects in the locality of the Project Site.
- 9.112 Both the A2BE and the LTAM include most up to date development projections as well as other committed development forming part of the Local Plan(s) in the area. Therefore, it is considered that any effects resulting from the assessments based on the modelled value are cumulative. The extent of the models is graphically represented in Figure 9.2.
- 9.113 The 'strategic' study area includes strategic links in the wider area that are considered essential for the proposals. These links are shown in Figure 9.3.

Traffic surveys

- 9.114 Several traffic-count surveys were undertaken as part of the previous 2014-2017 work to inform the development of the individual junction models as well as provide the baseline for the assessment.
- 9.115 It is acknowledged that both 2017 and notably, the 2014 surveys may be considered less reflective of current traffic conditions. However, given the current COVID-19 situation, new traffic surveys cannot be currently undertaken. Therefore, the previous (2014/2017) data are used for reference where appropriate. The use of this data remains suitable as this provides locally based datasets, provide transport patterns that capture the characteristics of Ebbsfleet and the surrounding areas.
- 9.116 These surveys included various survey techniques, including:
- Manual Classified Counts (MCC) at selected junctions;
 - Queue length counts;
 - Automatic Traffic Counts (ATC) on selected links;
 - Journey time surveys along selected routes;
 - Rail passenger counts at Ebbsfleet International, (do we not have Greenhithe)? Northfleet and Swanscombe railway stations; and

- Traffic Flow Data System (TRADS) data (now replaced by WebTRIS) on strategic links.

- 9.117 The locations of the surveys carried out in the area are shown in Figure 9.4.
- 9.118 It should also be highlighted that the EIA assessment will be based on the data extracted from the A2BE and LTAM and/or new traffic surveys (subject to the COVID-19 situation).
- 9.119 The LTAM model contains a detailed representation of the road network in the area and information on where people travelled to and from in an average month (March 2016). The LTAM model covers the whole of the UK in order to capture the start and end of every trip, but more comprehensively so in Dartford, Thurrock, Kent, Essex and London.
- 9.120 The A2BE modelling material also benefits from a 2016 baseline, which will be reviewed against the information already available as part of the Proposed Development. This will enable a review of multiple data sources to inform the baseline conditions in the local area.
- 9.121 Tilbury2 DCO was recently granted and includes a Transport Assessment of the local links and roads in the Tilbury Docks area. Information from that DCO, which incorporates a 2016 baseline will be reviewed, where appropriate, to provide information on the baseline conditions of the Essex Project Site.

Data sources

- 9.122 The information used in this chapter originates from a desk-based study combined with surveys of vehicular movements at key junctions and links (i.e. 2017 surveys) as well as the strategic and local modelling exercises.
- 9.123 Key sources of information for the desk-based study include the relevant planning policy documents, maps of Public Rights of Way (PRoW) and cycle routes, relevant Ordnance Survey maps, transport and crash data, as well as the feedback/results of the public consultation undertaken in 2014. Responses from stakeholders on various Technical notes have also been taken into account.

Assessment methodology

Traffic model

- 9.124 The assessment of transport-related effects resulting from the London Resort is based on the changes in traffic volumes on the local and wider highway network.
- 9.125 Given the strategic nature of the proposals and the fact that the majority of the traffic associated with the construction and operation of the London Resort is expected to utilise the Strategic Road Network (SRN) and Primary Road Network (PRN), it is considered appropriate to base the assessment off a strategic transport model to determine the traffic volumes in the area.

- 9.126 Highways England has agreed to provide forecast model output from the A2BE and the LTAM. Through continued discussions with Highways England, it is now proposed that the traffic flow data from the models will be used as a basis to create a spreadsheet-based traffic model to assess the implications of the London Resort. This approach will enable the assessment to cover the full study area.
- 9.127 Furthermore, Highways England has developed a localised micro-simulation model that covers the A2 corridor and key roads in the Ebbsfleet area. The micro-simulation model enables a higher level of detail to be assessed over a smaller area than the A2BE/LTAM strategic models and includes many of the local roads in and around Ebbsfleet. It is proposed to utilise this model and its outputs in addition to the spreadsheet-based model.

Extent of the assessment

- 9.128 As outlined above, the outputs from the A2BE traffic model supplemented by information from a cordon of the LTAM will be used as a base for the London Resort assessment as part of the EIA. The model will include the highway networks, both north and south of the river. A screening process is to be undertaken to identify the appropriate extent of the assessment.
- 9.129 As suggested by the IEMA Guidelines for the Environmental Assessment of Road Traffic, it is proposed that to identify the relevant links to be assessed within the Transport, movement and accessibility chapter of the EIA, an analysis of the model data will be undertaken and application of the following rules to identify those highway links that will form part of the assessment:
- Rule 1: include highway links where traffic flows will increase by more than 30% due to the London Resort (or the number of heavy goods vehicles will increase by more than 30%).
 - Rule 2: include any other specifically sensitive areas where traffic flows will increase by 10% or more.
- 9.130 In accordance with the IEMA guidelines, an assessment of sensitive areas/receptors will be undertaken to identify the proximity of each to the local highway network. Locations which will be considered to be sensitive receptors/areas are:
- schools (primary/secondary/college/university);
 - health facilities (GP/health centres/hospitals);
 - community facilities (leisure/culture/recreation/religion);
 - areas with significant pedestrian movements (town centre/high street).

9.131 Sensitive receptors/areas identified within the study area are plotted by location in Figure 9.5.

9.132 Only those links that meet the IEMA rules outlined above will be considered in detail within the transport, accessibility and movement chapter of the ES. However, these links can only be identified once the transport modelling has been completed.

Assessment scenarios

9.133 As outlined in the introductory chapters of this PEIR, the Proposed Development will consist of two parks (Gate 1 and Gate 2) and a range of associated facilities. The delivery of these proposals will be phased, and as such, it is considered appropriate to assess the following years/scenarios:

- 2025 – First full year after Gate 1 opening year;
- 2029 – Gate 2 opening year (full development);
- 2038 – Maturity of the Proposed Development.

9.134 The above scenarios will be aligned with the model years included in LTC model, with the model providing data for the following time periods:

- Weekday AM Peak Hour
- Weekday Inter Peak
- Weekday PM Peak

9.135 Highways England have a micro-simulation model of the local highway network that is available and could be used to undertake further localised sensitivity testing of the local road network on the weekend. The weekend time period to be assessed will need to be discussed further with relevant stakeholders.

Methodology

9.136 In line with the legislative framework, the Design Manual for Roads and Bridges (DMRB) provides guidance regarding the aims of EIA assessment, including EIA scoping, the assessment and management of environmental effects and the reporting of environmental assessments.

9.137 Each of the links identified for a detailed assessment using the rules outlined above will be assigned an environmental value (sensitivity) based on their importance and scale using a five-point scale set out in DMRB LA104 - Environmental Assessment and Monitoring as follows:

- Very high – Very high importance and rarity, international scale and very limited potential for substitution;
- High – High importance and rarity, national scale, and limited potential for substitution;
- Medium – High or medium importance and rarity, regional scale, limited potential for substitution;
- Low – Low or medium importance and rarity, local scale; and
- Negligible – Very low importance and rarity; local scale.

9.138 Following the assignment of sensitivity to the selected links, a magnitude of impact or change (either adverse or beneficial) will be assigned, also based on a scale provided in DMRB LA 104. It should be noted that DMRB LA104 provides a general approach to the assessment, and it is not explicitly concerned about transport and traffic. As such, the threshold values suggested by IEMA Guidelines for the Environmental Assessment of Road Traffic aimed at the effects of the transport and traffic will be applied to the DMRB LA 104 scale as follows:

- Major – deterioration/improvement in local conditions or circumstances (+/- more than 90%);
- Moderate – apparent change in conditions (+/-60 to 90%);
- Minor – perceptible change in conditions or circumstances (+/-30 to 60%);
- Negligible – no discernible change in conditions (+/-10 to 30%); and
- No change – no change in conditions (+/- less than 10%).

9.139 Finally, the significance of effects will be assigned using a significance matrix as provided by DMRB LA 104 and reproduced in Table 9.1 for illustration.

Table 9.1: Significance of effects and magnitude of impacts based upon receptor value

Magnitude of Impact (Degree of Change)						
		No change	Negligible	Minor	Moderate	Major
Environmental Value (Sensitivity)	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

Source: DMRB LA104

9.140 The resulting significance of an effect will be reported considering its duration (long or short term), permanence (permanent or temporary) and the type of the impact (beneficial or adverse).

9.141 In addition to the above, DMRB LA 104 also sets out several factors that must be considered in the EIA, one of which is population and human health that will be subject to assessment in the London Resort ES. It should be noted that other factors, such as air quality and noise, might be affected by transport. However, these are considered in their respective chapters (can we reference them please).

9.142 Guidance on the environmental assessment of population and human health effects with respect to traffic and transport is set out in DMRB LA 112 - Population and Human Health. It should be highlighted that historically, DMRB (Volume 11) provided guidance regarding assessment techniques for assessing the environmental impacts of development on various aspects of the environment including pedestrians, cyclists, equestrians and community effects, and vehicle travellers. However, the guidance contained in the DMRB has been recently updated with several documents consolidated into more concise guidelines. This is also the case of DMRB Volume 11 with Section 3, Part 8 (Pedestrians, Cyclists, Equestrians and Community Effects) and Volume 11, Section 3, Part 9 (Vehicle Travellers) replaced by DMRB LA 112.

9.143 The guidance in the documents replaced by DMRB LA 112 was aimed at the effects of transport and traffic. In contrast, the reach of the current document (DMRB LA 112) is broader and suggest a more qualitative approach to the assessment than the previous guidance with its thresholds and benchmarks. As a result, reporting on some of the significant environmental effects arising from traffic and transport will be reported in the most appropriate ES chapter (e.g. noise, air quality), and some may be considered in combination with others rather than on their own (e.g. community severance).

9.144 DMRB LA 112 requires the assessment of population and human health effects to report

on the following elements (and will be under separate chapters):

- land use and accessibility;
- human health.

Land use and accessibility

- 9.145 The assessment will consider likely changes to accessibility and the risk of severance for private property and housing, community land and assists, development land and businesses and agricultural landholdings.
- 9.146 The assessment of changes affecting walkers, cyclists and horse riders (WCH) as a result of the Proposed Development will be based on the qualitative assessment of non-motorised users (NMU) amenity.
- 9.147 DMRB LA 112 provides sensitivity criteria for each of the elements as well as the magnitude of impact based on the changes resulting from the proposals. The resulting significance of the effect will be then derived by combining the assigned sensitivity value with the magnitude of change using the significance matrix (Table 9.1 above) as set out in DMRB LA 104.
- 9.148 Land use and accessibility effects will be assessed for all scenarios outlined above and consider both construction and operational phases (where applicable) of the Proposed Development.

Human health

- 9.149 The environmental conditions relevant to human health are set out in DMRB LA 112 as follows:
- air quality;
 - noise;
 - pollution;
 - landscape.
- 9.150 As stated earlier, the above conditions will be considered separately in the relevant chapters of the ES. Therefore, the only effect affecting human health considered as part of the Transport, accessibility and movement chapter will be the impact on severance/accessibility as outlined above, taking into consideration access to open green space/recreational facilities, opportunities for WCH and access to healthcare facilities. Also considered as part of the assessment will be personal injury accidents (PIA),

specifically those involving NMU.

9.151 DMRB LA 112 suggests that the sensitivity of a community/population should be reported as low, medium or high based on the qualitative assessment. The outcome will then be identified as:

- Positive – a beneficial health impact;
- Neutral – no discernible impact;
- Negative – adverse health impact;
- Uncertain.

9.152 Similar to the land use and accessibility, human health (severance) will be assessed for all scenarios set out above and will be considered in both construction and operational phases (where applicable) of the Proposed Development.

Other

9.153 In addition to the DMRB, the guidance contained in IEMA Guidelines for the Environmental Assessment of Road Traffic provides advice specifically aimed at effects of the transport and traffic. It defines the effects that should be regarded as a material consideration and then considers the weight to which those effects should be given. The guidelines set out, inter alia, a list of environmental effects, which could be considered as potentially material or significant whenever a new development is likely to give rise to changes in traffic flows.

9.154 The IEMA list includes severance, NMU amenity, accidents/safety and driver delay, which is the only effect not considered by DMRB. However, and as acknowledged in the IEMA guidelines, the delays are only likely to be significant when the traffic in the network is already at, or close to, the capacity of the system.

9.155 An assessment of the local highway network and its capacity at the key junctions and links carried out as part of the TA is considered to be sufficient as it will identify locations where the network may reach its capacity.

9.156 The TA will also develop appropriate mitigation strategies (where needed) to minimise the impacts of the proposals. As such, it is considered appropriate to exclude driver delay from the assessment undertaken as part of the Transport, Accessibility and Movement chapter.

Construction traffic

9.157 Construction traffic is a temporary transport effect and will be significantly lower than development-related traffic. Thus, the effects tend to be less significant. The volume of traffic will also depend heavily on the rate of delivery and the triggers for the relevant

phases of the Proposed Development. As set out within the 2020 scoping chapter, it is anticipated that the majority of construction materials will be delivered by river arriving at the Port of Tilbury, where it will be delivered to the Proposed Development by the river. Temporary construction worker accommodation will also be provided for construction workers during the construction of the Resort, which will reduce construction traffic.

- 9.158 As the preferred main contractor will not be identified until later in the planning process, various assumptions will be made in a Draft Construction Logistics Plan that will be submitted with the DCO application. It is envisaged that the submission and approval of the detailed Construction Logistics Plan will be subject to a DCO Requirement. Once the main contractor is identified, the Construction Logistics Plan will be finalised and, within a Statement of Conformity, LRCH will review material changes that might occur.

Previous work

- 9.159 Given the scale and importance of the London Resort as well as the duration of the project so far, a substantial amount of work has been already carried out. This also applies to the work associated with the PEIR and EIA.
- 9.160 Due to the above, it is considered appropriate to provide findings of the previous work. Although the previous assessments were based on guidance and data that might have been superseded or considered outdated at the time of writing this report, these still provide a useful insight into the potential environmental effects of the London Resort for which more current information is not yet available.
- 9.161 Noteworthy is also the fact that the guidance previously contained in DMRB Volume 11 and applied as part of the assessment has been updated in 2019/2020. As such, the approach to the transport-related assessments shifted from a quantitative to more qualitative assessment. The assessment based on the previous guidance considered individually:
- Severance
 - NMU amenity and delay
 - Driver stress and delay
 - Highway safety
- 9.162 It should also be highlighted that the previous work did not include the Essex Project Site. As such, the previous assessments considered only links in the vicinity of the Kent Project Site. Additionally, the extent of the modelled area has also changed compared to the 2014/2017 work. It is, therefore, not considered appropriate to discuss the previous assessment work in detail. As noted above, information from the recently granted Tilbury2 DCO will be used, where appropriate, to inform the baseline details for links relevant to the Essex Project Site. The detailed assessment based on the updated model

and considering the whole Project Site will be provided as part of the ES.

Limitations and uncertainties

- 9.163 A significant change from 2014 scoping is the introduction of a car parking arrangement for the London Resort at the Port of Tilbury, reducing the potential vehicle impacts upon the Dartford Crossing and A2 corridor, areas identified as constrained during the previous consultation period. At this time, the highway impacts of the proposals north of the river are unknown. They will need to be assessed as part of the TA and where necessary, included in the Transport, movement and accessibility chapter of the ES.
- 9.164 The timeframe in progressing the London Resort has also seen a change to the traffic model and the study area contained in the model. This will need to be considered further to understand the implications upon the assessment of effects.
- 9.165 It should also be noted that the traffic flow data from the model(s) will be used as a basis for a spreadsheet-based traffic model. The limitation of such an approach is that the model is fixed with only limited scope for changes/adjustments, however the London Resort is liaising closely with Highways England to ensure agreement on approach and verification of outputs to mitigate for this.
- 9.166 As previously noted, the modelling is yet to be completed. Therefore, the methodology approach outlined above cannot be applied as part of this preliminary assessment. Notwithstanding this, the amount of transport-related work already undertaken (i.e. TN 1, TN2 and TN3 addressing trip generation, distribution and mode share) allows for some initial observations and considerations of impact to be made.
- 9.167 The visitor profiles for the London Resort vary across the year, depending on several factors. It is impractical to assess all variations of the day types at the Resort and therefore a significantly robust position has been put forward to assess an 85th percentile day. This constitutes a peak weekday which generally occurs during the summer holidays with most days being significantly lower.
- 9.168 Significant parts of the SRN within Kent (M2, M20 and A2 corridors) provide vital connections to crossing services (Eurotunnel/Ferry) to/from continental Europe. As such, these transport arteries may be subject to Operation Stack resulting from disruptions at the channel crossings. In the case of Operation Stack being in force, sections of the M20 are used to queue HGVs travelling towards the continent. It is acknowledged that this affects the operation of the highway network for all road users. Although temporary solutions are in place (such as lorry parking in Manston Airfield), permanent solutions are still yet to be agreed and delivered. Until that time, Operation Stack, if in force, may have a significant impact on the accessibility to the London Resort via road-based transport.
- 9.169 Lastly, it should be highlighted that the UK's withdrawal from the European Union (i.e. Brexit) may result in changes in border and customs controls, and indirectly affect the visitors of the London Resort originating from the EU. However, the negotiations

concerning new rules are not yet concluded, and any impact of these would be only speculative.

BASELINE CONDITIONS

Introduction

- 9.170 This section provides an overview of the current baseline transport and accessibility conditions within the study area considering pedestrian and cycling facilities and access; public transport accessibility, and the operation of the existing highway network.
- 9.171 The Proposed Development is highly accessible from major roads, including the A2(T), M2 and M25; as well as by public transport options including bus, rail and water. The local road network north of the A2(T) includes the A226, which is an east-west corridor with main transversal roads, linking southwards with the A2(T).
- 9.172 Sensitive locations considered as part of this chapter of the PEIR and subsequently, the EIA/ES were identified and plotted by location in Figure 9.5. These locations include schools, hospitals, open spaces, places of worship, listed buildings and retail centres in the local area.

Highway network

- 9.173 The Project Site in the context of the local and strategic highway networks is illustrated in Figure 9.6 and Figure 9.7, respectively. The corresponding descriptions of the key routes are provided below.

Strategic Road Network (SRN)

- 9.174 The strategic routes in the vicinity of the Kent Project Site include the A2(T) connecting the M25 at Junction 2 with the Junction 1 of the M2 to the southeast of Gravesend. Other key routes include the A282 providing a link between the Junction 2 and 31 of the M25, and essentially, it forms part of the M25 motorway.
- 9.175 The section of the A282 between the Junction 1a and 2 of the M25 follows a north-south alignment. To the north of the Junction 1a, the A282 deviates slightly to the east while approaching the River Thames. The A282 crosses the river from Dartford to Thurrock via Dartford Tunnel, with the traffic in the opposite direction (i.e. Thurrock to Dartford) utilising the Queen Elizabeth II Bridge. Both the tunnel and the bridge, commonly known as the Dartford Crossing, form a crucial gateway carrying up to 160,000 vehicles a day.
- 9.176 The M25 (including the A282 section) is a dual three to six-lane road that is subject to the motorway regulations. The motorway circumscribes London and provides direct access to either London or other major roads and motorways leading to the South East, the East and the other UK regions. The M25, as a motorway-standard road, is not provided with cycle

or pedestrian facilities along its length, but in many cases, these are available on parallel routes.

- 9.177 The Essex Project Site in Tilbury can be accessed from the M25 Junction 30 to the north of the River Thames, the A13 and the A1089.
- 9.178 The A2(T) is a dual four-lane road that runs approximately 2km to the south of the Kent Project Site and parallel to the A226 in an east-west alignment. It provides a connection to the west, to locations such as Dartford and east London, and the east to locations such as Gravesend and Chatham from where it then operates as the M2 to Faversham. From Faversham, the M2 then reverts to the A2 as far as Dover.
- 9.179 In addition to the key routes outlined above, the wider SRN also comprises the M2, M20, M26, A249, A299, A12, M11, A1(M), M1 and M23.
- 9.180 As most of the SRN is not accessible for NMU, a general summary of bridges crossing these routes will be provided as part of severance assessment and where practical a brief description of parallel routes will be considered as part of the detailed EIA assessment.

Local highway network

- 9.181 The local highway network review is based on previous site visits and a comprehensive desktop study.
- 9.182 The A226 London Road/Thames Way is one of the principal local roads running in the east-west direction separating the Swanscombe Peninsula and the local centre of Swanscombe. It is a single carriageway road with a speed limit of 30mph. Short sections of on-road cycle lanes and parking bays are provided along some parts of the route, and a mix of land uses present along its length, including schools, commercial and residential areas.
- 9.183 A206 Crossways Boulevard is a local road that joins the A226 and links to Dartford through the M25/A282 via the Littlebrook Interchange (M25 Junction 1a). The road is a suburban dual carriageway with two lanes operating in each direction, and it is subject to a 40mph speed limit. Off-road shared pedestrian/cycle facilities are provided to both sides of the road.
- 9.184 The B255 St. Clements Way/High Street/The Avenue is one of the principal local roads that continues from the A206 southwards to the A2(T) at the Bean Lane roundabout. It is a dual carriageway with a 40mph speed limit from the A226 to the Bluewater roundabout, where the speed limit increases to 50mph until the B255 reaches the A2(T). The road has a continuous, good quality off-road shared pedestrian/cycle lane along its east side.
- 9.185 B259 Stanhope Road/Southfleet Road is situated directly to the south of the Kent Project Site location in a north-south alignment linking the A226 to the A2(T) at a double roundabout arrangement. The road is a narrow single carriageway, with one lane in each direction and it is subject to a 30mph speed limit. Some sections of the road are

designated 20mph zones, coupled with other traffic management measures, such as kerb buildouts for single-vehicle widths. Parking bays, parking spaces marked on-road and a mix of footways at one or both sides of the carriageway are seen along this, mainly residential, road.

- 9.186 B2175 Stonebridge Road/High Street/London Road is approximately 2.5km long section of road to the east of the Kent Project Site, bounded by residential properties and local shops. The B2175 is a single carriageway road with one lane in each direction. Footways are provided to both sides of the road, and intermittent on-road and shared off-road pedestrian/cycle facilities are also provided. Furthermore, sheltered bus stops and signalled crossings are located along the road. A 30mph speed limit applies to most of the road. However, there is a 40mph section between Rosherville Way, that crosses under the B2175, and its junction with Springhead Road.
- 9.187 B262 Springhead Road is approximately 2km long section of road that extends from the B2175 to the A2(T). It is a 30mph two-way single carriageway road, linking through a residential area to the north of the railway line and a mix of land uses including the industrial, cemetery, colleges and community services to the south of Thames Way.
- 9.188 The Essex Project Site in Tilbury is separated from the existing settlement by the railway line serving both the docks as well as Tilbury Town. The railway line creates a physical barrier between the Port of Tilbury and residential parts of Tilbury.
- 9.189 The area is accessible predominantly by the A1089 described above, with only limited connections to the local highway network.

Parking restrictions

- 9.190 Following the consultations with the local highway and planning authorities as part of the previous 2014 consultation, it was agreed that a survey of existing car parking locations, type and duration was required in order to determine the scale of on-street parking demand and areas of abuse. This parking survey was undertaken by Streetwise Services during April 2015 and focused on the minor roads in the vicinity of the Kent Project Site.
- 9.191 A site audit of parking restrictions and parking patterns has also been undertaken along the major roads through Northfleet, Swanscombe and Greenhithe. The coverage and results of the audit are shown in Figure 9.8 and Figure 9.9.
- 9.192 Areas with no parking management regulations are mainly located within residential developments such as Ingress Park Avenue, Sanderling Way and south Swanscombe.
- 9.193 The following kerb-space management regulations are in the area:
- 'No waiting at any time' zones are mainly located at the corner of junctions or bends and along Swanscombe High Street, and residential areas in Greenhithe;
 - 'No waiting' zones are mainly located at dead-end residential roads in Greenhithe

west of the B255;

- Permit holders designated areas are mainly to the residential areas south of the A206 at Ivy Villas, Castle Street and Providence Street with additional contained sections along Eagles Road;
- Disabled badge holders spaces at various locations are restricted within the residential areas of Swanscombe and Greenhithe;
- 24hr clearway restrictions are in place at the A206 Crossway Boulevard;
- No stopping signs between Monday to Friday from 08:00 hours to 09:30 and 14:30 and 16:00 hours on school entrance markings of Manor Community Primary School and the Craylands School;
- No waiting at any time Monday-Saturday 8 am-6.30 pm and no parking at any time on verge or footway along sections of The Hill Northfleet and London Road; and
- Buses only signs and road markings are displayed at Station Road at Greenhithe for Bluewater railway station.

9.194 During various site visits, observations were made in terms of parking, as illustrated in Figure 9.10, including on-street parking near traffic lights at the junction between A226 and Lower Road and some vehicles parked on the kerb in London Road, west of Swanscombe High Street and Greenhithe High Street.

9.195 It should be noted that the Essex Project Site and its vicinity was not subject to a similar survey due not being included in the 2014/2017 work. However, a survey considering the Essex Project Site, as well as an up-to-date survey of the Kent Project Site area will be carried out when the current COVID-19 situation lifts and consistent traffic patterns return, if timescales allow before submission. If the surveys are undertaken, then the results will be provided as part of the TA and EIA, otherwise a worse case scenario will be adopted.

Road safety

9.196 As part of the analysis of the highway network surrounding the Project Site, an investigation into the accident history is to be undertaken. Personal Injury Accidents (PIA) will be obtained from KCC, TC and ECC for the latest available five-year period.

9.197 It is considered appropriate to consider the same study area as that agreed for the 2014 assessment, with the additional area to the north of the River Thames covering the Essex project site and its vicinity. The study area is shown in Figure 9.10.

9.198 A detailed analysis of the PIA within the study area will be provided as part of the TA and EIA. The analysis will utilise the methodology set out in WebTAG and compare the

expected level of accidents based on link types and traffic flows with the actual level of accidents in the area.

- 9.199 Consideration will also be given to areas with clusters of PIA that could potentially indicate a road safety issue. The assessment of these clusters will be based on qualitative evaluation.

Local NMU provision

- 9.200 A combination of PRoWs, local footpaths, local cycle lanes, and national cycle routes is available in the area. PRoWs around the area and through the Proposed Development (Kent Project Site) area are comprised mainly of footpaths (DS1, DS2, DS3 and DS12) and three byways (DR129, NU20 and NU8) as shown in Figure 9.11.

- 9.201 Given the industrial nature of the area adjacent to the Essex Project Site, the NMU routes are limited to Public Footpaths around the Tilbury fort (FP144, FP146 and FP193) complemented by Public Byway BWY98 and Thames Estuary Path running from the Tilbury Town railway station along the A1089 towards the riverside and Tilbury Ferry Crossing. The path then continues further to the east along the river.

- 9.202 The TA and the EIA Transport, movement and accessibility chapter will consider the local NMU network in more detail. However, a brief summary is provided in this section and shown in Figure 9.11. The area surrounding the Kent Project Site benefits from footways approximately 1.5m wide on average with variations across the area as detailed below:

- The A226 offers standard continuous footways mostly of 1.5m to 2m with some narrower sections on the southern side of the road. Footways along the bridge over the HS1 are provided to the northern side of the carriageway only. Suitable zebra and signalled crossings are also provided at different points along the road. Bus stops are mainly sheltered except for those to the east of the HS1 railway line.
- The Thames Estuary has an intermittent provision of good quality footways which include some local routes and PRoWs. The pedestrian network of PRoWs and local footpaths is continuous through the site up to Greenhithe.
- Footways along the B259/ High St/Stanhope are of standard quality with some narrow sections and absence of footways on the eastern side of the road adjacent to Swanscombe railway station.
- The A206 Crossways Boulevard provides footways on both sides of the carriageway along its section between the junctions with Anchor Boulevard and the Fastrack bus lane. A shared footway/cycleway is provided along both sides of the carriageway from that point to the junction with Quadrant Court where the cyclist facilities re-join the carriageway in the form of a mandatory cycle lane. The on-road cycle lane terminates at the roundabout with the B255, where new off-road facilities are provided.

- The B255 St. Clements Way/High Street/The Avenue has a continuous, good quality off-road shared pedestrian/cycle lane along its east side.
- B2175 Stonebridge Road/High Street/The Hill Northfleet/London Road offers footways on both sides of the carriageway and intermittent on-road (mandatory cycle lane) and shared off-road pedestrian/cycle facilities. The B2175 Stonebridge Road footways are of variable width, about 1.7m, and in places even decrease to 0.90m due to obstructions. The B2175 Hill Northfleet and High Street do not have tactile paving at any of the pedestrian crossing points except for those at a zebra crossing adjacent to the Lawn Primary & Nursery School. Footways along the B2175 London Road, although mostly over 1.8m, have poor surface quality with uneven paving.

- 9.203 In general, the local area benefits from a relatively well-connected NMU network with the various PRowS allowing further direct segregated access to local communities and neighbourhoods, as shown in Figure 9.11.
- 9.204 PRow DS17 provides good access segregated from traffic between Ebbsfleet International railway station and the main street in Swanscombe (B2175). Further north, DS1, DS2, DS3 and DS12 provide access to the riverside. However, some of these routes would benefit from better infrastructure to become more attractive for pedestrian/cyclist use.
- 9.205 There are several bridges and underpasses over the railway line(s) in the area providing crossing opportunities for the NMU. The crossing points further enhance the accessibility in the local area.
- 9.206 In addition to the local NMU provision outlined above, both the Kent and Essex Project Sites are accessible to several cycle routes forming part of the National Cycle Network (NCN).
- 9.207 There are sections of the NCN Route 1 immediately to the south and west of the Kent Project Site, which in combination with NCN Link Routes and the local cyclist facilities provide a connection either the main NCN Route 1 or NCN Route 177.
- 9.208 The NCN Route 1 is a long-distance route connecting Dover and the Shetland Islands. In the locality of the Kent Project Site, the Route 1 connects Dartford town centre (with a connection to the NCN Route 125) with Gravesend and beyond. The Route 1 runs from Dartford in the eastern direction towards the A282, which it crosses at the Junction 2 and continues parallel to the A296 and A2(T) to the A2260 to the south of Ebbsfleet. From there it deviates to the north/northeast and follows the A2260 and subsequently, the A226 to Gravesend. The NCN Route 177 connects with the Route 1 at the junction of the A2(T) and the A2260 and broadly follows the A2(T) towards the southeast. Both NCN routes provide a combination of traffic-free and on-road sections along their routes and provide connections to the major towns and cities along the coast.
- 9.209 The Essex Project Site is also accessible via the NCN in combination with the local cycle routes along the A1089 and other local roads. The Thames Estuary Path forms part of the

NCN Route 13, which, when fully completed, will provide a connection between Tower Bridge in London and Fakenham in Norfolk. Further to the north, the Route 137 can be utilised for trips between Little Thurrock (just to the north of Tilbury) and the Route 13 in Purfleet. Alternatively, the Route 13 can be accessed from the Route 1 via a ferry across the River Thames and vice versa.

- 9.210 In terms of horse riding, a review of the local PRoW network identified some public byways that may be used by equestrians. However, and despite both Kent and Thurrock councils encouraging of, and supporting for horse-back riding, there is no significant provision near to the Project Site, which would attract high numbers of users. The review has highlighted that while consideration of equestrian users will be maintained, they do not form a primary user category and therefore will not be further assessed.

Waterborne transport network

- 9.211 This section identifies the opportunities for water access to the UK and the Swanscombe Peninsula/Tilbury via the River Thames. Locations of ferry ports relevant to the site are illustrated in Figure 9.12.
- 9.212 As a historical watercourse, the River Thames provides a natural transport corridor for not only commercial and construction users, but also visitors via various watercraft. It is accepted that some indirect effects might arise from an increase in watercraft.

Cruises (Long Sea)

- 9.213 Around 2.2 million passengers started or ended their (long-sea) cruise journey at a UK port in 2018 (data published in November 2019), a 15% increase compared to 2017, continuing a broadly upward trend in recent years. This is the highest number of cruise passengers recorded. Although it is likely that the upward trend continued in 2019, it is acknowledged that the current COVID-19 situation is likely to result in a significant decrease in the passenger numbers in 2020 and possibly beyond.
- 9.214 The vast majority of passengers (86%) travel via Southampton. In 2018, the number of passengers through Southampton increased by 16% to 1.9 million, which is the highest recorded number in recent years. The schedule of cruise liner departures from Southampton varies across the year, on a variety of trip lengths and routes representing around 10-50 cruise ships sailing each month. The remaining 14% of cruise passengers are spread over several ports including Dover.
- 9.215 In contrast, the London International Cruise Terminal accommodates over 100,000 passengers through the terminal per year. While Tilbury accommodates liners up to 350m long with around 800 passengers, the shallower waters and comparably smaller ships combine to represent a much smaller proportion of the UK's passenger numbers.

Ferry (short sea) passenger and freight

9.216 The Channel Tunnel attracts almost 22 million passengers per year (21.6 million in 2018), equivalent to a daily average of approximately 59,000 passengers. While the Channel Tunnel is sometimes included with water-based transport statistics, it should be considered as rail travel. In 2018, passenger numbers on international short sea routes were lower than those through the Channel Tunnel for the third consecutive year, and the fourth time since the tunnel opened.

9.217 Passenger and freight movements across the UK are summarised in Table 9.2 below. It is evident that there are some significant variations across the UK and notably between different ports in Kent.

Table 9.2: Passenger and freight services

Port	International Short Sea Passengers 2018 (in thousands)	Freight Traffic 2018 (in thousands of tonnes) *
UK	19,571	472,056
Thames and Kent	11,793	88,791
Dover	11,783	24,943
London	10	49,868
Medway	-	10,205
Ramsgate	-	59

Source: DfT, *Sea Passenger Statistics (November 2019)* and *Port Freight Statistics (August 2019)*

* All major ports⁷

9.218 Approximately 60% of total UK (short sea) passengers travel via Dover, with c.11.7 million passengers out of c.19.5 million that travelled via UK ports in 2018. Passenger numbers have stabilised in recent years with changes of -3-+6% at different ports but with the majority seeing continued declines since the 1990s. Nevertheless, numerous UK ports accommodate significant passenger number each year:

- UK – France: 14.3 million (primarily via Dover but also Portsmouth and others)
- UK – Ireland: 2.7 million (primarily via Holyhead but also Pembroke, Fishguard, and others)
- UK – Netherlands: 1.9 million (broadly equally split between Newcastle, Harwich and Hull but some other ports)
- UK – Others: 0.3 million

⁷ <https://www.gov.uk/government/statistics/port-freight-annual-statistics-2018-final-figures>

- 9.219 The Port of London Authority (PLA) accountable for Thames river traffic manages the highest amount of freight traffic with 53.2 million tonnes with Dover following with 24.9 million tonnes in 2018.
- 9.220 The PLA provides pilotage services 24 hours a day, 365 days a year with the team of 90 Thames pilots boarding and guiding almost 11,000 ships through the port annually.
- 9.221 Of the navigable waterways, Thames and Kent are the regions with most of the domestic freight traffic in the UK. This is primarily due to the River Thames which moved 0.6 billion tonne-kilometres, more than three times any other inland waterway.

Water passenger travel services

- 9.222 Existing services include river buses and river tours. These provide passenger services along the River Thames from Putney and Chelsey Harbour Piers in west London (with tours between Hampton Court and Westminster operating in summer only) to Woolwich Royal Arsenal Pier and North Greenwich Pier in east London respectively. The closest pier to the London Resort (Woolwich Arsenal Pier) is located to the west of the Project Site approximately 20 km up the River Thames.
- 9.223 There are six River Bus services operated by Thames Clippers. River Bus Routes RB1 and RB5 both serve Woolwich Royal Arsenal, with the route RB1 offering the services to/from the Westminster/Battersea Power Station. The route RB5 then runs between North Greenwich and Woolwich Royal Arsenal only on weekends. Although branded as a 'commuter service', RB1 operates throughout the day as well.
- 9.224 The frequency of the services throughout the day is up to three boats per hour. It should also be highlighted that the services are currently disrupted by the Covid-19 pandemic.
- 9.225 In addition to the above River Bus services, a regular ferry service of up to two per hour operates from Monday to Saturday between Tilbury Landing and Town Pier in Gravesend. The ferry service is operated by Jetstream Tours on behalf of Kent County Council and Thurrock Council.

Marine considerations

- 9.226 The Swanscombe Peninsula lies at the edge of the Thames Estuary, where the meandering river current and tidal flows contribute to the deposit of natural sediment. Along the River Thames, the PLA authorises dredging licences⁸ by the wharf and other berth operators. These licences enable operators to periodically maintain the depth appropriate for the type of watercraft operating on sections of the River Thames. The licences must respect archaeological and ecological constraints. If further surveys identify that dredging or other operations are necessary, the disposal of dredged material is also subject to these licences. Where appropriate, this is considered in chapter 19 of this PEIR.

⁸ Section 73 Port of London Act 1968

- 9.227 The Thames Estuary forms part of a natural and human-made environment with flora, fauna and wildlife habitats, including fish and other water-based wildlife. There are also several mudflats and intertidal habitats, which may be potentially affected by changes to water traffic in the locality of the Project Site. Indeed, parts of the outer Thames Estuary are protected under the EU Shellfish Waters Directive and Kent and Essex Inshore Fisheries, which are sensitive to construction, dredging and other engineering operations, particularly those resulting in indirect changes to water quality.
- 9.228 Chapter thirteen of this PEIR considers available information at this time, but it is acknowledged that further surveys and assessments may identify the need for further data to be collected to inform the final EIA.

Public transport

Rail

- 9.229 The Project Site benefits from a strong rail transport network and proximity to the Greater London area. Unlike other attractions in the UK, the London Resort will be accessible from High-Speed Rail (HS1) connecting London St. Pancras to European destinations via the Channel Tunnel. Figure 9.13 illustrates the available rail routes that currently exist in the locality of the Project Site and highlights the area's high level of accessibility by rail.
- 9.230 There are four railway stations in proximity of the Kent Project Site and one station near the Essex Project Site, which all form the basis of the assessment. These railway stations are:
- Ebbsfleet International (Kent Project Site);
 - Greenhithe (Kent Project Site);
 - Northfleet (Kent Project Site);
 - Swanscombe (Kent Project Site); and
 - Tilbury Town (Essex Project Site).
- 9.231 Two railway lines serve the four stations near the Kent Project Site. Ebbsfleet International railway station is situated on HS1, while Greenhithe, Swanscombe and Northfleet stations are served by the North Kent Line (NKL). There is a link between the two lines immediately to the north of Ebbsfleet International station. The link facilitates the operation of the domestic high-speed services between the towns in Medway and London. Southeastern Railway operates all three stations as part of the Integrated Kent Franchise (IKF)
- 9.232 Smaller railway stations such as Stone Crossing (Kent Project Site) are also located on the NKL providing additional access opportunities.

- 9.233 Tilbury Town railway station is located on the Tilbury Loop of the London, Tilbury and Southend Railway, also known as Essex Thameside. The station is operated by c2c. The Essex Project Site side of the river also includes Grays railway station, which is on the same line as Tilbury Town.

Ebbsfleet International railway station

- 9.234 Ebbsfleet International is a station with six platforms, two of which are for international and four for domestic services. The station was opened in November 2007, and it is classified as a Category B Regional Interchange station by the DfT categorisation. The station was provided as part of the wider Thames Gateway urban regeneration project and was designed to accommodate over 2 million trips per annum. As such, the station offers a mixture of domestic and international services, facilitated by a junction to the north of the station. As stated above, this is the only connection between the HS1 and the NKL.
- 9.235 Ebbsfleet International station was used as a transport hub for the 2012 London Olympics. Surveys were conducted on 5 August 2012 during one of the busiest event days on the Olympics schedule, when travel demand through the station reached up to 38 passengers per minute. No capacity or congestion issues were identified during this period.
- 9.236 The station has Ground and Lower Ground levels, for domestic and international services respectively. The Lower Ground area intended for the international services is only accessible via passport control. The destinations served by the individual platforms are summarised in Table 9.3 below.

Table 9.3: Ebbsfleet International railway services

Lower Ground level		
Platform 1	International	To/from Europe
Platform 2	Domestic	To London, Ashford, Canterbury West, Dover Priory and Margate
Platform 3	Domestic	To London, Ashford, Canterbury West, Dover Priory and Margate
Platform 4	International	To/from Europe
Ground level		
Platform 5	Domestic	To London, Chatham, Maidstone and Faversham
Platform 6	Domestic	To Chatham, Maidstone and Faversham

- 9.237 The tracks serving the international platforms feature track loops so that non-calling trains can pass through without obstruction.
- 9.238 Ebbsfleet International is owned by HS1 Ltd, who acquired a 30-year concession to own and operate HS1 railway including the Ebbsfleet International station. However, the domestic services are managed by Southeastern Railway. The station is served by two operators – Eurostar and Southeastern. Eurostar operates international services between

London and Paris, Brussels and more recently Amsterdam, whereas Southeastern operates domestic services, as part of the IKF discussed above.

- 9.239 International services operate throughout the year, typically less than one train per hour. The typical daily number of Eurostar services to/from various destinations is provided in Table 9.4 below. It should also be highlighted that It is not permitted to use Eurostar services for domestic journeys in the UK.

Table 9.4: Eurostar service frequency serving Ebbsfleet International per day

Route	Weekday	Saturday	Sunday	Time
To Paris	4	3	3	2h 05m
To Brussels	3	2	2	1h53m
From Paris	6	5	6	2h 05m
From Brussels	3	3	2	1h53m
To Disneyland Paris*	1	0	1	2h 35m
From Disneyland Paris*	1	0	1	2h 35m
To Amsterdam	3	2	2	3h 55m
From Amsterdam	2	1	1	3h 55m

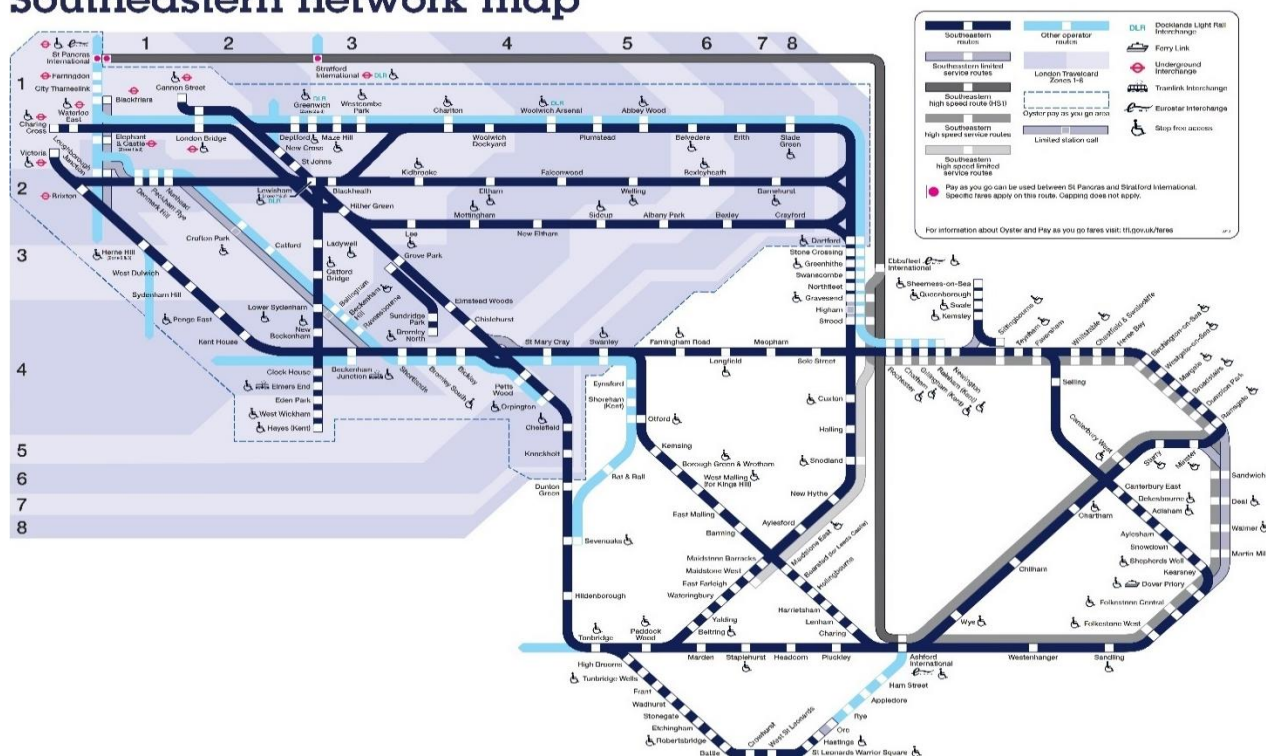
Source: Eurostar (accessed 29 June 2020) and port freight statistics (August 2019)

** seasonal service, operates throughout most of the year but not all days*

- 9.240 The domestic services at the Ebbsfleet International station operate at a high frequency and throughout the day. The Southeastern network route map is shown in Diagram 9.2.

Diagram 9.2: Southeastern network route map

Southeastern network map



Source: Southeastern Railway⁹

9.241 The station is currently served by three service groups, as summarised in Table 9.5 below.

Table 9.5: Domestic routes serving Ebbsfleet International per day

High-Speed Line (typical off-peak pattern)		
Route	Frequency	Calling at
London St Pancras International to Faversham via Ebbsfleet and Chatham	2 trains per hour	Stratford International, Ebbsfleet International, Gravesend, Strood, Rochester, Chatham, Gillingham (Kent), Rainham (Kent) and Sittingbourne
London St Pancras International to Dover Priory via Ebbsfleet Ashford and Folkestone and return via Margate and Faversham	1 train per hour	Stratford International, Ebbsfleet International, Ashford International, Folkestone West and Folkestone Central
London St Pancras International to Margate via Ebbsfleet, Ashford and Canterbury West	1 train per hour	Stratford International, Ebbsfleet International, Ashford International, Canterbury West, Ramsgate and Broadstairs

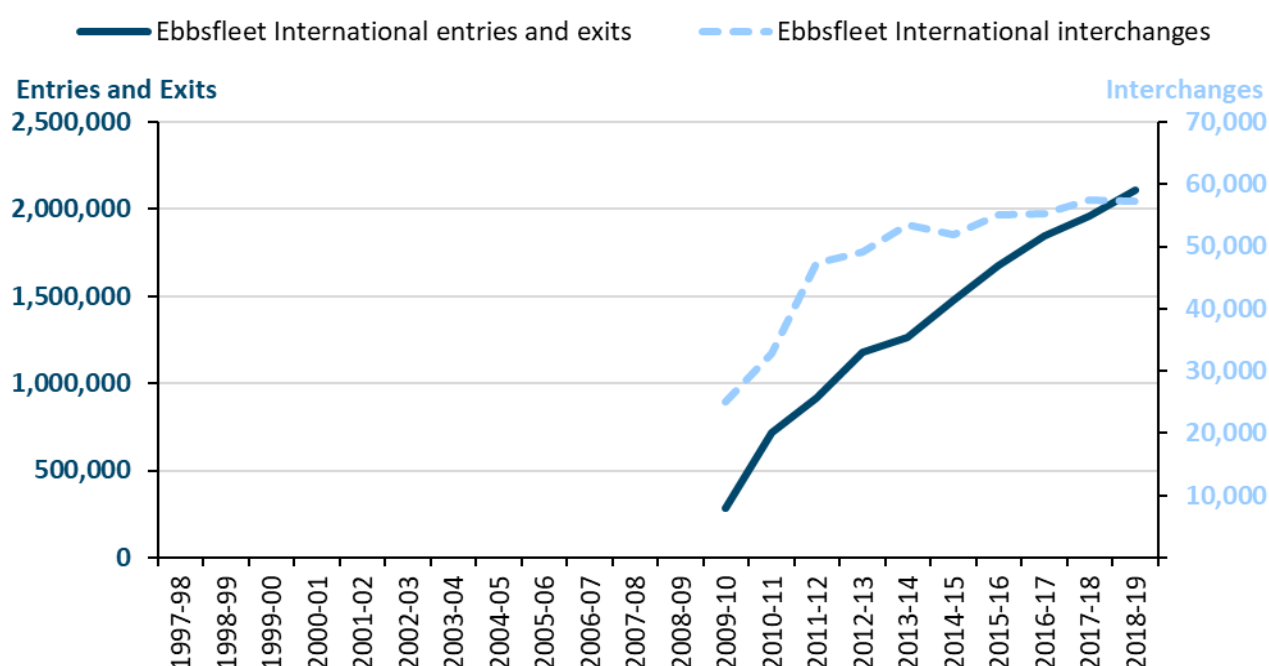
9.242 Trains from London St Pancras to the Medway towns and Faversham leave the HS1 line at Ebbsfleet and continue via the North Kent Line and Chatham Main Line. Trains for Dover

⁹ <https://www.southeasternrailway.co.uk/travel-information/more-travel-help/explore-our-network>

Priory and Margate leave the HS1 line at Ashford International. A limited peak-hour service also operates between London St Pancras and Maidstone West via Ebbsfleet and Strood.

- 9.243 Based on the data available from the Office of Rail and Road (ORR), Ebbsfleet International attracted about 2.1 million passengers plus other c.57,000 interchanges in 2018/2019. It is evident from the data that the number of passengers steadily increased since the station opened in 2009. This upward trend is illustrated in Diagram 9.3 below.

Diagram 9.3: Ebbsfleet International station usage



Source: Office of Rail and Road (June 2020)¹⁰

- 9.244 As illustrated above, the station attracts about 2.1 million passengers per annum, which corresponds to approximately 7,300 passengers per typical weekday. The proportion of the passengers use a train as part of their journey chain with a private car being the other part of their journey. To facilitate this demand, the station is provided with a total of 5,225 parking spaces distributed across four car parks (A, B, C and D) adjacent to the station. The car park locations are illustrated in Diagram 9.4 below.

- 9.245 Parking for bicycles is provided on the approach to the station and offers 44 sheltered spaces in the form of stands.

¹⁰ <https://dataportal.orr.gov.uk/station-usage>

Diagram 9.4: Ebbsfleet International car park locations

Source: Kentrail.org.uk (June 2020)

Northfleet railway station

9.246 Northfleet is a two-platform station, located approximately 400 metres north-east of Ebbsfleet International station. However, the pedestrian route between the stations is approximately 1.0 km in length. The station is located on the NKL between Swanscombe and Gravesend and has been in operation since 1849.

9.247 Southeastern manages the station and all services as part of the IKF. The station offers services to a variety of destinations in London. However, the passengers (using public transport) wishing to travel to London from the area may find far easier to travel to Swanscombe or Ebbsfleet International station as these stations are more accessible and offer direct and easy access to/from Fastrack bus services serving the area (discussed later in this section).

9.248 The ticket office is located on Platform 2, which is used for Kent-bound services. This ticket office is only staffed on weekdays between 06:10 and 10:10 AM with a passenger-operated ticket machine used at other times.

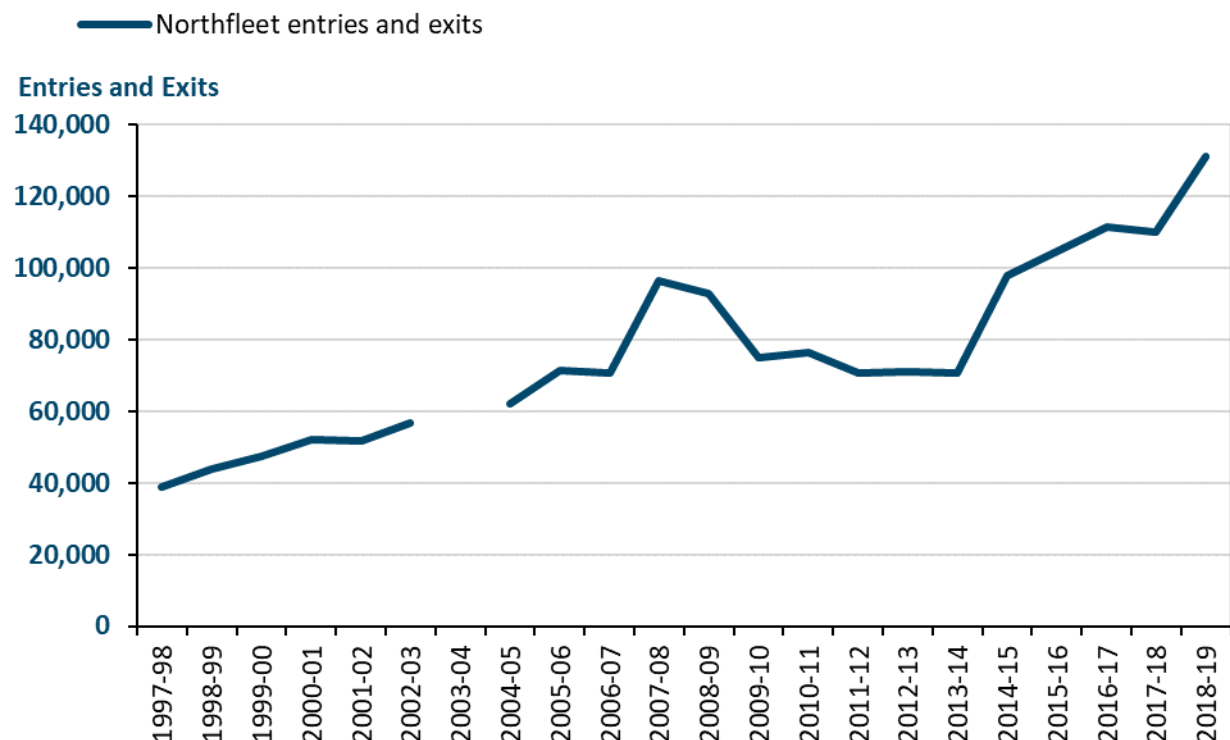
9.249 The current routes offered from the station are summarised in Table 9.6 below.

Table 9.6: Northfleet station routes

Kent Main Line		
Route	Frequency	Calling at
London Charing Cross via Swanscombe, Dartford and Lewisham	2 trains per hour	Swanscombe, Greenhithe, Stone Crossing, Dartford, Lewisham, Waterloo East and London Charing Cross. (typical journey time approx. 1 hour 2 minutes)
London St Pancras via Swanscombe and Dartford	2 trains per hour	Swanscombe, Greenhithe, Stone Crossing, Dartford, Slade Green, Abbey Wood, Plumstead, Woolwich Arsenal, Charlton, Westcombe Park, Maze Hill, Greenwich, Deptford, London Bridge, London Blackfriars, City Thameslink, Farringdon (typical journey time approx. 1 hour 10 minutes)
Rainham	2 trains per hour	Gravesend, HIGHAM, Strood, Rochester, Chatham, Gillingham (typical journey time approx. 32 minutes)

9.250 On Saturdays and Sundays, the services run approximately every 30 minutes predominantly to Charing Cross. Northfleet railway station does not offer any parking.

9.251 Northfleet is a local railway station attracting over 130,000 passengers per year in 2018/2019 that correspond to approximately 780 per typical weekday. The data from ORR represented in Diagram 9.5 below illustrate that the number of passengers is steadily increasing since 2013/2014 when the station served in a region of 70,000 passengers.

Diagram 9.5: Northfleet station usage

Source: Office of Rail and Road (June 2020)

N.B. 2003/2004 data is not available

Swanscombe railway station

9.252 Swanscombe is also two-platform station, located around 1.0 km to the north-west of Ebbsfleet International station. However, the pedestrian route between the stations is approximately 2.9 km in length. The station is located on the NKL between Greenhithe and Northfleet. Southeastern provides all train services as part of the IKF.

9.253 The station sits in a deep chalk cutting, with a long staircase from the ticket office leading to London-bound Platform 1. The ticket office is only staffed on weekdays between 06:10 and 12:50 and Saturdays between 08:40 and 15:20 with a passenger-operated ticket machine in use throughout the rest of the day.

9.254 The station does not have step-free access, and it is, therefore, unsuitable for mobility-impaired passengers

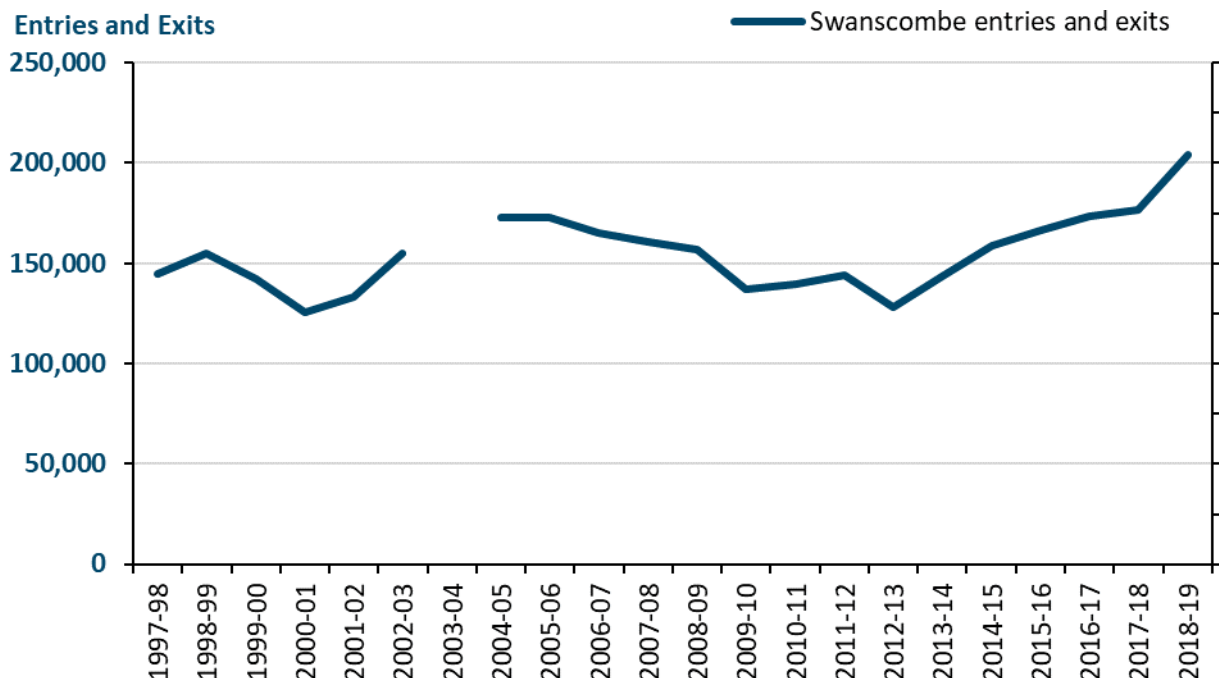
9.255 The typical off-peak services offered at the station are summarised in Table 9.7 below.

Table 9.7: Swanscombe station routes

Kent Main Line		
Route	Frequency	Calling at
London Charing Cross via Swanscombe, Dartford and Lewisham	2 trains per hour	Swanscombe, Greenhithe, Stone Crossing, Dartford, Lewisham, Waterloo East and London Charing Cross. (typical journey time approx. 1 hour)
London St Pancras via Swanscombe and Dartford	2 trains per hour	Swanscombe, Greenhithe, Dartford, Woolwich Arsenal, Charlton, Westcombe Park, Greenwich, London Bridge, London Blackfriars, City Thameslink (typical journey time approx. 1 hour 5 minutes)
Rainham	2 trains per hour	Northfleet, Gravesend, Higham, Strood, Rochester, Chatham, Gillingham (typical journey time approx. 35 minutes)

9.256 On Saturdays and Sundays, the services run approximately every 30 minutes predominantly to Charing Cross.

9.257 Swanscombe is a local railway station attracting over 200,000 passengers per year in 2018/2019 that correspond to approximately 1,200 per typical weekday. The data from ORR represented in Diagram 9.6 below illustrate that the number of passengers is steadily increasing since 2013/2014 when the station served in a region of 143,000 passengers.

Diagram 9.5: Swanscombe station usage

Source: Office of Rail and Road (June 2020)

N.B. 2003/2004 data is not available

9.258 Swanscombe railway station does not offer any car parking. Parking for bicycles is provided in the form of sheltered stands but only has a capacity of six spaces.

Tilbury Town railway station

9.259 Tilbury Town railway station is situated in the southwest outskirts of Tilbury between the town and the Tilbury Docks on the Tilbury Loop of the London, Tilbury and Southend Railway, also known as Essex Thameside. The station is located approximately 800m to the northeast of the Essex Project Site and approximately 1.3 km from the proposed London Resort Tilbury Terminal.

9.260 The station has two platforms connected by a footbridge with step-free access in the form of lifts available. Platform 1 serves trains towards London while Platform 2 is used by the services towards Southend Central. The station and all services are managed and operated by c2c.

9.261 The current routes offered from the station are summarised in Table 9.8 below.

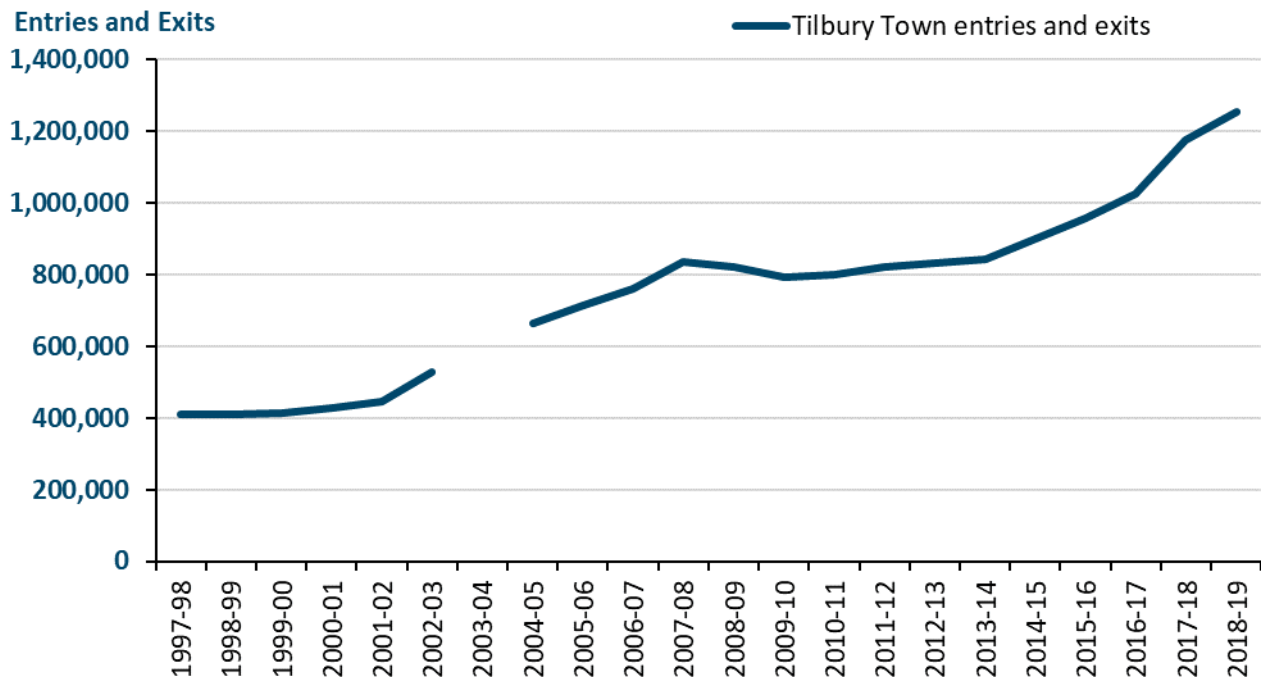
Table 9.8: Tilbury Town station routes

Essex Thameside		
Route	Frequency	Calling at
London Fenchurch Street via Purfleet and Barking	2 trains per hour	Grays, Purfleet, Rainham, Dagenham Dock, Barking, West Ham, Limehouse (typical journey time approx. 40 minutes)
Southend Central via Pitsea and Chalkwell	2 trains per hour	East Tilbury, Stanford-le-Hope, Pitsea, Benfleet, Leigh-on-Sea, Chalkwell, Westcliff (typical journey time approx. 35 minutes)

9.262 On Saturdays and Sundays, the services run approximately every 30 minutes in both directions.

9.263 In addition to the trains, the Tilbury Town railway station offers regular bus service (No. 99) between the station and Tilbury Riverside for the existing Tilbury-Gravesend ferry service. Tilbury Town railway station does not offer any car parking. Parking for bicycles is provided in the form of stands but only has a capacity of eight spaces.

9.264 Tilbury Town station attracted approximately 1,25 million passengers in 2018/2019, which corresponds to approximately 4,300 per typical weekday. The data from ORR represented in Diagram 9.7 below illustrate that the number of passengers has been steadily increasing since 2009/2010 when the station served in a region of 790,000 passengers.

Diagram 9.7: Tilbury Town station usage

Source: Office of Rail and Road (June 2020)

N.B. 2003/2004 data is not available

Rail Performance and capacity

9.265 In April 2019, the UK Rail industry introduced a set of detailed and precise measures¹¹ to understand better how the trains perform. Before these measures were introduced, a train was considered to be punctual if it arrived five (short distance) or 10 minutes (long-distance) after schedule at their destination. The new measures allow for more detailed information to be collected and consider a train to be punctual where it arrives less than one minute later than its advertised time.

9.266 The national and local data for the period of 2019/2020¹² suggest that the train punctuality (i.e. within one minute of scheduled arrival) in both national and local level is as follows:

- UK (national) – 64.8%
- Southeastern – 68.9%
- c2c – 82.5%

¹¹ <https://www.networkrail.co.uk/who-we-are/how-we-work/performance/railway-performance/>

¹² <https://dataportal.orr.gov.uk/statistics/performance/passenger-rail-performance/>

9.267 London and South East Route Utilisation Strategy (RUS)¹³ (2011) provides a high-level overview of the capacity planning for a 20-year period for all rail routes into London. Rail passenger data has been extracted from the latest available RUS and summarised in Table 9.9 below.

Table 9.9: Rail passenger capacity on the busiest one hour in the morning

Route	Total Capacity	Total Demand	Utilisation
High Speed 1 (from Ashford International to London St. Pancras)	5,700	2,500	44%
Charing Cross (Local Rail)	29,800	26,200	88%

Source: London and South East Route Utilisation Strategy, July 2011

9.268 Based on the above data, it is very reasonable to suggest that the HS1 services are operating with spare capacity, and the local rail lines are operating closer to capacity. However, the rail services around London are typically quite busy and probably operating close to capacity and thus are more prone to experiencing delays. A shortage of rolling stock on HS1 also means many peak time services are operating at close to existing capacity provided.

Coach

9.269 The interchange with longer-distance National Express coach services is currently available at Bluewater Shopping Centre approximately 4.5 km to the southwest of the Kent Project Site. This is also the nearest National Express stop to the Essex Project Site in a distance of approximately 10 km via the local public transport including the ferry.

9.270 Although primarily aimed at long-distance travel, National Express services are also available for local travel within Kent. The only National Express service currently available at Bluewater Shopping Centre is the service 022 providing a connection in both directions between London Victoria via Bluewater Shopping Centre, Canterbury, Ramsgate and Margate. The service 022 currently operates once a day, seven days a week with departures towards London at 13:05 and towards Ramsgate at 16:55.

9.271 Due to the strategic location in terms of travel to work into London and as the gateway to Europe, Kent also benefits from having several coach operators, serving both medium and long-distance commuting and international coach journeys. Commuter coaches to/from London are also available in Essex.

9.272 Several coach operators are serving both counties. However, it should be noted that all these operators are UK-based operators. Therefore, these do not include a range of foreign operators, primarily from Eastern Europe.

¹³ <https://archive.org/details/LondonAndSouthEastRouteUtilisationStrategy>

- 9.273 Limited stop coach services are not shown on the published, and online bus maps of the counties as passengers are primarily limited to board/alight the coach at specific points (which for international coach travel is London and, in some instances, Dover). Additionally, most coach services require booking in advance, which can be done via the respective operator websites.
- 9.274 Commuter coaches are by their nature operated to provide single trips early in the morning from Kent/Essex and after the afternoon peak period from London. In their current form, these services would not be suitable for the London Resort. However, the availability of an empty coach in London in the morning and returning in the afternoon (and/or evening) could provide an opportunity. It could be cost-effective for operators to develop new services in the longer-term.
- 9.275 Unlike rail, local bus services and local ferries, which are all subject to varying levels of local or national government financial support, coaches are almost an entirely privately funded commercial sector. The companies would assess the market and tailor their services accordingly, whether for regular travel or for 'day trip' type provision, which is likely to be a popular market for the Resort.

Bus

- 9.276 A relatively good network of bus routes is available in the locality of the Project Site (both Kent and Essex Project Sites, as shown in Figure 9.14. The bus routes in the area offer a range of local and interurban services. The Project Site benefits from a strong existing public transport network, facilitating the transfer of people in a sustainable manner. The existing extent of public transport provision is set out below.
- 9.277 The Kent Project Site is situated to the north of the A226, which is the principal main road between Dartford and Gravesham town centres, via Greenhithe and Northfleet. As such, it is well placed relative to the existing bus network, which offers frequent services in the locality, including connections to key destinations such as Bluewater Shopping Centre and Darent Valley Hospital via Fastrack.
- 9.278 Fastrack is a bus rapid transit system operating across Kent Thameside. Given that both Dartford and Gravesham areas have massive development potential, which is ultimately forecast to deliver up to 50,000 jobs and 25,000 new homes (part of which has been already delivered by Ebbsfleet Garden City development). The Fastrack services are positioned between the railway service and local bus services, and they will ultimately connect all of the significant existing and new development in Dartford and Gravesham. The services will be using routes provided solely for Fastrack services. The existing and planned Fastrack network is shown in Figure 9.15.
- 9.279 The following bus services operate in the immediate vicinity of the Kent Project Site. It should be highlighted that the operation of public transport is currently disrupted by the Covid-19 pandemic. As a result, detailed timetable information, including service frequencies, are not provided at this stage. The services include:

- **Fastrack route B**
Dartford Temple Hill - Dartford Darent Valley Hospital – Bluewater – Greenhithe – Swanscombe - Ebbsfleet International – Gravesend
- **306**
Bluewater - Gravesend - Meopham - Vigo - Borough Green – Sevenoaks
- **480**
Riverview Park - Gravesend – Dartford
- **481**
Riverview Park - Gravesend - Northfleet - Swanscombe – Bluewater
- **483**
Kings Farm - Gravesend - Bluewater
- **484**
Ebbsfleet Station - Castle Hill - Swanscombe - Greenhithe – Bluewater
- **485/485 A**
Castle Hill - Ebbsfleet Station - Castle Hill
- **490**
Valley Drive - Gravesend - Bluewater - Dartford

9.280 All the services outlined above are typically operated by easily accessible buses, allowing for accessible and sustainable travel mode for prospective passengers. The services are all provided on a commercial basis by Arriva Kent Thameside. Given that Arriva is the largest operator in the area, these services form part of the Arriva network covered by a range of multi-journey and other season tickets. This allows for a high level of connectivity to other areas not served by direct routes. These services also connect with other local services at Bluewater, giving access to south-east London and other parts of Kent.

9.281 The Essex Project Site is situated to the south of Tilbury and the existing railway line on land adjacent to Tilbury Docks. As such and as explained previously, it is accessible from the northwest via the A1089 and from the northeast via Fort Road. The Essex Project Site is directly accessible by a bus route 99 running between the Tilbury Ferry Terminal and Tilbury Town railway station with approximately 30-minute frequency to coincide with the ferry arrivals and departures.

9.282 Although not running directly to/from the Essex Project Site, there are other services available at the Tilbury Town railway station and its vicinity. Similar to the Kent Project Site, the operation of public transport is currently disrupted by the Covid-19 pandemic. As a result, detailed timetable information, including service frequencies, are not provided at this stage. These services include:

- **66/66A**
Lakeside - Grays - Tilbury - Chadwell St Mary
- **73/73A**
Lakeside - Grays - Chadwell - St Mary
- **Z1**
Aveley - South Ockenden - Lakeside - Grays - Socketts Heath - Chadwell – Tilbury

9.283 All the services outlined above, including the 99, are typically operated by easily accessible buses, allowing for accessible and sustainable travel mode for prospective passengers. The services are all provided on a commercial basis by Ensign Buses. These services also connect with other local services in and around Tilbury providing connections to the wider area.

9.284 The status of the services as ‘commercial’ means that the routes, frequencies and fares are decided entirely by the operator, based on their assessment of the demand for travel and the costs of providing the services. The development of the network will, therefore in the first instance be dependent upon their business planning.

Air travel

9.285 Air travel will feature as a mode of transport for many visitors to the UK who are attracted to the London Resort as part of a UK tourist trip. Conversely, some of the visitors attracted to visit the UK by the London Resort are likely to visit other attractions in the UK and Europe.

9.286 There are several airports located at a reasonable distance from the Project Site. The closest airport, London City, is in a distance of approximately 30 km from the Project Site. In a similar distance, approximately 35 km, is London Southend Airport. Both London Heathrow and London Gatwick airports are located in a distance of approximately 65 km from the Project Site, while London Stansted Airport is in a distance of approximately 70 km followed by London Luton Airport with 90 km. The location of these main airports relative to the Resort is illustrated in Figure 9.12.

9.287 Reflecting the varying travel patterns that may arise, a robust comparison of air travel will be undertaken to quantify the potential, particularly trans-boundary, effects of the London Resort. However, it should be noted that as a result of the COVID-19 pandemic only a limited number of flights currently operate and the future air travel patterns are uncertain.

Forecast baseline conditions (excluding the London Resort)***Development/Highway infrastructure***

- 9.288 Several transport network changes are planned in the region. These changes likely will affect the area of Thames Estuary within which the Project Site is situated.
- 9.289 The core strategies envisage that some housing and other development accessed from London Road would take place on the Project Site along with the associated travel demand and transport infrastructure. This and other developments will be considered as part of the strategic transport model and reported in more detail on completion.
- 9.290 Existing commitments forming part of the Ebbsfleet Garden City and Lower Thames Crossing are considered in some of the forecast modelling scenarios as will be described in the Technical Notes supporting the DCO application.
- 9.291 The current local plans/core strategies identify a series of developments in the areas of Gravesham and Dartford Borough Councils consisting of residential, employment and retail land uses. While some of this development has been already completed and occupied or the construction is underway, there are several strategic housing and employment sites relatively close to the Project Site that will contribute to significant increases in travel demand over the next decade or so.
- 9.292 Forecasts associated with these developments suggest that these will contribute to significant increases in traffic. Of course, these developments would provide some level of transport mitigation. In most cases, the consented developments are committed to providing additional community land uses to reduce the need to travel and deliver enhanced public transport services. Some highway improvements have been identified, such as improvements to the A2(T) Bean and Ebbsfleet junction, which are now programmed to commence in 2020 with planned completion in 2022-2023.
- 9.293 The Swanscombe Peninsula is currently partly occupied by the Manor Way Business Park, which generates around half of the HGV traffic on the A226 London Road. The redevelopment of this area is forecast to alter travel demands with or without the London Resort and should reduce commercial traffic on London Road.
- 9.294 Several transport-related developments and/or developments having a significant impact on the transport networks in the area are to be considered as part of the assessment. These include both completed and planned/committed schemes, as follows:

Strategic Road Network

- M25 junction 30/A13 corridor, completed Autumn 2016;
- M20 junctions 3 to 5 - smart motorway, completed March 2020;
- M2 junction 5 improvements, planned for 2020 with the completion date to be

confirmed;

- A2(T) Bean and Ebbsfleet junction improvement, consented on 2 June 2020, planned for construction to start in 2020 with the completion in 2023;
- Lower Thames Crossing, an NSIP project currently in a pre-application public consultation stage and expected to be applied for in autumn 2020;
- M25 junction 25 improvements, planned for 2021 with the completion date to be confirmed;
- M25 junction 28 improvements, applied for in May 2020 and planned for 2022 with the completion date to be confirmed;
- A12 Chelmsford to A120 widening scheme, planned for 2024 with the completion of c.2028;

London Transport Network

- The Elizabeth Line (connecting to HS1), expected completion in 2021;
- Silvertown Tunnel, construction to begin in 2020, expected completion in 2025;

Other

- Tilbury 2 – Port of Tilbury expansion, enabling works commenced with the completion date to be confirmed.

Waterborne transport

9.295 Cruise passenger numbers have continued to increase year-on-year. Adopting a consistent approach, about three million cruise passengers per year may be expected to travel via UK ports. Assuming there are no capacity constraints within the ports and the frequency of cruise ships increases proportionally, additional ship traffic will occur without the Resort.

9.296 It is acknowledged that current COVID-19 conditions have resulted in a significant decrease in tourism across all types, which is likely to take many years to reach similar levels of patronage. However, passenger numbers at the UK's ports have remained relatively stable in recent years but are still about 40-50% lower than they were in the 1990s. If an increase in ferry demand arises, it is unlikely that the port capacity will be a constraint and operators would simply increase service frequency.

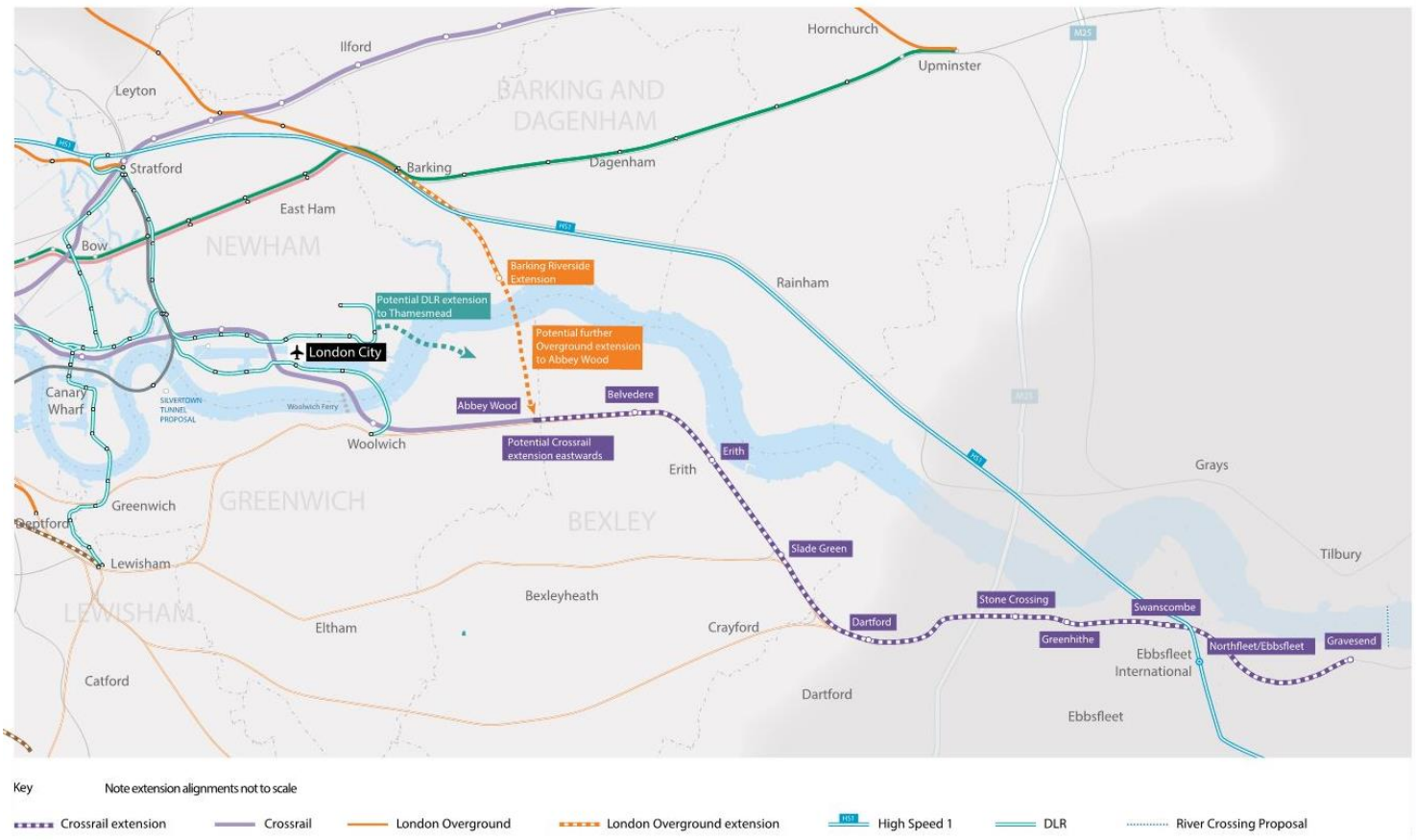
9.297 Any forecasts for changes in passenger numbers via the Channel Tunnel must be made in the context of economic growth in the UK and the neighbouring countries as well as planned changes to rail services and competing (short sea) ferry services. Passenger numbers should increase, but it is more likely that extended trains would be adopted to

meet these capacity requirements in the future.

Rail

- 9.298 The South East Route: Kent Area Route Study (2018)¹⁴ sets out the planned improvement of the train services to provide more capacity and better connectivity. The study suggests that to meet the 2024 demand, the projected passenger capacity on trains can be primarily met through lengthening services to the maximum length possible for each corridor. However, meeting the projected capacity demand to 2044 will require additional terminal capacity as well as the removal of the strategic bottlenecks to allow more services to operate.
- 9.299 The passenger growth on the HS1 is significantly higher than on other parts of the rail network. It is forecast that passenger demand will grow at five per cent per annum over the next few years. The demand is expected to be even higher when the full impacts of major developments, such as Ebbsfleet Garden City and the London Resort, are established. To meet the projected passenger growth on HS1, more high-speed rolling stock will be required. It is our understanding that a separate study by HS1 is being undertaken to identify the requirements on Ebbsfleet Station going forward.
- 9.300 A potential extension of Crossrail from Abbey Wood to Gravesend has been safeguarded, however no plans are currently available. In the case of successful completion of the Crossrail extension to Gravesend, this would provide the area with another high-quality station and increased capacity. The planned extension in the context of other routes is shown in Diagram 9.8 below.

¹⁴ <https://cdn.networkrail.co.uk/wp-content/uploads/2018/06/South-East-Kent-route-study-print-version.pdf>

Diagram 9.8: Potential Crossrail Extension to Ebbsfleet

Source: Network Rail

Coach

9.301 There are several scheduled coach services on the A2(T)/M2 and M20 corridors, serving coastal towns and channel crossings to continental Europe. As a dynamic and low-cost mode, coach services will adjust quickly to any changes in passenger numbers. However, no particular expansion is expected to take place in the near future.

Bus

9.302 Expansion of the Fastrack network is a key part of the existing Kent Thameside transport proposals, forming a fundamental part of the longer-term Local Transport Plans. Ultimately the Fastrack network (and supporting bus services) will connect all the major existing and new developments in Dartford and Gravesham on core BRT routes, with key priority measures for Fastrack services only.

Air

9.303 While the number of UK flights can be expected to exceed 2.4 million/year by 2025, the

number and distribution of air traffic movements are much harder to forecast given airport capacity uncertainties.

- 9.304 Proposals for expansion of the London airports are a hotly disputed issue with a range of options available promoted by different interest groups. Unless some radical approach introduces some cultural changes to UK tourism, the airport promoters suggest that at least one of the UK London airports will expand and associated infrastructure would include enhanced surface access infrastructure as well as enhanced rail services.

POTENTIAL SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSALS

- 9.305 As outlined above, the modelling required to assess the London Resort has not yet been completed. Therefore, it is not yet possible to establish with certainty the level of impacts or environmental effects (positive or negative) which could occur.

- 9.306 The London Resort visitor forecasts are identified in documents TN1, TN2 and TN3. A review of the likely demand for transport and anticipated impact without mitigation measures in place will be undertaken in the TA and EIA once the modelling is complete.

- 9.307 While the modelling will focus primarily on the vehicular changes surrounding the development, it is envisaged that the following categories and modes will also be reviewed in depth:

- Walking and cycling;
- Water;
- Rail;
- Coach;
- Bus; and
- Road.

Development proposals

- 9.308 The London Resort proposals are identified in chapter five of this PEIR. Like most tourist attractions of its kind, entrance to the theme park gates is likely to be restricted to hotel guests, and VIP visitors before 10:00 am, such that the arrival profile extends from pre-8am (associated predominantly with staff) into the afternoon, with visitors departing from mid-afternoon until closing (23:00). The visitor profile extends across the day, with daily peak demands, typically in the afternoon and with a peak of departures towards the latter parts of the day.

- 9.309 Average footfall per month is shown to peak and correspond with the traditional school holiday periods and summer months. Other peaks are observed during special event months, such as Halloween in October and the build-up to Christmas and New Year's Eve.
- 9.310 It is acknowledged that the London Resort, like other existing entertainment resorts, will have a seasonal variation in footfall. While the London Resort will be open throughout the year, visitor demand will peak in line with periods of school holiday and other specific bank holiday and events. These may not represent the 'worst-case' scenario sometimes expected for EIAs but represents a reasonable robust worst-case scenario forecast taking account of assessment criteria and seasonal and daily flow variations.

Proposed access strategy

- 9.311 The Kent Project Site is located on the Swanscombe Peninsula on the south bank of the Thames estuary in north Kent, as shown in Figure 9.1. The development of the Kent Project Site can be divided into two main constituent parts:
- The development 'core' or leisure resort (Swanscombe Peninsula, north of London Road)
 - The access corridor and associated land uses (south of London Road to A2(T) Ebbsfleet Junction).
- 9.312 The Essex Project Site is situated to the north of the River Thames and the south of the town of Tilbury. It is accessible directly via the A1089 from the A13 to the north of Tilbury, both of which currently provide access to the existing Tilbury Port.
- 9.313 The Project Site benefits from the river, rail and road access as follows:
- Water access from the River Thames and via Tilbury docks for ferries and cruise ships;
 - Rail access via Ebbsfleet International, Swanscombe, Northfleet and Tilbury Town stations; and,
 - Road access via the A2(T), A13 and A1089.
- 9.314 The London Resort will maximise the use of the SRN to ensure the flow of traffic can be maintained throughout busier periods while minimising the impact of visitor and staff travel on local transport networks.
- 9.315 To determine the most appropriate access strategy, the design team have reviewed several constraints that affect the cost and ability to construct access to the London Resort.
- 9.316 The proposals require a dual carriageway layout to accommodate the predicted level of traffic, which will be set out in greater detail in the TA. The design should prevent

queueing back onto the A2(T) while also allowing for future expansion to the Ebbsfleet Garden City.

9.317 There are several constraints, as well as national design standards, to be considered. These are set out below:

- Junction proximity (Design Manual for Road & Bridges) and potential for relaxations or departures from standard;
- Capacity and road safety of the highway alignment and (A2(T)) junction capacity;
- Ability to provide free flow from A2(T) and reduce the potential for queueing back onto the Strategic Road Network;
- The ability for alignment to be a gateway to the London Resort;
- The potential overall cost to develop the scheme;
- The topography of the route and the potential for environmental impacts close to existing or future residential properties;
- Potential Impact upon identified SSSIs and Schedule Monuments;
- Impact on the developable land identified for the Ebbsfleet Garden City;
- Co-ordination of proposed infrastructure with existing to minimise overall impact;
- Impact on existing Landfill areas, including the residual environmental and economic impact on the access route;
- Impact upon existing users of the highway network;
- Impact on existing residents regarding air and noise; and
- The requirement for extensive earthworks.

9.318 Different potential access opportunities to the London Resort have been considered. Each of these options considered the existing and future constraints and their potential impacts. In the previous 2014/2017 PEIR, five access options were considered. These options were analysed, considering the local constraints and their potential impacts.

- 9.319 It is intended that the primary vehicle access for visitors of the London Resort (Kent Project Site) will be from the A2(T) via a new and improved junction with the B259. WSP have considered a number of options to be discussed primarily with HE in determining the most appropriate strategy for the area. A separate Technical Note (TN6) discussing the access options for the A2(T) has been developed.
- 9.320 The preferred vehicle access option to the London Resort seeks the formation of a modified A2(T)/B259 Ebbsfleet Junction incorporating successive slip road merge/diverges. The access design process is interlinked with the traffic modelling, and as such, while a preferred option has been developed, this may need to be reviewed once modelling outputs have been provided.
- 9.321 The access to the Essex Project Site is to be achieved via the existing route serving the Tilbury Docks.
- 9.322 The vehicular access strategy, including the optioneering exercise, will be detailed within the TA and will be assessed in detail within the final EIA.
- 9.323 The access strategy will be formalised based on the forecast visitor and staff numbers expected at the London Resort, as explored in section 9.1. Both the forecast travel demand and distribution of trips will be set out in detail within the DCO submission (TN1 and TN2).

Access - Sustainable modes of transport

- 9.324 The TA will outline the existing public transport facilities in the area surrounding the Project Site. A detailed audit of facilities, including those existing for pedestrians and cyclists, will be included in the accessibility review also contained within the TA and summarised in the baseline studies section of this chapter. This review is focused on the traditional sustainable modes of travel, but also those specific to the local area, including HS1 and river services.
- 9.325 The London Resort will deliver a comprehensive access package, promoting sustainable travel and efficient multi-modal transfer. As part of the proposed public transport improvements, an over-arching access strategy document will be developed, which is likely to consider the following:
- New Bus services;
 - Coach and Bus drop off areas;
 - Dedicated Bus Rapid Transport (BRT) route linking Ebbsfleet International railway station car park with the Resort;
 - Improved facilities in Ebbsfleet;

- New Infrastructure for all modes (coach, bus, vehicles and cycle);
- Visitor and Construction access from the Thames;
- Enhanced pedestrian access from within local communities.

Water

- 9.326 Due to the Project Site's strategic location adjacent to the River Thames, there is the opportunity to adopt river-based travel. Indicatively, the use of river taxis/shuttle services can provide a further travel option, reducing the impact on the local and strategic road networks. River transport options from Tilbury will form part of the visitor experience to the Proposed Development, and it is envisaged that branded shuttler ferries will be used to transfer visitors (and staff) across to the Resort pier. A suitable frequency of shuttle services will be adopted to ensure minimal wait times for users from the Tilbury parking area and return.
- 9.327 Discussions with Thames Clippers indicate that a potential journey time from London Waterloo / Blackfriars (for Thames Link) to the Resort and from Greenwich and Woolwich (for the Elizabeth line) to the Resort would be a viable and attractive alternative to other modes. Ultimately, the journey time will be dependent on the service pattern adopted and economic viability. However, this provides an outline indication of how a passenger ferry could be adopted to serve the London Resort and provide another public transport alternative from central London.
- 9.328 As part of the water access strategy, supporting river infrastructure at the Project Site is to be developed that will enable the movement of users to and from the site.
- 9.329 The Proposed Development will provide new water-based infrastructure and pump-prime new services for the proposals, supporting wider growth plans. It is anticipated that this infrastructure would further support growth in passenger numbers by forming a new/extended interchange for development growth in Ebbsfleet and the North Kent Thames transport interchanges.

Rail

- 9.330 The Resort rail access strategy considers the relatively close location to the Swanscombe, Northfleet and Ebbsfleet International railway stations. With parking to be located north of the river at Tilbury, on the Essex Project Site, rail opportunities at Tilbury Town and Grays will also be reviewed.
- 9.331 The access strategy looks to utilise the available rail services. The primary station will be Ebbsfleet International, which will have a dedicated access corridor to connect rail travellers to the Kent Project Site. This will be in the form of a shared used multi-transport link, enabling bus, walk and cycle journeys. Other infrastructure may be required at the other stations, such as Swanscombe, to aid the movement of people to and from the

Resort.

- 9.332 Initial discussions have taken place to discuss proposals for the rail system to accommodate the additional passenger capacity from the London Resort. The discussions and final rail strategy will be set out in detail in the TA and supporting documents.

Coach

- 9.333 The London Resort will have dedicated coach parking for up to 200 vehicles, allowing for the promotion of this mode of travel. It is envisaged that ticket packages will be available for visitors that could include a combined coach/entrance ticket from key strategic locations.

- 9.334 The London Resort will also develop rest facilities for coach drivers.

Fastrack and bus services

- 9.335 As will be described in the TA and the associated Public Transport Strategy Technical Note, the Project Site benefits from being located adjacent to a developed BRT route.
- 9.336 Indicatively, the access strategy will look to utilise the well-established and high-quality Fastrack service in the area. This will be developed to include dedicated routing to the Resort as well as key transport hubs, increasing the accessibility of the Kent Project Site and allowing fast journey times for patrons and staff from nearby interchanges, such as Ebbsfleet International Station.
- 9.337 A detailed public transport strategy will be described in the Public Transport Strategy Technical Note due to the complexity of all the various systems involved. The information in that document will be fed into the strategies outlined in the TA, ensuring that adequate provision and management strategies are in place to support the public transport required. The Public Transport Strategy Technical Note will be appended to the main TA and EIA.
- 9.338 The Project Site benefits from established local bus services that serve the local area. As such, the access strategy will look to utilise these services where possible to provide additional frequencies and travel options to staff and visitors to and from the Resort.
- 9.339 The combination of conventional local bus services and Fastrack will enable the site to deliver several sustainable travel opportunities for both visitors and staff travel.

Access Summary

- 9.340 The indicative access strategy provides a comprehensive design package that will enable the movement of construction vehicles, visitors and staff across all available transport modes. The access strategy promotes sustainable travel use.

- 9.341 The Project Site contains a network of PROWs (consisting of footpaths, bridleways and cycle routes). As part of the masterplanning process, the details of these have been identified and incorporated into the site layout and access strategy.
- 9.342 The London Resort will provide a high-quality public realm with new public spaces and connections to the river providing high-quality river walks that will connect with the wider network.
- 9.343 As part of the access strategy, a comprehensive list of pedestrian and cyclist routes is considered, exploring desire lines for all modes of transport based on axial mapping of origins and destinations. In conjunction with this exercise, potential improvements are considered to ensure that all users are catered for. This will include connections to major attractions (such as town centres) and transport interchange hubs, such as railway and bus stations as well as the new water ferry terminals.
- 9.344 For example, it is proposed that access from Ebbsfleet International railway station is achieved through a multi-use transport corridor, allowing not only buses to and from the Project Site (and other locations) but also a segregated and shared use pedestrian and cycle route. This provides a safe and direct connection to/from the Resort.

Construction phase assessment

- 9.345 It is accepted that there will be a need for the import of suitable engineering and other materials and export waste material. This is considered in chapter 19. The determination of quantities of imported/exported materials will be the subject of further surveys and assessments and will be reported in the coming months.
- 9.346 Like many major infrastructure projects in and around London, the main contractor will be encouraged to open early dialogue with KCC, TC, HE and the PLA to identify opportunities for sustainable construction techniques and material transportation (by water) where viable and reasonably practicable. This may include construction load consolidation centres on and off-site, as a means to achieve just in time delivery for construction processes.
- 9.347 Construction materials will be imported to the Project Site, including a mix of pre-formed materials such as steel frame components and cladding and suitable construction minerals, such as sand and gravels.
- 9.348 A Construction Logistics Plan (CLP) will be developed to outline the relevant construction protocols and practices for the London Resort. For a complex, multi-faceted scheme such as the Resort, it is likely that identify the construction hubs and phasing.
- 9.349 Further details will be provided in the draft CLP accompanying the application, which will provide a framework to better manage all types of transport movement to and from the Project Site, as well as some of the key on-site operations. The CLP is the equivalent of a

workplace travel plan for construction vehicles, but it additionally considers issues such as the construction supply chain, principles of site organisation and operations.

Operation phase assessment

- 9.350 At this time, it is anticipated that the Gated Theme Park(s) are likely to be open to visitors from 10:00 to 23:00 during peak days. Some of the events spaces may be operational after midnight, but such activities will typically be associated with special events such as New Year's Eve or Bank Holidays.
- 9.351 It is also anticipated that the Hotel and other VIPs will be permitted to access the Resort up to an hour before the other visitors. In conjunction with integrated ticketing arrangements, a Parking and Event Management Plan will be developed, which may adopt further measures to discourage visitors from arriving before 10:00 to minimise travel demand during the network AM peak period.
- 9.352 The impacts created by the operation of the London Resort relate to staff and visitor travel as well as the traffic generated through maintenance and deliveries for all on-site facilities. Further detail relating to the associated travel demand (TN1) and trip distribution (TN2) for the Resort will be submitted to inform the TA scope. It will be updated as part of the application process.
- 9.353 The analysis of travel demand will be undertaken through the TA and will focus on the 85th percentile day profiles forecast for the London Resort considered above. These assessment days allow for the determination of a reasonable worst-case scenario for network conditions and will enable sensitivity testing to determine the transport network capacities, along with likely modal generation.
- 9.354 An outline Delivery and Servicing Plan (DSP) will be submitted with the application. As far as reasonably practicable, it will identify how the supply chain of goods for sale (merchandising), materials (for operation and maintenance), food and drink and waste will be dealt with as part of the operational phase of the London Resort. At this juncture, it is anticipated that the DSP will attract a DCO requirement for future monitoring and management. This is in part because most deliveries and (primarily waste) collections are anticipated to be made overnight and will, therefore, be restricted to the proposed access routes into/out of the Proposed Development.
- 9.355 The number of commercial vehicle trips, as well as the time of day when these vehicle movements occur, will, therefore, inform the scale and significance of these movements, along with their effect on the transport network. The purpose of the outline DSP is to inform the authorities of the intent of the applicant in managing service vehicle trips to and from the London Resort to minimise the impact of these goods' vehicle trips on the highway network.
- 9.356 The provision of a full DSP will be prior to occupation of the Project Site, or subsequent and detailed approval prior to the first occupation. It will remain a 'living document'

reviewing opportunities to enhance efficiencies, working towards more sustainable practices.

- 9.357 The DSP will form a part of a suite of documents forming part of the TA and complements the Travel Plan, collectively considering the scale of travel demand likely to arise from the London Resort and how these travel demands will either be 'managed' or accommodated with additional infrastructure.

Risk of major accidents and disasters

- 9.358 Several documents, including the Events Management Plan, are being developed to provide the protocols necessary to accommodate changes to the access strategy. These documents will seek to mitigate, where practically possible, any residual impacts resulting from changes which may impact visitors and staff.
- 9.359 The Resort itself will be designed to the highest safety standards throughout all of its elements. Fortunately, high-risk events at resorts are rare, and it is considered that the expert design team and ultimately, the operation team once the London Resort is open will ensure the safety of guests and staff.
- 9.360 The EIA Regulations introduced a requirement to consider significant adverse effects of the Scheme on the environment deriving from the vulnerability of the Proposed Development to risks of major accidents and/or disasters relevant to the Scheme.
- 9.361 The potential receptors of effects resulting from major events and any consequences for receptors is reported in the individual environmental topic chapters and as such, vulnerability to major accidents and disasters is not a topic in itself. The main EIA will undertake a further summary of relevant major events and any consequences for receptors are reported in each of the individual environmental topic chapters.
- 9.362 The general scope of the assessment in the main EIA will cover:
- Vulnerability of the Scheme to risks of major accidents and/or disasters that are relevant to the Scheme (subsequently referred to as major events);
 - Identification of any consequential significant adverse environmental effects from those major events; and
 - Measures to prevent or mitigate the significant adverse environmental effects of those major events and details of the preparedness for and response to such major events.
- 9.363 The definition of a major accident used in this assessment is contained in the Control of Major Hazards Accident Regulations 2015 (COMAH) which define a "major accident" as an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment, and leading to serious danger to human health or the environment (whether immediate or delayed) inside or

outside the establishment, and involving one or more dangerous substances.

9.364 The EIA will review the potential major events that could be applicable to the Proposed Development. A screening exercise will then be undertaken to ascertain the relevance of the events and whether they require further consideration or not in relation to the London Resort. This will be primarily limited to within 2km of the Proposed Development. Following this screening exercise and a review of the relevant mitigation strategies, any residual risk to receptors will be identified and evaluated. This evaluation will provide a qualitative assessment of the potential for the significant of the reported effect to be increased as a result of a major event.

9.365 The following disaster type / major events will be reviewed initially and where not relevant to the Proposed Development, no further assessment will be undertaken;

- Geological disasters (earthquakes, ground instability etc)
- Hydrological disasters (flooding, tidal surges etc)
- Meteorological disasters
- Space disasters (geomagnetic storms etc)
- Transport (accidents on road, rail and river systems etc)
- Engineering Accidents / Failures
- Industrial Accidents
- Terrorism / Crime / Civil Unrest
- War
- Disease

9.366 In general, major events, as they relate to the Proposed Development will fall into three categories.

- Events that could not realistically occur, due to the type of Scheme or its location;
- Events that could realistically occur, but for which the Scheme and associated receptors, are no more vulnerable than any other development; and
- Events that could occur, and to which the Scheme is particularly vulnerable, or which the Scheme has a particular capacity to exacerbate.

9.367 The assessment of major events will result in a list of areas / instances that are relevant to

the London Resort which may require further consideration. This will be detailed within the main EIA, although further consideration may mean that the risk has already been adequately mitigated within the specific EIA chapters the event is related to.

Mitigation

- 9.368 The assessment of environmental effects in line with the EIA Regulations tends to require the mitigation to be considered separately; i.e. the effect is considered and assessed, and then the effect with mitigation is assessed. As transport volumes may be affected by the capacity of the transport network, this is not always practical.
- 9.369 The IEMA guidelines suggest that associated ‘...mitigation measures should be considered as a complete package’. However, for the purposes of the current assessment, mitigation will be considered in two parts - those infrastructure improvements that are considered necessary to meet the capacity needs of the development (and therefore, considered as part of the TA) and those additional (environmental) mitigation measures that do not require physical infrastructure and meet the collective needs of the development.
- 9.370 These additional environmental mitigation measures will form part of the assessment in the ES and will inform the residual development effects once traffic and other data become available.
- 9.371 The mitigation measures would likely include a Construction Logistics Plan (CLP), Delivery and Servicing Plan (DSP), Public Transport Strategy (PTS), a Travel Plan (TP), new and/or improved NMU routes including crossing points and traffic management measures intended to preserve or enhance the amenity of road users. These will be enforced through DCO Requirements as appropriate and/or S278 agreements.
- 9.372 By adopting this approach, the determination of the ‘cumulative’ assessment will be agreed with the relevant key stakeholders as part of the TA scoping and based on the strategic models (A2BE and LTAM).
- 9.373 Consequently, the cumulative effects of network traffic growth and some developments identified in Local Plans in the defined study area would typically be considered in the LTC model, such that the forecast baseline conditions will reflect some cumulative effect conditions.
- 9.374 Notwithstanding the Planning Authorities’ Strategic Environmental Assessments of emerging local plans, where developments rely on the delivery of transport infrastructure that is not designed to an advanced stage such that the mitigation of that development cannot be relied upon, it might be that such development(s) and infrastructure cannot be considered as part of this assessment and will be reviewed at a later date.

Travel demand forecasts and impact

- 9.375 As discussed earlier in this chapter, the London Resort is likely to result in significant

increases in volume of trips (visitors and staff) to the area.

- 9.376 TN1 and TN2 outline the proposed trip generation and distribution of the Proposed Development, including the split between UK based and International / European visitors.
- 9.377 Based on data from Disneyland Paris, two out of five overseas visitors primary journey purpose is to visit the resort only. Due to the strength of the tourism market in London and nearby areas to the Resort, it is likely that overseas visitors travelling to the UK will travel to the resort as part of a combined trip. Applying the same data as Disneyland Paris, this section assumes that the remaining overseas visitors (60%) will already be tourists to the UK and would therefore not represent a new trip to the UK.
- 9.378 A review of the likely demand for transport and anticipated impact without mitigation measures in place in each of the travel modes considered is presented below.

Road

- 9.379 The redevelopment of the Manor Way, Northfleet and Kent Kraft industrial estates will contribute to reductions in traffic on the A226 London Road corridor. Compared to the existing baseline, the traffic levels forecast as a result of the Proposed Development result in a reduction in commercial vehicle volumes, and subsequently positively reduces the sensitivity of the Air Quality Management Area (AQMA)¹⁵.

Water

- 9.380 Short sea traffic into the UK is approximately 22 million passengers, and it is forecast to increase even without the London Resort. However, it should be noted that the effects of the current Covid-19 pandemic may change the forecast patterns and frequencies, with these effects currently unpredictable.
- 9.381 Depending on the cruise liner interest and location of berths operated, it is likely that the London Resort could contribute to approximately 2% increase in cruise trips to/from the UK. While the bias towards the Port of Southampton would indicate an imperceptible change for Southampton, it is possible that the proximity of Port of Tilbury could give rise to a negligible increase in sailings and associated activity there as well.
- 9.382 Without the London Resort, modest rises in demand can be anticipated, although it is unlikely that these will reach 1990s levels. The Resort is therefore likely to increase passenger demands across all UK ports by less than 2%, including short sea and cruise travel.
- 9.383 Given that the Port of Dover is the most used (around two-thirds of short-sea travel), it is estimated that this is equivalent to approximately additional six passengers per ferry service via Dover, as a result of the London Resort. As all ports and the majority of services

¹⁵ <https://uk-air.defra.gov.uk/aqma/maps/>

operate with some spare capacity, any changes could likely be classified as negligible or slight.

Rail

9.384 A proportion of visitors to the London Resort is expected to travel from overseas by the Channel Tunnel (HS1 and Eurostar/Le Shuttle service). Approximately 10% of international visitors are expected to travel via the Channel Tunnel services (approximately 2 – 3% of all visitors to the Resort).

9.385 The number of passengers using Channel Tunnel services is currently in a region of 21.5 million (2018 data)¹⁶. Therefore, the impact of the London Resort on Eurostar Channel Tunnel services translates into approximately 0.5% of existing (2018) demand per year. As such, any changes resulting from the London Resort will be negligible.

Coach

9.386 The number of scheduled coach services is expected to increase as operators seize opportunities to capture additional passenger demand. Similarly, numerous coach excursions are likely to be promoted from large towns and resorts within the UK and Europe. Collectively, these will add to the number of coaches, primarily on the SRN. While numerically this increase in traffic should be small, the change of vehicle proportions might be perceptible, but it is unlikely to be material.

Bus

At this juncture, additional Fastrack bus services are expected to operate primarily on the local road network, although many buses will likely redistribute to the London Resort transport corridor. These services will contribute to enhanced service frequencies offering some positive effects for bus passengers. Like increases in coach traffic, the change in bus traffic may be perceptible. However, the redevelopment of the Manor Way, Northfleet and Kent Kraft industrial estates, with associated reductions in commercial traffic, should ensure that this change is still positive.

Air

9.387 As discussed in the supporting TNs, the proportion of all international visitors to the London Resort is expected to be approximately 30% of all visitors. However, this will likely fluctuate throughout the year. Additional analysis of the evidence from Disneyland Paris¹⁷ suggests that around half of total international visits could relate to new trips that would not happen without the Resort. Therefore, it could be argued that the remaining international visitors are not sole purpose travellers and have a primary purpose

¹⁶ <https://www.statista.com/statistics/304968/number-of-passengers-travelling-on-the-eurostar-and-le-shuttle-in-the-united-kingdom/>

¹⁷ <http://corporate.disneylandparis.com/CORP/EN/Neutral/Images/uk-2012-03-14-press-kit-economic-and-social-impact-study.pdf>

elsewhere within France and would have already been tourists in the host country without the Proposed Development in place. Additional analysis related to international visitors modal split suggests that approximately 79% of overseas visits will travel by air to visit the UK.

- 9.388 Considering these estimates, on average less than 5,000 air passengers (including return) per day would be generated by the Resort. This represents less than 1% of existing (2018 data) all international air passengers in London airports. As the thresholds of significance for air quality are generally 5%, the change can, at most, be considered as 'negligible'.
- 9.389 As the capacity of London, airports are already being considered at a national level, and there is no certainty over the distribution of these air movements, no further quantitative assessment is planned.

Mitigation measures

- 9.390 As outlined earlier, the environmental mitigation measures will form part of the assessment in the EIA and will inform the residual development effects once traffic and other data become available.
- 9.391 Notwithstanding the above, the proposed access strategy provides a comprehensive design package that will enable the movement of construction vehicles, visitors and staff across all available transport modes. The access strategy promotes sustainable travel use, with acknowledging the key role of vehicular movement to the London Resort.

Construction Phase

- 9.392 Construction traffic is a temporary transport effect, and for the London Resort, it will typically be significantly lower than the traffic associated with the operation of the Resort. Thus, the effects of the traffic related to the construction phase tend to be less significant.
- 9.393 The volume of traffic will also depend heavily on the rate of delivery and the triggers for delivering parts of the infrastructure. As the preferred main contractor will not be identified until later in the planning process, various assumptions will be made in a draft CLP provided as part of the DCO application.
- 9.394 While there may be some contaminated materials on-site (Kent Project Site), as a residual effect of the former quarrying operations and industrial uses, these materials will generally be retained on-site and used as a 'core' for landscaping purposes such as the construction of landscape bunds.
- 9.395 Similarly, while there is a requirement for bunds to be constructed to defend the site from flooding, it is expected that the London Resort will be constructed with balanced cut-fill on-site.
- 9.396 A CLP will provide a framework to better manage all types of transport movement to and

from construction sites as well as some of the key on-site operations. The CLP is the equivalent of a workplace travel plan for construction vehicles, but it additionally considers issues such as the construction supply chain, principles of site organisation and operations. It is envisaged that the CLP will be subject to a planning condition. Once the main contractor is identified, the CLP will be finalised and, with a Statement of Conformity, will review material changes that might occur.

Operation Phase

- 9.397 A network of PRowS (consisting of footpaths, bridleways and cycle routes) forms part of the Project Site. The proposed masterplan carefully considers the existing routes and facilities and incorporates them into the layout and the access strategy. This is in line with KCC's Rights of Way Improvement Plan 2018-2028 (ROWIP), with the London Resort providing a high-quality network of routes and connections to the river as well as a high-quality public realm in general.
- 9.398 As part of the access strategy, a comprehensive list of pedestrian and cyclist routes is considered, exploring desire lines for all modes of transport based on axial mapping of origins and destinations. In conjunction with this exercise, potential improvements are considered to ensure that all users are catered for. This will include connections to major attractions (such as town centres) and transport interchange hubs, such as railway and bus stations as well as the new water ferry terminals.
- 9.399 For example, it is proposed that access from Ebbsfleet International railway station is achieved through a multi-use transport corridor, allowing not only buses to and from the Project Site (and other locations) but also a segregated and shared use pedestrian and cycle route. This provides a safe and direct connection to/from the Resort.

RESIDUAL AND IN-COMBINATION EFFECTS

Residual effects

- 9.400 Due to the lack of traffic data, at this stage, it is not possible to determine the residual effects of the London Resort. However, mitigation strategies will be developed as part of the ES where required, and the post-mitigation residual effects are predicted to be 'not significant' in EIA terms.

In-combination effects

- 9.401 Similar to the residual effects, the in-combination effects cannot be established at this stage due to the lack of traffic data at the time of writing. However, the assessment carried out as part of the EIA/ES will utilise the data from the strategic traffic model, which will contain all significant committed development in the area. Inherently, any effects identified during the assessment will also be in-combination effects.

Transboundary effects

- 9.402 The transboundary impacts are the impact of the London Resort on countries outside of the UK in the EEA (European Economic Area). In transport terms, this would be the residual impact of the additional traffic associated with the resort upon other countries.
- 9.403 It is anticipated that the vast majority of visitors from overseas will be extending existing trips to the UK or will combine a trip to the Resort with other attractions within the UK.
- 9.404 It is acknowledged that there will be some additional vehicle movements associated with travel to the Proposed Development through the EEA. Previous assessments undertaken in 2017 identified that two thirds of existing international guests to the UK were via air travel, with a significant proportion of the remaining third of guests via river and rail. The level of visitors to the Proposed Development, in context, would be a small number of total inbound movements to the UK. As part of the Proposed Development, there are no proposals to increase the frequency of any air, rail or water-based international transport services. It is anticipated that movements using vehicles will be a minority of traffic movements into the UK, and again, will be subject to the availability of existing services on both rail and water-based transport to enter the UK. This will be addressed in detail in the Transport Technical Notes.
- 9.405 It is therefore considered that while transboundary effects will be considered as part of the EIA, this will not require a detailed assessment.

CLIMATE CHANGE

- 9.406 The Met Office Hadley Centre (MOHC) provide UK Carbon Projections¹⁸ (so-called UKCP18 data) data. The dataset provides probabilistic projections of change in climatic parameters overtime for 25 km Ordnance Survey GB grid.
- 9.407 The projections use a Representative Concentration Pathway (RCP) that represents a greenhouse gas concentration trajectory. The data is available for various RCPs of which RCP8.5 is the worst-case scenario considering that emissions will continue to rise throughout the 21st century. It should also be noted that according to the MOHC, the RCP8.5 is considered to be an overestimation of projected coal outputs, and it is *'increasingly implausible with each passing year'*.
- 9.408 Given the extent of the current policies and agreements related to the climate change and the environment as well as internationally agreed commitments for the reduction of greenhouse gas emissions, it is considered very robust to apply the RCP8.5 scenario, with the actual climate changes being significantly less onerous.
- 9.409 Projected changes for an RCP8.5 future global greenhouse gas emissions scenario were

¹⁸ <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/download-data>

reviewed for the 2030–2049 representing changes at the full completion of the London Resort (2038) and its operational phase.

- 9.410 The likely ranges of change in climatic parameters including precipitation, temperature, wind speed, humidity and frequency of extreme weather are not considered to materially affect the future baseline described above for traffic and transport or increase the sensitivity of receptors to impacts. GHG and Climate effects are considered in more detail in the relevant chapter of the PEIR.

SUMMARY AND CONCLUSIONS

- 9.411 A preliminary assessment of the potential environmental effects associated with the Transport, Accessibility and Movement aspects of the London Resort has been carried out to the extent currently possible, and it is discussed in this chapter of the PEIR.
- 9.412 Several supporting documents that include a Transport Assessment, Travel Plan, Construction Logistic Plan as well as EIA/ES and others are being produced to support the application. These documents also include a number of Technical Notes discussing specific aspects of the proposals in detail. All of these documents formed a basis of this preliminary assessment and informed its development.
- 9.413 The assessment is based on policy and current best practice exemplified in a number of policy documents at a national, regional and local level. The predominant message from both national and local policy is to support sustainable development, consider the impact upon the highway network and where required provide mitigation of that impact.
- 9.414 The London Resort masterplanning process has looked to promote walking and cycling and to connect the Project Site by sustainable modes of transport. Also, the London Resort will look to introduce new public transport opportunities not only for visitors/staff of the Resort but also the existing transport network users.
- 9.415 The conditions on the transport networks in the area have been considered and a preliminary assessment undertaken for both construction and operational phases of the proposals with particular focus on sensitive locations including schools, health and community facilities and other areas with significant pedestrian movements.
- 9.416 It should be noted that the detailed assessment, which is predominantly based on the changes in traffic volumes in the area, is going to be provided as part of the EIA process. These traffic flows will originate from the strategic model that is currently being developed.
- 9.417 It is concluded that several mitigation measures that are either inherently provided by the proposals or will be developed based on the detailed assessment results will satisfactorily counterbalance the potential environmental impacts associated with the London Resort so that the increased travel demand can be safely accommodated by the local transport

networks.