

Port of Felixstowe Growth and Development Needs Study Final Report

In association with Royal HaskoningDHV

Suffolk Coastal District Council

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Executive Summary

This report has been prepared by Lichfields in association with Royal HaskoningDHV on behalf of Suffolk Coastal District Council (SCDC). It considers the likely future growth potential of the Port of Felixstowe and the related need for additional land allocations within Suffolk Coastal District to inform the emerging Suffolk Coastal Local Plan.

It builds upon previous technical evidence carried out in 2008 which explored port-related land requirements and updates selected parts of this evidence to take account of more recent trends, development activity and economic growth evidence recently prepared for the Ipswich Economic Area (IEA) as a whole. Outputs from the study will be used to inform the Council's emerging Local Plan.

The key findings of the study can be summarised as follows:

Container trade

UK container trade and throughput has seen steady growth in recent years, and the Port of Felixstowe has fairly consistently maintained market share and position as the UK's largest and busiest container port. It has a significant advantage over other UK container terminals in that vessels do not have to deviate far from the main shipping routes (i.e. the English Channel) to call at the port. It is also characterised by high utilisation, and this has spurred a number of expansion and improvement projects at the port which are either currently underway or due to take place soon.

Other UK ports also have plans to expand their container throughput and are likely to compete with Felixstowe for operators over the coming years. This includes the nearby ports at Tilbury and London Gateway, the latter of which benefits from considerable land availability for logistics related development.

Logistics trends and typologies

The UK logistics sector has undergone rapid change in recent years, reflecting the increasing demands for online shopping and next day delivery services. This includes a move towards port-centric logistics which represents an alternative to inland depots and centrally-located national distribution centres, allowing companies to streamline their supply chains and reduce their impact on the environment.

Business activity associated with container ports such as the Port of Felixstowe can be considered in terms of three broad spatial typologies, namely; on-port operations and activities (which must be undertaken on-site within the port boundary or estate), off-port supporting industry (activities which are closely linked to the port and are ideally undertaken in close proximity), and off-port wider supply chains (wider supply chain functions and activity taking place to serve and support the day-to-day operations of the port). The second typology is of most relevance to this study, in terms of its likely growth potential and the need to make specific provision within Suffolk Coastal District to accommodate this growth over the plan period.

Economic forecasts

The latest economic projections analysed by Royal HaskoningDHV imply that container trade (measured by Twenty-foot Equivalent Units [TEU]) will continue to grow in the UK over the period to 2040. A series of Central, Low and High case growth scenarios have been developed which reflect more or less optimistic assumptions concerning the potential impact of Brexit both on GDP and, in turn, TEU growth.

The assumptions and implications for Felixstowe are that the Port will retain its historical market share of UK container throughput. The scenarios provide a useful way of considering how the scale of activity at the Port of Felixstowe could grow and change over the coming years.

Land requirements

A key consideration for this study is how the volume of containers expected to pass through the Port of Felixstowe over the new Local Plan period (2014-2036) might translate into demand for off-port operations and land. To some degree, this will be influenced by patterns of on-port activities and the capacity of the Port's estate to accommodate some of these. Using a similar methodology to that applied as part of the 2008 Felixstowe Port and Logistics Study, the three container trade forecasts have been translated into requirements for off-port land. This results in a range of between 26.3 ha (under the Low case) and 103.8 ha (under the High case), with the Central case falling broadly in between and suggesting 66.9 ha.

The largest component of these requirements relates to land for warehousing which ranges between 15.7 ha and 62.0 ha, whilst land for open storage ranges between 7.1 ha and 28.2 ha. Whilst the implied TEU forecasts for warehousing are much lower than those for open storage, the TEU per hectare/per year density is much lower and so the land requirement is commensurately greater. Land for ancillary uses is estimated at between 3.4 ha and 13.5 ha.

The analysis implies that a minimum of 26.3 ha of off-port land is required in order to accommodate the scale of container traffic throughput growth that is expected to occur at the Port over the new Suffolk Coastal Local Plan period to 2036. This represents activity falling within the 'off-port supporting industry' typology noted above. This land requirement could be as high as 103.8 ha if the higher growth scenario is realised.

This range of land requirements is slightly lower than the range identified by the previous Felixstowe Port Logistics Study undertaken in 2008; this was equivalent to between 44 ha and 116 ha, albeit covering a different study period of 2006 to 2023.

Given the imperative to support future growth at the Port of Felixstowe – reflecting the Port's economic significance in both a District and wider IEA context – it is recommended that the Council consider planning for at least the Central case (i.e. just under 67 ha of land), to ensure that adequate space is made available for port-related growth and activity should it be needed over the plan period.

Accommodating demand

Recent economic evidence prepared for the IEA authorities suggests that the strength of occupier demand for business space and employment land associated with the Port of Felixstowe is generally greatest in the immediate vicinity of Felixstowe. Whilst there is always likely to be some level of port-related demand for sites and locations further east along the A14 corridor, this tends to reduce as distance from the Port increases.

This has important implications when it comes to considering the spatial dimension or 'reach' of the off-port land requirements identified above. It indicates that the operational nature of logistics activity connected to the Port of Felixstowe inevitably restricts demand to particular locations, underlining the need for alignment between demand and supply to ensure that ongoing operations and future growth at the Port can be accommodated and facilitated in planning policy terms.

Feedback obtained as part of this study suggests that this demand would be optimally accommodated within the 10 mile section of the A14 between Felixstowe and the Orwell Bridge crossing, reflecting occupier preferences, the economics of onshore freight movement/logistics and increasing reliability issues associated with the bridge crossing.

Future supply

An assessment of the supply of land that might be, or become, available to meet future off-port land demand associated with the Port of Felixstowe over the new Suffolk Coastal Local Plan period has been undertaken as part of this study. Based on latest Council monitoring data, the existing pipeline supply of employment land that is in close proximity to the Port of Felixstowe and considered suitable for port-related activities totals

just over 67 ha. This quantum would be sufficient – in quantitative terms – to accommodate the low and central case growth scenarios, while additional land would be required to meet the high growth case in full.

There are inherent risks associated with relying in isolation upon this pipeline land supply to support future growth of the Port of Felixstowe, and a number of factors combine to undermine the certainty of this quantum of land being genuinely available to accommodate needs over the new Local Plan period. These include planning policy flexibility, landowner aspirations and priorities, and the small-scale nature of some of the sites. Further work will need to be undertaken to understand its relative deliverability through the next stage of Local Plan preparation.

It is likely that other sites may come forward that are equally or more suitable for port-related development. In order to identify alternative and more suitable supply, a portfolio of 10 potential new employment sites has been considered and appraised as part of this study, focusing upon the 10 mile corridor of the A14 between the Felixstowe urban area and the Orwell Bridge crossing (i.e. within Suffolk Coastal District). Just two of the 10 sites are being actively promoted for port-related uses by their landowners, but would need to overcome site-specific issues and challenges before any such development can take place. Further details about each site can be found in Appendix 7.

In light of the above noted risks and from a qualitative perspective to help ensure sufficient choice and flexibility for occupiers and developers, it is recommended that the Council consider allocating new land specifically for port-related uses through the new Local Plan and associated site allocations strategy.

This study has identified a number of sites within Suffolk Coastal District that offer potential to accommodate port-related growth over the period to 2036. This is based upon information available at the time of analysis which may change and require updating in due course as and when further site based technical/feasibility work has been carried out and more intelligence becomes available.

Beyond the immediate District of Suffolk Coastal, the opportunity remains for some demand to be met at strategic locations elsewhere across the Ipswich IEA; a number of logistics sites are currently being proposed in neighbouring local authorities such as Babergh and Mid Suffolk and whilst they do not offer the same proximity advantages to the Port, they may appeal to certain occupiers that are able to be more flexible in terms of locational requirements.

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1.0 Introduction

- 1.1 Suffolk Coastal District Council ('SCDC') commissioned Lichfields in association with Royal HaskoningDHV to undertake a growth and development needs study for the Port of Felixstowe.
- 1.2 The purpose of the study is to understand the likely future growth potential of the Port of Felixstowe and the related need for additional land allocations within Suffolk Coastal District to inform the emerging Suffolk Coastal Local Plan.

Background and Rationale

- 1.3 The Port of Felixstowe is the UK's busiest container port and one of the largest in Europe. The Port is a recognised centre of distribution and logistics, with the vast majority of employment connected to shipping and Port activities. It represents a strategic employment site of both national and international significance, and acts as the main driver for, and user of, industrial land both in Suffolk Coastal District and across the wider sub-region.

Ipswich Economic Area Economic Evidence

- 1.4 The important economic role played by the Port of Felixstowe is acknowledged by recent economic evidence base work prepared by Lichfields on behalf of the Ipswich Economic Area, comprising the local authorities of Babergh, Ipswich, Mid Suffolk and Suffolk Coastal.
- 1.5 A detailed assessment of sector needs carried out in 2017 ("Ipswich Economic Area Sector Needs Assessment", "SNA") identified broad 'baseline' requirements for employment land across the sub-region, supplemented with an analysis of key growth sectors and economic assets which could place additional requirements and demand upon business space and land to accommodate growth over the plan period.
- 1.6 A total 'baseline' employment land requirement of 14.4ha was identified for the District over the period 2014 to 2036, much of this driven by macro level growth forecasts for the business and professional services sectors. The SNA study recognises the significant economic role played by the Port but does not specifically analyse detailed land requirements associated with specific sites and assets across the study area. It does however note that future growth of the Port of Felixstowe is dependent upon additional land for operators to expand and relocate and that opportunities exist to significantly support the growth of port-based logistics activities in and around the Port of Felixstowe, subject to availability of suitable land in close proximity to the Port.

Felixstowe Port Logistics Study 2008

- 1.7 The most recent detailed review of land use issues and spatial growth requirements associated with the Port itself and its future operational plans was the 'Felixstowe Port Logistics Study' undertaken in 2008 on behalf of SCDC.¹ The 2008 study identified the key land use issues and requirements likely to emerge from the proposed Felixstowe South Reconfiguration (FSR) in order to inform local and regional decision-making and shape emerging policy documents being prepared at the time.

¹ Felixstowe Port Logistics Study, GHK with Royal Haskoning, October 2008
<http://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/Document-Library/Infrastructure/FPLSFinalReport2008.pdf>

Emerging Suffolk Coastal Local Plan

- 1.8 In response to the recent Local Plan Issues and Options consultation (undertaken between August and October 2017), SCDC received a number of representations from parties with an interest in the Port and its related activity, including from the Port of Felixstowe itself, nearby landowners and members of the public. These representations endorsed the existing evidence prepared by Lichfields and referenced the future direction of the Port and its growth and expansion plans, as well as the nature and scale of land that will be required to accommodate this growth over the new Local Plan period. In view of the nearly 10 years that have elapsed since the previous Felixstowe Port Logistics Study was undertaken, representations suggested that an updated study be prepared to gain a better understanding of the port and logistics sector's requirements. This study has been commissioned on this basis.

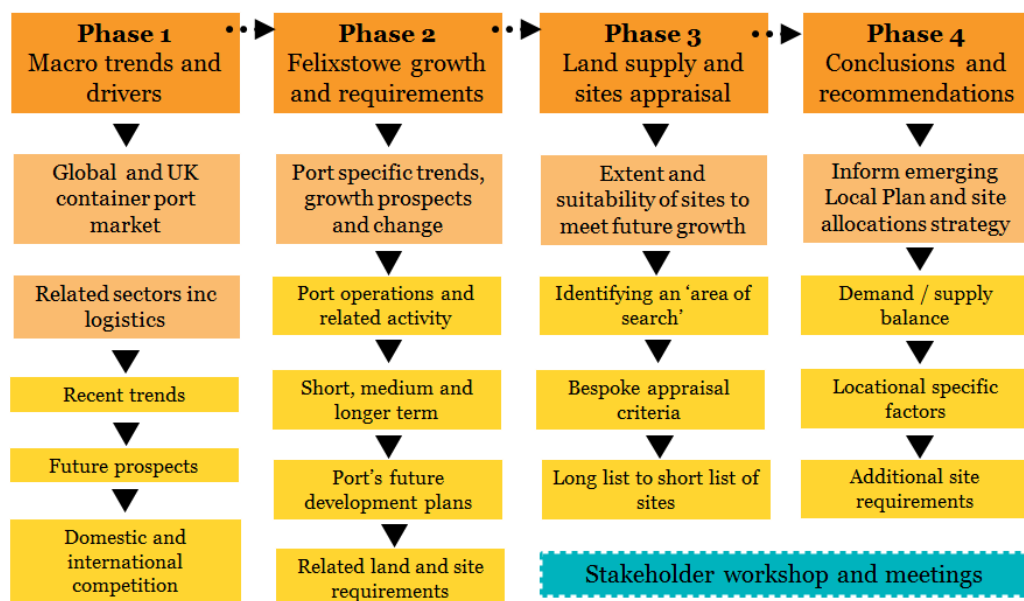
Study Brief and Objectives

- 1.9 The overarching objective for this growth and development needs study is to provide independent advice on the likely growth potential of the Port of Felixstowe over the new Local Plan period (i.e. to 2036) and the related need for additional land allocations within the District, primarily for distribution and warehousing uses but also for other port-related uses, such as haulage operations and associated yards, and supply chain activities.
- 1.10 The study builds upon previous technical evidence carried out in 2008 which explored port-related land requirements and updates selected parts of this evidence to take account of more recent trends, development activity and economic growth evidence recently prepared for the Ipswich Economic Area as a whole. Outputs from the study will be used to inform the Council's emerging Local Plan.

Methodology and Basis for Assessment

- 1.11 Preparation of this report has followed a four-phase methodology as set out in Figure 1.1 below.

Figure 1.1 Study Methodology



Source: Lichfields

- 1.12 The study assesses the land required *off-port* to accommodate activities supporting the operation of the Port of Felixstowe as a freight and logistics gateway. The scope of the study is therefore defined by the following dimensions:
- a **Port-related activity** – the Port of Felixstowe deals primarily with containerised traffic but represents just one part of a larger network of freight movements that also includes logistics, warehousing, and distribution activities. It is the land required by these uses further along the logistics chain that this study seeks to estimate. To be consistent with the 2008 Felixstowe Port Logistics Study, these uses include: open container storage, warehouse space, distribution centres, haulage operations and related ancillary uses. Land estimates do not include the quantity of land required for lorry parking.
 - b **Geography** – as the busiest port in the UK, the expansion of Felixstowe has implications for the movement and distribution of goods throughout the country. Much of the freight volume that passes through the port goes from on-port storage to the Midlands (‘Golden Triangle’) and beyond by rail or HGV. However, the specific purpose of this study is to assist SCDC to make informed planning decisions regarding port-related uses. For this reason, the study focuses its attention on potential sites in close proximity to the Port, within the administrative area of Suffolk Coastal District.
 - c **Time horizon** – the study projects land requirements over the short, medium and long term. Additional land requirements are calculated based on projections of growing volumes of container traffic at the Port of Felixstowe covering the new Suffolk Coastal Local Plan period to 2036.

- 1.13 The UK port sector is expected to see significant change over the next few years, influenced by domestic and international competition, the changing nature of the international economy and global logistics chains and the as yet unknown impacts that the UK’s exit from the European Union (EU) could have upon these dynamics. This report explores how trends in shipping and ports, and logistics and the movement of freight within the UK potentially impact on the operations of the Port of Felixstowe and its port-related activities. This context provides the basis for identifying the drivers behind the evolving requirements for land in the short, medium and long term.

Consultation

- 1.14 The study draws upon consultation with a range of local stakeholders including the Port of Felixstowe (Hutchison Ports), commercial property agents, economic development and business organisations, as detailed in Appendix 2. A workshop to discuss emerging findings was held in Felixstowe in March 2018, and a summary of feedback from the workshop is provided in Appendix 3.

Limitations

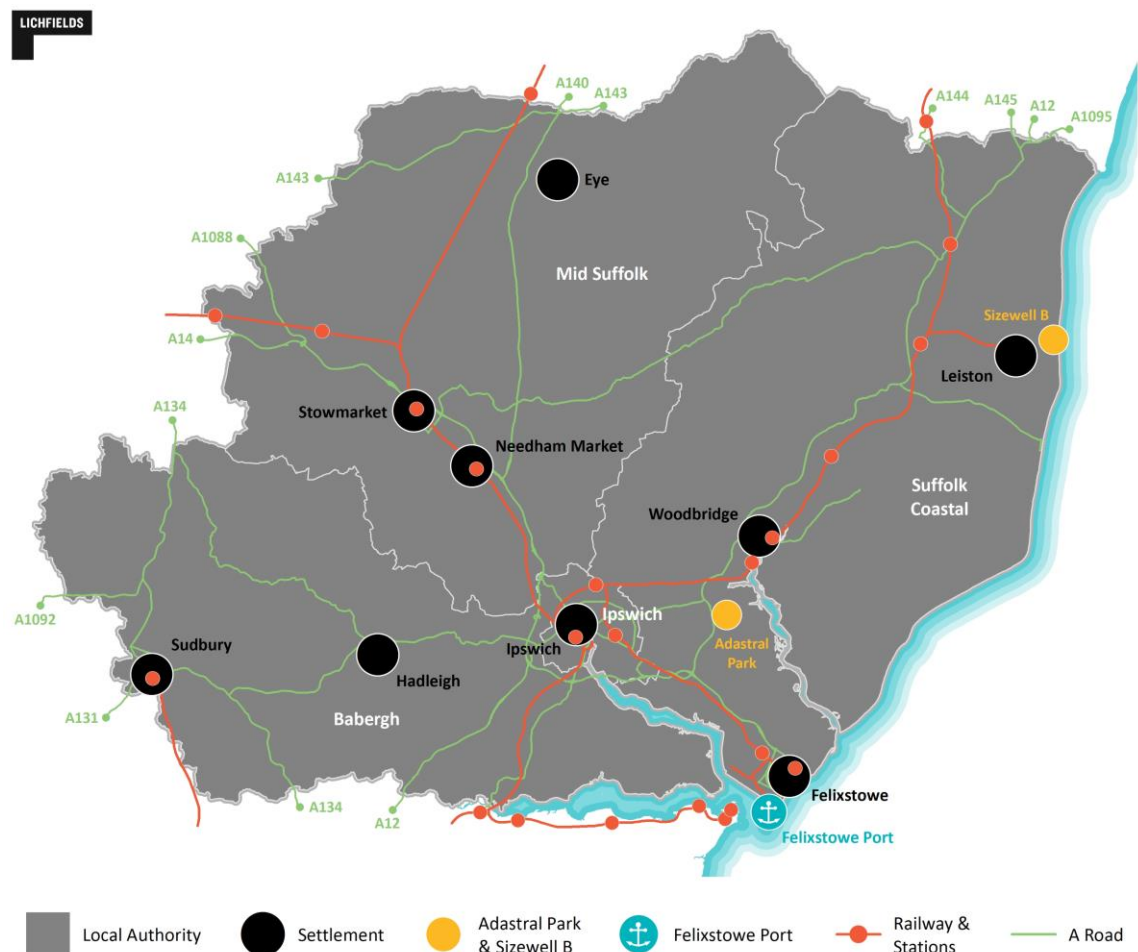
- 1.15 It is important to note that this report represents a point-in-time assessment. The analysis incorporates the latest data and other evidence available at the time of preparation during early 2018 but will be subject to change. The accuracy of data derived from third party sources has not been checked or verified by Lichfields or Royal HaskoningDHV.
- 1.16 A range of economic and property market data has been incorporated from published and proprietary sources as detailed within the report. In line with market conventions, values (i.e. rents) for commercial space are expressed in £ per ft² although metric units of measurements (i.e. m²) have generally been used elsewhere in the report.

- 1.17 The terms of reference for this study do not require specific consideration of the implications of future growth at the Port of Felixstowe upon rail freight cargo capacity.

Study Area

- 1.18 For the purposes of analysis, the core study area is defined as the administrative area of Suffolk Coastal District. The wider study area is defined as the surrounding Ipswich Economic Area, which also comprises the local authority areas of Ipswich, Babergh and Mid Suffolk. This is shown in Figure 1.2 below, alongside the location of the Port of Felixstowe itself.

Figure 1.2 Wider Study Area



- 1.19 It is recognised that the growth of port-related activities may have implications for other local authorities beyond Suffolk Coastal District, and therefore the key study findings may be relevant to strategic planning matters elsewhere across the Ipswich Economic Area and beyond.

Structure of Report

- 1.20 This report is structured as follows:
- **Section 2.0** provides an assessment of recent trends and future prospects for the UK ports and related logistics sectors, in particular the UK container port market;
 - **Section 3.0** provides an overview of the changing nature of the port-related logistics sector;

- **Section 4.0** sets out a series of forecast growth scenarios for the Port of Felixstowe and translates these into off-port land requirements;
- **Section 5.0** assesses the supply of land that might be, or become, available to meet demand over the new Local Plan period; and
- **Section 6.0** draws together overall conclusions and recommendations to inform the emerging Local Plan and associated site allocations strategy.

1.21 A glossary of key study terms is included at Appendix 1.

2.0

Overview of UK Container Port Market

2.1

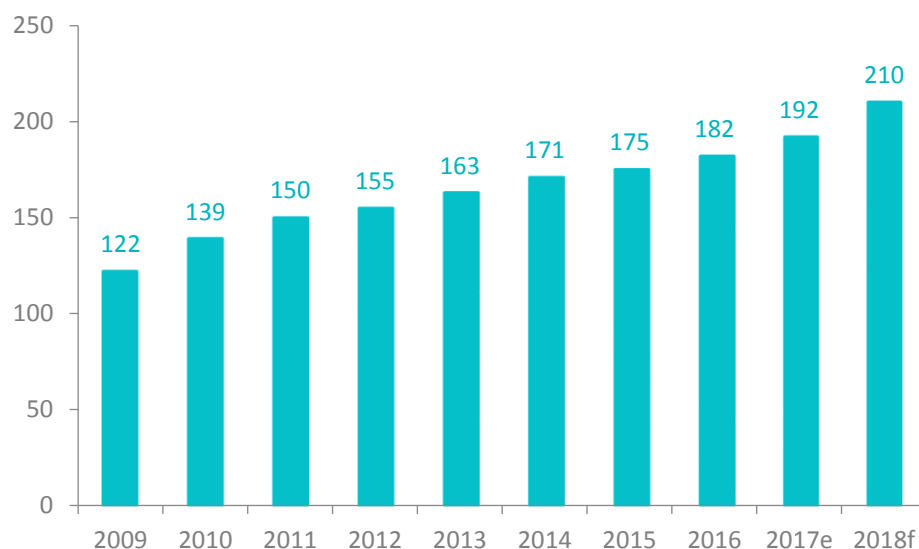
This section provides an overview of recent trends and future prospects for the UK ports and related logistics sectors, in particular the UK container port market, in order to set the strategic context for the study.

Global Container Port Market

2.2

Increased demand in containerised goods has seen seaborne container trade increase by 72% between 2009-2018. This is equivalent to a compound annual growth rate (CAGR) of 6.2%. Overall global container trade has risen from 122m TEU² in 2009 to a forecast 210m TEU in 2018 (Figure 2.1), supported by trade growth (eastbound transpacific volumes are projected to increase by 7%) and robust intra-Asian trade growth of over 6%. North-South container volumes will remain relatively weak. There are still risks for the world economy, including the recent tariffs on Chinese goods in the US, which could spark a trade war, which will impact container trades. However, the potential is still there for economic and containerised trade expansion.

Figure 2.1 Seaborne container trade, 2009-2018 (Million TEU)



Source: Royal HaskoningDHV / Clarksons

Note: 'e' denotes estimate and 'f' denotes forecast

2.3

Whilst China will remain a hub for the export container industry in the near-future, other regions will witness a growth in their demand for containerised goods. Nigeria is a prime example as its under-developed container infrastructure will be expanded and updated to enable the handling of more container vessels as its population grows – currently 174m and is forecast to increase to over 400m people by 2050.

2.4

The port sector is gearing-up for more containerised growth as other commodities move to utilise containers as a means of transporting cargoes. It is anticipated that a significant percentage of global general cargo will eventually be shipped in containers. Commodities such as fertilisers and timber are increasingly transported in containers.

² TEU is the abbreviation for twenty-foot equivalent units – a standardised measure of container traffic

2.5 Similarly, the growth in refrigerated containers highlights how the shippers are pushing the benefits of containerised goods for commodities such as bananas; refrigerated containers allow bananas to reach their end market with the minimum of handling in a temperature controlled environment from the packing depot. New cargoes utilising containers put pressure on the entire logistics chain – from producer to consignee – to develop and invest in new systems to achieve higher efficiency.

2.6 Table 2.1 below highlights the world's largest ports in terms of cargo throughput in tons in 2016. This shows that of the top 15 ports, 12 are container ports. Of the 12 container ports, 8 are located in China. China is by far the largest exporter of containers, as the country has experienced rapid industrial growth and increasing global trade. This highlights the impact that containers have had on the global shipping and ports industry over the past few decades.

Table 2.1 Global ports by cargo handled, 2016

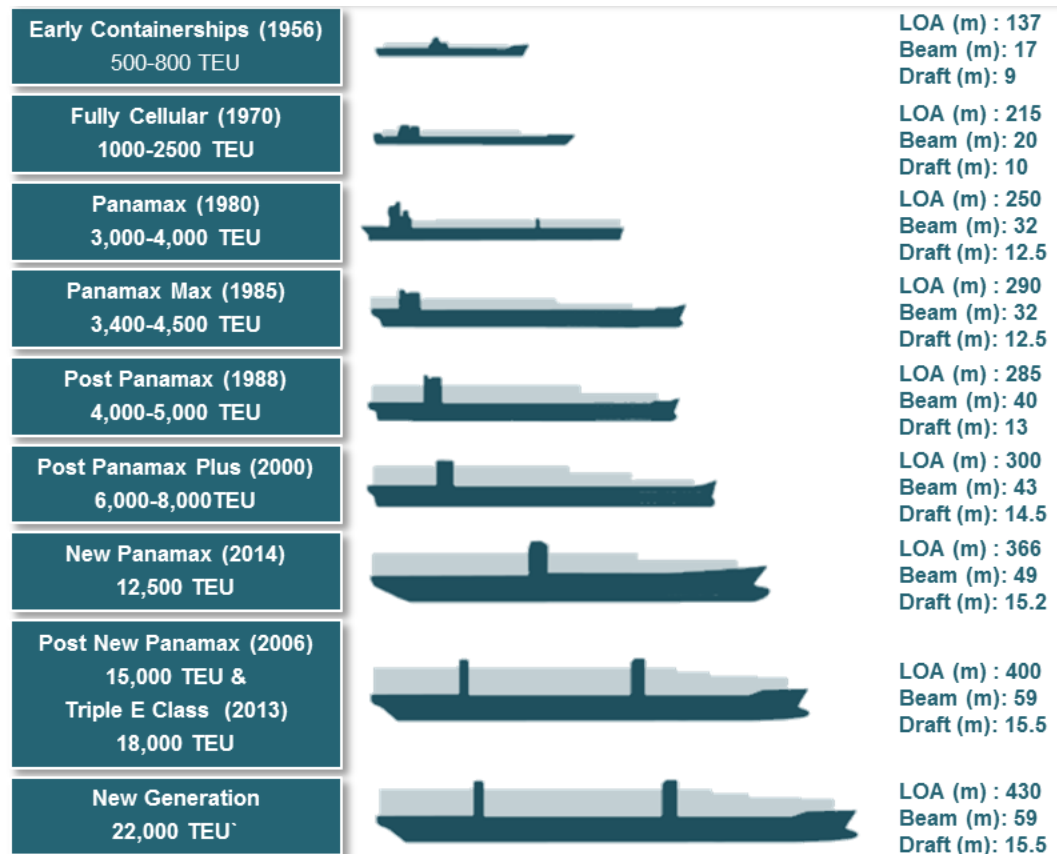
Rank	Port	Country	Tons ('000s)	Main Cargo	TEU ('000s)
1	Shanghai	China	647,446	Container	37,100
2	Singapore	Singapore	593,297	Container	30,900
3	Guangzhou	China	544,374	Container	18,300
4	Port Hedland	Australia	484,510	Iron ore	n/a
5	Ningbo	China	469,025	Container	21,500
6	Rotterdam	Netherlands	461,177	Container	12,300
7	Qingdao	China	443,978	Container	18,000
8	Tianjin	China	428,098	Container	14,300
9	Busan	South Korea	349,708	Container	19,200
10	Dalian	China	318,413	Container	9,700
11	Kwangyang	South Korea	283,106	Steel	n/a
12	Hong Kong	China	256,730	Container	19,300
13	South Louisiana	United States	237,594	Multi-port	n/a
14	Port Kelang	Malaysia	235,457	Container	13,200
15	Xiamen	China	234,197	Container	9,600
32	Felixstowe	UK	-	Container	4,016

Source: Royal HaskoningDHV review of various sources

2.7 As the container trade has increased there has been a steady development with the ship designs to enable larger consignments of container to be transported in a single vessel. This in part has been driven by the shipping lines seeking to achieve economies of scale. The shift to larger

vessels has been the most significant feature for deep-sea containerisation in recent years (Figure 2.2).

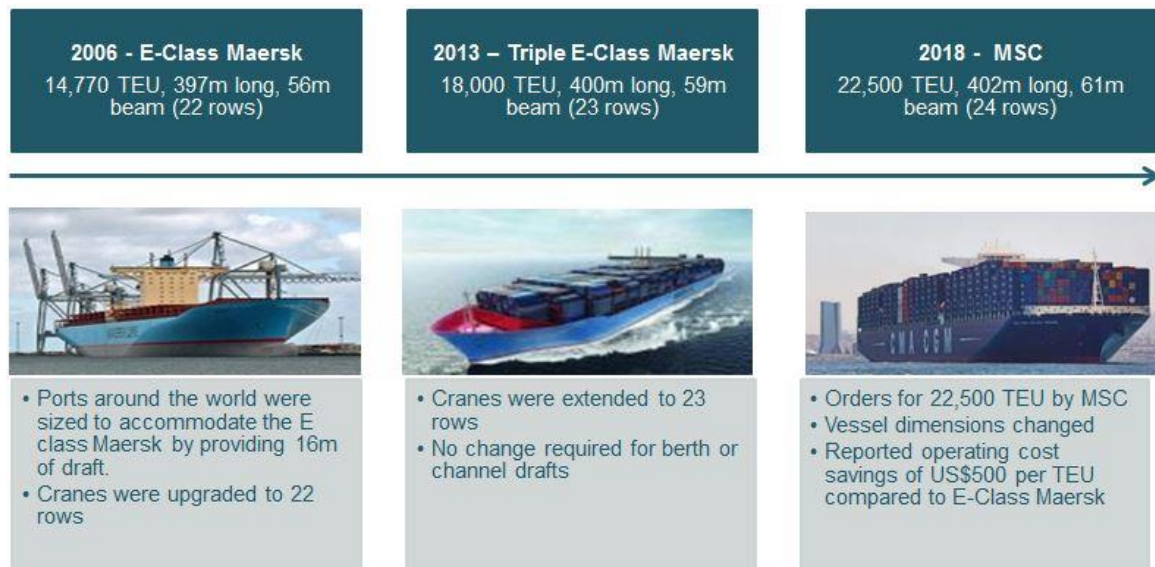
Figure 2.2 Evolution of container vessel dimensions



Source: Royal HaskoningDHV / Alphaliner

- 2.8 The largest vessels that are on-order have a length of 400m (LOA), a beam of 59m and a design draught of around 16m – although full draught by weight will seldom be used. Larger vessels are also under consideration with designs for vessels of 22,000 TEU and even 24,000 TEU proposed.
- 2.9 The very largest vessels are typically deployed on the East Asia to Europe route; however, the oversupply of these largest classes of vessels is now resulting in pressure to re-deploy the previously largest vessels on to other trades.
- 2.10 While the largest container vessels increased from 14,000 TEU in 2006 to 22,000 TEU in 2018, the vessel dimensions (400m x 59m) remain largely unchanged (Figure 2.3). Vessels sizes have continued to increase with new orders from the market leaders to retain market share at the costs of margins.

Figure 2.3 Development of container vessel dimensions

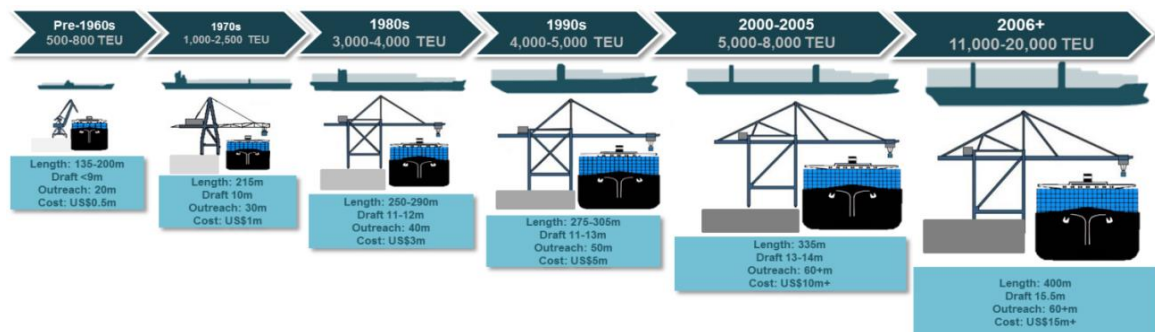


Source: Royal HaskoningDHV

2.11

The changes in the size of vessel deployed on services impacts on the ports of call. One key implication is the need for more/larger gantry cranes to service larger vessels, as shown in Figure 2.4 below. Additional upgrading (e.g. quay wall strength, locks, bridges, etc) may also be required over time, as well as increased insurance cost.

Figure 2.4 Financial impact of vessel size on crane requirement



Source: Royal HaskoningDHV

2.12

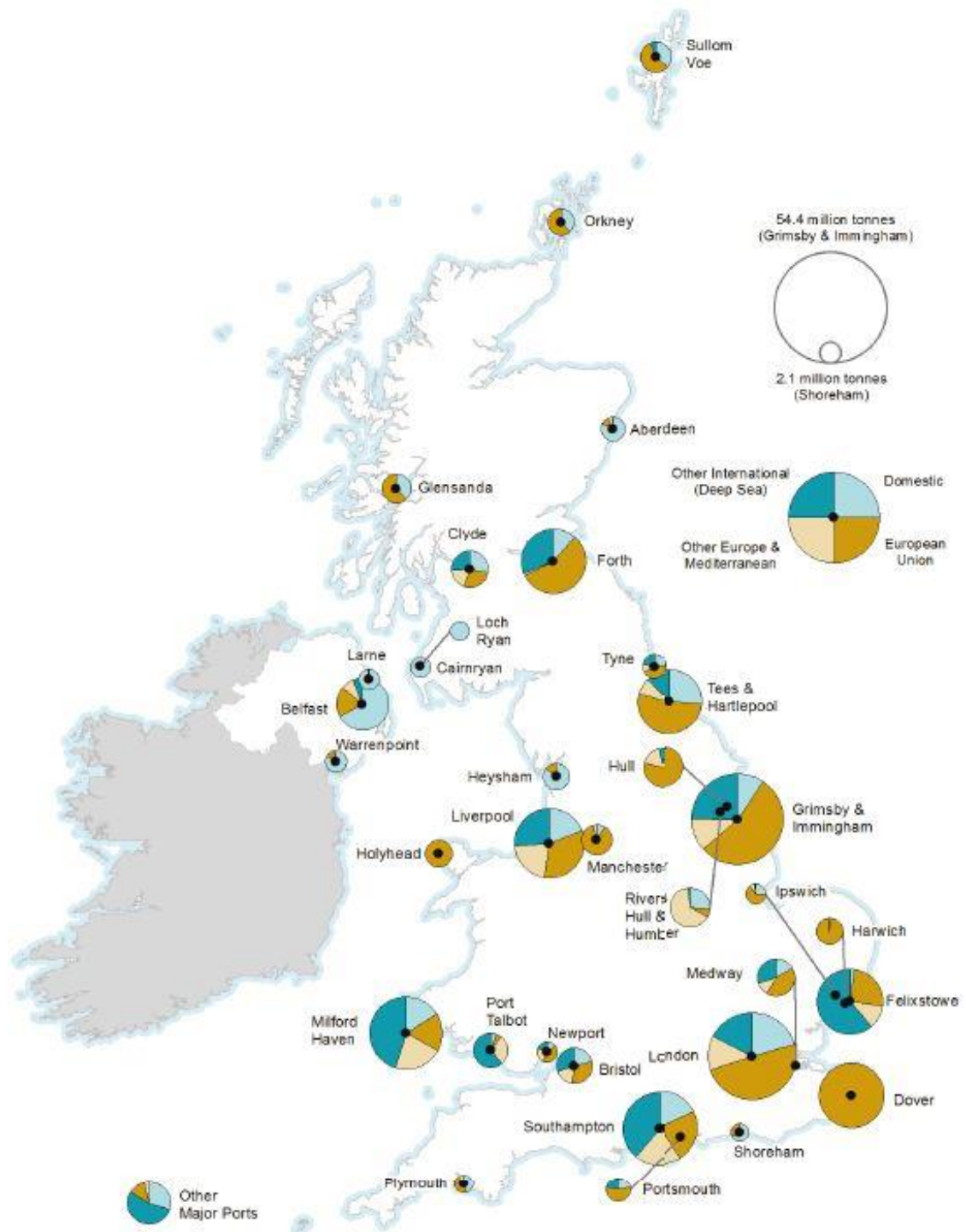
Larger vessels also mean less frequent calls with larger container exchanges, resulting in higher peak capacity and productivity required throughout the terminal. This also requires more flexible labour, and impacts the logistics chain with peaks in activity and spikes in movements through the port gate. As such, Felixstowe is able to accommodate the largest current container vessels of over 21,000 TEU. The port also has the largest average container vessel size of all UK container terminals.

UK Container Port Market

2.13

Total UK port freight traffic accounted for 484 million tonnes in 2016, 2.5% less than in 2015. The total volume has decreased at a CAGR of -1.8% for the last decade (2006-2016). Figure 2.5 below highlights the main ports and their main trading areas.

Figure 2.5 UK major ports: Domestic and international tonnage 2016

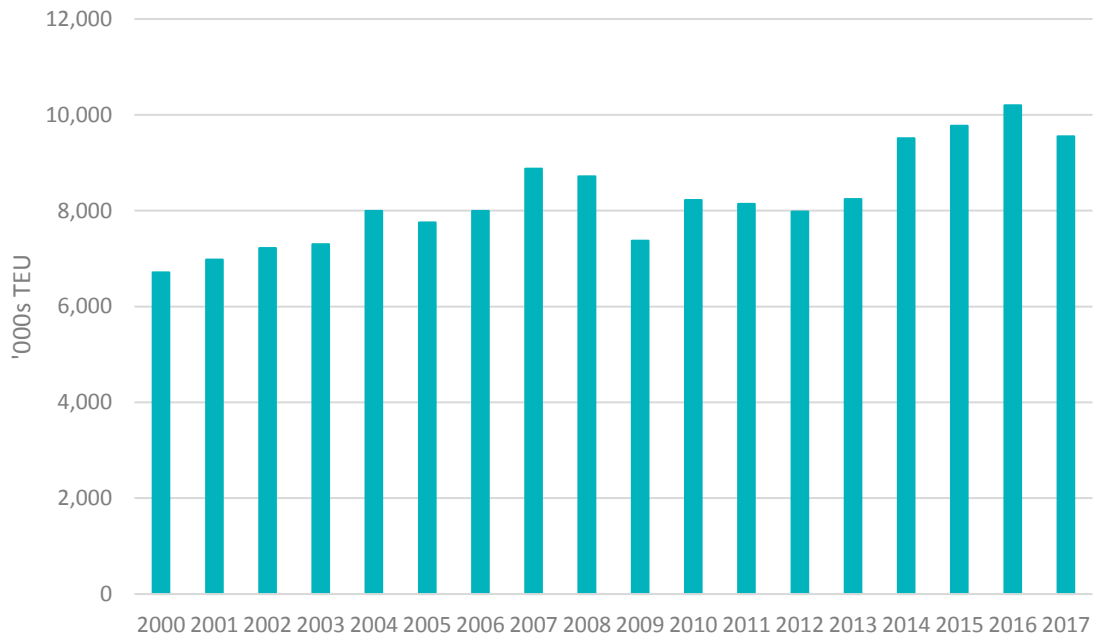


Source: UK Port Freight Statistics 2016, Department for Transport

Recent Container Trade Growth

- 2.14 UK container throughput has increased from 6.7m TEU in 2000 to 9.6m TEU in 2017 – an increase of over 42% (Figure 2.6). The overall CAGR has been 2.1%. The UK has several large-scale container ports – but it is no longer one of the main hub centres for container traffic in Europe. However, Felixstowe has a significant advantage over other UK container terminals in that vessels do not have to deviate far from the main shipping channel (through the English Channel) to call at the port.

Figure 2.6 UK Total TEU Throughput



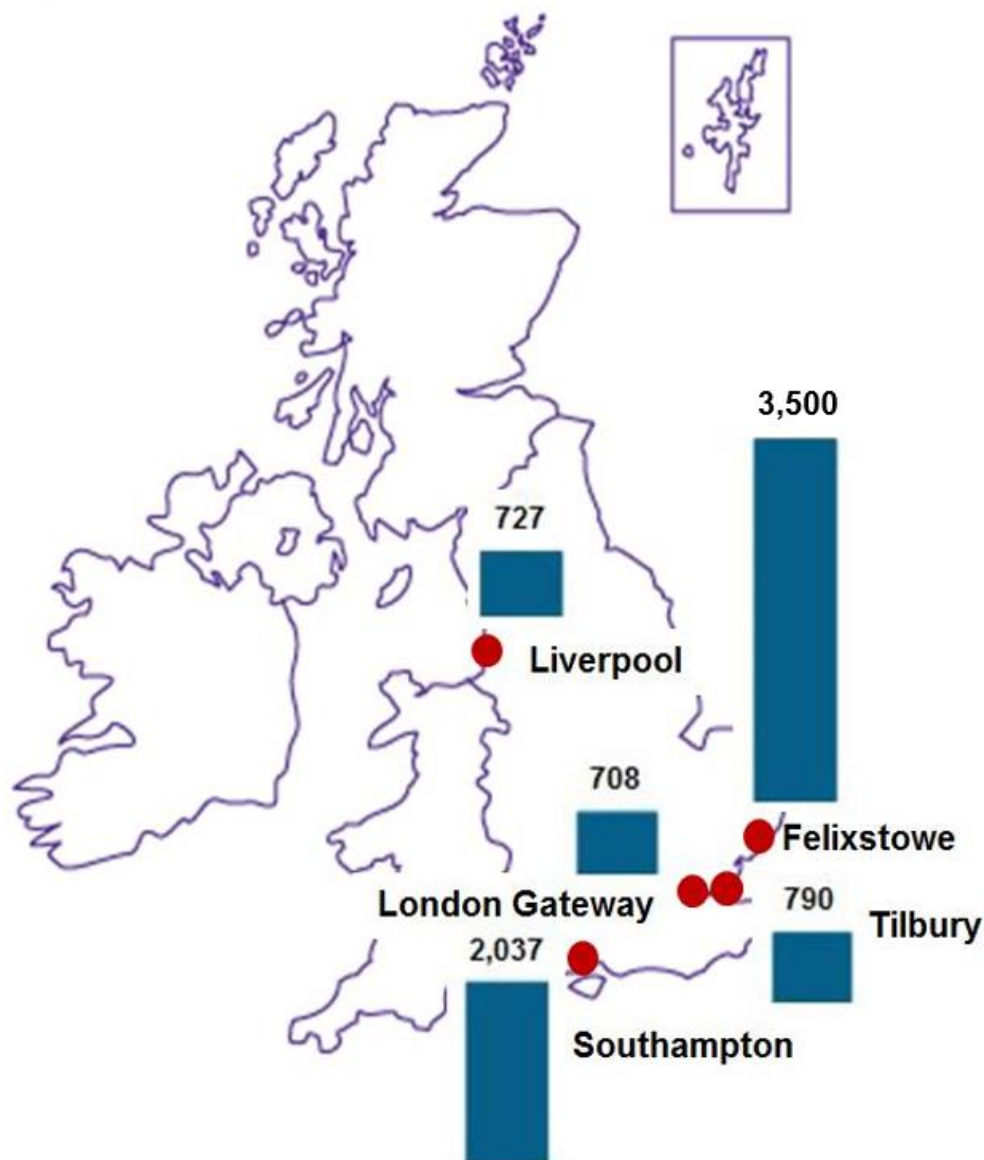
Source: Royal HaskoningDHV / Department for Transport Statistics

- 2.15 Figure 2.7 below highlights the main container ports within the UK, comprising:

- Felixstowe;
- Liverpool;
- Southampton;
- Tilbury; and
- London Gateway.

- 2.16 It shows that during 2017, Felixstowe was the port that handled the largest number of containers.

Figure 2.7 UK Main Container Port Throughput, 2017 ('000 TEU)



Source: Royal HaskoningDHV / Department for Transport Statistics

- 2.17 A summary is provided below for each port, outlining recent container throughput and any port expansion or logistics developments that are planned. For the purposes of analysis, Tilbury is also included as a potential competitor port. A summary of key metrics for each port is provided in Table 2.3 overleaf.

Felixstowe

- 2.18 Felixstowe is the largest container port in the UK. The port has 9 deep-sea container berths and 3,274m quay length (2,354m+920m). Recent container throughput has been over 4.0m TEU (Figure 2.8). There are plans to expand capacity to 6.0m TEU by 2020. The dominance of Felixstowe is in part due to its location close to the main passing shipping routes through the English Channel. It also has a major rail link to the rest of the country which provides Felixstowe with a key advantage and selling point for operators. The rail link handles 29% of the total freight that is handled through Felixstowe. The port can handle the current range of largest

container ships. In June 2017, the *OOCL Hong Kong* (21,413 TEU) called at the port. The port has the largest average vessels size of all the UK container terminals. The port also has high utilisation – which is anticipated be the catalyst for the various expansion projects. The port also has the largest number of container services of any container port in the UK (Table 2.3).

2.19

There are several expansion and port improvement schemes scheduled for the port – these are highlighted in Table 2.2 below.

Table 2.2 Port of Felixstowe improvements

Port	Terminal	Cargoes	Description	Capacity
Felixstowe	Felixstowe Rail Improvements	Increased rail capacity and hinterland throughput	Allowing >47 freight trains/day between Ipswich & Felixstowe port (currently 33 trains/day)	-
	Felixstowe	Containers	13ha of new container yard behind Berth 9. 3.2 ha reclamation +18,500 TEU capacity (200,000 TEU)	Port plans to increase container handling to 6.0m TEU by 2020
	Felixstowe	Containers	New Berth 10 – scheduled for 2019 (680,000 TEU)	
	Logistics Centre	Logistics park and distribution centre	68-acre site 1.4 million m ² for warehousing units	Permission granted 2014 – but no construction work has commenced

Source: Royal HaskoningDHV review of various sources

Table 2.3 Key metrics for UK main container ports

Port	Terminal	Operator	Area (ha)	No. of Berths	Berth Length (m)	Berth Depth (m)	No of Cranes	Capacity (TEU)	Throughput 2016	Capacity utilisation (%)	No. of services	Avg. Vessel Capacity
Felixstowe	Trinity	Hutchison	136.7	7	2,534	15	21	4,000,000	4,016,000	81.63%	26	8,174
Felixstowe	Berths 8&9	Hutchison	35.3	2	920	16	10	920,000				
Liverpool	Royal Seaforth	Peel Ports	-	4	810	11.6	6	1,000,000	727,000	36.35%	13	1,414
Southampton	SCT	DP World	85	5	1,350	16	15	2,280,000	2,037,000	89.34%	16	7,741
Tilbury	LCT	Forth Ports	-	5	1,720	13.7	11	1,320,000	789,000	59.77%	12	1,333
London Gateway	London Gateway	DP World	460	3	1,250	17	12	1,600,000	708,000	44.25%	12	6,500

Source: Royal HaskoningDHV review of various sources

Note: Area data for Liverpool and Tilbury is not available

Figure 2.8 Felixstowe TEU Throughput



Source: Royal HaskoningDHV / Department for Transport Statistics * Note: forecast

Liverpool

2.20 Container throughput in Liverpool has been growing since 2013, to over 700,000 TEU during 2017 (Figure 2.9). The Seaforth Container Terminal handles the container traffic within the port. It has a total quay length of 1,664m (810m+854m). The phased construction of Liverpool 2 is anticipated to more than double current throughput when completed. The new facility will be able to handle the largest container vessels – currently the port only handles smaller feeder vessels. Currently the port has low utilisation.

2.21 There are several expansion and port improvement schemes scheduled for the port – these are highlighted in Table 2.4 below.

Table 2.4 Liverpool Port Improvements

Port	Terminal	Cargoes	Description	Capacity
Liverpool	Liverpool 2, Phase 2	Containers, Handling equipment, container yard reclamation	2 nd Phase of Liverpool 2 to add more technology and equipment to service larger vessels	Additional 600,000 TEU capacity
Liverpool	Liverpool Phase 2, Final Stage	Containers, Handling equipment, container yard reclamation	Final phase estimated to be completed by 2022+	1,100,000 TEU

Source: Royal HaskoningDHV review of various sources

Figure 2.9 Liverpool TEU Throughput



Source: Royal HaskoningDHV / Department for Transport Statistics * Note: forecast

Southampton

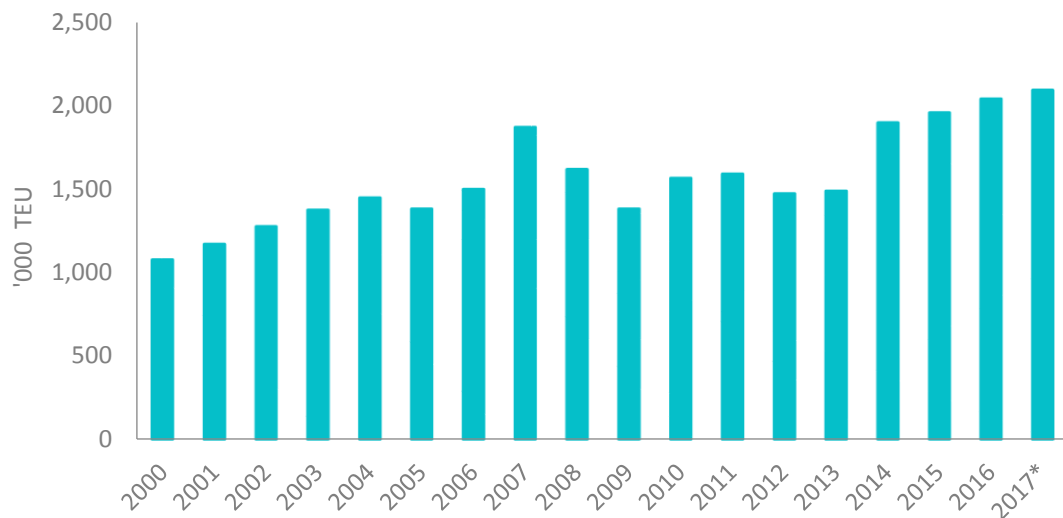
- 2.22 Southampton moved more than 2.0m TEU last year and has witnessed four consecutive years of growth. The port has 5 berths of 1,350m quay. In November 2017 the 20,568 TEU *Milan Maersk* called at the port – which is the largest vessel to call. The port has the second highest number of container services, after Felixstowe. The port has very high utilisation and is looking to increase its capacity.
- 2.23 There are several expansion and port improvement schemes scheduled for the port – these are highlighted in Table 2.5 below. Southampton is expanding its terminal which should add another 1.0m to its capacity by 2020. Construction works are ongoing on 11.2 acres of land, creating 640 extra ground spaces to store containers and bringing the size of the terminal to almost 100 ha. The envisaged capacity increase of 1.0mn TEU mainly results from continuous modernisation of equipment. In February 2017, 8 new straddle carriers (from 17 ordered) arrived at the port as a part of the equipment modernisation program. Two new ship-to-shore (STS) gantry cranes were delivered in April 2018.

Table 2.5 Southampton Port Improvements

Port	Terminal	Cargoes	Description	Capacity
Southampton	Southampton	Containers	2 new STS ordered – scheduled for delivery April 2018. Scheduled completion by 2020	Possible increase of up to 1,000,000 TEU

Source: Royal HaskoningDHV review of various sources

Figure 2.10 Southampton TEU Throughput



Source: Royal HaskoningDHV / Department for Transport Statistics * Note: forecast

Tilbury

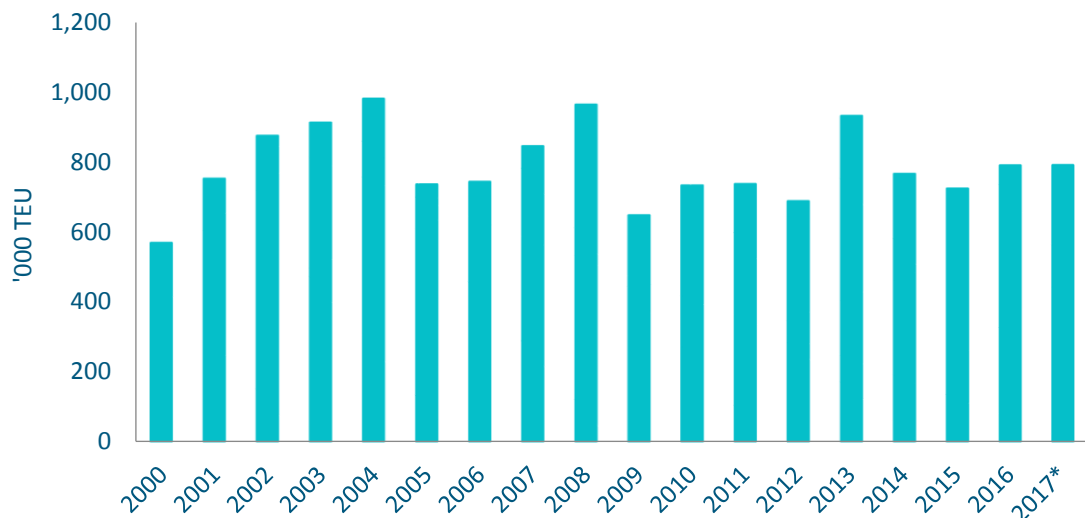
- 2.24 The port has five berths with a total length quay of 1,720m. The overall throughput was approximately 790,000 TEU, which suggests that the container terminal is under-utilised. The average size vessels is relatively small, but in 2015 the *Edith Maersk* (18,340 TEU) called at the port – this was the first Triple-E Class vessel to call at Tilbury. Tilbury has been competing with London Gateway for services, especially when in 2016 Maersk switched the calls of the Samba service from Tilbury to London Gateway. Container traffic has declined from a high during 2013 (Figure 2.11).
- 2.25 There are several expansion and port improvement schemes scheduled for the port – these are highlighted in Table 2.6 below. Plans for a new container terminal on the old refinery next to the port have been announced – but the project is in the early stages of planning and design. Details of the capacity and throughput will be announced in due course.

Table 2.6 Tilbury Port Improvements

Port	Terminal	Cargoes	Description	Capacity
Tilbury	Tilbury 2	Containers	A new container terminal is planned on the old refinery site including warehousing and marshalling yards	Unknown

Source: Royal HaskoningDHV review of various sources

Figure 2.11 Tilbury TEU Throughput



Source: Royal HaskoningDHV / Department for Transport Statistics * Note: forecast

London Gateway

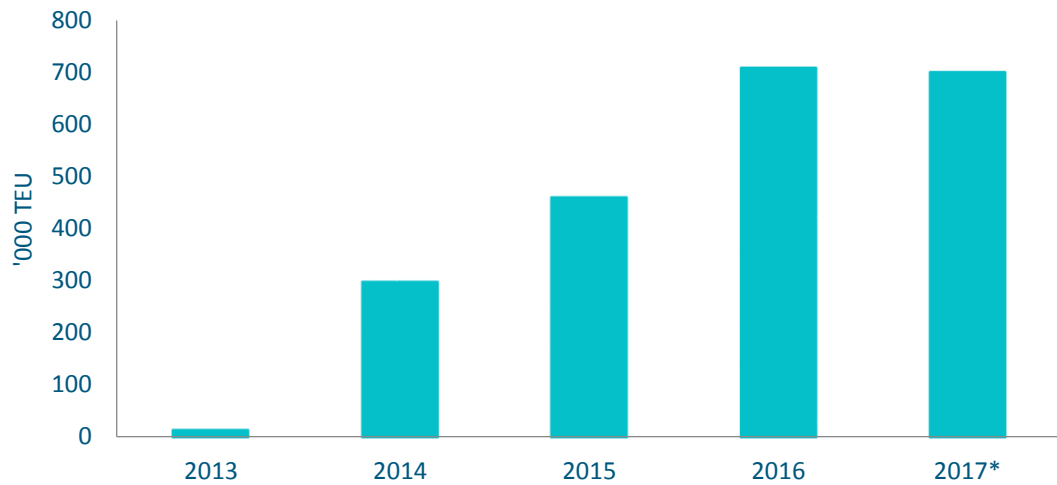
- 2.26 London Gateway commenced operations in 2013, and although throughput has grown to around 700,000 TEU it is still significantly below its designed capacity (Figure 2.12). There are three berths with 1,250m of quay length. The largest vessel to call at the port was in January 2016, the 18,601 TEU *Al Muraykh*. At the time, when the ship left Malaysia's Port Klang, it carried the most shipping containers on board a vessel. It arrived at London Gateway as its first European port of call. The port is still trying to increase the number of services that call at the port, which is lower than both Felixstowe and Southampton.
- 2.27 The London Gateway 2 logistics park is an ongoing construction project that is expanding the logistics park and distribution centre. Unlike all the other ports considered here, London Gateway has significant land to enable expansion of the logistics park.
- 2.28 London Gateway also has enough water frontage to double the number of berths – but it would seem with the current under-utilisation of the port, that any additional berths in the near-future would not be required. In the longer-term, the port has room for expansion should demand require.

Table 2.7 London Gateway Port Improvements

Port	Terminal	Cargoes	Description	Capacity
London Gateway	London Gateway	Logistics park and distribution centre	Continued development of Logistics park in phases as and when demand requires	On-going construction of Phase 1

Source: Royal HaskoningDHV review of various sources

Figure 2.12 London Gateway TEU Throughput

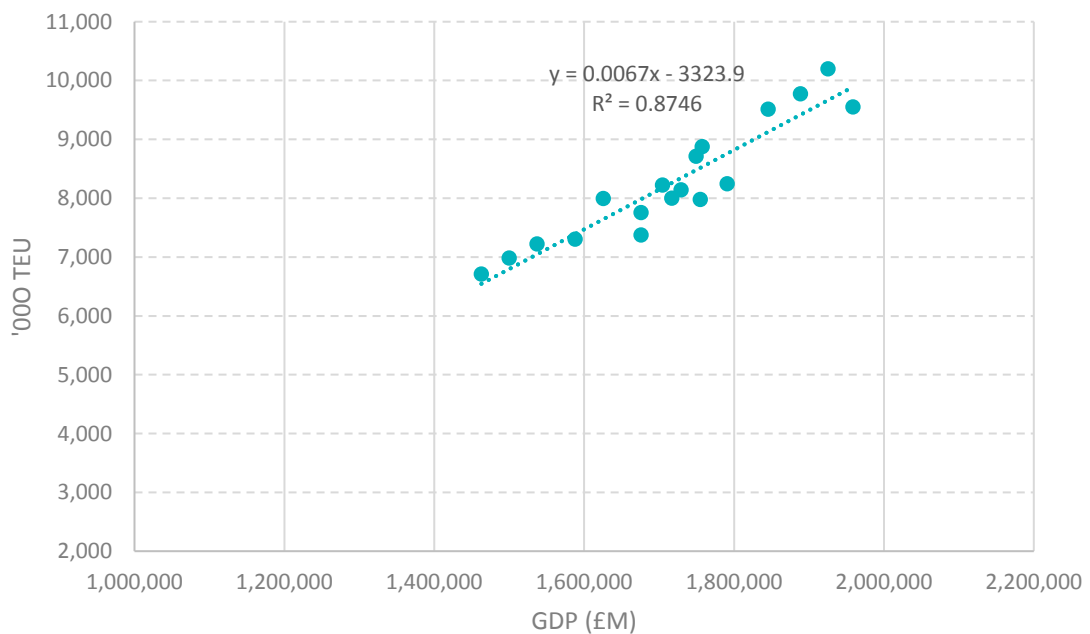


Source: Royal HaskoningDHV / Department for Transport Statistics * Note: forecast

UK Container Forecasts

- 2.29 To estimate future container volumes for the port of Felixstowe, a top-down approach has been adopted. First, overall UK container volumes are estimated and from those, the market share for Felixstowe.
- 2.30 The UK forecasts are based on linear regression between UK historical TEU volumes and UK Gross Domestic Product (GDP) (historical and forecasts). GDP is considered as the main driver for TEU volumes and this relationship holds true for many countries. The relationship between UK GDP and TEU is shown in Figure 2.13.

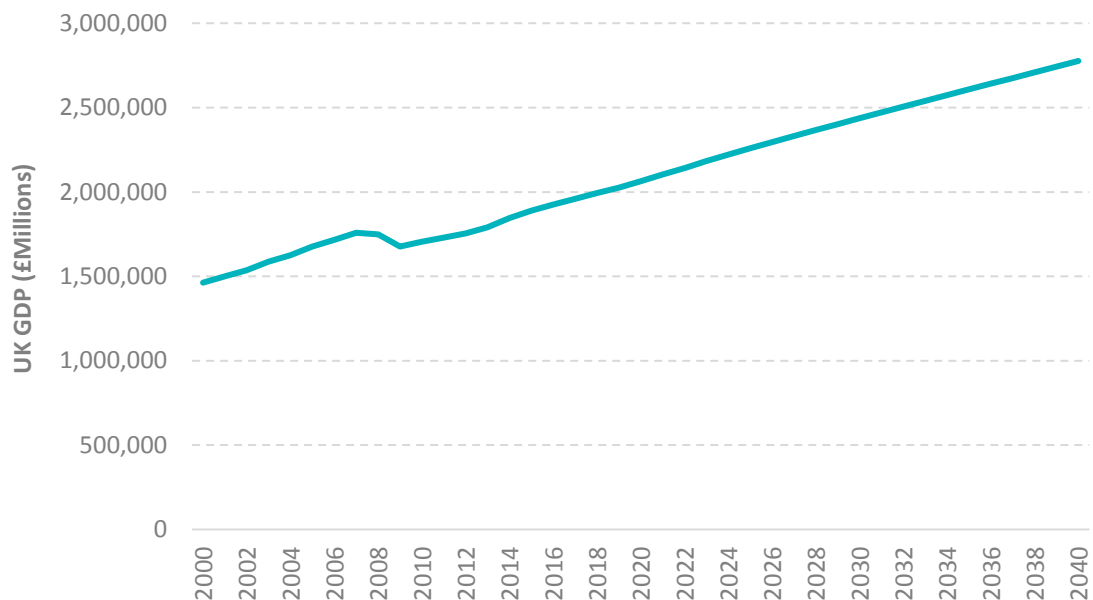
Figure 2.13 GDP-TEU relationship (2000-2017)



Source: Royal HaskoningDHV / Oxford Economics

- 2.31 The UK GDP data and forecasts have been sourced from Oxford Economics, a well-known provider of market intelligence, forecasting and quantitative analysis. In general terms, UK GDP is forecast to grow over the next 20 years, as shown in Figure 2.14 below.

Figure 2.14 UK GDP Forecast



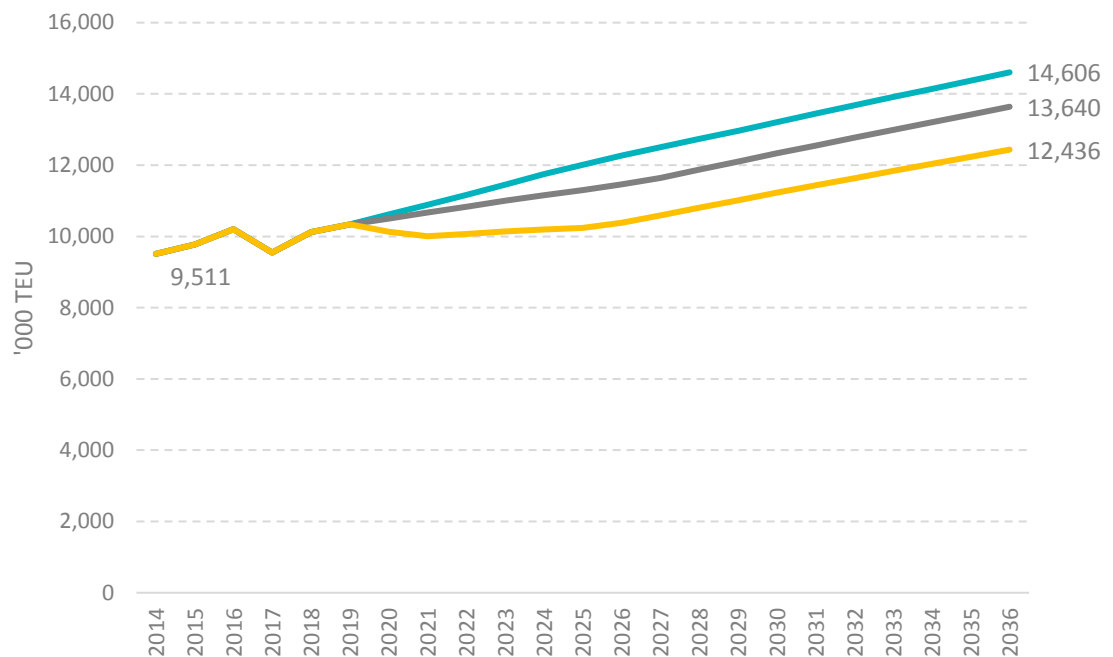
Source: Royal HaskoningDHV / Oxford Economics

- 2.32 The UK GDP is further adapted to take into account local port and market conditions that Royal HaskoningDHV considers will have an impact on container throughput. Brexit and the overall economic development in the shorter-term are considered to be more negative than the Oxford Economics forecast, whilst the potential impact that the Liverpool 2 facility could have on Felixstowe container throughput is also considered.
- 2.33 Brexit is one of the most important factors affecting GDP and trade as the EU is the UK's largest trading partner. In 2016, exports to the EU amounted to 43% (£236bn) of total UK exports while EU imports were 54% (£318bn) of UK total imports.
- 2.34 For manufactured goods in particular, there may be multiple outward and return movements between the UK and its trading partners, both EU and non-EU. This is because they involve complex supply chains, starting from raw materials to final, assembled goods.
- 2.35 Losing the benefits of free trade and customs harmonisation with the EU single market will have an impact on the UK elements of supply chains. This is especially true if the cost and uncertainty created by customs checks are deemed to outweigh the benefits of doing business in the UK. It has also been reported that potential customs and bureaucratic checks at the border could congest the ports and result in delays at certain ports adding costs for traders, manufacturers and consumers.
- 2.36 After leaving the EU, it will be necessary to establish new trade agreements with both EU and non-EU countries. This could also represent a positive outcome, with opportunities to have new or improved bilateral trade agreements between the UK and important trading partners. This could be positive both for GDP and trade volumes.
- 2.37 Figure 2.15 below outlines forecasts for UK container throughput (in TEU) over the forecast horizon to 2040 prepared by Royal HaskoningDHV. The difference between the scenarios is due to more or less optimistic assumptions concerning the impact of Brexit both on GDP and, in

turn, TEU growth. The **Central** and **Low Cases** assume a slowing of both GDP and volumes as the economy adjusts to Brexit in the short and medium term. This GDP slowdown has a knock-on impact on throughput activity at the Port of Felixstowe under the assumption that UK consumer demand for imported goods would reduce, ultimately impacting on both EU and non-EU trade.

2.38 The **High Case** assumes a positive impact from tailored trade agreements after Brexit.

Figure 2.15 UK TEU forecast



Source: Royal HaskoningDHV

2.39 Overall, these forecasts indicate that from a starting point of about 9.5 M TEU in 2014, UK throughput could increase to between 12.4 M TEU (Low Case), 13.6 M TEU (Central Case) or 14.6 M TEU (High Case) by 2040.

Implications for the Port of Felixstowe

2.40 The overall starting point assumption for the High, Central and Low case scenarios is that there will be increased container throughput for all three scenarios, albeit at differing growth assumptions.

2.41 The assumption for Felixstowe is that the Port will retain its historical market share of the UK container throughput. Overall, this is forecast to track the UK growth in container trade on an upward momentum throughout the forecast period. This is explored in more detail in section 4.0.

3.0

Port-Related Logistics Sector

3.1

This section provides an overview of the changing nature of the port-related logistics sector and the opportunities that these trends could provide, and analyses the different spatial typologies for how logistics activities are accommodated in both on-port and off-port locations with reference to Felixstowe and other UK container ports examples.

Recent Trends and Drivers

3.2

The UK logistics sector has undergone rapid change in recent years, in particular reflecting the increasing demands for on-line shopping and next day delivery services. There has been increased use of big data within the logistics and warehousing supply chain, robots for picking and increased automation within warehouses, as well as increased pressure to provide larger and more modern warehousing where customers need them. This has led to a number of developments within the warehousing and logistics sector. Two key trends of particular relevance to this study are described in more detail below, namely port-centric logistics and off-site warehousing within the 'Golden Triangle'.

Port Centric Logistics

3.3

Port-centric logistics is the term used to describe logistics and distribution services based at the port where goods arrive. It is an alternative to inland depots and centrally-located national distribution centres. Port-centric logistics provides storage of goods at the port enabling a reduction in the number of handling stages throughout the storage and distribution process. This can save both time and money. Port-centric logistics allows companies to streamline their supply chains and reduce their impact on the environment.

3.4

For many businesses, port-centric logistics aims to remove unnecessary freight miles. For example, if goods arrive at a port in the south, then travel to the distribution centre in the north, the goods essentially retrace their steps if they are subsequently distributed to customers based in the south. Therefore if the goods can be held at the port they arrived in and get distributed from that same location, this can help to avoid wasted freight miles. This trend predominately relates to container shipping and it is acknowledged that the onward movement of goods is also facilitated by smaller feeder ships and "roll on-roll off" (Ro-Ro) ships.

3.5

As well as reducing costs, port-centric logistics can also streamline operations and improve customer service because containers are unloaded, checked, stored, picked and distributed from a single port-based location. As a result, customers benefit from lower costs, shorter lead times, a more efficient supply chain, reduced carbon footprint and cost-effective logistics and distribution.

3.6

Retailers and third party logistics operators have become more interested in port-centric logistics during the past 10 years. A survey by Gazeley and the UK Logistics Fund found that 83% of respondents stated that port-centric operations were set to increase. In particular, 70% of respondents expected this increase to be focused on the East Coast ports such as London Gateway, Tilbury and Felixstowe.

3.7

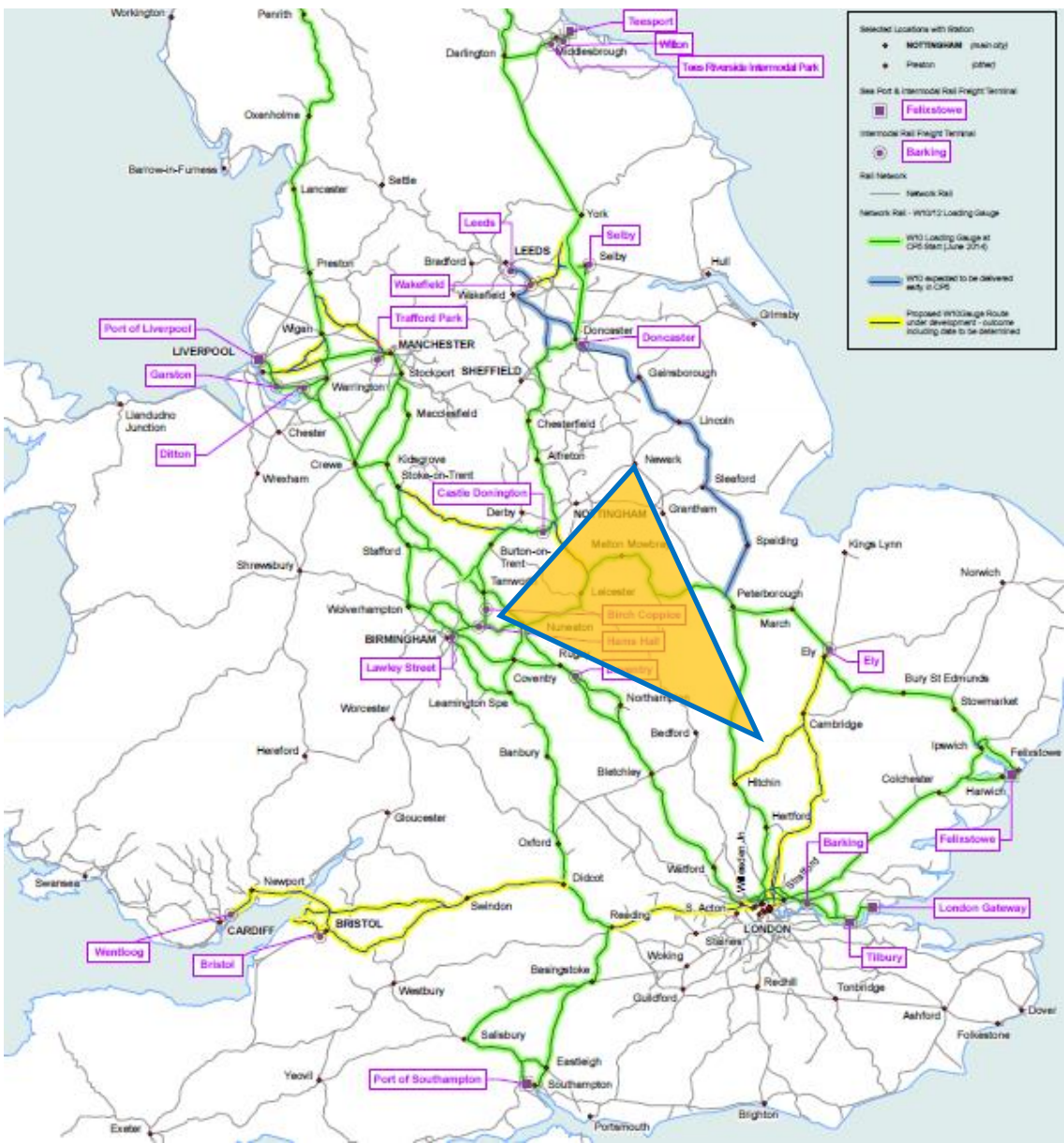
All of the ports that have been considered within this study (outlined in the previous chapter) have some warehousing and storage facilities within their port limits/estate boundary. As such, the Port of Felixstowe reports to provide over 700,000 sq.ft located within the HM Revenue & Customs wharf-approved area.

Golden Triangle

- 3.8 The 'Golden Triangle' is located between the M42, M1 and M6 motorways and is strategically placed to access 98% of the UK population within 4-hour drivetime (Figure 3.1). This region is a major hub for the country's distribution sector. Whilst there is no precise definition, the Golden Triangle broadly covers Leicestershire, Northamptonshire, Warwickshire and parts of Staffordshire and Derbyshire. As such the United Kingdom Warehousing Association (UKWA) highlights that 18% of the country's warehousing capacity is located in the Golden Triangle in the East Midlands (Figure 3.2). There is also good rail access to the region with both Northampton and Daventry connected the to the UK rail network.
- 3.9 Importantly, the Port of Felixstowe benefits from direct access and connections to the Golden Triangle via the A14 trunk road and freight railway. According to the Port, 70% of containers coming through Felixstowe are delivered to the 'Golden Triangle'³.

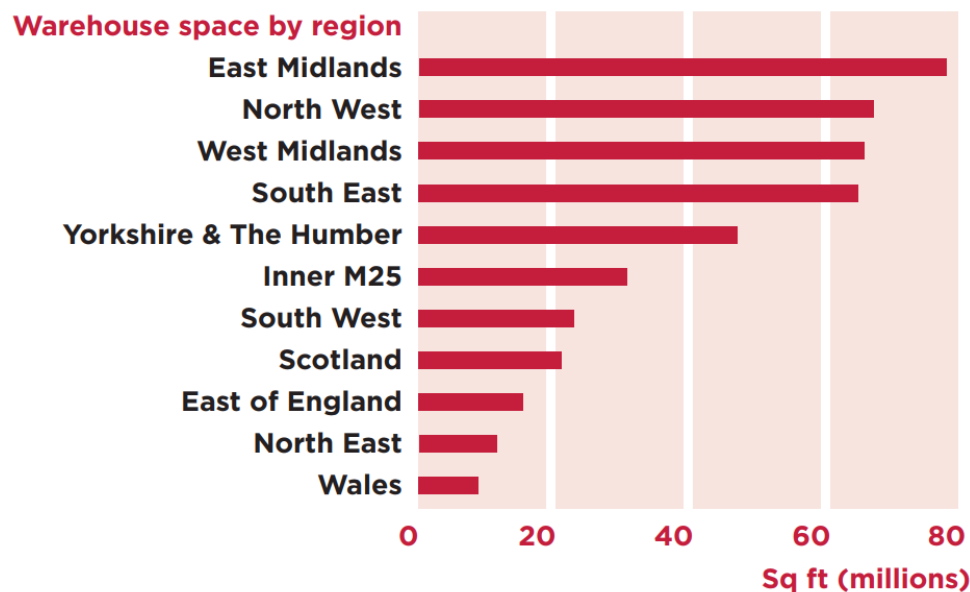
³ <https://www.portoffelixstowe.co.uk/about/best-connected-to-britain/>

Figure 3.1 Location of the ‘Golden Triangle’



Source: Royal HaskoningDHV

Figure 3.2 Warehouse space by region



Source: The Size and make up of the UK Warehousing Sector, UK Warehousing Association, 2016

Drivers for port-centric and off-site warehousing

- 3.10 There are many drivers that will combine to enable a customer to best decide which solution is correct for them when making a decision about the location of warehousing. These may include:
- 1 Where their main market for their goods is located;
 - 2 Costs of the logistics chain;
 - 3 Availability and size of warehousing;
 - 4 Costs of warehousing/transportation; and
 - 5 Access to road/rail networks.
- 3.11 The above is not an exhaustive list of decisions that need to be taken for locating a business in a certain location, but in terms of this study, it will mean that in some instances a business (utilising a container port) may prefer an off-site warehousing solution as it provides cheaper warehousing rates and larger facilities. Other business may require shorter logistics chains that can be provided by having port-centric solutions.

Defining Spatial Typologies for Port-Related Uses

- 3.12 Within this context, business activity associated with container ports such as the Port of Felixstowe can be considered in terms of three broad spatial typologies, set out in turn below.

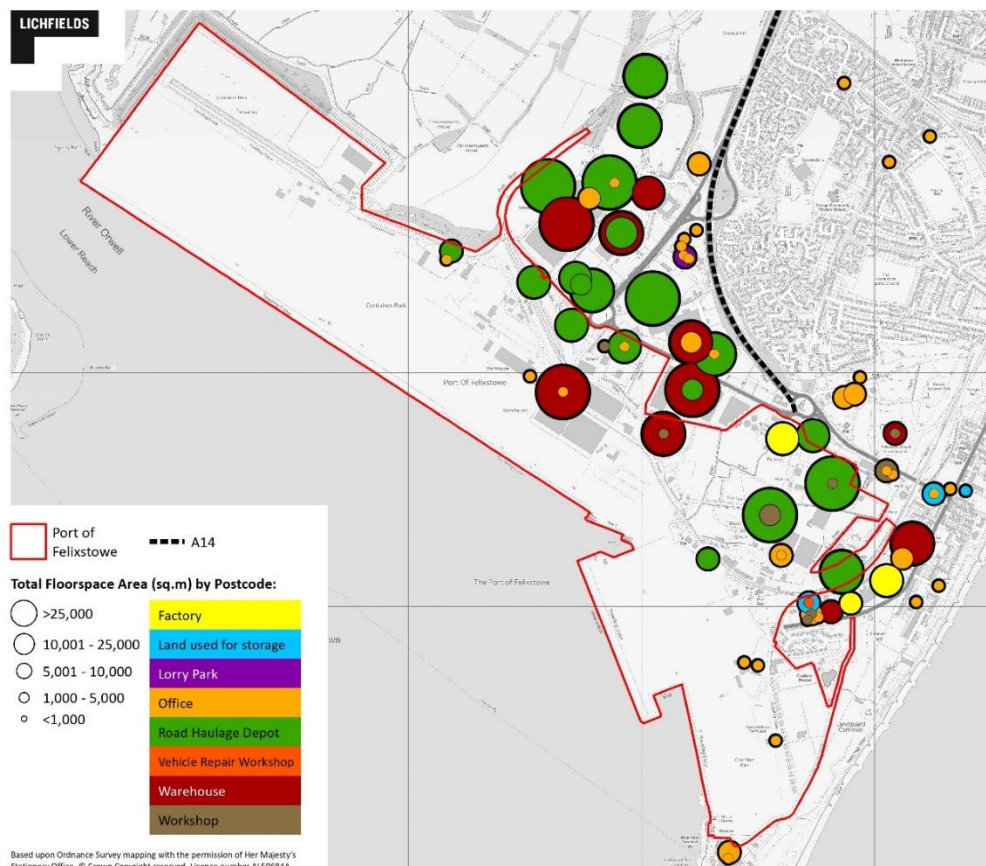
1) On-Port Operations and Activities

- 3.13 This relates to activity which must be undertaken on-site within the Port boundary or estate, for example 'ship-to-shore' cargo handling. In land use terms, this generally requires a combination of open space and built premises for storage and handling activities. Some of this activity needs to take place within the confines of the Port boundary due to customs restrictions and procedures. This includes Port Health operations (delivered by the Suffolk Coastal Port Health Authority) which enforces imported food controls and monitors around 1 million manifested

goods on vessels berthing at Felixstowe each year. As highlighted above, all of the UK ports considered within the study provide some kind of on-port warehousing operations.

- 3.14 Using latest available data from the Valuation Office Agency (VOA), it is possible to plot the spatial distribution of commercial floorspace that is accommodated within the Port estate (shown in Figure 3.3).⁴

Figure 3.3 Commercial floorspace at Port of Felixstowe and surrounding area

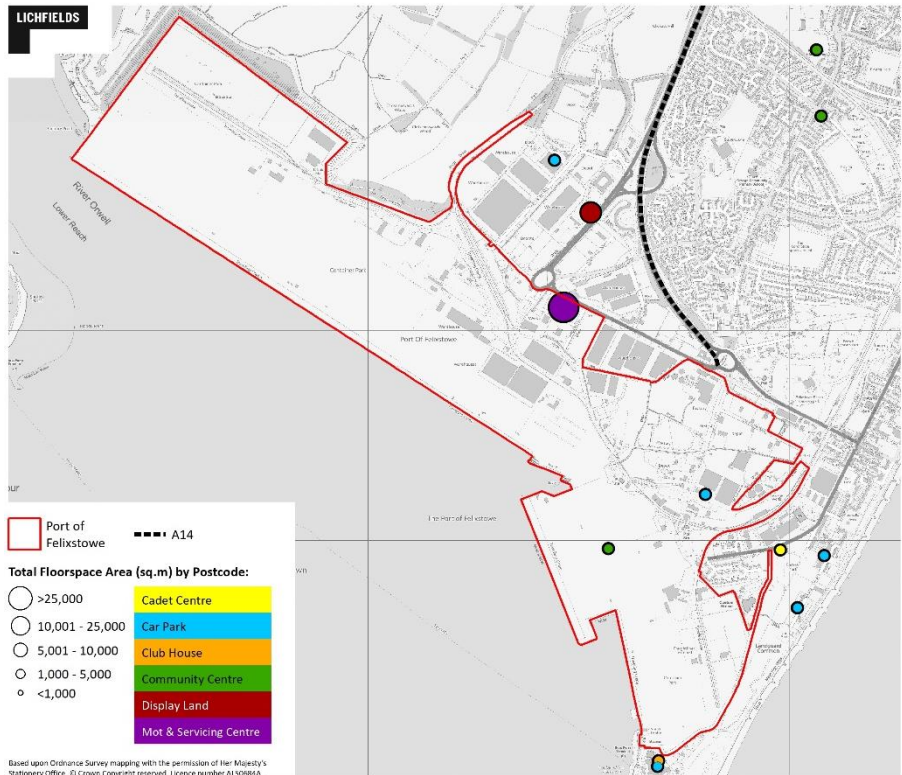


Source: Lichfields (drawing on 2017 VOA data)

- 3.15 This identifies significant clusters of road haulage depot floorspace inside the Port boundary, equivalent to approximately 115,000sq.m (1.2m sq.ft) as at 2017. There are also a number of sizeable clusters of warehousing space within the estate boundary, totalling approximately 40,000sq.m (430,500sq.ft). A mix of other commercial uses is also accommodated, including small areas of office, workshop and factory space (Figure 3.3).
- 3.16 Beyond more traditional 'B class' uses, a small amount of other commercial uses are also evident inside the Port of Felixstowe boundary, including MOT/servicing centre, car park, community centre and cold store space, small-scale café and restaurant space (Figures 3.4 and 3.5). These ancillary uses play a small but important role in supporting the main port activity taking place on site.

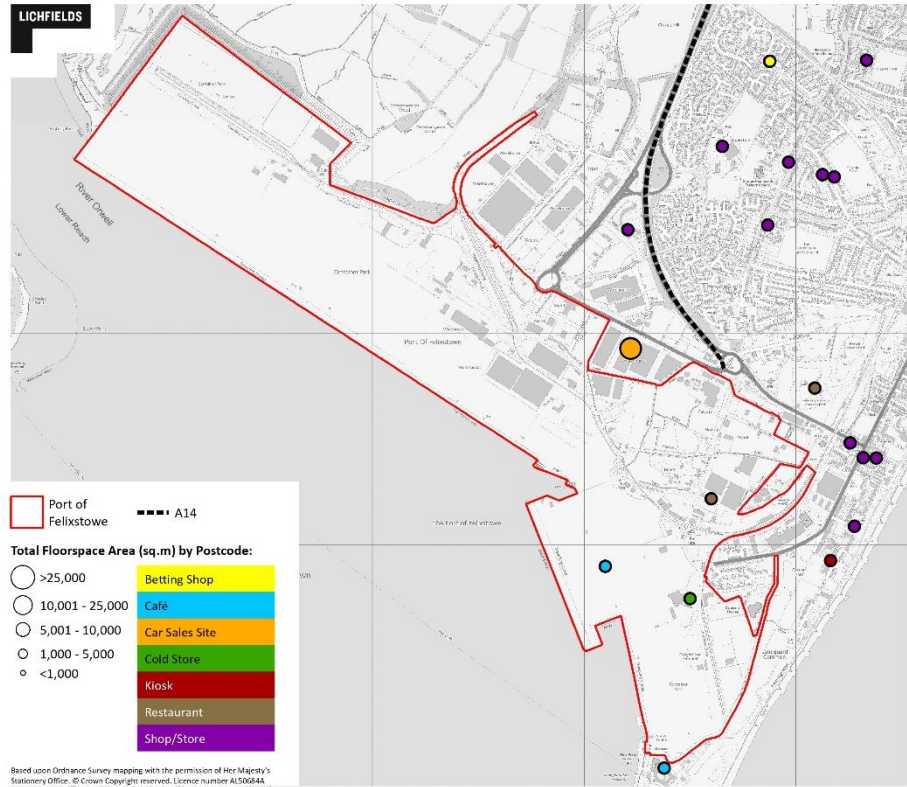
⁴ Some limitations should be noted in respect of the use of Valuation Office Agency (VOA) data. Due to postcode polygons, plotting of floorspace may not represent the precise location of an individual premises. VOA data sometimes includes data on the owner/head lease of a property and 'descriptor' that identifies the activity but in some instances properties may be sub-let to other occupiers undertaking a different activity. VOA records often breakdown individual properties into individual spaces (such as floors, units, rooms/offices) for ratings purposes and indeed a single building might be recorded as multiple spaces, of which some are ancillary to the main use rather than comprising standalone accommodation.

Figure 3.4 Commercial floorspace at Port of Felixstowe and surrounding area



Source: Lichfields (drawing on 2017 VOA data)

Figure 3.5 Commercial floorspace at Port of Felixstowe and surrounding area



Source: Lichfields (drawing on 2017 VOA data)

- 3.17 The Port has proposals to provide a total of 1,400,000sq.ft build-to-suit distribution warehouses on a 68-acre site, currently being marketed as the 'Port of Felixstowe Logistics Park'⁵. Individual units of between 100,000 and 800,000sq.ft can be accommodated on a site strategically located adjacent to the container terminals and intermodal rail facility (as shown in Figure 3.6).
- 3.18 If implemented and constructed, this development would bring about a step change in Felixstowe's industrial market and premises offer, and it may have the effect of retaining more activities in immediate proximity to the Port with potentially less 'spill over' opportunities along the A14 corridor.

Figure 3.6 Port of Felixstowe Logistics Park



Source: Port of Felixstowe

- 3.19 London Gateway also provides significant space to provide on-port warehousing. As this port is still relatively new it is undergoing construction of new warehousing as clients locate at the port. There is still significant room to accommodate additional warehousing and logistics space at the port. Under the Local Development Order (LDO) which was 'made' in 2013, the port has approved up to 9.0msq.ft of warehousing (Figure 3.7). The LDO removes the need to obtain planning permission for certain kinds of development; it intends to simplify planning control and to give greater flexibility to developers, occupiers and other users, improving investment confidence and allowing more rapid construction of the new facilities.

⁵ <https://www.portoffelixstowe.co.uk/logistics-park/>

- 3.20 Some of this warehousing will have up to 36m clear eaves height. There is also a purpose built Grade 'A' building with over 300,000sq.ft, which is marketed as the only warehouse of this size close to London (Figure 3.8).

Figure 3.7 Potential design for fully built-out logistics park at London Gateway



Source: London Gateway

Figure 3.8 London Gateway Largest Warehouse



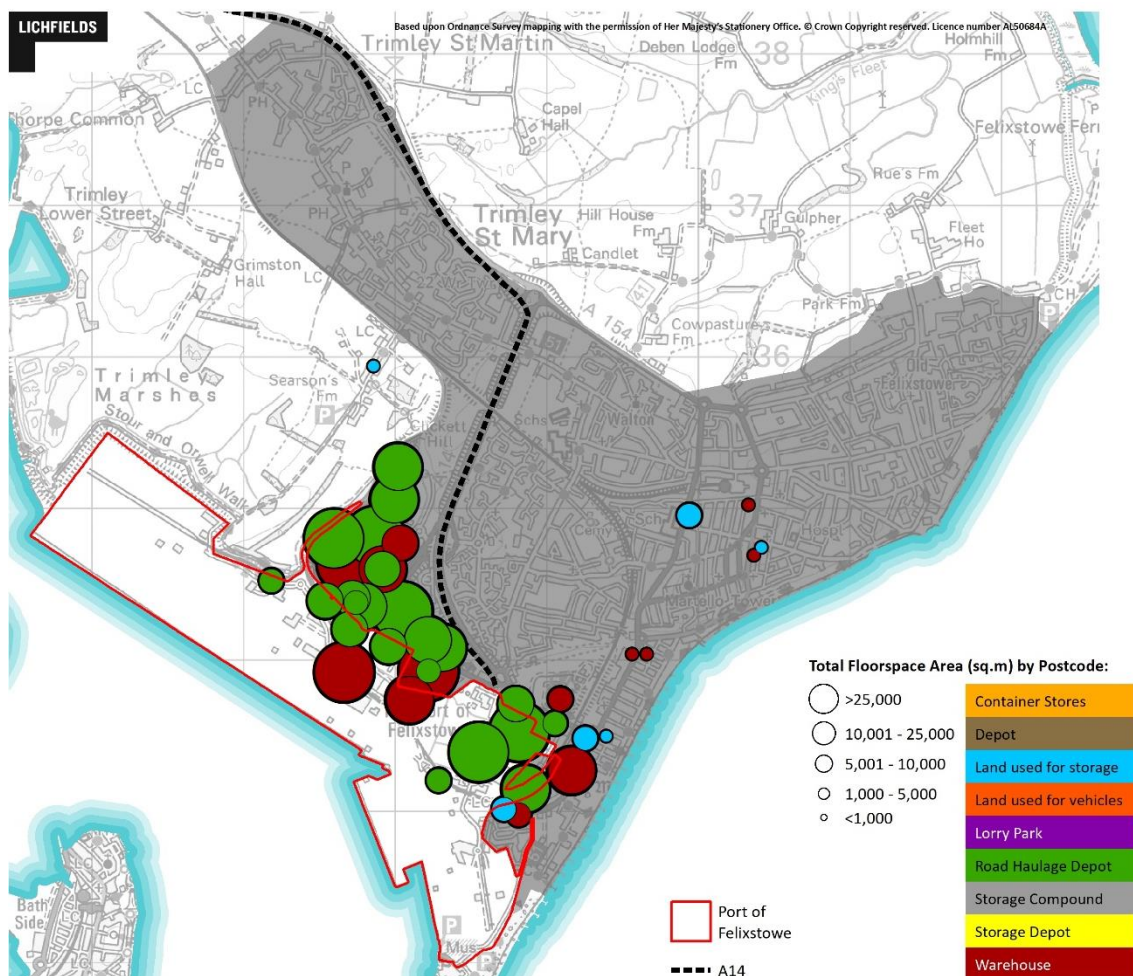
Source: London Gateway

- 3.21 At Southampton, there are various companies that occupy warehousing space both within the port boundary and off-port. Import Services have a large warehouse within the port boundaries of 235,000sq.ft. They also have two other warehouses around Southampton at Hedge End (100,000sq.ft) and Nursling (100,000 sq.ft).

2) Off-Port Supporting Industry

- 3.22 This second typology relates to activities which are closely linked to the port and are ideally undertaken in close proximity, but (in contrast to the first typology) that do not necessarily have to be carried out within the boundary of the port itself.
- 3.23 The Port of Felixstowe benefits from a number of these supporting clusters which mainly comprise of road haulage yards/depots, container storage, warehousing and lorry parks, as illustrated in Figure 3.9 below and Figure 3.3 above (based on latest VOA data).

Figure 3.9 Commercial floorspace at Port of Felixstowe and surrounding area



Source: Lichfields (drawing on 2017 VOA data)

Note: Floorspace categories are consistent with Figure 3.10 below, although not all of the uses are recorded within the Port boundary and surrounding area

- 3.24 These activities tend to be located outside the Port boundary but within the Felixstowe urban area, typically within adjoining business areas such as Trinity Distribution Park – a major commercial and industrial logistics park immediately adjoining the Port of Felixstowe which has steadily expanded over recent years. The Park is home to a range of national and international occupiers including Hutchison Whampoa Ltd, The Maersk Company Ltd, Medite Shipping Co (UK) and China Shipping. Elsewhere, occupiers cluster along nearby roads such as Walton Avenue.
- 3.25 Due to the operational nature and constraints associated with this off-port supporting industry, there is limited scope for flexibility when it comes to location options. For instance, some of this

supporting activity involves shunting – the movement of a shipping container from the on-port container yard to other storage or warehousing facilities nearby – where operational costs mean that proximity to the port becomes a key factor in determining a potential site’s viability.

3.26 Partly for this reason, off-port supporting activity does not tend to extend further inland from Felixstowe along the A14 corridor, until the A14 reaches the south-eastern fringes of Ipswich (some 10 miles north west from the Port of Felixstowe). Whilst additional concentrations of port-related uses can be found here (see Figure 3.10 below), for occupiers this represents a less optimal location and in part reflects the lack of existing site availability between the Felixstowe urban area and Ipswich.

3.27 In 2017, a Government commissioned study identified an ongoing national shortage of overnight lorry parking facilities that has grown increasingly acute since 2010⁶. The East of England was found to have the highest overnight lorry park utilisation level of all regions, increasing from 80% to 97% between 2010 and 2017, suggesting that additional capacity is required here. Given on-port space limitations, this points to the need to potentially provide lorry parking facilities within or alongside off-port developments to address this increasing identified demand.

3) Off-Port Wider Supply Chains

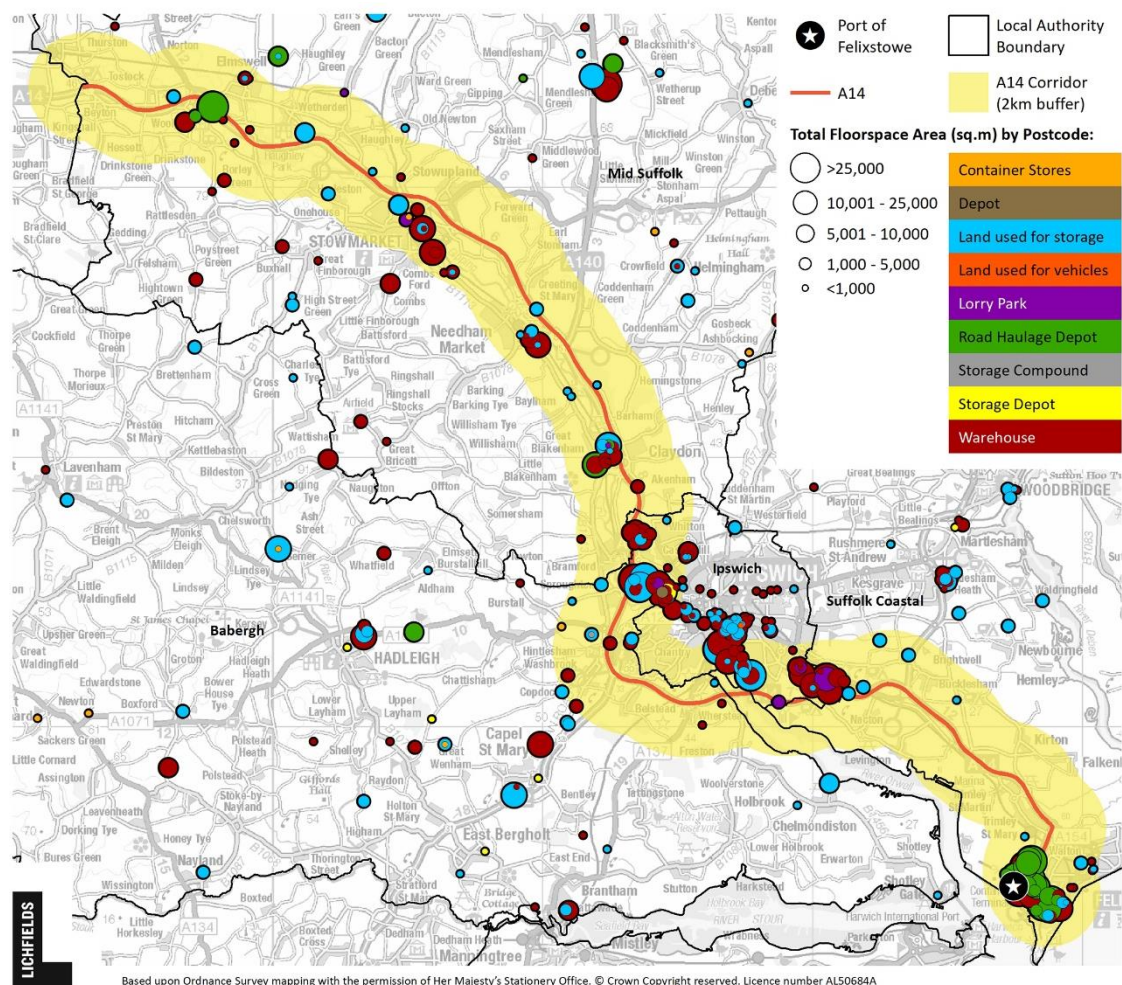
3.28 Beyond the Port estate itself and the surrounding Felixstowe urban area, wider supply chain functions and activity take place to serve and support the day-to-day operations of the Port of Felixstowe. This might include businesses that provide services and support to the Port itself and occupiers based within the Port boundary or immediately adjoining it.

3.29 This wider supply chain activity is comparatively more footloose than the previous two typologies and therefore occupiers have more flexibility in terms of where they choose to locate (i.e. the wider location factors noted at paragraph 3.10 will become more relevant). This means that while proximity to the Port is a relevant factor for these operators, it may not be the only factor; for instance, the day-to-day running costs associated with land/premises and labour supply could also be important.

3.30 This wider range of uses require a diverse range of sites, and analysis of latest VOA floorspace data identifies significant clusters of commercial floorspace within the wider Ipswich Economic Area, including warehouse space, storage depots, road haulage depots and container stores, some of which may be related to the Port either in whole or in part (Figure 3.10).

⁶ AECOM, National Survey of Lorry Parking (2017)

Figure 3.10 Logistics and related floorspace in the A14 corridor



Source: Lichfields (drawing on 2017 VOA data)

- 3.31 The A14's role as a strategic transport corridor linking the Port of Felixstowe with the Golden Triangle logistics hub in the East Midlands means that much of the sub-region's logistics space has developed along this route. A range of logistics developments have been brought forward, which to varying degrees have sought to appeal to port-related logistics activities; recent examples include the Sproughton Enterprise Park in Babergh district and Suffolk Business Park on the A14 near Bury St Edmunds.
- 3.32 This final category of business activity presents a wider opportunity for locations along the A14 corridor, including Suffolk Coastal District. Due to its footloose nature, the extent to which local planning authorities seek to make specific provision for this wider port-related activity to some degree represents a policy choice, with less of an imperative for specific locations to accommodate this wider supply chain demand. In this respect, this final category could be considered as a secondary source of demand for commercial premises and land within Suffolk Coastal, characterised by less immediate and tangible requirements compared with the first two categories.

4.0

Port Growth Forecasts and Land Requirements

4.1

This section presents a series of forecast growth scenarios for container traffic throughput at the Port of Felixstowe over the new Suffolk Coastal Local Plan period between 2014-2036, and translates these into potential off-port land requirements.

Overview

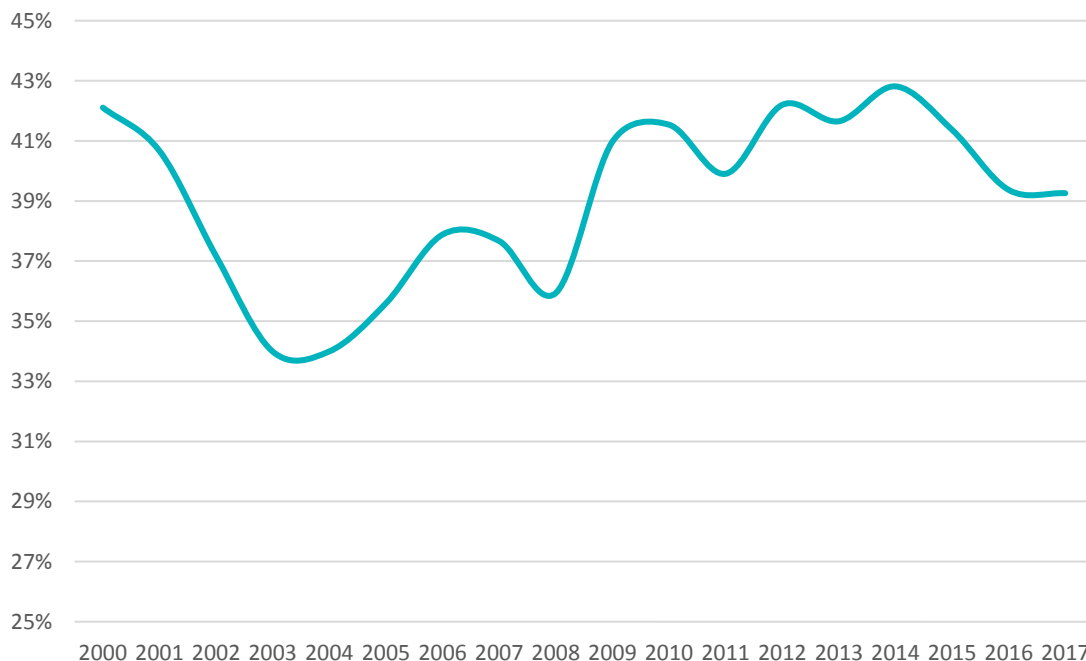
4.2

As noted in section 2.0, the UK is forecast to have increasing container throughput volumes throughout the study period; this is underpinned by the strong relationship that exists between GDP growth and TEU volumes.

4.3

In this context, it is anticipated that Felixstowe will remain the prime container port for the UK. The Port's market share of total UK TEU is assumed to remain at historical levels, which have averaged about 39% of total TEU over the past 17 years. However, the influence of bottom-up factors, such as pressure from competitors is also acknowledged and included for the purpose of sensitivity analysis. Historical market share for Felixstowe is shown in Figure 4.1.

Figure 4.1 Port of Felixstowe Share of UK Total TEU



Source: Royal HaskoningDHV analysis

4.4

Drawing on the national forecasts set out in section 2.0, three scenarios have been considered for the Port of Felixstowe as follows:

- Scenario 1: Central Case
- Scenario 2: High Case
- Scenario 3: Low Case

4.5

The basis for each scenario is described in more detail below. It should be recognised that there are inherent uncertainties related to both short term demand fluctuations (not least due to the

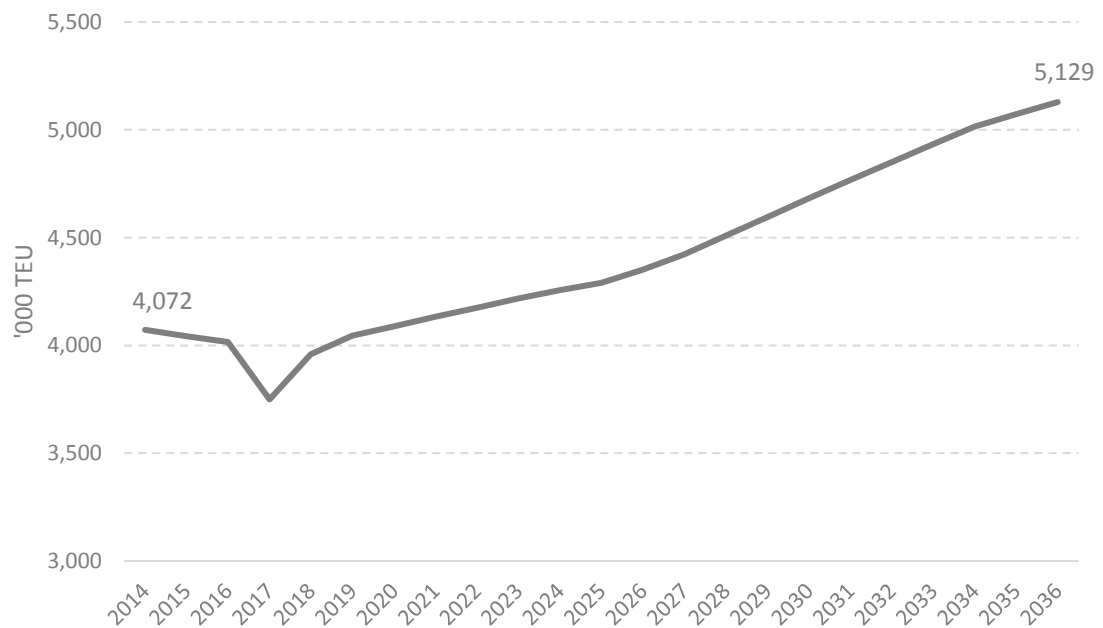
as yet unknown implications of Brexit) and the timing and phasing of port capacity enhancements that are expected to come forward at the Port of Felixstowe and its UK competitor ports over the coming years. The scenarios are therefore intended to provide a potential range within which the Port's future levels of throughput may be situated subject to how different demand and supply-side factors interface. For the Central and High case, the Port's market share is kept constant at recent average levels, whereas the Low case assumes that Felixstowe's market share declines as a result of the introduction of Liverpool 2.

Scenario 1: Central Case

4.6 The Central Case scenario forecasts that the Port of Felixstowe will reach 5.1m TEU by 2036 (Figure 4.2). This represents an increase of 1.4m TEU compared to its 2017 volumes. To arrive at this forecast, the following assumptions were incorporated into the model:

- 1 Impact of Brexit on UK GDP: whilst the potential impact of Brexit remains unclear as the negotiations are still ongoing, slower growth for the UK remains a likely outcome. This is especially true in the short and medium term as the economy adapts to the change. A slightly lower GDP growth rate compared to Oxford Economics GDP estimates (which form the basis of these forecasts) has therefore been assumed. This applies to the period 2020-2027.
- 2 Impact of Brexit on UK TEU: the UK TEU forecast uses UK GDP estimates as its driver; therefore, lowering GDP because the potential impact of Brexit will also impact TEU volumes. However, we add to this effect by further lowering the growth of UK TEU for the period 2020-2025. This is done to reflect the fact that UK trade may be disproportionately affected in the short-term by Brexit, given the extent, currently, of the UK-EU trade flows.
- 3 The Central Case also assumes that Felixstowe's market share of the UK's container volumes will continue to be at the 17-year historical average of 39.12%.

Figure 4.2 Port of Felixstowe Forecast - Central Case



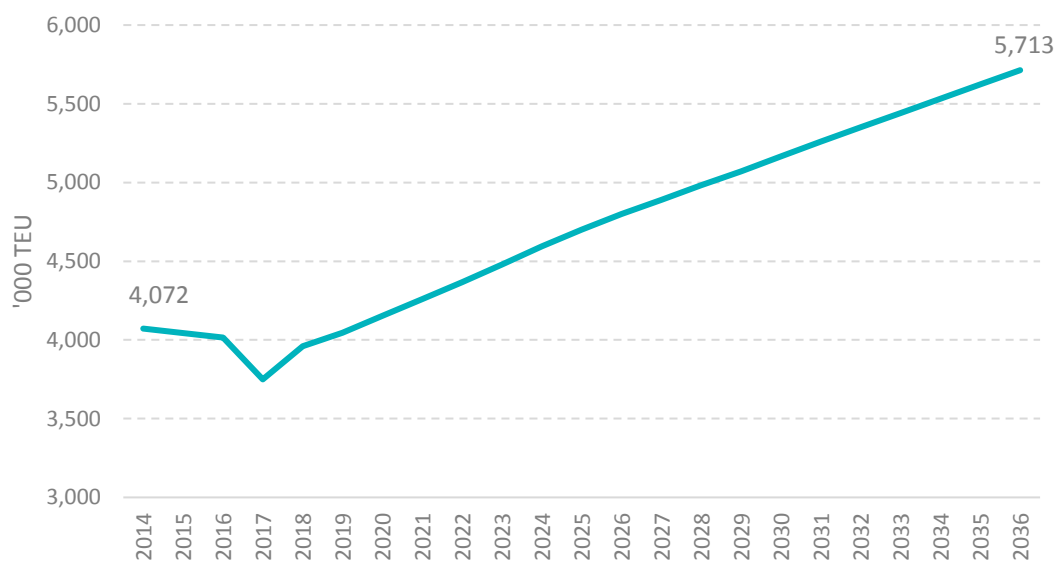
Source: Royal HaskoningDHV

4.7 These forecasts are broadly comparable with the Port of Felixstowe's own plans to increase capacity over the forecast period.

Scenario 2: High Case

- 4.8 The High Case scenario presents a more optimistic case whereby the Port of Felixstowe achieves 5.7mn TEU by 2036 (Figure 4.3). This assumes that GDP and TEU growth in the UK are not as impacted by Brexit as implied in the Central Case. Instead, it is assumed that TEU growth is higher over the short and medium term as bespoke new agreements are formulated with important trade partners after Brexit.
- 4.9 The High Case also assumes that Felixstowe's market share continues to be the 17-year historical average of 39.12%.

Figure 4.3 Port of Felixstowe Forecast - High Case

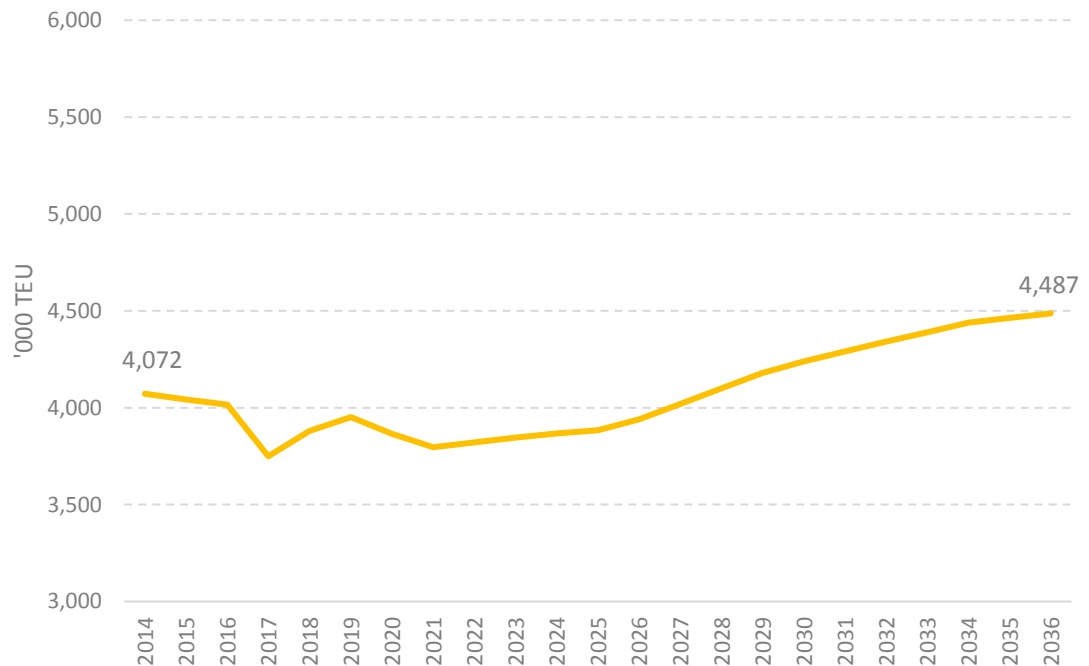


Source: Royal HaskoningDHV

Scenario 3: Low Case

- 4.10 Under the Low Case scenario Felixstowe's throughput increases at a slower pace, reaching around 4.5m TEU by 2036 (Figure 4.4). Under this scenario, a more negative impact of Brexit is assumed on GDP growth both in the short and medium term. Similar to the Central Case, a short-term additional impact on TEU growth is also assumed.
- 4.11 In the Low Case, the arrival of Liverpool 2 is assumed to decrease Felixstowe's market share as these two ports compete for container movements to the Golden Triangle. By contrast, Felixstowe's market share is held constant in the Central and High Case scenarios (i.e. there is no assumed impact arising from Liverpool 2).

Figure 4.4 Port of Felixstowe Forecast - Low Case



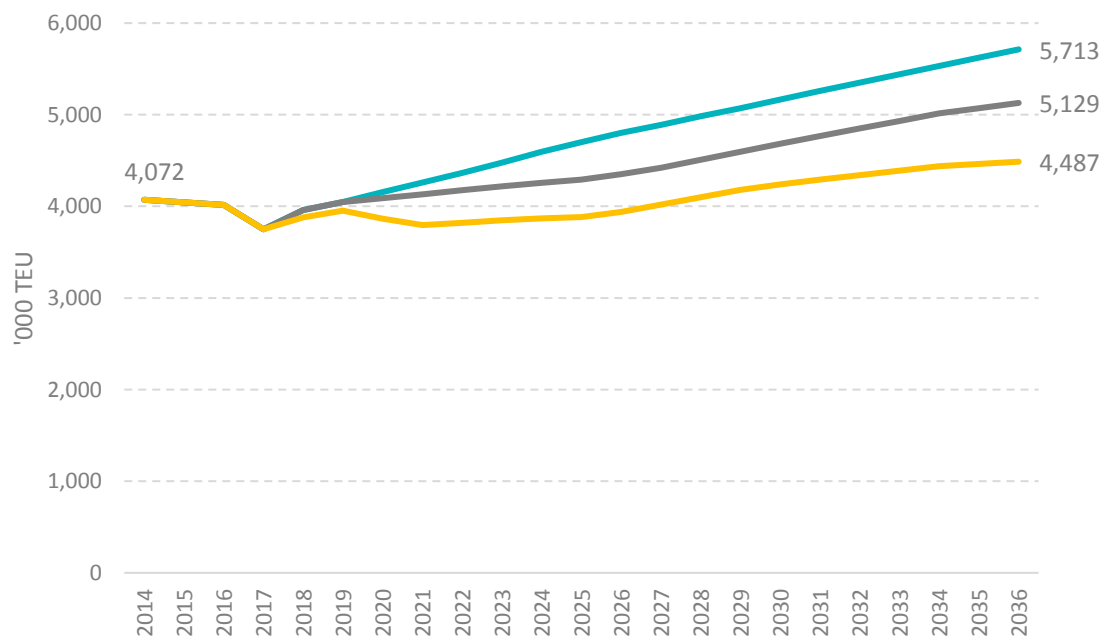
Source: Royal HaskoningDHV

Synthesis

4.12

Overall, the Central Case is forecast to increase to 5.1m TEU by 2036. The High Case forecast to reach 5.7m TEU by 2040, with the Low Case forecasted to reach nearly 4.5m TEU by the end of the study period (Figure 4.5).

Figure 4.5 Port of Felixstowe Forecast TEU - by Case



Source: Royal HaskoningDHV

- 4.13 Table 4.1 below provides a summary overview of the forecast growth in TEU under each of the scenarios considered for the 2014-2036 study period.

Table 4.1 Forecast Change in Container Throughput at Port of Felixstowe ('000s TEU)

	2014	2036	Change
High Case	4,072	5,713	+ 1,641
Central Case	4,072	5,129	+ 1,057
Low Case	4,072	4,487	+ 415

Source: Royal HaskoningDHV

Translating Container Forecasts to Land Requirements

On-port activities

- 4.14 A key consideration for this study is how the volume of containers expected to pass through the Port of Felixstowe over the period 2014-2036 might translate into demand for off-port operations and land. To some degree, this will be influenced by patterns of on-port activities and the capacity of the Port's estate to accommodate some of these. In this way, there is some interaction between on-port and off-port activities to drive the requirement for land.
- 4.15 The 2008 Felixstowe Port Logistics Study assumed the impact of on-port activities would be held constant, and the same approach has been adopted in this study for consistency. This means that it is assumed that the Port's current operational practices as they relate to on-port operating efficiency (e.g. how quickly laden and empty containers are handled on the quay) and container dwell times (i.e. how long containers are stored at the Port) will broadly continue as currently. Furthermore, the use of land within the Port boundary ultimately reflects strategic choices by the operator about the layout and management of its estate. It is not within the scope of this study to investigate these factors in detail (in common with the 2008 assessment), and in any event, these choices will depend on market drivers and the needs of customers that will change over time.
- 4.16 However, in the context of future planning, the Council will need to work with the Port to ensure that best use is made of on-port land and facilities in the first instance.

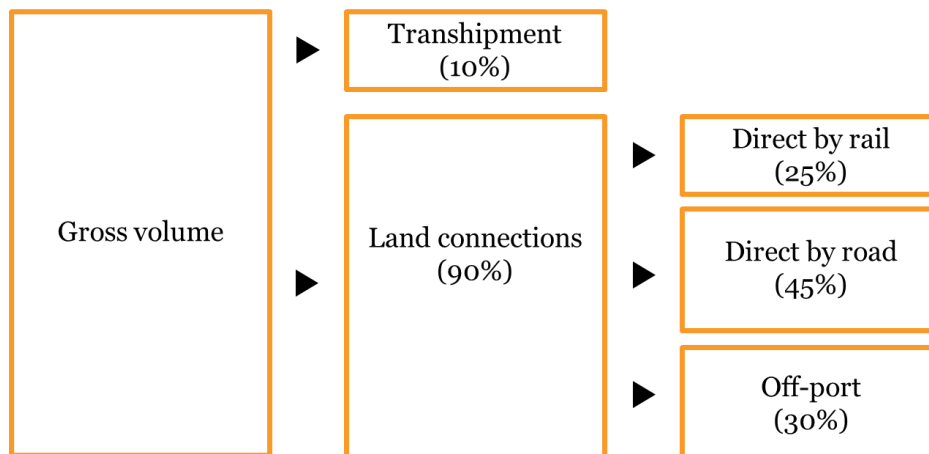
Projecting off-port land requirements

- 4.17 The container forecast data presented above refers to the gross volume of containers handled by the Port of Felixstowe, expressed as TEU. However, not all of this volume will give rise to requirements for off-port land within the study area reflecting:
- A proportion of containers will be 'transhipped' directly from the Port of Felixstowe to other ports on feeder ship services.⁷
 - Most substantial in terms of volume, a portion will be shipped directly from the port to destinations outside of Suffolk Coastal by road and rail (e.g. to the Golden Triangle).
- 4.18 The first step therefore, is to separate the volume of containers that will be handled on lands off-port within a 30-mile radius of the port from the gross volume. Figure 4.6 overleaf shows these steps in the model and the assumptions that allow the gross volume to be broken down into its component parts, consistent with the 2008 study.

⁷ A range of coastal feeder services operate from the Port of Felixstowe to other east coast, Scottish and Irish ports such as Teesside, Immingham, Grangemouth, South Shields, Dublin and Belfast.

- 4.19 From the gross volume starting point, 10% is assumed to be transhipped, leaving 90% of the volume leaving the Port via land connections. Of this remaining 90%, 25% is assumed to be shipped directly out of the study area on rail (this broadly reflects the current pattern reported by Hutchinson Ports), 45% is assumed to be shipped directly out of the study area by road, leaving 30% that is handled on off-port land within 30 miles of the Port⁸. These assumptions are held as fixed over the forecasting horizon.

Figure 4.6 Determining volume to be handled on off-port land



Source: Lichfields / Royal HaskoningDHV (based on 2008 Felixstowe Port Logistics Study)

Estimating future requirements

- 4.20 The following approach and steps have been applied to translate the container forecasts presented above into requirements for off-port land:
- 1 The forecast change in TEU throughput at the Port of Felixstowe for each scenario (see Table 4.1) over the period 2014-2036 has been taken as the starting point.
 - 2 In line with Figure 4.6 above, a 90% handling factor has then been applied to the TEU forecast change (i.e. discounts for transshipment by feeder services), to which a 30% allowance is then applied to estimate the element which requires off-port handling (i.e. discounts for longer distance road and rail).
 - 3 The TEU forecasts are then apportioned into requirements for warehousing space and open storage land for containers: a split of 12.2% for warehousing space and 87.8% for open storage has been applied, based on the assumptions set out in the 2008 study. Separate estimates are required for each use in order that different density and turnover assumptions can then be applied (see step 4 below).
 - 4 The container throughput forecasts for open storage and warehousing space are then converted into land requirements based on a ratio of 16,535 TEU per hectare/per annum for open storage and 1,045 TEU per hectare/per annum for warehousing (i.e. the number of TEU that one hectare of land can store during the course of a year). These densities are based on the assumptions set out in the 2008 study, and incorporate allowances for average container dwell times (30 days for open storage, 130 days for warehouses) used to determine the turnover of containers per year.

⁸ As noted in the 2008 study, there are no detailed origin/destination studies available. These assumptions are consistent with the 2008 study and the Port's data that 70% of containers are delivered to the Golden Triangle (see para 3.9). They were tested at the March 2018 workshop and were broadly deemed to remain a reasonable basis for future planning.

- 5 A 20% safety margin has then been added to the land requirement (similar to the approach generally adopted in employment land reviews for local plans), followed by a 15% allowance for ancillary facilities and operations such as mechanics, container repairs and haulage yards. No specific allowance has been made for lorry parking areas which are outside the scope of this assessment. These assumptions are consistent with the 2008 study.

4.21 Based on this approach, the off-port land requirements for the High, Central and Low Case at the Port of Felixstowe are shown in Table 4.2, covering the study period 2014 to 2036.

Table 4.2 Forecast need for off-port land

	High Case	Central Case	Low Case
Change in throughput ('000s TEU)	1,641	1,057	415
Land connected throughput ('000s TEU)	1,477	951	373
Off-port activity* ('000s TEU), of which:	443	285	112
Warehousing	54	35	14
Open storage	389	251	98
Convert to land requirement			
Land for warehousing (ha)	51.7	33.3	13.1
Land for open storage (ha)	23.5	15.2	5.9
Add safety margin and ancillary allowance			
Land for warehousing (ha)	62.1	40.0	15.7
Land for open storage (ha)	28.2	18.2	7.1
Land allowance for ancillary uses (ha)	13.5	8.7	3.4
TOTAL LAND REQUIREMENT (ha)	103.8	66.9	26.3

Source: Lichfields analysis, drawing on Royal HaskoningDHV TEU forecasts

*Within 30 miles of the Port

Note: Figures may not sum due to rounding

- 4.22 This indicates that the total off-port land requirement ranges between 26.3 ha (low) to 103.8 ha (high), with the central case falling broadly in between and suggesting 66.9 ha. The largest component relates to land for warehousing which ranges between 15.7 ha and 62.0 ha, whilst land for open storage ranges between 7.1 ha and 28.2 ha. Whilst the implied TEU forecasts for warehousing are much lower than those for open storage, the TEU per hectare/per year density is much lower and so the land requirement is commensurately greater. Land for ancillary uses is estimated at between 3.4 ha and 13.5 ha.
- 4.23 This analysis implies that a minimum of 26.3 ha of off-port land is required within 30 miles of the Port of Felixstowe in order to accommodate the scale of container traffic throughput growth that is expected to occur at the Port over the new Suffolk Coastal Local Plan period to 2036. This land requirement could be as high as 103.8 ha if the higher growth scenario is realised.
- 4.24 This range of land requirements is slightly lower than the range identified by the previous Felixstowe Port Logistics Study undertaken in 2008; this was equivalent to between 44 ha and 116 ha, albeit covering a different study period of 2006 to 2023.
- 4.25 As noted above, these future growth scenarios are highly dependent upon a range of macroeconomic drivers and trends – not least of which the impact of Brexit upon trade patterns with the UK – which are characterised by a great deal of uncertainty at the time of analysis. The resulting off-port land requirements also assume that current operational patterns continue in future, i.e. that the current proportion of container volume shipped directly out of the study area by rail and road does not change (in absence of evidence to suggest it will), although future changes could be influenced and instigated by changing preferences of shipping and cargo firms that use the port of Felixstowe.

- 4.26 The assumption that off-port land requirements are constrained to within 30 miles of the Port is consistent with the 2008 study and it is noted that there are no detailed origin/destination studies available to analyse this assumption further. However, more recent feedback obtained as part of this study suggests that off-port supporting activity would ideally only extend inland from Felixstowe as far as the Orwell Bridge, a distance of c.10 miles rather than 30 miles. This is due in part to economic viability reasons associated with onshore distribution and logistics (including ‘shunting’). It is also a result of increasing reliability issues relating to the Orwell Bridge itself, which experiences frequent closures due to incidents, severe weather and planned maintenance works. Further detail is provided in Appendix 4. For this reason, it has been assumed that all of the off-port land requirement identified above is accommodated within the 10 mile corridor between the Port of Felixstowe and the Orwell Bridge, although this does not preclude off-port supporting activity taking place elsewhere over the coming years.

Caveats and limitations

- 4.27 The methodology outlined above applies a number of assumptions, generally consistent with the 2008 study and based on the best information available. The 2008 study was informed by interviews with operators in and around the Port of Felixstowe, and the broad assumptions have been reviewed again as part of the consultation to inform this study. However, self-evidently, altering any of the assumptions themselves or changing the way they interact with each other has the potential to impact upon the forecasts and resulting land requirements.
- 4.28 The analysis is therefore subject to a number of potential sensitivities, particularly as follows:
- a **Rate of transshipment** – any increase in the proportion of transshipment might in theory reduce the volume of containers needing to leave the Port via land connections, albeit increased transshipment could have an operational impact at the quayside and in the container yard which, conversely, may give rise to a knock-on increase in the volume of containers leaving the Port via land connections.
 - b **Share of port-centric handling** – a significant shift towards port-centric logistics could give rise to a greater off-port land requirement if less container volume is shipped out of the study area by road or rail (currently 70%). As noted in section 3.0, this shift would depend on the particular location needs of the Port’s customers and logistics operators seeking efficiencies, but it could also be that the market responds if good quality, accessible and cost-efficient land is made available in close proximity to the Port.
 - c **Land utilisation** – density assumptions on containers per hectare and dwell times allow for conversion of container volumes (TEU) to land (ha) for open storage and warehousing. Any change to individual assumptions, for example reflecting future productivity enhancements or the operating models of individual businesses, could impact the land requirements set out.

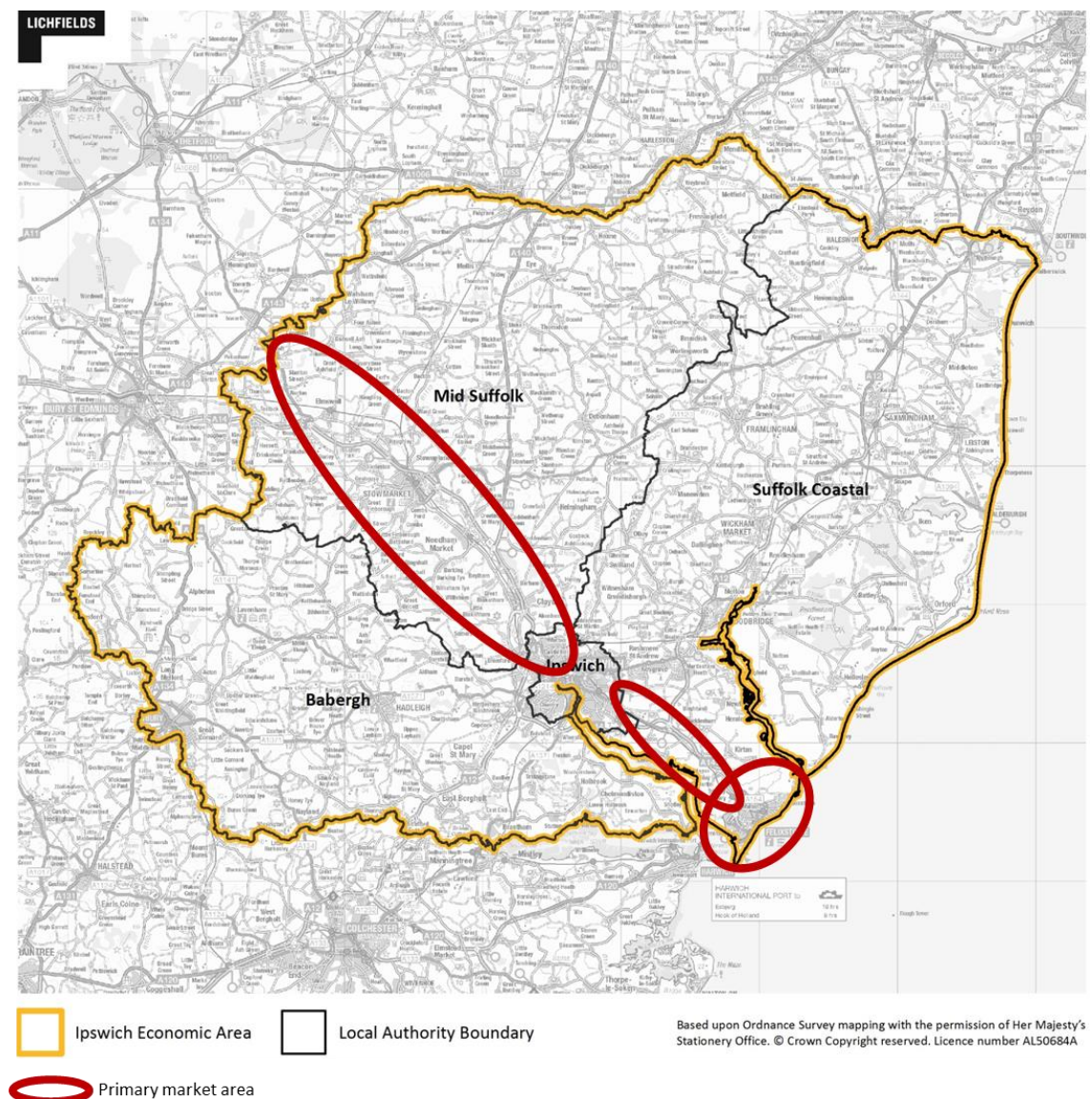
Broad spatial distribution

- 4.29 The specific nature of port-related activity means that any future demand for off-port land to accommodate growth associated with the Port of Felixstowe is likely to have a spatial dimension, resulting in a preferred ‘area of search’ for users and occupiers when it comes to identifying suitable sites and locations to carry out this activity.
- 4.30 Recent economic evidence prepared by Lichfields on behalf of SCDC and the three other local authorities that together comprise the Ipswich Economic Area (IEA) considered the spatial reach and economic influence of the Port of Felixstowe for different sectors of the economy. This identified that the Port of Felixstowe represents the main driver for, and user of, industrial

(distribution) land both in Suffolk Coastal and across the wider IEA, with port-related activity concentrated in particular along the A14 corridor, in some cases as far as Stowmarket and beyond.

- 4.31 The fortunes of the sub-region's industrial property market are linked to the level of activity generated by the Port, and its economic influence over the wider Suffolk economy is therefore significant. Over recent years this influence has generated strong demand for industrial property. As noted in section 3.0, the increasing importance of port-centric logistics could drive demand for space within or in close proximity to the Port of Felixstowe. The consented Port of Felixstowe Logistics Park is targeting such opportunities.
- 4.32 Beyond Felixstowe itself, the proximity of centres such as Ipswich and Stowmarket to the Port and their location on the A14 corridor also explains the presence of a number of port-related companies occupying employment land along this strategic corridor. This tends to relate to office-based occupiers, for instance Ransomes Europark located on the A14 corridor in south east Ipswich is home to the UK head office of the Mediterranean Shipping Company, while much of the small-scale office space in Felixstowe town is occupied by international firms seeking a satellite office or local presence close to the Port.
- 4.33 In drawing this analysis together, Figure 4.7 below provides an overview of those areas and locations across the IEA which attract the strongest levels of market demand for logistics and transport related space. This extends right along the A14 corridor from the Port of Felixstowe to Stowmarket, taking in the Port of Ipswich and locations in the Ipswich urban area close to the A14, as well as the smaller centres of Great Blakenham and Claydon in the south of Mid Suffolk District. Elsewhere, demand for logistics and transport property is comparatively smaller in scale, and generally restricted to the IEA's key transport routes, including the A12.

Figure 4.7 Key Property Market Areas and Demand - Transport and Logistics



Source: Lichfields analysis (2017 Ipswich Economic Area Sector Needs Assessment)

- 4-34 What is clear from this recent economic evidence is that the strength of occupier demand for business space and employment land associated with the Port of Felixstowe is generally greatest in the immediate vicinity of Felixstowe. Whilst there is always likely to be some level of port-related demand for sites and locations further east along the A14 corridor, this tends to reduce as distance from the Port increases. This 'dilution' of port-related demand along the A14 corridor is illustrated by the fact that industrial demand in locations like Stowmarket (some 28 miles from Felixstowe) tends to be dominated by other forms of industrial activity such as manufacturing and processing.
- 4-35 This analysis is useful when considering the spatial dimension or reach of the off-port land requirements identified above over the new Suffolk Coastal Local Plan period to 2036. It indicates that the operational nature of logistics activity connected to the Port of Felixstowe inevitably restricts demand to particular locations, underlining the need for alignment between demand and supply to ensure that ongoing operations and future growth at the Port can be accommodated and facilitated in planning policy terms.

5.0

Land Supply

- 5.1 This section presents the findings of an assessment of the supply of land that might be, or become, available to meet future off-port land demand associated with the Port of Felixstowe over the new Suffolk Coastal Local Plan period to 2036. It considers the characteristics and quality of this land supply and its suitability to meet future employment development needs, and specifically those needs associated with port-related logistics.
- 5.2 It begins by reviewing and summarising the latest position on employment land supply in the development pipeline based on SCDC monitoring data, followed by an appraisal of a number of potential development sites that could be used to accommodate demand for off-port land within the District over the new Local Plan period.

Existing and pipeline supply

- 5.3 The demand forecasts outlined above need to be considered in the context of existing available and identified pipeline supply of land that could be available to accommodate off-port land requirements over the coming years. This includes existing and allocated employment sites within close proximity to the Port of Felixstowe and parts of Suffolk Coastal District along the A14 corridor, as well as extant and unimplemented planning permissions for port-related and wider logistics development within the District. If existing identified supply is not sufficient to meet the forecast future needs outlined in the preceding section in quantitative and/or qualitative terms, this may imply a need for additional land to be brought forward over the plan period.
- 5.4 The Council's latest development monitoring data (as at May 2018) provides information on land availability and extant planning permissions for employment and other uses in the District. Based on this information, the total amount of land available to meet employment related needs (i.e. covering the 'B use classes') is estimated to comprise just over 108 ha, as shown in Table 5.1 below.

Table 5.1 Pipeline supply of employment land in Suffolk Coastal (ha) at May 2018

Location	Office (B1a/B1b)	Industrial (B1c/B2/B8)	Mixed B (B1/B2/B8)	Other	Total
Felixstowe	0.3	32.46	4.72	0.88	38.36
Framlingham	0.28	4.07	9.57	0.51	14.43
Ipswich Fringe [‡]	0.84	0.60	31.60	1.62	34.66
Leiston	0.25	0.36	2.33	-	2.94
Saxmundham	-	-	3.25	-	3.25
Woodbridge	2.25	0.30	2.56	1.02	6.13
Rural areas	0.76	1.34	4.03	2.33	8.46
DISTRICT TOTAL	4.68	39.13	58.07	6.35	108.23
A14 corridor sub-total*	1.14	33.06	36.32	2.5	73.02

Source: SCDC 2018 / Lichfields analysis

[‡] Ipswich Fringe is defined as those areas of Suffolk Coastal District that fall within the 'fringes' of the Ipswich urban area, including Martlesham Heath and Nacton

*A14 corridor includes Felixstowe and the Ipswich Fringe

Note: Where applicable, floorspace has been converted to land area (ha) by Lichfields based on standard plot ratios

- 5.5 Of the total 108 ha of employment land supply implied by latest monitoring information, around two thirds (67% or 73 ha) is located within the A14 corridor area, which broadly includes Felixstowe town and the fringes of the Ipswich urban area. As noted in sections 3 and 4, the nature of port-related activity means that location and travel times represent important

considerations when it comes to accommodating this activity. Feedback obtained as part of this study suggests that demand for off-port land would be optimally accommodated within the 10 mile section of the A14 between Felixstowe and the Orwell Bridge crossing, reflecting occupier preferences, the economics of onshore freight movement/logistics and increasing reliability issues associated with the bridge crossing.

- 5.6 For this reason, the 73 ha of pipeline supply located within the A14 corridor area of Suffolk Coastal District is considered most appropriate to be able to respond effectively to future business needs for port-related space. The composition of this 73 ha of pipeline employment land supply is summarised in Table 5.2 below.

Table 5.2 Pipeline supply of employment land in Suffolk Coastal (ha) by location, status and use class

Location / Status	Pipeline Supply Including B8 uses	Pipeline Supply Not including B8 uses	Total Pipeline Supply
A14 corridor only			
<i>Local Plan Allocation</i>	8.08	1.88	9.96
<i>Extant Planning Permissions</i>	59.04	4.02	63.06
A14 corridor sub-total	67.12	5.90	73.02
Suffolk Coastal District			
<i>Local Plan Allocation</i>	13.66	16.03	29.69
<i>Extant Planning Permissions</i>	64.91	13.63	78.54
DISTRICT TOTAL	78.57	29.66	108.23

Source: SCDC 2018 / Lichfields analysis

- 5.7 Pipeline supply must generally be suitable for B8 logistics activities if it is to genuinely help support the future growth of the Port of Felixstowe, as most of the off-port supporting activity is likely to fall within the B8 use class.
- 5.8 As Table 5.2 above shows, 78.57 ha (73%) of total pipeline supply in the District is either allocated or has extant planning permission for B8 uses. The majority of this (67.12 ha or 85%) is located in close proximity to the Port or along the A14 corridor towards the Orwell Bridge.
- 5.9 Limitations associated with the granularity of available development monitoring information and use class flexibility associated with granted planning permissions mean that it is not possible to isolate a 'B8 only' figure from the above pipeline supply, much of which has permission for a range of industrial uses (also including B1c and B2 uses). In reality, it is likely that non B8 development will come forward on these sites in addition to or instead of B8 floorspace. Should this happen, the pipeline supply of employment land available for port-related activities could be considerably lower than 67.12 ha.
- 5.10 Table 5.2 also shows that a large proportion of pipeline supply across Suffolk Coastal is comprised of extant planning permissions (78.54 ha or 73%), and around a third of this (26.58 ha) relates to Ransomes at Nacton Heath which received outline planning permission for B8 uses alongside ancillary B1 uses in May 2018. The application site is covered by Policy SSP20 of the Site Specific Allocations Development Plan Document (DPD) which allocates the land for a mix of B1, B2 and B8 uses.
- 5.11 Extant planning permissions also include phase one of the Port of Felixstowe Logistics Park, which has received approval for the construction of four B8 distribution buildings comprising 83,411 sqm (c.897,800 sq.ft) of floorspace in total. This first phase represents around two thirds of the total quantum of floorspace that could theoretically be provided across the whole proposed logistics park once complete (1.4 million sq.ft of warehousing floorspace). It should however be noted that the proposed development would necessitate demolition of existing warehousing space and would therefore result in some displacement of existing on-site

occupiers and space. Given the on-port location, any floorspace that comes forward as part of the development is likely to command a price premium and/or may not be suitable for all types of user. Feedback from the Port of Felixstowe also indicates that, given the constrained nature of the overall Port estate (i.e. with limited expansion opportunities), priority will inevitably be given to container yards for vessels using the Port, with other projects such as the proposed Logistics Park representing a lower priority use. This represents a key risk factor, and provides a degree of uncertainty regarding prospects for the phase one development coming forward over the new plan period.

- 5.12 Overall, after taking account of employment type and location, the pipeline land supply that is theoretically considered to be available to help meet future demand for off-port land comprises just over 67 ha. This would be sufficient – in quantitative terms – to accommodate the low and central case growth scenarios presented in the previous section, while additional land would be required to meet the high growth case in full.
- 5.13 It is important to caveat that there are inherent risks associated with solely relying upon this pipeline land supply to support future growth of the Port of Felixstowe. Most of the sites comprising the 67 ha are comparatively small in scale; just three of those falling within the A14 corridor area are greater than 10 ha in size. These sites may be less well suited to Port-related logistics uses which tend to require ample space for storage and/or distribution activity. There is also no guarantee that any allocated site or granted planning permission comes forward in full for the assumed quantum of development over the new Local Plan period.

On-Port supply

- 5.14 Beyond those undeveloped site allocations and extant planning permissions described above, the Port of Felixstowe has various plans to increase on-port capacity for its on-site operations, including 13ha of new container yard capacity behind Berth 9 and a further 3.2 ha reclamation of land from the sea (as summarised previously in Table 2.2). This represents ‘net additional’ space or capacity, although feedback from the Port itself obtained as part of the study indicates that this additional capacity is specifically intended and required to improve existing on-port efficiency (i.e. addressing a deficit of storage space that has existed behind Berth 9 for a number of years and which has led to operational inefficiency). The introduction of larger container ships and containers in recent years has increased the demand for associated container storage space, and this inevitably continues to place pressure on the Port’s container storage yard space.
- 5.15 Therefore, beyond phase one of the Port of Felixstowe Logistics Park (which benefits from planning approval), no additional capacity has been assumed within the Port boundary for the purposes of this study.

New land supply

- 5.16 Although the 67 ha of pipeline land supply noted above would be sufficient in quantitative terms to accommodate the low and central case growth scenarios developed as part of this study, there are a number of factors that combine to undermine the certainty of this quantum of land being genuinely available to accommodate needs over the new Local Plan period. These include planning policy flexibility (which means that some of the sites could come forward for alternative, non-B8 industrial development), landowner aspirations and priorities, and the small-scale nature of some of the sites which lack the scale and critical mass required for some types of port-related activity. In any event, the 67 ha of supply would be insufficient to accommodate off-port needs associated with the high growth scenario (just under 104 ha).
- 5.17 Similar uncertainties were identified by the 2008 Felixstowe Port Logistics Study which noted that the demand/supply balance should be considered in the context of market and planning

realities. The study noted that the main issues for identifying future land supply sufficient to meet additional demand will be qualitative rather than quantitative, including the need to consider potential sites to provide more comprehensive solutions and provide better size and shape sites.

- 5.18 It is a fair assumption that the identified 67 ha alone may not meet future demand for off-port land in full, broadly assuming a central case growth trajectory. It is also likely that other sites may come forward that are equally or more suitable for port-related development and so the remainder of this section considers the relative suitability of potential new supply opportunities.

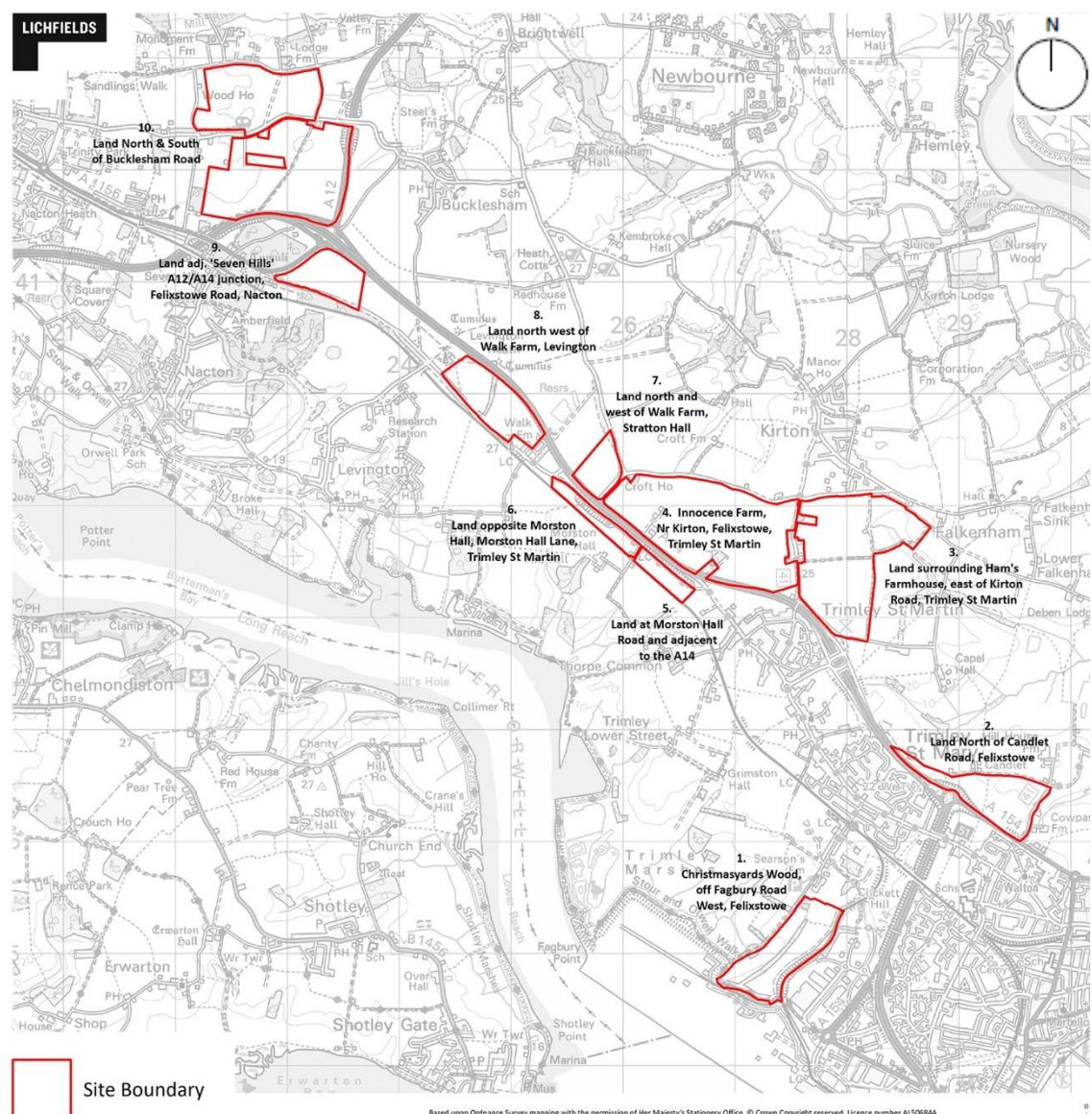
Area of search

- 5.19 As noted in section 3.0, a sequential approach is required when considering land requirements and allocations for accommodating employment land demand associated with the Port of Felixstowe; one that prioritises activity that requires direct port access or very close proximity to the port over wider, more footloose activity that comes with a greater degree of locational flexibility and choice.
- 5.20 The case for providing sufficient and appropriate space in Suffolk Coastal District (in and around Felixstowe) for direct 'on-port operations and activity' (typology 1) and 'off-port supporting industry' (typology 2) is relatively well defined, but the need to make specific provision for 'wider off-port activity' (typology 3) is inevitably more diffuse, unless specific evidence can be identified from particular occupiers or market segments.
- 5.21 In order to examine the potential supply of sites suitable to meet demand for land for uses related to the operations at Felixstowe, the 2008 Felixstowe Port Logistics Study reviewed the availability of suitable vacant industrial sites across the whole of the East of England region, and beyond. This area of search extended eastwards to locations including Bedford and Peterborough, although the study discounted the majority of sites beyond the more immediate Ipswich Economic Area due to the locational necessity of proximity to the Port for the majority of occupiers.
- 5.22 In light of the more recent spatial typology analysis of business activity associated with the Port of Felixstowe undertaken as part of this study, it is not considered necessary to replicate the 2008 study's wide geographical search area, particularly as the outputs from this study are intended to inform decisions regarding new land allocations within emerging Local Plans of local authorities in the IEA (most notably Suffolk Coastal).
- 5.23 In particular, feedback obtained as part of this study suggests that the 'area of search' for any new sites that could potentially be used to accommodate port related activity would ideally not extend beyond the Orwell Bridge river crossing and therefore the SCDC boundary, partly due to the economics of onshore distribution and logistics (including 'shunting') and partly due to growing reliability issues associated with the Orwell river crossing itself. Further detail on this issue is included at Appendix 4.
- 5.24 The area of search for potential sites and allocations is therefore focused upon off-port land, based upon the assumption that requirements for land at the port itself will be taken care of, as part of the Port's own estate strategy.
- 5.25 For this reason, the area of search for potential sites and allocations as part of this study is restricted to the Suffolk Coastal District administrative area, and is primarily focused upon the Felixstowe urban area and adjoining A14 corridor. This approach was tested at the March 2018 stakeholder workshop and was broadly deemed by stakeholder participants to represent a reasonable basis for future planning.

Site opportunities

- 5.26 A portfolio of 10 sites within Suffolk Coastal District was identified by SCDC to form the basis of assessment. These sites have been put forward for potential development by landowners through the recent Local Plan Call for Sites, and therefore have no current planning policy status. Some of the sites have also been considered by the Suffolk Coastal Employment Land Supply Assessment (ELSA) recently completed by Lichfields.
- 5.27 The location of these sites is shown in Figure 5.1 below, with more detailed site plans included at Appendix 5.

Figure 5.1 Site location



Source: Lichfields

- 5.28 Beyond these 10 sites that fall within the SCDC administrative area, there will be other sites located elsewhere in the IEA and beyond that could potentially contribute to accommodating economic growth and employment land demand associated with growth of the Port of Felixstowe in future. Further distance from the port will inevitably limit the type of occupiers

willing to locate across the wider IEA, but it could provide a feasible option for wider supply chain firms that fall within the 3rd typology described in Chapter 3.0 ('wider off-port activity').

- 5.29 The scope of this study means that any such sites located outside of Suffolk Coastal District have not been subject to detailed appraisal but are referred to in more general terms where relevant. It will be the responsibility of relevant local authorities, through their respective Local Plans, to consider alternative sites within neighbouring boroughs and districts.
- 5.30 The sites examined as part of this study were selected because they represent a fair assessment of the land that could potentially become available for port-related uses in SCDC. None of the sites are currently subject to a Local Plan allocation or location specific planning policy. Some of the sites have been proposed for port-related uses through a recent Local Plan Call for Sites.
- 5.31 It is important to note that sites considered in this report does not preclude other potential new sites being proposed, and being assessed, for port-related uses in due course. Consideration of sites within this report does not, in itself, imply future allocation within the Local Plan. The results of the detailed appraisal show that each site has strengths and weaknesses, the relative balance of which must be evaluated in determining their suitability for port-related uses, whilst individual development proposals will be considered on their merits. The sites evaluated as part of this study can act as a useful 'yardstick' against which to judge new sites as and when they are proposed.

Site appraisal criteria

- 5.32 The next step is to screen this portfolio of sites to identify those that are most suitable for port-related uses and activity. A series of criteria are used to appraise each site to identify those sites which offer the greatest potential to accommodate future growth of the Port of Felixstowe over the Local Plan period (and potentially beyond).
- 5.33 The appraisal criteria are listed below. Some are fairly broad in nature, but others relate directly to the primary needs of the logistics sector. They are drawn from the combined experience of Lichfields and Royal HaskoningDHV in assessing the suitability of employment sites to accommodate business needs as well as the criteria applied as part of the 2008 Felixstowe Port Logistics Study (to ensure consistency with the previous study as far as possible). They have been selected due to their specific relevance to the logistics sector and the occupational/spatial requirements associated with port-related activity:
- a Site location and distance from the Port of Felixstowe⁹;
 - b Strategic accessibility (including regard to in place junction infrastructure);
 - c Local accessibility;
 - d Site size¹⁰;
 - e Physical constraints and factors;
 - f Adjoining and nearby uses including nearby built development;
 - g Existing planning policy status;

⁹ Due to the economics of the cost of a shunt, a radius of 30-miles around the port was identified by the 2008 Felixstowe Port Logistics Study as the 'port centric zone'. Beyond this zone, sites were considered unlikely to be used for port related uses. This assumption has been updated to a distance of 10 miles between Felixstowe and the Orwell Bridge crossing based on up-to-date feedback from stakeholders gathered as part of this study

¹⁰ Sites below 10ha in size are considered to be less suitable as a general principle, reflecting the nature and spatial requirements of port-related uses (this is intentionally consistent with broad assumptions applied by the 2008 Felixstowe Port Logistics Study)

- h Site ownership and availability over the short, medium and long term of the plan period;
- i Development status; and
- j Utilities servicing.

5.34 Further detail of each criteria is contained in Appendix 6.

5.35 An objective appraisal has been carried out on each of these sites to examine their suitability to accommodate the type and scale of port-related activity identified within the preceding sections, focusing in particular upon the specific requirements associated with port-related activity.

5.36 For the purpose of this assessment, sites 4, 5 and 6 have been appraised separately. However, it is noted that Land at Morston Hall Road (site 5) and Land opposite Morston Hall (site 6) are being promoted by the landowner in conjunction with Innocence Farm (site 4). As such, these three sites could be developed as part of a single, larger site proposition.

5.37 A summary of how each of the 10 sites score against each appraisal criteria is presented in Table 5.3 below. Further details are provided in Appendix 7. Whilst all appraisal criteria are considered on a site-by-site basis, not all appraisal criteria are 'scored'.

Table 5.3 Site appraisal summary

Site Ref	Name	Area (ha)*	Distance from Port ¹¹ (miles)	Current Use	Planning Policy Status	Development Status	Overall Score (out of 30)
1	Christmasyards Wood, off Fagbury Road West, Felixstowe	44.0	1.7	Agricultural	No current Local Plan allocation or location specific policies	Landowner seeking allocation for use as a container storage and haulage yard	20
2	Land north of Candlet Road, Felixstowe	36.5	2.0	Agricultural/equestrian		Site being promoted by landowner for housing-led development	22
3	Land surrounding Ham's Farmhouse, east of Kirton Road, Trimley St Martin	92.4	3.7	Agricultural/equestrian		Site being promoted by landowner for housing-led development	17
4	Innocence Farm, Nr Kirton, Felixstowe, Trimley St Martin	115.6	3.9	Agricultural		Scoping opinion submitted January 2017 Landowner seeking allocation for multi-occupier use for warehousing, logistics and ancillary yard	23
5	Land at Morston Hall Road and adjacent to the A14	8.9	4.2	Agricultural		Landowner seeking allocation for multi-occupier use for warehousing, logistics and ancillary yard	20
6	Land opposite Morston Hall, Morston Hall Lane, Trimley St Martin	11.9	4.6	Agricultural		Landowner seeking allocation for multi-occupier use for warehousing, logistics and ancillary yard	20
7	Land north and west of Walk Farm, Stratton Hall	14.7	4.7	Agricultural		Site being promoted by landowner for housing-led development	19
8	Land north west of Walk Farm, Levington	33.1	5.4	Agricultural; existing residential unit		Site being promoted by landowner for housing-led development	18
9	Land adj. 'Seven Hills' A12/A14 junction, Felixstowe Road, Nacton	22.5	7.0	Agricultural		Site being promoted by landowner for business park uses	23
10	Land north and south of Bucklesham Road	143.6	7.8	Agricultural		Site being promoted by Gladman for mixed use residential-led development with community facilities and services	21

Source: SCDC 2018 / Lichfields analysis

*Represents the gross area of the site; the net developable area may be less

¹¹ Distance from Port of Felixstowe calculated from the centre of the site and based upon the most direct public road access

Site appraisal findings

- 5.38 The appraisal process results in a range of scores, reflecting the relative characteristics and development potential of each site when considered against the appraisal criteria noted above. The total scores range from 17 to 23 out of 30 (site 3 and site 9 respectively). A more detailed site appraisal matrix can be found at Appendix 7.
- 5.39 Based upon this appraisal exercise, a small number of sites can be identified as comparatively more suitable for port-related activities and, as such, offer the greatest potential to support future growth of the Port of Felixstowe. For instance, sites 2, 4 and 9 perform strongly against a range of criteria. The higher scores achieved by these sites can largely be attributed to their relatively unconstrained site characteristics and location adjacent to compatible uses. Information regarding site ownership is also a central consideration given its impact upon the likelihood of a site coming forward for development and overall risk. As a result, those sites that are under single ownership and are being actively promoted by the landowner inevitably perform better against these criteria.
- 5.40 While Land at Morston Hall Road (site 5) performs well against the appraisal criteria, its size of 8.9 ha means that it is unlikely to be of sufficient scale to meet the requirements of storage and distribution operators. As a result, this site is considered less suitable in isolation for providing additional land for port-related uses, but could become more suitable if brought forward as part of a larger site area in conjunction with Innocence Farm (site 4).
- 5.41 A key theme across the appraisal results is the lack of existing vehicular access or adequate junction infrastructure connecting sites to the local road network. Of the 10 sites appraised, only five are identified as having existing vehicular access. Meanwhile, significant junction improvements would be required to deliver four of the sites. Given that all of the sites are currently in agricultural use, it is to be expected that current vehicular access will be limited. As such, whilst some are assigned a lower score if existing infrastructure is not in place, a site's score could be significantly improved if development were to come forward and essential enabling infrastructure put in place.
- 5.42 While all 10 sites are being actively promoted for development by the landowner, only two are being promoted for port-related uses; Christmasyards Wood (site 1) and Innocence Farm (site 4, in conjunction with sites 5 and 6). Further commentary about each is provided below based upon specific information supplied by Bidwells (on behalf of the landowner, Trinity College Cambridge) during stakeholder engagement undertaken as part of this study.
- 5.43 An abnormally high level of infrastructure is deemed to be required to develop the Christmasyards Wood site for use as a container storage and haulage yard, to include the creation of a bridge to provide access over the existing railway line and extensive groundworks. It represents the only site considered that offers the potential for direct port access, subject to necessary access right concessions granted by the Port of Felixstowe. A number of preparatory technical studies commissioned by Trinity College demonstrate that development for a proposed container storage yard can be satisfactorily accommodated. Whilst the site is considered by the landowner to be too small by itself to accommodate the scale and range of needs for employment space in the area, at 44 ha, the scale of capacity would in quantitative terms be more than sufficient to accommodate the low case growth scenario (26.3 ha) identified by this study over the period to 2036.
- 5.44 Innocence Farm is also being promoted for port-related uses by Trinity College Cambridge, identified by the landowner as a sustainable and commercially realistic location that could respond to future needs associated with the Port including opportunities created by the

expansion of the Port's capacity and the demand for local bulk-breaking, goods processing and e-tailing services. It could also help to fulfil the needs of existing businesses displaced elsewhere (including from potential land lost to the Port of Felixstowe Logistics Park if this comes forward) and from prospective tenants who cannot be accommodated at Trinity Distribution Park. Its relative location away from the Felixstowe urban area is likely to generate visual and amenity impacts upon the surrounding area, although these could be mitigated through appropriate landscaping works. Creation of vehicular access alongside significant junction improvements would be required to enable the delivery of this site. A number of preparatory technical studies have been produced to assess the suitability of Innocence Farm for strategic employment uses and a scoping opinion was provided by the Local Planning Authority in early 2017 to confirm the requirements of the next phase of environmental evidence gathering. At nearly 116 ha, the size and scale of the Innocence Farm site as currently defined would more than exceed the 'high case' scale of off-port related demand identified by this study.

- 5.45 Very limited information is available regarding constraints and opportunities associated with the other sites considered by this study, which are generally less well progressed than Christmasyards Wood and Innocence Farm in terms of development potential and options.

Other Sites

- 5.46 Whilst this appraisal exercise has focused upon availability and suitability of sites within Suffolk Coastal District, there will be other sites and locations across the wider Ipswich IEA that could play a role in helping to meet the needs associated with future growth of the Port. For instance, 'Port One Logistics Park' at Great Blakenham is a 17 ha site with planning consent for 74,300 sq.m of warehousing floorspace offering bespoke units to meet occupier requirements. Meanwhile 'Gateway 14' at Mill Lane, Stowmarket is a proposed 40 ha logistics and business park that will include up to 93,000 sq.m of warehousing floorspace.
- 5.47 Also located to the west of Ipswich and adjacent to the A14 is Sproughton Enterprise Park; one of the largest strategic development sites in Suffolk which also benefits from Enterprise Zone status. The site is identified as having particular advantages for distribution uses, and an outline planning application was submitted in November 2017 for 90,000 sq.m of employment floorspace (B1/B2/B8 uses) amongst other uses.
- 5.48 All of these sites are located further along the A14 to the west of Ipswich, albeit in strategic locations adjacent to junctions with the A14. Whilst they do not offer the proximity advantages to the Port provided by the 10 sites in Suffolk Coastal District considered by this study, they may appeal to certain occupiers that are able to be more flexible in terms of locational requirements.
- 5.49 Although it is beyond the remit of this study to appraise the suitability of these wider sites for meeting growth needs of the Port of Felixstowe in detail, it is important to recognise these could have some potential role in meeting Port-related distribution and logistics needs over the new Local Plan period.

Synthesis

- 5.50 The latest pipeline supply of employment land that is in close proximity to the Port of Felixstowe and considered suitable for port-related activities totals just over 67 ha. This quantum would be sufficient – in quantitative terms – to accommodate the low and central case growth scenarios developed as part of this study, while additional land would be required to meet the high growth case in full.
- 5.51 There are inherent risks associated with relying upon this pipeline land supply in isolation to support future growth of the Port of Felixstowe, due to uncertainties surrounding delivery and the relatively small size of some of the sites. The identified 67 ha alone is therefore unlikely to be

sufficient to accommodate future demand for off-port land in full, broadly assuming a central case growth trajectory. It is also likely that other sites may come forward that are equally or more suitable for port-related development.

- 5.52 In order to identify alternative and more suitable supply, a portfolio of 10 potential new employment sites has been identified, focusing upon the 10 mile corridor of the A14 between Felixstowe urban area and the Orwell Bridge crossing (i.e. within Suffolk Coastal District). Each of these sites has been appraised against a range of criteria in order to assess their relative suitability for port-related uses and activity, enabling identification of the most suitable sites to help support future growth of the Port. Many of these sites are relatively unconstrained, located adjacent to compatible uses and under single ownership. A lack of existing vehicular site access is common to many of the sites appraised but this represents a constraint that could be addressed should development come forward in future. Just two of the 10 sites are being actively promoted for port-related uses, but would need to overcome site-specific issues and challenges before any such development can take place.
- 5.53 There is also an opportunity for some demand to be met at strategic locations elsewhere across the Ipswich IEA, with a number of logistics sites currently being proposed in neighbouring local authorities such as Babergh and Mid Suffolk. These sites do not offer the proximity advantages to the Port provided by the 10 sites in Suffolk Coastal District considered by this study, but may appeal to certain occupiers that are able to be more flexible in terms of locational requirements.

6.0 Conclusions and Recommendations

- 6.1 This section draws the various strands of analysis together to present overall conclusions and recommendations to inform the emerging Local Plan and associated site allocations strategy.

Container trade

- 6.2 UK container trade and throughput has seen steady growth in recent years, and the Port of Felixstowe has fairly consistently maintained market share and position as the UK's largest and busiest container port. It has a significant advantage over other UK container terminals in that vessels do not have to deviate far from the main shipping routes (i.e. the English Channel) to call at the port. It is also characterised by high utilisation, and this has spurred a number of expansion and improvement projects at the port which are either currently underway or due to take place soon. Other UK ports also have plans to expand their container throughput and are likely to compete with Felixstowe for operators over the coming years. This includes the nearby ports at Tilbury and London Gateway, the latter of which benefits from considerable land availability for logistics related development.

Logistics trends and typologies

- 6.3 The UK logistics sector has undergone rapid change in recent years, reflecting the increasing demands for online shopping and next day delivery services. This includes a move towards port-centric logistics which represents an alternative to inland depots and centrally-located national distribution centres, allowing companies to streamline their supply chains and reduce their impact on the environment. Drivers of demand for port-centric and off-port warehousing capacity will vary depending upon specific users, although in some instances a business (utilising a container port) will prefer an off-site warehousing solution as it provides cheaper warehousing rates and larger facilities.
- 6.4 Business activity associated with container ports such as the Port of Felixstowe can be considered in terms of three broad spatial typologies, namely; on-port operations and activities (which must be undertaken on-site within the port boundary or estate), off-port supporting industry (activities which are closely linked to the port and are ideally undertaken in close proximity), and off-port wider supply chains (wider supply chain functions and activity taking place to serve and support the day-to-day operations of the port). The second typology is of most relevance to this study, in terms of its likely growth potential and the need to make specific provision within Suffolk Coastal District to accommodate this growth over the plan period.

Economic forecasts and land requirements

- 6.5 The latest economic projections analysed by Royal HaskoningDHV imply that container trade (measured by TEU) will continue to grow in the UK over the period to 2040. A series of Central, Low and High case growth scenarios have been developed which reflect more or less optimistic assumptions concerning the potential impact of Brexit both on GDP and, in turn, TEU growth. The assumptions and implications for Felixstowe are that the Port will retain its historical market share of UK container throughput. The scenarios provide a useful way of considering how the scale of activity at the Port of Felixstowe could grow and change over the coming years.
- 6.6 A key consideration for this study is how the volume of containers expected to pass through the Port of Felixstowe over the new Local Plan period (2014-2036) might translate into demand for off-port operations and land. To some degree, this will be influenced by patterns of on-port activities and the capacity of the Port's estate to accommodate some of these. Using a similar methodology to that applied as part of the 2008 Felixstowe Port and Logistics Study, the three

container trade forecasts have been translated into requirements for off-port land. This results in a range of between 26.3 ha (under the Low case) and 103.8 ha (under the High case), with the Central case falling broadly in between and suggesting 66.9 ha.

- 6.7 The largest component of these requirements relates to land for warehousing which ranges between 15.7 ha and 62.0 ha, whilst land for open storage ranges between 7.1 ha and 28.2 ha. Whilst the implied TEU forecasts for warehousing are much lower than those for open storage, the TEU per hectare/per year density is much lower and so the land requirement is commensurately greater. Land for ancillary uses is estimated at between 3.4 ha and 13.5 ha.
- 6.8 The analysis implies that a minimum of 26.3 ha of off-port land is required in order to accommodate the scale of container traffic throughput growth that is expected to occur at the Port over the new Suffolk Coastal Local Plan period to 2036. This represents activity falling within the 'off-port supporting industry' typology noted above. This land requirement could be as high as 103.8 ha if the higher growth scenario is realised.
- 6.9 This range of land requirements is slightly lower than the range identified by the previous Felixstowe Port Logistics Study undertaken in 2008; this was equivalent to between 44 ha and 116 ha, albeit covering a different study period (of 2006 to 2023).
- 6.10 Given the imperative to support future growth at the Port of Felixstowe – reflecting the Port's economic significance in both a District and wider IEA context – it is recommended that the Council consider planning for at least the Central case (i.e. just under 67 ha of land), to ensure that adequate space is made available for port-related growth and activity should it be needed over the plan period.

Accommodating demand

- 6.11 Recent economic evidence prepared for the IEA authorities suggests that the strength of occupier demand for business space and employment land associated with the Port of Felixstowe is generally greatest in the immediate vicinity of Felixstowe. Whilst there is always likely to be some level of port-related demand for sites and locations further east along the A14 corridor, this tends to reduce as distance from the Port increases. This has important implications when it comes to considering the spatial dimension or 'reach' of the off-port land requirements identified above. It indicates that the operational nature of logistics activity connected to the Port of Felixstowe inevitably restricts demand to particular locations, underlining the need for alignment between demand and supply to ensure that ongoing operations and future growth at the Port can be accommodated and facilitated in planning policy terms.
- 6.12 Feedback obtained as part of this study suggests that ideally, this demand would be optimally accommodated within the 10 mile section of the A14 between Felixstowe and the Orwell Bridge crossing, reflecting occupier preferences, the economics of onshore freight movement/logistics and increasing reliability issues associated with the bridge crossing.

Future supply

- 6.13 An assessment of the supply of land that might be, or become, available to meet future off-port land demand associated with the Port of Felixstowe over the new Suffolk Coastal Local Plan period has been undertaken as part of this study. Based on latest Council monitoring data, the existing pipeline supply of employment land that is in close proximity to the Port of Felixstowe and considered suitable for port-related activities totals just over 67 ha. This quantum would be sufficient – in quantitative terms – to accommodate the Low and Central case growth scenarios, while additional land would be required to meet the high growth case in full.

- 6.14 There are inherent risks associated with relying in isolation upon this pipeline land supply to support future growth of the Port of Felixstowe, and a number of factors combine to undermine the certainty of this quantum of land being genuinely available to accommodate needs over the new Local Plan period. These include planning policy flexibility, landowner aspirations and priorities, and the small-scale nature of some of the sites. Further work will need to be undertaken to understand its relative deliverability through the next stage of Local Plan preparation.
- 6.15 It is likely that other sites may come forward that are equally or more suitable for port-related development. In order to identify alternative and more suitable supply, a portfolio of 10 potential new employment sites has been considered and appraised, focusing upon the 10 mile corridor of the A14 between the Felixstowe urban area and the Orwell Bridge crossing (i.e. within Suffolk Coastal District). Just two of the 10 sites are being actively promoted for port-related uses by their landowners, but would need to overcome site-specific issues and challenges before any such development can take place. Further details about each site can be found in Appendix 7.
- 6.16 In light of the above noted risks and from a qualitative perspective to help ensure sufficient choice and flexibility for occupiers and developers, it is recommended that the Council consider allocating new land specifically for port-related uses through the new Local Plan and associated site allocations strategy.
- 6.17 This study has identified a number of sites within Suffolk Coastal District that offer potential to accommodate port-related growth over the period to 2036. This is based upon information available at the time of analysis which may change and require updating in due course as and when further site based technical/feasibility work has been carried out and more intelligence becomes available.
- 6.18 Beyond the immediate District of Suffolk Coastal, the opportunity remains for some demand to be met at strategic locations elsewhere across the Ipswich IEA; a number of logistics sites are currently being proposed in neighbouring local authorities such as Babergh and Mid Suffolk and whilst they do not offer the same proximity advantages to the Port, they may appeal to certain occupiers that are able to be more flexible in terms of locational requirements.

Appendix 1: Glossary

Ancillary services: Services required to support logistics operations. For the purposes of this study, these are defined to include: HGV and machine repair shops; service centres with spare parts; vehicle maintenance activities; petrol stations; restaurants and retail outlets; and office uses which support national logistics functions. Ancillary services do not include lorry parking.

Beneficial Cargo Owner (BCO): The owner of the goods being transported by container, often major retailers and other importers.

E-commerce: The activity of buying or selling products on online services or over the internet.

Golden Triangle: A broad area located between the M42, M1 and M6 motorways and strategically placed to access 98% of the UK population within a 4-hour drivetime. Whilst there is no precise spatial definition, the Golden Triangle broadly covers the Midlands counties of Leicestershire, Northamptonshire, Warwickshire and parts of Staffordshire and Derbyshire. The area represents a major hub for the country's distribution sector.

Gross Domestic Product (GDP): The total value of everything produced by all the people and companies in a given country. GDP represents the best way to measure a country's economy.

Intermodal facilities: A logistics facility that allows the transfer of cargo from one mode of transport to another, for instance between road and rail. Due to its energy efficiency and potential to remove lorries from the motorway system, transport by rail is being promoted by Government and gaining market share. Intermodal facilities might often incorporate warehousing and distribution centres as part of their logistics offer.

Ipswich Economic Area (IEA): Defined as the four Suffolk local authorities of Ipswich Borough, Suffolk Coastal District, Mid Suffolk District and Babergh District. Together they form an overarching functional economic area which shares similar labour, housing and commercial property market characteristics.

Open container storage: Location for storage of shipping containers. Containerised cargo can be stored in container yards similar to those found on-port.

Port-centric logistics: An approach to logistics that sees cargo unpacked from containers and warehousing and distribution facilities housed on or near the port. It is an approach to logistics that is gaining popularity and is the focus of new port development at several sites in the UK. Port-centric logistics are a contrast to the "Golden Triangle" model of logistics where containers are shipped from the port to distribution centres in the Midlands where the cargo is unpacked and distributed nationally.

Ship-to-shore (STS) gantry cranes: Imposing, multi-story structures prominent at most container terminals, used to load intermodal containers on and off container ships. They operate along two rails (waterside and landside designations) spaced based on the size of crane to be used.

Shunt: The movement of a shipping container from the on-port container yard to other storage or warehousing facilities nearby. As a general rule of logistics, handling and moving containers costs money. The farther the shunt the more expensive, therefore proximity to the port becomes a key factor in determining a potential site's viability.

TEU: Twenty-foot equivalent unit. Shipping containers come in different sizes, generally twenty-foot containers, forty-foot containers and forty-five-foot high cube containers. Therefore

a discussion of units of containers alone can be imprecise. TEU are used as a standard measure of container traffic volumes.

Transshipment: The movement of containerised cargo from an intermediate destination to its final destination by sea. As noted in the body of the study, the capacity of deep sea container ships is getting larger. Rather than stopping at many destination ports, these ships are more likely to stop at a major port where their containers are unloaded and loaded onto smaller ships which will take them to other ports.

Valuation Office Agency (VOA): A Government body in England and Wales which is an executive agency of Her Majesty's Revenue and Customs. The Agency values properties for the purpose of Council Tax and for non-domestic rates in England and Wales.

Appendix 2: Consultees

Lisa Brazier, Haven Gateway Partnership
Stephen Brown, East Suffolk Council
Tim Collins, Bidwells (on behalf of Trinity College)
Paul Davey, Hutchison Ports
Mark Edgerley, East Suffolk Council
Jason Flower, Felixstowe Port Users' Association
Murray Gibson, Murray Gibson Associates
Ellen Goodwin, New Anglia Local Enterprise Partnership
Helen Greengrass, Felixstowe Forward
Morag McInnes, East Suffolk Council
Sam Metson, Bidwells (on behalf of Trinity College)
Chris Moody, Savills
Dominic Smith, Hutchison Ports
Ash Tadjrishi, Felixstowe Town Council

Appendix 3: Stakeholder Workshop Feedback

1) What opportunities could macro trends and forecasts present for the Port of Felixstowe?

- UK GDP growth is key to container growth (i.e. a big influencing factor)
- Transport costs are very low relative to production costs
- Companies may be holding back on investment because of Brexit
- Brexit may lead to more of a / a different relationship with the rest of the world
- Short sea crossings may have more of an impact / bearing on future opportunities
- Infrastructure constraints on Suffolk
- Stock of warehousing space in Suffolk has not increased in recent years
- E-commerce is shifting needs/requirements – with more of a demand for local fulfilment
- Occupiers know what they want
- But it's not currently possible / viable to speculatively build
- Accelerated ship developments (i.e. larger vessels) - Felixstowe has been responsive in developing / adapting its estate to facilitate and accommodate these
- Most vessels arrive off slot – this can make it difficult to fit in larger 'on slot' ships (plus risk that London Gateway will absorb these opportunities as they have more capacity)
- Need to consider the role of Beneficial Cargo Owners (BCO's) - large organisations who control where cargo / goods go – they are playing a greater role in driving demand

2) (How) does the Port need to change and adapt to capture and maximise these opportunities?

- “The Greater Port” – ensure / support the growth of ancillary businesses
- The container port market is moving towards fewer but larger ships. This will have an impact on the relationship between haulage and warehousing – crucial that this remains efficient
- Port of Felixstowe's estate has remained constrained for non-Port operations for some time
- There has been some change of use of property to ensure efficiency is maximised but this has led to “property stickiness”
- This lag is down to policy not lack of speculative demand
- Need to articulate significance of Port to the wider economy
- Flexibility to meet future business needs is key
- ...As is capacity of road and rail projects
- Updating of warehouses is required - current stock in the area is not fit for modern purposes
- Need right mix of operators and redevelopment opportunities
- Land needs to be provided as allocations with proper infrastructure in place
- This will enhance ability to meet new demands as well as existing markets

3) How might this impact on wider supply chains and supporting industries?

- Need to consider as a 'hierarchy' of: On Port, off Port and supply chains
- Occupiers on the Port estate will need to be relocated to accommodate future growth and development of the Port (including high cost development that has permission which is expected to serve a different warehousing market)
- Expected to see a greater movement of activities / occupiers down and across the hierarchy in future
- Constraint of Orwell Bridge crossing may mean that e-tailing fulfilment requirements may not be possible if sites are not available east of the Orwell bridge
- E-commerce requirements are changing the market
- Need greater understanding of the market - what their requirements are etc.
- "Shunting" of containers works in and around Felixstowe but is very 'Felixstowe centric' (max 20-30 mins radius) - by necessity some of this is currently going to Ipswich but ideally would be accommodated very near to Felixstowe – Orwell Bridge congestion / unreliability causes an issue - Trimley/Kirton is ideal. Once you cross over the Orwell Bridge you "may as well carry on to the Midlands"
- The traditional 'hub and spoke' logistics operating model is largely out-of-date, since 2008 this has moved to an online / e-tailing model requiring local fulfilment centres
- Goods that arrive in Felixstowe need to get to their destination from Felixstowe – not necessarily from the Golden Triangle e.g. next day delivery
- Expected to impact 50:50 between wider supply chains and supporting industries
- Feedback that there is no space left for logistics in Felixstowe, for instance no 'breathing space' at adjoining Trinity Distribution Park. Much of the stock here comprises old buildings which are not fit for purpose. The lack of space prevents 'churn' of occupiers and space which is typical in a 'normal' market. Feedback suggests that these constraints have worsened in the last couple of years

4) How should the new Suffolk Coastal Local Plan respond?

- Current users will be able to provide information on their requirements
- Need to consider the relationship with other nearby / adjoining authorities
- Operators and landowners require long term commitment (up to 15 / 20+ years)
- Is all the Port's existing land being used as efficiently as possible?
- Need to take account of the Felixstowe "Cork" effect – that supply chain impacts generated by the Port generally 'land' in the Midlands Golden Triangle (not along the A14 corridor)
- Therefore not necessarily appropriate to look at 'port-related' activity in the A14 corridor
- Felixstowe's direct sphere of influence ends at the Orwell Bridge
- The Port of Felixstowe isn't able to effectively future proof due to land constraints
- The Port's land is valued on throughout and ultimately has to be prioritised for direct Port activity over supporting industry
- Requirement for more warehousing space in Felixstowe, or as near to Felixstowe as possible.

Appendix 4: Orwell Bridge

The Orwell Bridge opened to road traffic in 1982 and carries the A14 over the River Orwell just south of Ipswich in Suffolk. The bridge also forms part of the Ipswich Southern Bypass as well as linking the northern and southern sections of the A12. The A14(T) is part of the European Transport Network and is defined by the DfT as a road of national importance. However, congestion and road closures continue to threaten the ability of the corridor to provide this function, one of which concerns highway link capacity issues at Orwell Bridge.

The Orwell Bridge provides one of the two major A-road routes out and into the Port of Felixstowe. During maintenance periods and road traffic accident events the bridge can be partially and fully closed. This impact can be managed, in the case of maintenance overnight or during periods of low traffic volumes. However, road traffic accidents can considerably impact vehicle access into and out of the Port.

In its response to DfT's Consultation on Highways England's Initial Report (February 2018), Suffolk County Council note that there are specific issues relating to the Orwell Bridge and its closure due to incidents and planned maintenance works. Weather-related closures have the greatest impact upon the Orwell Bridge, especially during periods of high winds. This has a significant impact on the local community and businesses within Ipswich and on freight movements to and from the Port of Felixstowe and other key businesses. This resulted in high level summit meetings being held in Suffolk with key stakeholders and Highways England, in 2014, 2016, and 2017. Although some progress has been made there is still a long way to go to address and resolve the frequency and impact of the closures. Highways England are currently considering strategies for more effective management of weather-related closures of the Orwell Bridge. Potential mechanisms include automated closures and segregating high sided vehicles to allow continued access for cars during severe weather. In addition, there is a need to consider alternative strategic options to deal with SRN traffic movements affected by the closures.

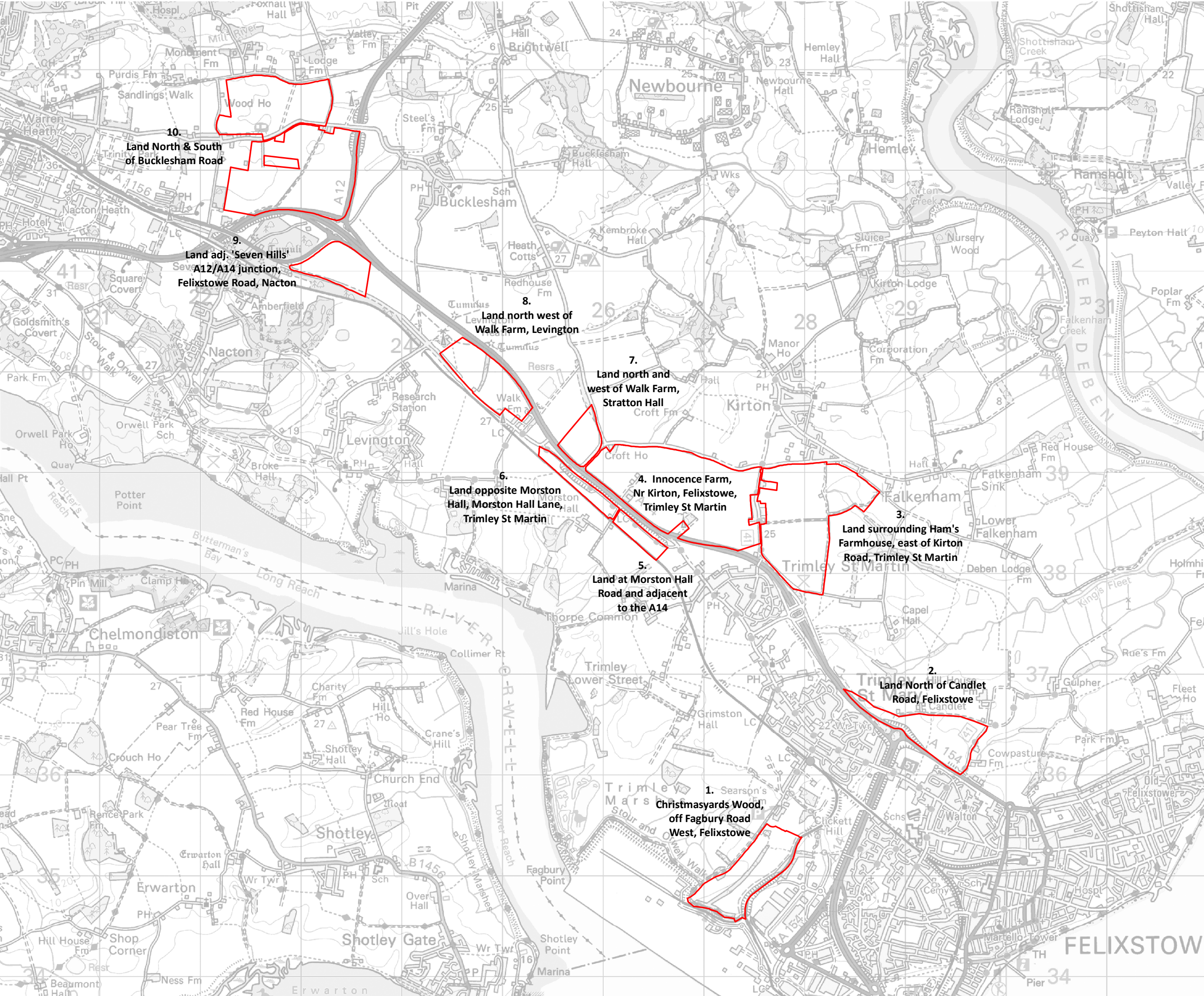
A number of initiatives are currently underway in an attempt to reduce the impacts associated with the Orwell Bridge. Suffolk Chamber of Commerce, Suffolk County Council and partners are working together to promote trunk road improvements in the next round of the Government's Road Investment Strategy (RIS2), which will cover the period 2020 -2025. The aim is to bring much needed investment into the county to address some of the major pinch points on the trunk road network to benefit the local and national economy. The multi-partner "No More A14 Delays in Suffolk" campaign seeks to secure various improvements and maintenance schemes including a number on the A14 between Copdock and the Orwell Bridge¹². Suffolk County Council are leading on plans to improve east to west connections across the River Orwell to relieve congestion in Ipswich and on the A14. Broad locations for crossings have been identified and public consultation is currently underway¹³.

In the meantime, and until such time as effective measures have been put in place to relieve congestion and improve the reliability of the Orwell Bridge crossing, the Orwell Bridge is considered by stakeholders consulted as part of this study to represent the "cut off" or the spatial extent for viable off-port commercial activity supporting the operation of the Port of Felixstowe. Whilst the appropriateness of locating port related uses west of the Orwell Bridge will ultimately depend on the particular requirements of the businesses involved, proximity to the port is considered to be crucial for keeping shunting distances to a minimum, and therefore keeping labour and fuel costs associated with the onshore movement of containerised cargo between container terminals, staging and storage areas to a minimum.

¹² <https://www.suffolkchamber.co.uk/representing-you/no-more-a14-delays-in-suffolk/>

¹³ <https://www.suffolk.gov.uk/roads-and-transport/transport-planning/upper-orwell-crossings/upper-orwell-crossings-proposal/>

Appendix 5: Site Plans



Key

Site Boundary

0 0.5 1 km (@ A3)

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Project Port of Felixstowe

Title Sites

Client Suffolk Coastal District Council

Date 20.03.2018

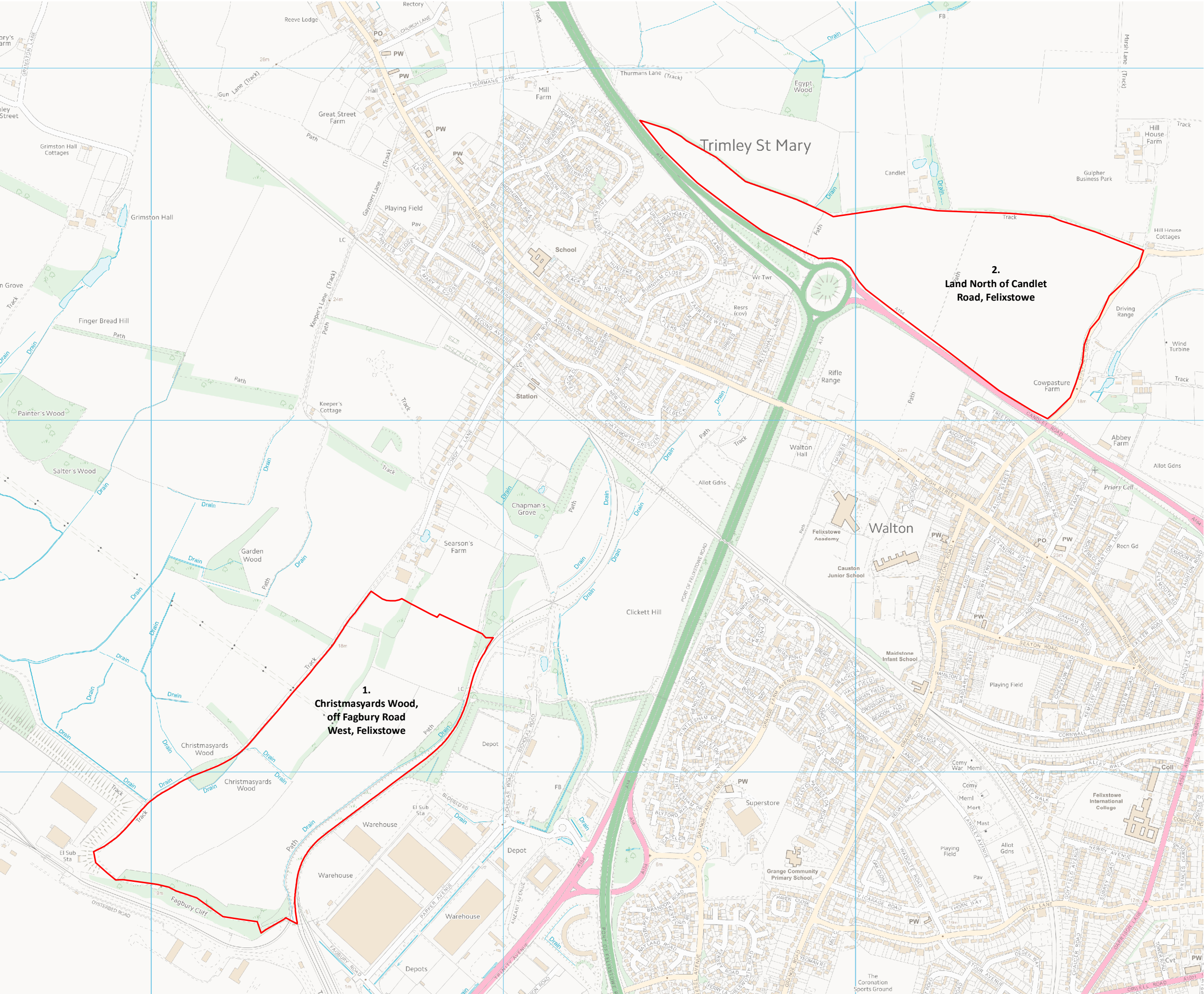
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Key

Site Boundary

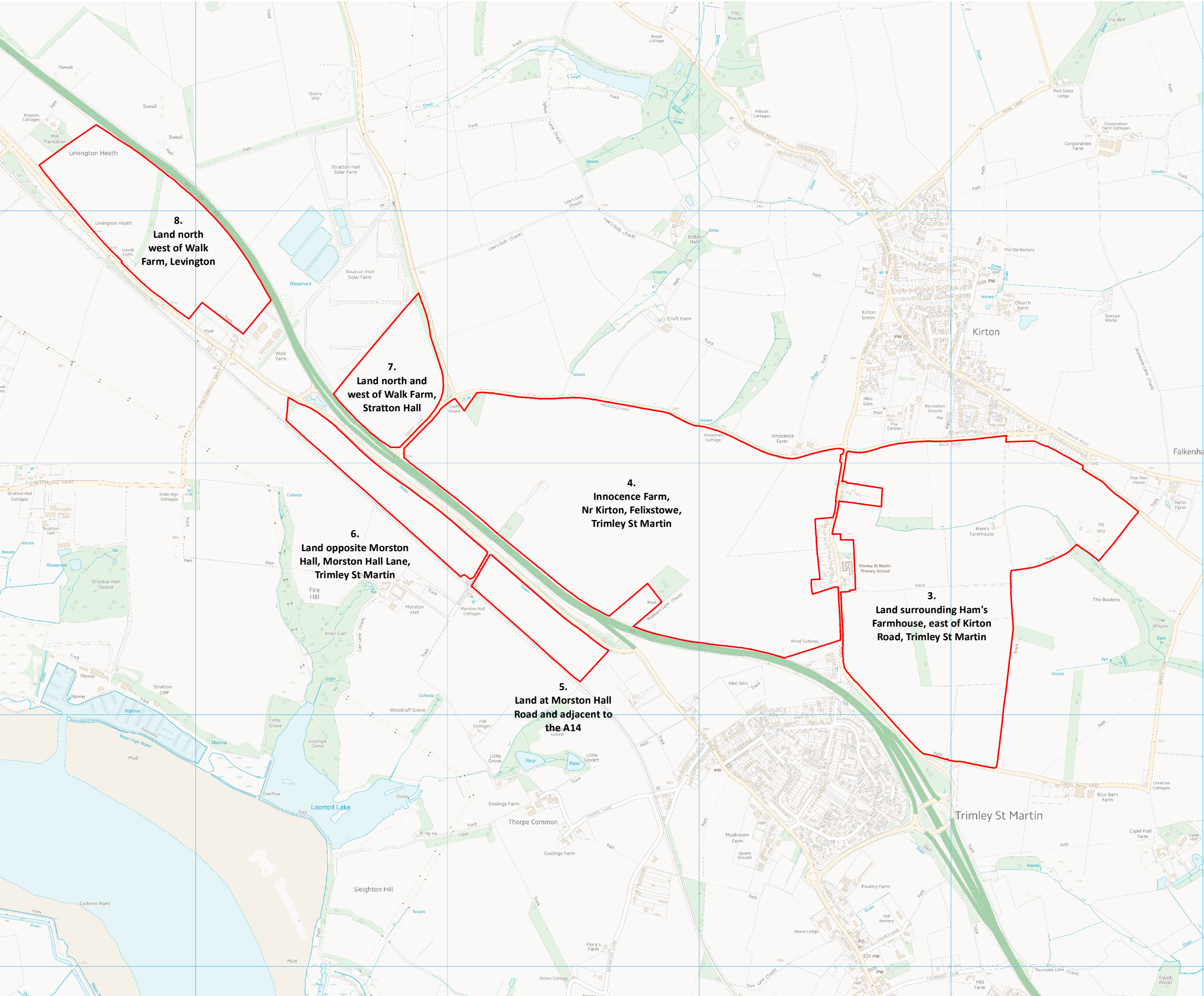
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Project	Port of Felixstowe
Title	Sites
Client	Suffolk Coastal District Council
Date	20.03.2018
Scale	1 : 10,000 @ A3
Drawn by	MAR
Drg. No	GIS\CL\16218\01-02

GIS Reference: S:\CL16218 - Port of Felixstowe\CL16218 - Port of Felixstowe - Sites (1-2) - 20.03.2018.mxd





Key

Site Boundary

0 100 200 m

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Project Port of Felixstowe

Title Sites

Client Suffolk Coastal District Council

Date 20.03.2018

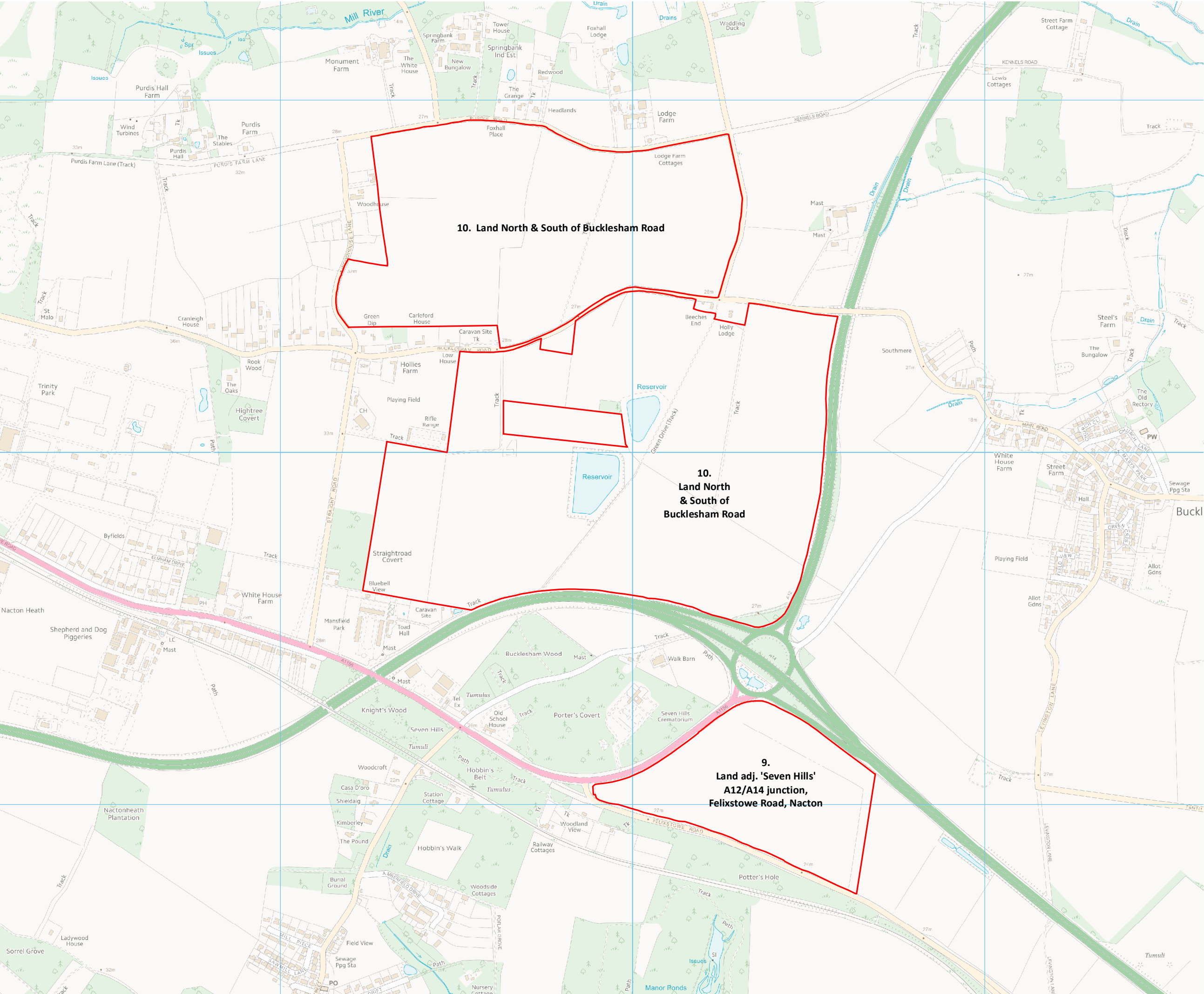
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Key

Site Boundary

0 100 200 m

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Project	Port of Felixstowe
Title	Sites
Client	Suffolk Coastal District Council
Date	20.03.2018
Scale	1 : 10,000 @ A3
Drawn by	MAR
Drg. No	GIS\CL\16218\01-04

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Appendix 6: Site Appraisal Criteria

The criteria for assessing the suitability of sites for port-related uses and activity are set out below. These criteria mainly relate to the inherent value of a site rather than current conditions on it, although such characteristics would also be noted. Some information (for example on ownership and availability) is not possible to obtain in all cases and a judgement may need to be made on these.

Each site is given a score of between 1 and 5 against each criterion (1 = poor, 5 = very good). No individual weightings are attached to different criteria.

Scorings can reflect a combination of different factors applying to the same criteria and a balanced judgment has to be made on an appropriate overall score.

Site location and distance from the Port of Felixstowe

Due to the economics of the cost of a shunt, a radius of 30-miles around the port is identified as the 'port centric zone'. Beyond this zone, sites are considered unlikely to be used for port centric uses. This is consistent with broad principles and assumptions applied by the 2008 Felixstowe Port Logistics Study.

Strategic accessibility

Including distance to A14 and other strategic road corridors and with regard to in place junction infrastructure.

Sites should ideally have good access to strategic road corridors based on the A14, A12, A1M, M1 and linking strategic routes between the port and the Midlands or London.

Strategic Road Access

5 = Very good: within 2 km of strategic road junction/ via good unconstrained roads

1 = Poor: over 5 km from strategic road junction/access, and/or through constrained/local roads, and/or through town centre or residential areas etc.

NB: Strategic road is typically defined as a motorway or A class trunk road.

Local accessibility

Including proximity to labour force and immediate site access.

Local Accessibility

5 = Very good local access: via free moving good roads avoiding residential areas/difficult junctions; unconstrained vehicle access to the site with good visibility/lack of queuing; close access to range of town centre public transport services

1 = Poor: difficult/narrow road access, via residential roads, difficult site access junction, congested local roads; low level/limited range/infrequent public transport services nearby

Proximity to Urban Areas and Access to Labour and Services

5 = Very good: near centre of urban area with wide range of services nearby; proximity to sizeable residential areas providing local labour supply

1 = Poor: remote isolated site, no local services or residential areas nearby

Site size

Sites below 10ha in size are considered to be less suitable as a general principle, reflecting the nature and spatial requirements of port-related uses.

Physical constraints and factors

Such as topography and environmental factors, existing infrastructure and uses on the site. Identify any factors that would constrain development of the site for employment uses e.g. site occupied, need for infrastructure.

Site characteristics and development constraints

5 = Very good: generally level site, regular shape, over 3 ha in size; low flood risk (Zone 1); no conservation or landscape constraints on scale of development; no adverse ground conditions or abnormal development costs; no other significant constraints on new development

1 = Poor: sloping/uneven site; under 0.5 ha, irregular/narrow shape, other severe constraints; within flood risk Zone 3; conservation or landscape constraints on scale of development; adverse ground conditions or abnormal development costs

Adjoining and nearby uses including nearby built development

Including nearby built development (i.e. existing settlements and infrastructure).

Proximity to incompatible uses

5 = Within larger employment area/no incompatible surrounding land use

3-4 = B1 use adjoining residential/other sensitive uses

1 = B2/B8 adjoining residential/other sensitive uses

Existing planning policy status

Including any designations, protections and constraints.

Planning Factors

Identify any planning designations or policy constraints that could affect development of the site for employment use.

Site ownership and availability

If known, over the short, medium and long term of the plan period (to 2036).

Development status

Including any known proposals or current developments being carried out on site.

Utilities servicing

If known, any available information on servicing sites with utilities infrastructure.

Appendix 7: Site Appraisal Matrix

Site Ref	Site Name	Area (ha)	Site Status / Existing Use	Site Assessment Criteria (/5)							Future Potential		
				Strategic Road Access	Local Accessibility	Proximity to Urban Areas	Site characteristics and Physical Constraints	Compatibility of Adjoining Uses	Site Ownership	TOTAL SCORE (out of 30)	Planning Policy Status	Key Barriers to Delivery	Utilities
1	Christmasyards Wood, off Fagbury Road West, Felixstowe	44	Agricultural	3	2	4	2	4	5	20	No current Local Plan area or location specific policies relate to the site	Access would need to be created via the existing Port Adjacent to AONB Would require a high amount of infrastructure, including a bridge to provide access and extensive ground works	None apart from adjacent freight railway line adjacent to the south east boundary
2	Land North of Candlet Road, Felixstowe	36.5	Agricultural/ equestrian uses	5	3	4	2	3	5	22	No current Local Plan area or location specific policies relate to the site	Narrow to the western end of site New junction infrastructure would be required	National Grid high pressure mains runs north - south traversing the west of the site
3	Land surrounding Ham's Farmhouse, east of Kirton Road, Trimley St Martin	92.4	Agricultural/ equestrian uses	5	3	3	3	3	0	17	No current Local Plan area or location specific policies relate to the site	Ham's Farmhouse at centre of site Trimley St Martin Primary School on site's eastern boundary	No utilities onsite
4	Innocence Farm, Nr Kirton, Felixstowe, Trimley St Martin	115.6	Agricultural	5	3	3	4	3	5	23	No current Local Plan area or location specific policies relate to the site Scoping opinion submitted January 2017 for proposed logistics facility	Trimley St Martin Primary School on site's eastern boundary Significant junction improvements would be required	Pylons along site boundaries

Site Ref	Site Name	Area (ha)	Site Status / Existing Use	Site Assessment Criteria (/5)							Future Potential		
				Strategic Road Access	Local Accessibility	Proximity to Urban Areas	Site characteristics and Physical Constraints	Compatibility of Adjoining Uses	Site Ownership	TOTAL SCORE (out of 30)	Planning Policy Status	Key Barriers to Delivery	Utilities
5	Land at Morston Hall Road and adjacent to the A14	8.9	Agricultural	5	3	3	2	2	5	20	No current Local Plan area or location specific policies relate to the site	Water mains cross the site Narrow shape Proximity to AONB	No utilities onsite
6	Land opposite Morston Hall, Morston Hall Lane, Trimley St Martin	11.9	Agricultural	5	3	3	2	2	5	20	No current Local Plan area or location specific policies relate to the site	Water mains cross the site Narrow shape Proximity to AONB	No utilities onsite
7	Land north and west of Walk Farm, Stratton Hall	14.7	Agricultural	5	3	3	4	4	0	19	No current Local Plan area or location specific policies relate to the site	No key barriers to delivery	No utilities onsite
8	Land north west of Walk Farm, Levington	33.1	Agricultural, existing residential unit onsite	5	3	3	3	4	0	18	No current Local Plan area or location specific policies relate to the site	Existing residential unit onsite	No utilities onsite
9	Land adj. 'Seven Hills' A12/A14 junction, Felixstowe Road, Nacton	22.5	Agricultural	5	3	4	4	2	5	23	No current Local Plan area or location specific policies relate to the site	Proximity to Seven Hills Crematorium Proximity to AONB	No utilities onsite
10	Land North & South of Bucklesham Road	143.6	Agricultural	5	3	4	1	3	5	21	No current Local Plan area or location specific policies relate to the site	Scale of site is likely to require strategic improvements to surrounding highways network and expensive highways access infrastructure Reservoirs in centre of site	Pylons traverse the site and around site boundaries

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