

## *EXECUTIVE SUMMARY*

### *BACKGROUND*

Hutchison Ports (UK) Limited (HPUK) is promoting a scheme to reconfigure part of the southern end of the Port of Felixstowe to provide additional deepwater terminal capacity for containers. The scheme is referred to as the Felixstowe South Reconfiguration and would result in a total quay length of 1 350 m of deep water, an increase in quay length of 910 m. It is expected to add an eventual annual throughput of 1.56 million TEUs (twenty foot equivalent units), bringing the total capacity of the port to 5.56 million TEUs.

HPUK is submitting a full planning application for the scheme, including construction of the quay and land reclamation, and a New North Rail Terminal (NNRT). The application also includes various improvements relating to public access at the Landguard Peninsula. This report presents the results of a Transport Assessment (TA) for the scheme, and is submitted in support of the application. The TA has been prepared by Environmental Resources Management (ERM), supported by HSL, with the aim of assisting Suffolk Coastal District Council, in its role as planning authority, in arriving at a decision.

### *THE PROPOSED SCHEME*

The area of the scheme encompasses the currently operational Landguard Terminal, which was constructed in the 1960s, the existing Ro-Ro facilities (which have now been vacated) and the Dock Basin area. These are all situated at the southern end of the Port of Felixstowe (shown in the masterplan). It is proposed to reconfigure this area, to allow for the following new facilities (as further detailed in the application):

- a new quay face of 1 350 m (an increase of 910 m);
- a container transfer area linked to existing rail facilities;
- a container handling and stacking facility;
- a new in gate within port land;
- workshops, offices and warehousing; and
- HGV holding area and car parking facilities.

In addition to the above, the following alterations are proposed in respect of Landguard Fort, in order to provide access for the public:

- improvement of View Point Road;
- relocation and enlargement of the View Point car park;
- improved pedestrian facilities;
- additional car parking spaces to the north east of the Fort;
- secure parking for 10 cycles;
- a coach stop, turnround and layover area; and

- visibility improvements at the A154 Carr Road/View Point Road junction.

In discussions with Suffolk County Council and Suffolk Coastal District Council, it was confirmed that no off-site assessment of these proposed new facilities is required.

Access is available to both the trunk road and national rail networks. Road access is to be gained via Dock Road, which is largely internal to the Port of Felixstowe; this gives access to the trunk road network at the A14 (T)/A154 (Dock Gate 1) roundabout.

The rail network already serves the Port of Felixstowe, via a branch line from Ipswich and Westerfield. This links in to the Great Eastern Mainline (GEML) and allows the port to serve markets throughout the UK via London and the West Coast Mainline (WCML).

For this TA, it has been assumed that construction of the scheme will commence with demolition in April 2004. The construction period itself will run over three principal phases (Phases 1a, 1b and 2), allowing existing operations to continue while the reconfiguration takes place. This will last until August 2007.

On the above basis, the first phase of the scheme would be expected to be operational in 2006. At this point it is estimated that additional demand due to the reconfiguration would be around 0.36 million TEUs. Eventual predicted demand due to Felixstowe South in 2023 (the TA assessment year) is taken to be 1.60 million TEUs (rounded from 1.56 million TEUs).

Twenty four percent of containers will be transhipped ie they will not exit the port by road or rail, but remain temporarily within the port to be transferred between ships.

Of those containers that will be headed inland (that is, after exclusion of transshipment), it is cautiously expected that up to 26% will be moved by rail.

The Felixstowe South Reconfiguration has a number of strategic location benefits:

- it is situated within the existing Port of Felixstowe, a nationally and internationally important multi-purpose freight port, strategically located in the south east of the UK;
- it has direct access onto the A14(T), part of both the national trunk road network and the European Union's Trans-European Transport Network; and
- it links directly into the national rail network, providing access to markets throughout the UK via a number of routes.

## *THE TRANSPORT ASSESSMENT*

The TA has been undertaken principally for the operational phase of the development, for road and rail impacts and other modes. The potential impact of the scheme during the construction phase is also addressed. The assessment covers the whole of the masterplan area.

The work has been carried out in accordance with PPG13 and Circular 04/2001. Where applicable, reference has been made to proposed guidelines on TA procedures and published guidelines prepared for developments in Scotland, as well as guidance published by others, such as the former Institute of Environmental Assessment (now the Institute of Environmental Management and Assessment, IEMA). It also embraces the principles laid down in guidance issued by the Institution of Highways and Transportation with respect to road traffic impacts.

In overview, the TA process has involved the following:

- assessment of accessibility and travel characteristics;
- consideration of measures to influence travel; and
- assessment of impacts (including the development of a Travel Plan).

## *RELEVANT TRANSPORT POLICIES*

Transport policy for the area is guided by a range of policies at the national, regional and local level.

Efficient and reliable accessibility to ports is acknowledged to be crucial. The Transport White Paper of 1998, *A New Deal for Transport: Better for Everyone*, highlights the importance of ports in the supply chain and notes in particular the need to make full use of existing infrastructure. Both the White Paper and the Government's subsequent 10 Year Transport Plan stress the need to improve rail access to major ports and highlight the development work being done by the Strategic Rail Authority (SRA) in respect of links to the Haven Ports (which include both Felixstowe and Harwich).

Government policy for ports is guided by *Modern Ports: A UK Policy*, issued in November 2000. The policy recognises that port expansion will inevitably generate inland traffic. Three factors are highlighted as being essential for port customers, with respect to both road and rail facilities:

- good access to port facilities;
- clear connections to the road and rail networks; and
- good access to markets, avoiding congestion and bottlenecks.

The SRA has a clear remit to promote the use of railways and secure the development of the network. The stated policy of the SRA is to deliver an 80% growth in the use of rail freight by 2010/2011. The SRA's initiatives to achieve

this include upgrading key routes to and from the UK's major ports, including the Haven Ports.

The SRA's Strategic Plan was subsequently issued in 2002, and revised in 2003. This focuses on the need to link key container ports to the WCML, which has spare capacity for 9'6" containers. The UK container market is increasingly being dominated by these larger containers (currently the majority of containers are 8'6" in height).

### *TRANSPORT INFRASTRUCTURE PROPOSALS*

At present, work is taking place to enhance the gauge on the route from Harwich and Felixstowe to the WCML, via the GEML and the North London Line, to "W10" gauge (ie capable of taking 9'6" containers on standard wagons). This will enable the efficient movement of containers to and from the Haven Ports. Development work is also underway to upgrade both the gauge and capacity of the cross-country route from these ports to the WCML, via Nuneaton (referred to as Felixstowe to Nuneaton, or F2N).

There are various initiatives to improve the road infrastructure linking the Haven Ports to the rest of the national trunk road network. The Highways Agency prepared a Route Management Strategy in February 2001 for the A14(T). This is a 10-year programme, aiming to maximise the contribution of these two routes towards the Government's transport objectives. The strategy includes a number of high priority actions.

A programme of multi-modal studies has been undertaken by regional Government Offices throughout the UK to determine priorities for major transport investment within particular study areas or route corridors. The London to South Midlands and Cambridge to Huntingdon Multi-modal Studies recommended a series of upgrades for the A14(T), including the following:

- widening part of the A14 to dual-3 lane and improvements where necessary, on its existing line between the junction for Horningsea/Fen Ditton and an appropriate point to the east of Fenstanton, which would include the Cambridge Northern Bypass;
- improvements to the junctions of the A14 with the B1049 (Histon) and the A10 (Milton) as part of the proposals for widening of the Cambridge Northern Bypass; and
- a programme of trunk road widening including the A14 from M1 to east of Cambridge.

## ***BASELINE TRANSPORT CONDITIONS***

The A14(T) performs an important national function for the movement of freight and passenger traffic travelling between the Port of Felixstowe and the national road network. It provides for the movement of abnormally heavy, wide and high vehicles to and from Felixstowe and is also the main route between Felixstowe and other towns in the region.

The A14(T) carries up to around 25,000 vehicles per day on the section between Felixstowe and the junction of the A12(T) to the south east of Ipswich and up to around 42,000 vehicles per day on the section between the A12(T) junction to the south east of Ipswich and the A12(T) junction to the south west of Ipswich. A large proportion of these vehicles comprise HGVs and other vehicles travelling to and from the port.

Access to Landguard Fort is gained via View Point Road. This is a single carriageway with limited provision for pedestrians. It forms part of the national cycle network and is not an adopted highway.

The rail network serves the town of Felixstowe via a branch line from Ipswich and Westerfield. The line provides hourly passenger services and links in to the GEML.

There is a bus service connecting the port with Felixstowe town, the Trimleys, Ipswich and beyond. The bus stops within the port and at stops close to the port with safe walkways from these points to the port.

Access to the Port of Felixstowe for cyclists and pedestrians is currently poor in relation to the highway network. The Suffolk Coastal & Heaths Path, a public footpath, runs along the bank of the River Orwell and provides access to the port area generally. The path also forms part of the Sustrans cycle network.

## ***TRAFFIC GENERATED BY THE PROPOSED DEVELOPMENT***

### ***Construction Phase***

During peak construction, up to 290 HGVs a day will be generated over a three-month period, peaking at 540 for a week. At all other times the levels of HGV traffic will be lower than this, often considerably so.

Up to a total of 225 staff, including an estimated 35 supervisors, will be employed on-site during peak construction. Throughout the remainder of the construction period there will be less than this number on site.

It is expected that managerial staff will travel by car to and from the site each day. HPUK will promote the use of minibuses for site workers. Three scenarios have been considered in the TA for travel by the workforce:

- *Scenario A* – all workers travel by car at 1.3 occupancy;
- *Scenario B* – supervisors and 50% of the remaining staff travel by car, with the remainder travelling by 15-seater minibus; and
- *Scenario C* – supervisors travel by car with all remaining staff travelling by minibus.

During peak construction, if all construction staff travel to and from the site by private car, there would be a maximum of 173 car movements inbound between 0600 and 0700, with a corresponding number outbound between 1900 and 2000. If 50% of non-supervisory staff travel by mini-bus, the total number of one-way movements would reduce to 107; with full take up of mini-buses, there would be 40 movements.

Abnormal load deliveries are expected to be extremely infrequent and would not number more than one in any day. Any abnormal loads needed would access the site via the A14(T), which is the prescribed route for such loads.

### *Operational Traffic*

#### *Freight Modal Split*

The estimated volumes of container traffic to be moved by both road and rail are as set out in the table below.

#### *Forecast Movements by Road and Rail (million TEU)*

<b>Year</b>	<b>Hinterland Traffic</b>	<b>Moved by Rail (% share)</b>	<b>Moved by Road</b>
2007	2.80	0.518 (18.5)	2.284
2008	3.18	0.589 (18.5)	2.595
2009	3.14	0.596 (19.0)	2.542
2010	3.29	0.642 (19.5)	2.652
2011	3.33	0.666 (20.0)	2.666
2012	3.08	0.631 (20.5)	2.446
2013	3.17	0.667 (21.0)	2.508
2014	3.14	0.674 (21.5)	2.462
2015	3.28	0.722 (22.0)	2.559
2016	3.42	0.770 (22.5)	2.652
2017	3.57	0.820 (23.0)	2.746
2018	3.72	0.873 (23.5)	2.842
2019	3.88	0.931 (24.0)	2.947
2020	4.04	0.991 (24.5)	3.053
2021	4.21	1.053 (25.0)	3.158
2022	4.26	1.085 (25.5)	3.171
2023	4.26	1.107 (26.0)	3.149

#### *Generated HGVs*

The estimated numbers of HGVs generated by the development have been based on:

- the total forecast TEU;
- a factor for total HGV movements per container; and
- 265 days a year operation.

For the years between opening (in 2007) and 2023, the forecast generated HGVs are as set out in the table below.

***Forecast Felixstowe South Reconfiguration Road Freight Movements***

Year	TEU (m)	Boxes	HGV movements/year	HGV movements/day	HGV trips/day
2007	0.227	143 691	202 654	765	383
2008	0.496	313 968	442 695	1 671	836
2023	0.899	569 067	802 384	3 028	1 514

***Other Road Traffic***

In addition to HGVs carrying containers, further traffic associated with other elements of the development will be generated, including employee traffic and visitors.

Visitors to the Landguard Peninsula are there for the Fort and other facilities. The changes proposed in the planning application include no changes to these facilities, which will therefore be equally attractive to visitors in future as they are at present. There will be no intensification of travel to and from the site as a result of the proposed changes.

***Rail Freight Traffic***

Forecast rail traffic is based on 250 days a year operation and is given for both 24-and 30-wagon trains in the table below.

***Forecast Felixstowe South Reconfiguration Freight Rail Movements***

Year	TEU (m)	Boxes (m)	30-wagon trains/yr	Trains/day	Trains/day(e-w)	24-wagon trains/yr	Trains/day	Trains/day (e-w)
2007	0.051	0.034	567	3	2	708	3	2
2008	0.113	0.075	1250	5	3	1563	7	4
2023	0.317	0.211	3517	14	7	4396	18	9

**ASSESSMENT OF IMPACTS**

***Construction Traffic***

The changes in peak hour flows on the A14(T) are given in the table below for the peak construction period.

### *Changes in PM Peak Hour Flows from Construction Traffic*

Road section	Generated traffic (total vehicles)	AM base flow	AM % change	PM base flow	PM % change
A14(T) Port of Felixstowe Road between Trinity Avenue and the Candlet Road Junction	24	1201	2	1702	1
A14(T) Port of Felixstowe Road between the Candlet Road and the Kirton Road Junction	24	1332	2	2837	1
A14(T) Port of Felixstowe Road between the A14(T) / A12 / A1156 junction and the A14 / A1189 junction	24	1801	1	3720	1
A14(T) between the A14(T) / A1189 Junction and the Orwell Bridge	24	2160	1	4187	1
A14(T) between the A14(T) / A137 Junction and the A14(T) / A12 / A1214 Junction	24	1721	1	3933	1

Overall, therefore, the additional construction vehicles will represent an increase of up to around 2%. It is unlikely that this volume of traffic would have a material impact on the trunk road network (increases are less than 5%), and in any case these additional flows will last for the period of peak construction activity only. At all other times, construction traffic levels will be lower. In terms of the total number of vehicles, therefore, the overall impact is expected to be small.

### *Operational Traffic*

There are six locations on the highway network that have been tested, in agreement with the Highways Agency and Suffolk County Council. In summary, the key results of the assessment are as follows:

- A14(T)/A154 Walton Avenue roundabout. The proposed development would have a material impact on traffic flows at this junction (ie greater than a 5% increase). However, modelling indicates that no modification of the junction would be required for the 2023 with-development case.
- A14(T)/A154 Trinity Avenue merge /diverge facilities. Assessment indicates that the proposed development would give rise to no cause to change the nature of the merge and diverge facilities.
- A14(T)/A154 Candlet Road junction. This junction would be modified to alleviate the existing accident problems at the junction, improve conditions for vehicles (particularly HGVs) and provide sufficient additional capacity at the junction such that it would operate in the 2023

assessment year without detriment to road users with the proposed development in place.

- A14(T)/Kirton Road junction. The maximum development traffic impact at this junction is estimated to be 3.2% (on the A14(T) mainline at the underpass during the PM peak) which is not considered to be significant. It is estimated that there would be no peak hour impact at the roundabout and that the roundabout would perform satisfactorily.
- A14(T)/A12/A1156 junction. The maximum development traffic impact at this junction is estimated to be 2.5% (on the A14(T) mainline at the underpass during the PM peak). This increase is not considered to be significant. The maximum increase at the roundabout is estimated to be 0.5%, which is not considered significant. The junction is expected to operate satisfactorily.
- A14(T)/A12(T)/A1214 Copdock junction. The maximum development traffic impact here is estimated to be 3.0% (on the A14(T) mainline at the underpass during the PM peak) which is not considered to be significant. The maximum impact on the A14(T) is estimated to be 0.7% (in the PM peak) which is not considered to be significant. The maximum impact on the roundabout is 1.1%, which, again, is not considered to be significant. The junction would perform satisfactorily.

Subject to the adoption of the mitigation measures proposed, the development will have no detrimental impact on highway conditions.

### *Predicted Rail Impacts*

#### *Construction Phase*

It may be possible for some construction materials and equipment to be moved in and out of the proposed development by rail. This is unlikely to give rise to any material impact and would accord with the principles of PPG13.

#### *Operational Phase*

Based on current forecasts, by 2009 (following scheme completion) there could be expected to be around three to four trains a day each way generated by the Felixstowe South Reconfiguration. Gauge clearance on the London route out of the Haven ports will have been completed by this time. This would allow for freight growth and for larger containers to be moved between the Felixstowe and the West Coast Main Line (which is already cleared).

It is also possible that the F2N gauge clearance will have been completed by this time. It is estimated that this will provide an additional six train paths.

By 2023, there will be up to an anticipated total of nine additional trains from Felixstowe, based on a robust assessment. It is expected that a proportion of these additional movements could be accommodated by the present spare capacity in the system.

Such a modal distribution of freight would be not only in keeping with PPG13, but also accord with the aims of the Transport White Paper, the 10 Year Transport Plan, *Modern Ports: A UK Policy* and the SRA's Freight Strategy.

Analysis based on a lower overall rail share (which, for the purposes of assessment, has been set at 17% of inland traffic), shows that five or six trains per day would be generated by the proposed development. Given the likelihood of a certain amount of spare capacity being available on the network, coupled with the completion of the gauge works on the London route out of the Haven ports, this level of traffic would be unlikely to give rise to pathing problems.

## *MITIGATION MEASURES AND RESIDUAL IMPACTS*

### *Construction Traffic*

#### *Mitigation Measures*

During the assessment, measures have been identified in order to mitigate potential impacts of construction traffic. These have been discussed with, and agreed by, HPUK.

A construction Traffic Management Plan will be prepared by HPUK in conjunction with Suffolk County Council. This will include the following measures:

- the prevention of mud and dirt on the public highway;
- routes for construction vehicles agreed in advance, avoiding sensitive receptors wherever possible;
- prescribed routes for any abnormal loads on the trunk road network only;
- the possible use of minibuses for site workers to reduce the use of private cars; and
- the use of sea or rail to move materials, equipment and waste, where practicable.

### *Residual Impacts*

No significant construction traffic impacts are predicted as a result of site workers, nor from HGVs accessing the site via the A14(T). Measures as described above will be implemented through the construction Traffic Management Plan, in agreement with Suffolk County Council. It is expected, therefore, that the process can be effectively managed with minimal adverse effects.

### *Operational Traffic*

#### *Mitigation Measures*

The A14(T)/A154 Candlet Road roundabout will require some modification to enable it to perform satisfactorily. With these measures in place, there will be no detrimental impact on the highway.

A Travel Plan has been developed in draft, to include cycle facilities, new footways, an employee bus service, car sharing and the appointment of a site travel co-ordinator.

Measures being promoted by HPUK will further serve to reduce traffic overall and maximise the rail share. The inclusion of a new rail terminal in the proposals for Felixstowe South Reconfiguration is further evidence of this commitment. The rail freight industry has responded in a positive way to the new opportunities being made available to move goods by rail. For example, a major shipping line last year became the first to achieve 100 000 containers moved annually by rail through the Port of Felixstowe, allowing the company to switch a further 16 000 containers a year from road to rail.

Furthermore, good prospects exist for introduction of increased transshipment at the port, which would effectively “cap” the rail share, ensuring that no residual rail impacts would arise.

### *Residual Impacts*

No residual transport impacts are expected from the operation of the Felixstowe South Reconfiguration.

## **CONCLUSIONS**

The proposed Felixstowe South Reconfiguration is in a unique position as an expanded container facility to take advantage of the benefits offered by its location within Harwich Haven. HPUK has given a great deal of consideration to both the siting of the reconfiguration and the way in which it links into the national and local transport networks.

The scheme enjoys a number of strategic location benefits:

- it is situated within the existing Port of Felixstowe, the UK's largest container port, strategically located in the south east of the UK;
- it has direct access onto the A14(T), part of both the national trunk road network and the European Union's Trans-European Transport Network; and
- it links directly into the national rail network, providing access to markets throughout the UK via a number of routes.

In this respect, the development is in accordance with European, national and regional transport policy.

As with any major transport infrastructure scheme, the development will inevitably cause a degree of temporary traffic disruption during construction. Overall, construction vehicles will represent an increase of up to around 2% on the A14(T). It is unlikely that this volume of traffic would have a material impact on the trunk road network. HPUK will develop a construction Traffic Management Plan to minimise, and where possible remove, any effects that may arise.

The impacts of the operational development have been assessed in respect of both road and rail movements.

It is expected that the rail network will enable a reasonable proportion of the forecast Felixstowe South container traffic to be moved by train. This is estimated to eventually reach 26% of the total inland traffic. Although it is possible that these sorts of numbers could be accommodated on the rail network, there is some uncertainty about the future of planned infrastructure upgrades (such as F2N).

The remainder of the traffic can be accommodated on the highway network, with one junction on the A14(T) requiring some modification. With these measures in place, there will be no detrimental impact on the highway.

Measures being promoted by HPUK will further serve to reduce traffic overall and maximise the rail share. In addition, the development of a Travel Plan for the scheme will assist in reducing employee car traffic.

In conclusion, therefore, no residual transport impacts are expected from the Felixstowe South Reconfiguration, and the scheme is in accordance with Government policy.