

Transport Corridors in Europe

EXECUTIVE SUMMARY

1 Introduction

This Transport Corridors in Europe Study forms part of Stage Two of the National Spatial Strategy. The key objectives of the study include the following:

- To review the trends in transportation movements across all key corridors between Ireland and Europe;
- To derive forecasts of the future demand for transportation;
- Identify existing and potential bottlenecks in terms of movement between Ireland and Europe;
- To assess the impacts of both domestic and EU investment programmes in terms of Ireland's competitive position;
- To identify the needs of the various sectors within business and industry;
- To suggest initiatives to address any capacity issues identified; and
- To address the future role of Regional Airports.

In preparing this report we have used substantial data sources including, freight and passenger movement data from Ports and sea carriers, Aer Rianta passenger and freight data, passenger flows from air carriers, key economic data from CSO and ESRI.

Regional Airports have been addressed in this study from a European perspective, the future role of Regional Airports in an Irish context have been covered in Goodbody's report entitled "Transport and Regional Development".

2 Ireland and the E.U. – Transport Interrelationships

Economy - The Irish economy has experienced significant economic growth in recent years. GDP and employment levels have grown at more than twice the EU average. It has been a primary concern of Government to ensure that the current economic trends are not undermined by a failure to invest in the relevant infrastructure at the appropriate time.

Employment Base - Recent economic development has impacted upon the nature of the employment base. In contrast to the steady growth in the traditional manufacturing sectors and significant increases in productivity, a key development has been the increased levels of employment in information technology (IT) and internationally traded services (ITS). These sectors which

include financial services and software development, have different transport needs to more traditional economic sectors.

Growth in Freight and Passenger Traffic – The analysis of freight exports over the last ten years has shown a dramatic growth in traffic (and particularly roll-on/roll-off [RoRo]) through Ireland's ports. Ro-Ro or trailer traffic has increased by 259% over the period 1988-98. This growth coupled with an increase of 75% in Lift On/Lift Off (LoLo) freight and car borne passenger traffic, has put increased pressure on Ireland's main sea ports and road as distinct from rail infrastructure.

Demand for Travel – increased affluence created by the economic upturn has also impacted upon air travel. Passenger throughput at Ireland's airports has more than doubled over the latter half of the last decade, with particular growth experienced on the cross-channel and continental routes.

National Infrastructure - Ireland is serviced by a small network of ports and airports that provide services along a number of corridors, defined as the northern, central and southern corridors (as illustrated in Figure 2.2).

- The main seaports are located in the South and East, with only Dublin and Cork having both Ro/Ro and Lo/Lo capabilities – Dublin dominates the market with 75% of traffic.
- The airport network consists of three major airports operated by AerRianta and several regional airports in dispersed locations. Dublin is the main international gateway to/from Ireland accounting for over 77% of all passengers, and 71% of all freight traffic
- Cross Channel traffic between Ireland and UK is the most important sector. Some 83% of all trailer traffic has final destinations in the UK with a further 15% of all trailer traffic using the UK as a landbridge for accessing mainland Europe. Only 1% of trailer traffic is shipped direct to mainland Europe from Ireland .

Trading Partners - Analysis of available trading data and passenger travel patterns show that, unsurprisingly, Ireland's main EU partner is the UK accounting for over 60% of exports. Other continental EU States account for significantly less trade, with the Netherlands and Germany receiving approximately 10% of Irish exports.

Forecasts - Key developments in transport movements over the next decade have been forecast as follows:

- Surface freight movements will increase significantly with Ro/Ro traffic showing the highest rise of some 80%;
- Dublin Port will continue to experience the greatest share of the growth with present volumes predicted to double;
- Total surface passenger numbers are expected to increase by only 18%;

- Air passenger numbers are forecast to double, with Dublin Airport passenger numbers reaching over 25 million per annum; and
- Major growth of over 150% is expected in air freight;

3 Transport and Infrastructure - Capacity Interactions

In addressing the issue of interactions between capacity and the forecast volume and patterns of future trade and passenger movement, the following matters have been considered.

National Landside Access - This study has identified a number of key issues for landside access to Ireland's ports and airports:

- Travel time fluctuations experienced by road hauliers accessing Dublin Port due to traffic congestion – the “reliability issue”;
- Peak period traffic congestion in the vicinity of Dublin Airport;
- Low levels of public transport provision to the main ports and airports;
- A lack of rail freight facilities at some major ports and the underutilisation of such facilities at most ports; and
- Poor accessibility of regional airports.

Planned National Landside Improvements - There are a number of infrastructure improvements planned to alleviate these landside access constraints, including:

- Significant investment in road infrastructure nationwide as part of the implementation of the National Development Plan, including the Dublin Port Access Tunnel. This will significantly reduce journey times within Ireland; and
- Planned improvements to public transport within Dublin, to relieve congestion, and to Dublin Airport as set out in the DTO Strategy.2000-2016 “A Platform for Change” .

Implications from Landside Improvements - The main issues arising from landside access are:

- The Dublin/Port Access Tunnel, which is expected to be open by 2004, will reduce journey times to/from the port by 30 minutes avoiding congested built up areas and allowing operators to avoid unforeseen delays;
- Access to Dublin Port, particularly to the south-east would also be augmented by the suggested “Eastern Bypass”. However, this scheme has not been approved, nor can its implementation be reliably predicted.
- Delays in the implementation of major infrastructure should be avoided.

Port Capacity Issues - There are significant issues evolving from the forecast levels of demand for transport and the capacities at Ireland's ports:

- Dublin will be affected most, with demand for Ro/Ro traffic exceeding capacity by 2007, and demand for Lo/Lo traffic exceeding capacity soon after 2010;
- Cork is expected to have capacity problems for Lo/Lo traffic by 2004, potential solutions have been proposed by the Port of Cork's development plan study which is nearing completion;
- Spare capacity for Ro/Ro traffic to operate from Cork, or Rosslare could potentially accommodate overflow traffic from Dublin up to 2010;
- There will continue to be spare capacity for Lo/Lo traffic at Waterford and Drogheda, theoretically capable of accommodating any transfer from Dublin or Cork up until 2010. However carriers will remain keen to operate via Dublin; and
- Levels of car traffic are expected to increase as sea carriers concentrate on accommodating car based passengers.

Airport Capacity Issues - The main issues arising for airport capacity are as follows:

- Dublin has been operating in excess of capacity over the past three years;
- Planned capacity improvements at Dublin will be insufficient to cater for forecast demand in 2010;
- Cork and Shannon can accommodate increased demand levels up to 2010; and
- Even with a significant transfer of passengers from Dublin to Cork and Shannon by 2010, national demand will exceed capacity by 4 million passengers/annum.

National Issues - Given the balance between capacity and demand there is a need to consider:

- The potential for transfer of Ro/Ro traffic from Dublin to Rosslare and Cork, and Lo/Lo traffic from Dublin and Cork to Drogheda and Waterford;
- However carrier strategies which prefer use of Dublin are highly inelastic, so transfer will not occur easily;
- How to cater for freight movement beyond 2010 when capacity will meet demand nationally, even if these transfers are achieved; and
- How best to accommodate unsatisfied demand for air travel.

International Bottlenecks - There are a number of international capacity implications that have the potential to adversely effect Ireland's trade abroad –

largely by causing unpredictable delays and eroding reliability in estimating journey times:

- As the UK landbridge is the most important corridor to the EU, bottlenecks here have the most potential to affect the efficacy of Ireland-EU movements;
- In the UK delays are common on the national motorway network at major urban areas, where long distance traffic mixes with commuter and local traffic such as the M6/M42 around Birmingham, the M25 around London and on the routes to the channel ports in South East England Access arrangement to the Humber Ports – there is limited capacity available at peak times for HGV traffic travelling to the ports. Congestion on the M62 cross Pennine motorway due to this route's role as a major link between the conurbations of Manchester and Leeds. There is greater potential for rail freight on this route- although this may be of limited value to Irish traffic.
- Some key port access routes have significant peak periods reflecting ferry schedules;
- Whilst there are limited bottlenecks within major urban areas across the continent, particularly during the peaks, the inter urban links are not severely congested; and
- The major role which Heathrow plays as an international hub for Ireland brings its own difficulties as the scale of demand for movement through Heathrow creates landside, terminal and airside congestion.

International Issues – the main issues concerning transport matters beyond Ireland's immediate control include:

- A key issue is the ability of Irish traffic to efficiently and reliably reach destinations within UK, its main trading partner;
- There is potential to utilise the Cross Pennine axis to the Humber ports for traffic to Europe thus minimising the impacts of congestion in UK – although this route does experience road capacity problems on the M62 which provides the key link between the conurbations of Manchester and Leeds, and there are some capacity problems in directly accessing the Humber ports;
- British Ports are expanding to reflect increased traffic from Dublin;
- Improvements to the UK road network are planned including the Birmingham Northern Relief Road and additional capacity improvements on the M25. However some planned improvements have been affected by a policy shift away from road building. Many proposed improvements are now subject to strategic government review;

- Planned improvements to Heathrow may reduce congestion concerns landside and airside.

The benefits of such good links to this international hub should also be recognised; and

- There may be scope to operate via an alternative EU hub such as Amsterdam although carrier policies will have a major influence beyond the immediate control of the Irish Government.

Sustainability – This is a key issue emerging in transport policy, with implications for transport to Europe including:

- There will be conflict with emerging sustainability policies due to the predicted increase in road freight volumes, increasing usage of air transport for passengers and freight and the numbers of car borne sea passengers;
- Although Ro/Ro traffic is seen as less sustainable than Lo/Lo, it is Ro/Ro traffic that is increasing at a faster rate due to time and cost savings, flexibility and the nature of the goods transported. Ro/Ro traffic is poorly suited to rail transit in Ireland due to infrastructure, cost of investment and flexibility barriers;
- EU policy is based on increased use of more sustainable energy efficient modes such as rail.

However applying this policy to Ireland is difficult given low volumes of freight, the dispersed settlement pattern, relative cost and time inefficiencies, compared to road; and

- The challenge in sustainability will be how to “decouple” increased demand for movement from increased energy demand and in turn, how to achieve transfer to environmentally sustainable modes such as rail. In the Irish context, rail is tied to LoLo, which is not growing as fast as RoRo and there are some barriers to effective rail-ship movement such as at Dublin Port.

4 European Transportation Investment Issues

European Transport Dimension – Ireland is on the periphery of Europe and is the last link in the transport chain to and from Europe. In this regard, it is important to recall that Irish traffic represents only a small proportion of the total traffic passing through European Ports, airports and on the road and rail networks of the continental mainland.

EU Transport Policy - is now aimed at increasingly encouraging intermodal transport of freight, making increased use of rail for long haul journeys with a shorter road based distribution trip at each end. This has implications for Irish traffic including:

- Ireland has relatively low utilisation of rail freight, due to the volume and nature of the goods carried and the nature of the rail network;
- Irish traffic may benefit from policies seeking to make best use of existing road networks and reductions in congestion in urban areas;
- Irish traffic to the UK and operating via the UK landbridge may be disadvantaged if restraint measures are implemented such as congestion charging, and also due measures such as the recently proposed tax on foreign operated vehicles using the UK road network;
- Only two of the priority projects within the Trans European Network are of direct value to Irish traffic, and only one of these is road based; and
- Intermodal developments in policy and practical terms will require monitoring to ensure an effective balance for Ireland in terms of sustainability and competitive is assured.

Trends in Spatial-Time interrelationships – the developing pattern of transport improvements throughout the EU will have the following effects:

- Ireland has traditionally been compared to other peripheral regions such as Greece, and Central Scandinavia in accessing key markets in central Europe;
- The Study has shown that, at present, transporting goods to central Europe by road from various regional locations in Ireland is cheaper (including cost assumptions for journey times etc) than transporting the same goods from Lisbon or Helsinki;
- The development of the priority TENs projects over the next ten years will largely improve the rail infrastructure of central Europe bringing these States closer together in terms of journey time, and improving access from Eastern European States to western and Central European markets;
- Journey times within Britain will also be improved by road improvements specifically the Birmingham Northern Relief Road, increased lane provision on the M25, these improvements will also benefit traffic utilising the UK landbridge;
- Given the forecast capacity problems on traffic from Dublin Port, this pressure may increase the time taken in loading/unloading sea traffic both Ro/Ro and Lo/Lo;
- Within Ireland journey time will reduce due to planned infrastructure improvements in the NDP and TENs; and
- Despite some time savings, in reality, these will have little impact on operators whose unit travel time is measured in days i.e. Day 1 Ireland, Day 2 GB, Day 3 Continental Europe basis. Benefits through logistics practices and improved reliability of travel will probably be concentrated

in the areas of logistical efficacy and, reliability – critical in a competitive trade environment.

5 Ireland in Europe – Trends and Issues for Sectoral Policy

The main trends and implications for sectoral policy include:

- Manufacturing and internationally traded services are emerging as key employment sectors in Ireland which in turn depend on effective international communication and transport networks.
- The differing transport needs of these sectors will have implications for land-use planning policies.
- The alleviation of congestion in urban areas in the UK and Continental Europe will benefit Irish manufacturers exporting/importing via the UK landbridge.
- If future economic development policy continues to be geared towards attracting internationally traded services to operate in Ireland as a European base, surface transport trends will have little effect. These firms locate in Ireland for other reasons, communications, labour skills, power, although internal transport improvement may increase the catchment areas for available labour pools.
- As Ireland's economy becomes more aligned with the rest of Europe, Ireland will have to be competitive in all factors affecting business location decisions, including transport infrastructure.
- Air traffic will be important and a structured approach to provision of air services will be important i.e. Ireland will continue to have one national hub in Dublin, three international standard city-region type airports (Shannon, Cork, Belfast) and regional airports performing a number of dual roles including maintaining accessibility to outlying areas, improving perceived accessibility for inward investors, providing facilities for existing corporate bodies in the regions, maintaining close links with the capital, and serving the immediate hinterland's needs.

6 Key Implications for Policy

Key Findings

The main findings of the study are :

- Dublin has been strongly growing as the international; access hub for Ireland and will continue to act as the key air and sea gateway to Ireland for the foreseeable future;

- Capacity problems are forecast at Dublin and Cork ports over the next ten years
- Dublin airport will not have sufficient capacity to cater for forecast demand levels after 2010; and
- The NDP programme of landside improvements should be implemented without delay.

Review of Ireland's Competitiveness

The key implications for future competitiveness include:

- Ireland's competitive position will be determined by a range of measures of which efficient and reliable transport corridors to and from Europe is one;
- The current problems experienced by Ireland's transportation infrastructure are indicative of the level of economic success;
- The rapid growth in the economy has meant that demand for travel has been generated rapidly over a short period whereas the necessary infrastructure to alleviate congestion requires a longer period for implementation;
- Ireland compares well with other EU States in accessing its key markets;
- The UK is expected to maintain its current position as the dominant trading partner for Ireland;
- UK transport policies will affect all external freight operators transporting goods to/from the UK. However given the importance of the UK for Irish exports/imports, and as a landbridge for access to Continental Europe, a greater percentage of Ireland's trade will be effected by these changes than other EU States. Irish producers and hauliers may become uncompetitive when compared with UK competitors;
- The key employment growth area for Ireland in the future is in Internationally Traded Services (ITS) which have different physical transport needs compared to traditional manufacturing with little demand for the transport of bulk goods;
- Growth in IT/ITS sectors will translate into growth in demand for air freight and effective air access to Ireland and the regions;
- A measure of the importance of transport in countries with the best performing economies is the fact that on average these countries spend almost 2.7 times as much as Ireland on such infrastructure;
- Central EU states will benefit from planned improvements to roads and rail infrastructure, however, this will have minimal effect on Ireland's competitive position given that most trade is with the UK and also that the growth of Internationally Traded Services is not as sensitive to transport costs; and

- Irish Freight will continue to have a preference for Ro/Ro given the cost efficiencies and flexibility offered by this mode

Implications for Policy

The main implications for the development of future policy include impacts on domestic investment priorities, dependencies on UK and EU corridors in a trans-boundary sense and will necessitate policy responses within the NSS.

National Spatial Strategy

Implications for the preparation of the NSS include:

- The aim of redistributing at least half of the predicted 20 year population increase for the state of 1 million, to the regions would assist in relieving the pressure from Dublin's ports and airport infrastructure. Problems will be encountered at Dublin over the next ten years, and there will be excess demand for air travel nationally. Carrier economies will also dictate that the market will continue to strive for operations via Dublin;
- Regional "Gateways" will require good connections to Dublin as they are unlikely to develop as international transport hubs between Ireland and the UK/EU but such centres will play a key regional transportation role in terms of local access and alternative corridors;
- Regional airports will continue to play an important role, particularly in high value sectors where there is increasing use of executive jets for key personnel regional airports will be important, but there is a need for a structured approach to Regional Airports policy;
- Gateways should make best use of regional port and airport facilities and maintain strong connections with the Dublin and European Hubs; and
- Ireland has only limited potential to significantly increase use of rail freight, to take advantages of the changes in EU/UK transport policy and programmes. Increased use of freight would require a major programme of expansion of intermodal rail freight facilities at ports and associated investment, and possibly the development of a grant/subsidy system.

Domestic Investment

The study shows that there will be implications for domestic investment programmes including:

- Investment is required to increase national air passenger handling capacities, particularly where demand is concentrated i.e Dublin;
- Investment is needed at Dublin Port for Ro/Ro capacity and at Cork for Lo/Lo capacity;

- There is limited potential for transfer to other ports such as Ro/Ro traffic to/from Rosslare however operator's demand for the use of Dublin Port is inelastic, largely due to economies of scale;
- Fiscal measures will be required to make rail a more attractive option for the transportation of goods in Ireland this raises the question as to whether a freight facilities grants as operate in the UK, could be applied to Ireland; and
- In order to achieve maximum benefits for surface transport of goods in Ireland in the short term, consideration should be given to placing increased emphasis on relieving existing pinch-points, such as town centres and poor junctions in the NDP infrastructure improvement programme.

EU Investment

The main implications are as follows:

- Irish transport needs should be highlighted through the European Commission and the Council of the Isles with the UK;
- Irish transport will largely be reactive to changes in European and Global trade patterns and infrastructure improvements – opportunities to benefit from investments elsewhere should be tracked and optimised;
- Improvements in the UK network would have the greatest impact given Ireland's existing and likely trade patterns;
- The continuing importance of road transport to Ireland's trade (and its difficulties in transferring to rail based systems) should be highlighted;
- Proposals for unilateral improvements to ports and airports should be avoided, enhancements should be linked to an overall "spatial strategy for movement" providing for effective transport between Ireland and all its trading partners;
- There is limited potential for a more innovative approach to freight movement by rail in Ireland given the pattern of development, the volumes and types of goods, the requirements for rail operators to justify fully all costs and benefits for establishing a service; and
- Ireland's competitive position could be adversely affected by emerging measures to assist UK based hauliers such as the recently proposed tax on foreign carriers operating via UK roads.