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Title	Accessibility, transportation, infrastructure planning and Irish regional policy : issues and dilemmas
Author(s)	Reynolds-Feighan, Aisling J.
Publication Date	2003
Publication information	Irish regional development : a new agenda
Publisher	Liffey Press
This item's record/more information	http://hdl.handle.net/10197/95

Downloaded 2012-05-16T20:48:42Z

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Chapter 9

ACCESSIBILITY, TRANSPORTATION, INFRASTRUCTURE PLANNING AND IRISH REGIONAL POLICY: ISSUES AND DILEMMAS

Aisling Reynolds-Feighan

INTRODUCTION

Ireland experienced rapid and dramatic economic growth during the last decade. In the new millennium, Ireland faces opportunities and challenges to build on this growth, and must plan how economic opportunities and capacity will be distributed among the regions. The National Development Plan (NDP) sets out as a key regional policy objective, the reduction in disparities between and within the Border, Midlands and Western Region (BMW) and the Southern and Eastern Region, with sustainable development of both regions.

The purpose of the National Spatial Strategy (NSS) is to provide a detailed plan for the strategic development of the regions over a roughly 20-year planning horizon (NSS, 2002). The strategy will focus on the development of gateway centres as axes for sustainable growth in their regions (see O'Leary, Chapter 2 in this volume). A vital component at once driving and facilitating the realisation of this spatial plan is the transportation system.

This chapter focuses on the Irish transportation system and examines the issues and dilemmas facing the country in the next decade. There are significant deficiencies in the transpor-

tation networks at present and even with the very substantial investment planned under the NDP, economic agents face constraints and increased transportation costs in the procurement and distribution of goods and services, as well as in passenger movements.

In the next section of the chapter, the broad transport trends and needs are reviewed along with the forecasts prepared as background research for the NSS. In the third section, the European transport policy framework is outlined. The recent European Commission White Paper on Transport seeks to increase costs for road and air transport and effect an increase in the rail share of both passenger and freight traffic over the next 10 years. The suitability for Ireland of the policy stance adopted by the Commission is discussed in Section 4. The final section outlines key policy and institutional issues facing Ireland in the transport arena in the next 20 years.

TRANSPORTATION NEEDS AND RECENT TRENDS — A REVIEW

In this section, recent Irish transport trends are reviewed, with the aim of highlighting particular problems or challenges facing the national and regional economies in the next decade. Irish trends in infrastructure investment are briefly compared with other European countries.

Freight Trends

Accompanying the economic growth of the last 10 years has been a very dramatic increase in freight exports. Both Roll-on/Roll-off (Ro/Ro) or trailer traffic and Load on/Lift-Off (Lo/Lo) traffic have increased, with Ro/Ro rates of growth being greatest. The impact of these significant traffic changes has been felt at the main ports (particularly Dublin) and also along surface access routes to and from the ports.

Air freight traffic has increased substantially also, with a growing proportion of air freight being "air trucked" under air waybill to UK and European freight airports (most notably London-Heathrow, Amsterdam and Frankfurt). Dublin Airport accounts for 71 per cent of all airfreight, while Dublin Port

accounts for 75 per cent of all surface freight exports (Goodbody Economic Consultants, 2000a). Cross-Channel traffic dominates the flow of goods to and from Ireland, but significantly, US traffic accounted for 17 per cent of exports and 16 per cent of imports in 2000 (Eurostat, 2002). Table 9.1 shows the share of exports and imports by EU member states to partner countries. Ireland along with Portugal and Luxembourg share the lowest percentage of export trade and import trade with the candidate countries.

Table 9.1a: External Trade by Member State and Partner, 2000

	Exports (fbillion) to									
	Total Exports	EU 15		EFTA		Candidate Countries		USA		
B	204.0	151.8	74%	3.9	2%	6.7	3%	11.9	6%	
DK	55.5	37.2	67%	4.0	7%	2.2	4%	3.3	6%	
D	597.5	337.4	56%	30.6	5%	57.6	10%	61.8	10%	
EL	11.9	5.2	44%	0.1	1%	2.5	21%	0.7	6%	
E	124.8	87.7	70%	1.9	2%	5.5	4%	5.1	4%	
F	351.8	216.2	61%	14.4	4%	14.9	4%	30.5	9%	
IRL	83.8	53.0	63%	2.7	3%	1.7	2%	14.1	17%	
I	260.4	144.4	55%	9.7	4%	20.4	8%	26.7	10%	
L	9.1	7.6	84%	0.2	2%	0.3	3%	0.4	4%	
NL	252.4	198.6	79%	5.9	2%	8.7	3%	11.1	4%	
A	73.3	45.0	61%	5.2	7%	10.3	14%	3.7	5%	
P	25.4	21.2	83%	0.6	2%	0.5	2%	1.5	6%	
FIN	49.9	27.8	56%	2.2	4%	4.4	9%	3.8	8%	
S	94.3	52.8	56%	8.4	9%	5.3	6%	8.9	9%	
UK	308.5	175.8	57%	9.1	3%	10.3	3%	48.1	16%	
EU15	2503.5	1551.4	62%	99.8	4%	151.3	6%	232.5	9%	

Source: Eurostat (2002).

Table 9.1b: External Trade by Member State and Partner, 2000

	Imports (€billion) from								
	Total Imports	EU 15		EFTA		Candidate Countries		USA	
B	192.2	132.0	69%	3.7	2%	5.0	3%	14.4	7%
DK	49.3	33.7	68%	4.1	8%	2.2	4%	2.1	4%
D	538.3	295.3	55%	30.8	6%	50.8	9%	39.0	7%
EL	32.2	18.0	56%	0.5	2%	1.8	6%	1.2	4%
E	169.1	112.3	66%	2.8	2%	3.1	2%	7.4	4%
F	361.0	233.5	65%	17.5	5%	9.7	3%	26.7	7%
IRL	55.3	34.4	62%	1.4	3%	0.7	1%	8.9	16%
I	258.5	146.6	57%	9.3	4%	13.3	5%	13.5	5%
L	12.2	10.1	83%	0.3	2%	0.2	2%	0.4	3%
NL	236.3	120.8	51%	5.4	2%	6.2	3%	24.0	10%
A	78.4	53.9	69%	3.8	5%	9.4	12%	3.2	4%
P	43.3	32.5	75%	1.2	3%	0.8	2%	1.3	3%
FIN	37.3	23.1	62%	1.9	5%	2.0	5%	1.8	5%
S	78.9	50.7	64%	7.3	9%	3.5	4%	5.5	7%
UK	371.7	183.6	49%	18.1	5%	9.0	2%	49.5	13%
EU15	2513.9	1480.4	59%	108.3	4%	117.8	5%	199.0	8%

Source: Eurostat (2002).

Forecasts produced by Atkins McCarthy (2000) for the NSS suggest an 80 per cent increase in Ro/Ro traffic in the next decade, with Dublin Port experiencing the greatest share of the growth and volumes doubling in this timeframe. Airfreight in the same period is expected to increase by 150 per cent, but no forecasts are made of the air-trucking component. Boeing in their forecasts suggest that a substantial share of internal European air freight will be "air trucked" to major gateways by 2015 (Boeing, 2000), Irish air freight being trucked to UK and continental airports accounted for 21 per cent of total air freight in 1996. Irish air trucking has been proportionately higher than other European countries because of the relatively small size of aircraft operating in Irish markets (Reynolds-Feighan and Durkan, 1997).

The congested state of Dublin Port and Dublin Airport, along with the landside access constraints to these facilities have been highlighted in several recent studies (Atkins McCarthy, 2000; Goodbody Economic Consultants, 2000a, 2000b, 2000c). Congestion is affecting journey times and imposing delay costs on the movement of goods by road. Recent surveys by the Irish Business and Employers Confederation (IBEC) focus on the range of additional business costs affected by infrastructure congestion. Table 9.2 reports on the IBEC survey and highlights the labour market impacts of congestion. While the NDP will contribute towards reducing journey times and increasing short and medium term capacity of the National Roads network, Dublin Airport and Dublin Port, the forecast Ro/Ro traffic increases will exceed capacity by 2007 in Dublin Port, Lo/Lo traffic demand will exceed capacity by 2010, with Cork having capacity problems by 2004 (Atkins McCarthy, 2000). Spare capacity will remain available at Rosslare (Ro/Ro), Waterford (Lo/Lo) and Drogheda (Lo/Lo), and while there may be some scope in theory for redirecting traffic to these ports, in practice, carrier preferences will remain focused on Dublin. Airport capacity increases coming on stream in 2003-4 will be insufficient to cater for forecast demand in 2010. Nationally freight capacity through all ports will be exceeded by 2010.

Table 9.2: IBEC Survey Results of the Relative Impact of Congestion on Staffing (Percentage Reporting Adverse Impact)

	Dublin	Provinces
Staff Punctuality	94	68
Labour Costs	83	51
Recruitment	72	35
Staff Turnover	69	30
Absenteeism	62	29

Note: Based on responses from 580 companies, employing 67,000 persons.

Source: IBEC (2002).

Passenger Traffic Trends

Economic growth has substantially increased average incomes in a relatively short period of time. This affluence has increased demand for mobility and movement so that:

- Car passenger traffic has grown rapidly at ports
- Demand for air travel has dramatically increased, particularly on cross-channel and continental European routes
- Increased ownership of cars and participation in the labour force have given rise to congested road networks in urban areas particularly, with significant peak-period congestion extending over morning and afternoon/evening business hours
- Public transport provision at major ports and airports has been limited, so that road access congestion in the vicinity of these facilities has also grown steadily.

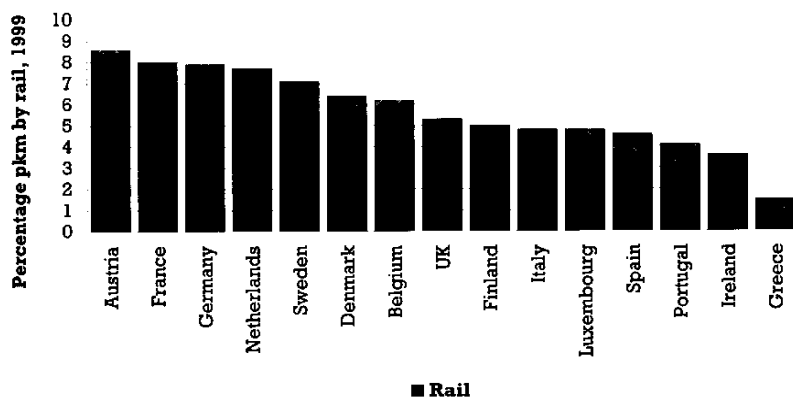
Ireland's geography, population density and dispersed settlement pattern have given rise to a heavy dependence on road and air transport. Table 9.3 shows the modal split for passenger traffic in the EU15 between 1970 and 1999. The growth in passenger car and the air transport shares, and the decline in rail transport's share have been widely reported. Figure 9.1 shows Ireland in 1999 as having the second lowest rail passenger traffic share. Figure 9.2 looks at the distribution of per capita Intra-European air traffic across the EU 15 in 1999. Ireland has the highest number of passengers per capita.

The reliance on air transport and low rail share for Ireland, Greece, Spain and Portugal is correlated with low population density and an urban system dominated by the largest city. For Ireland, maximum distances between the main population centres are below typical distances, where rail has a comparative cost advantage over road transport.

Table 9.3: Modal Split in EU15 (percentage of passenger-kilometres by mode of transport)

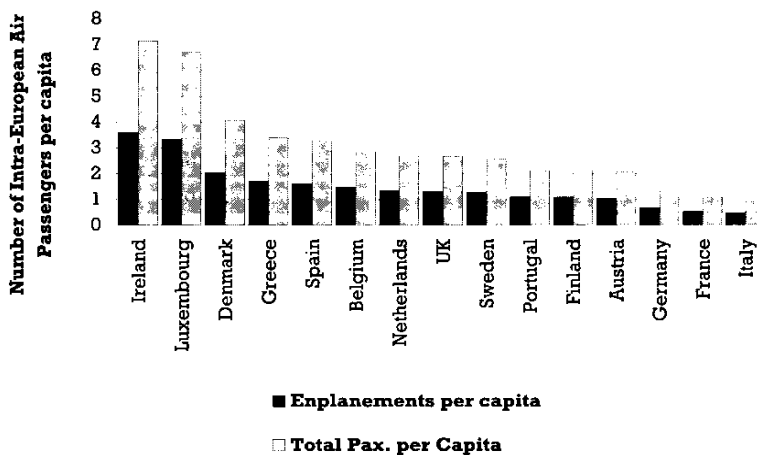
	Passenger Cars	Buses & Coaches	Tram & Metro	Railway	Air
1970	74.0	12.6	1.8	10.1	1.5
1980	76.2	11.6	1.4	8.4	2.5
1990	79.1	9.2	1.2	6.7	3.9
1995	79.5	8.7	1.1	6.1	4.6
1996	79.3	8.8	1.1	6.2	4.7
1997	79.3	8.6	1.1	6.1	4.9
1998	79.1	8.7	1.1	6.0	5.2
1999	79.0	8.4	1.1	6.1	5.4

Source: European Commission (2001).

Figure 9.1: Passenger Rail Share for EU15, 1999

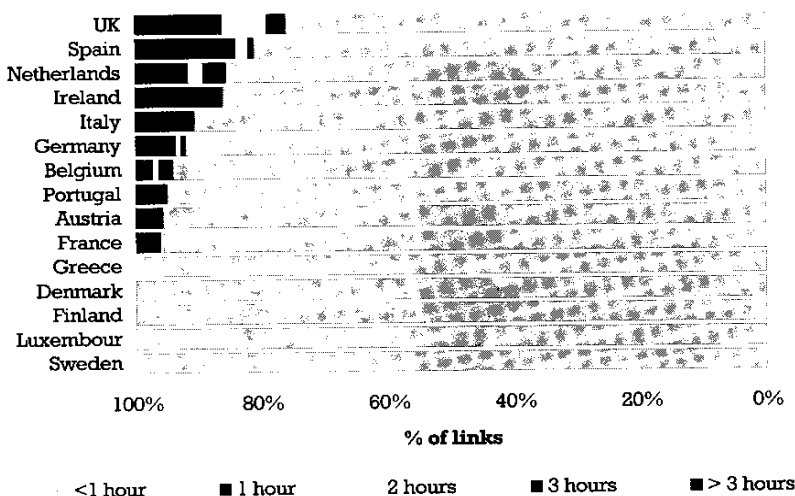
Source: Eurostat (2002).

Figure 9.2: Intra-European Enplanements and Total Air Passenger Numbers per capita, 1999



Source: Author's calculations; Eurostat (2002).

The recent report of the UK Commission for Integrated Transport included a comparison of delays caused by congestion across the EU in 1995. This comparison is summarised in Figure 9.3, which is reproduced from the Commissions report (2001). The figure shows that for Ireland, 13 per cent of links had delays of at least one hour, with 7 per cent having delays of three hours or more. From an Irish perspective, the UK data are also of considerable importance. The UK had the worst congestion in Europe, with almost a quarter of the most well used links experiencing delays lasting an hour or more. Several countries had no links at all with delays of an hour or more. These data are based on a Study from the European Centre for Infrastructure Studies (ECIS) undertaken in 1996. This study concluded that the UK's poor performance was a result of persistent underinvestment (ECIS, 1996).

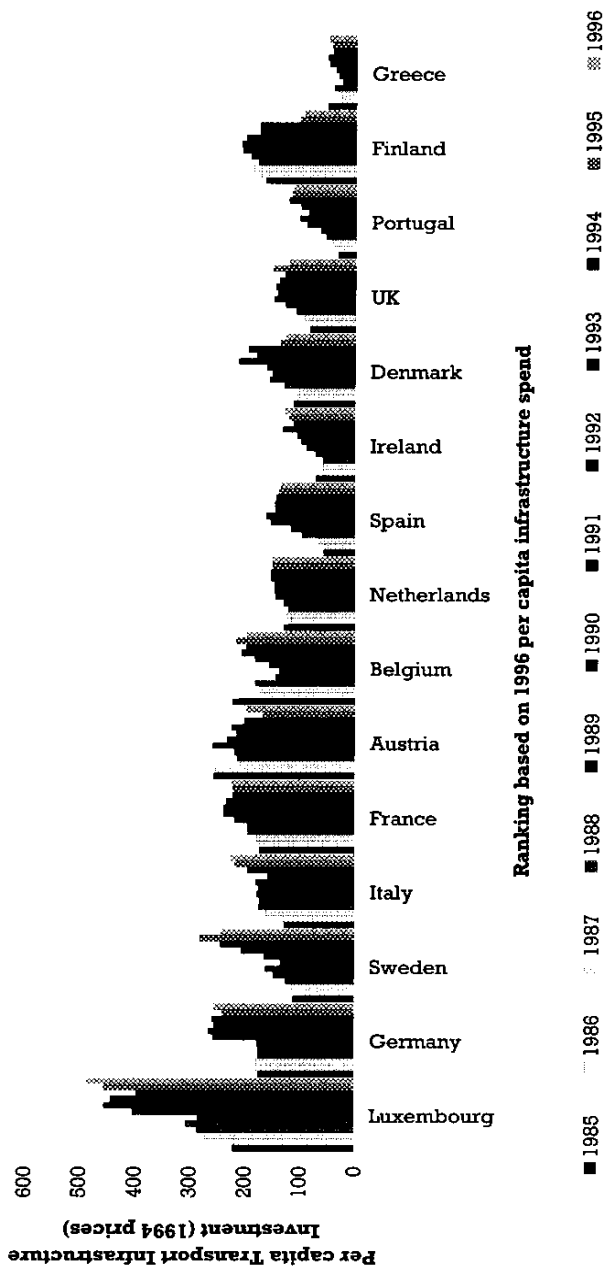
Figure 9.3: Percentage of Links Congested

Source: Commission for Integrated Transport (2001).

Transport Infrastructure Investment

The NDP sets out a very substantial economic and social investment programme for the period 2000-2006. The investment strategy for the transport sector focuses on constructing and upgrading key road corridors between Dublin and Galway, Waterford, Cork, Limerick and the Border, construction of the Dublin Port Tunnel and a substantial public transport investment programme (most notably construction of the Luas light rail system in Dublin, upgrading of the Dublin suburban rail network and expansion and upgrading of the bus fleet). In the previous subsections, it was reported that even taking account of the NDP programme, significant capacity constraints will become binding over the next five years. The problems relate to both internal and external accessibility.

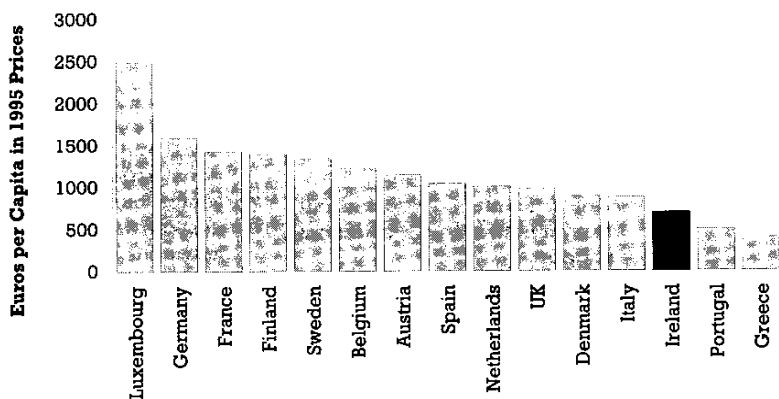
Figure 9.4: Per Capita Infrastructure Investment 1985-96



Source: Author's calculations based on Eurostat (2002).

Figures 9.4 and 9.5 give an overview of the pattern of transport infrastructure investment across the EU in the period 1985-1996. More recent data for all member states were not available. Figure 9.4 shows annual per capita transport infrastructure investments for each of the years 1985-96 for the EU15. Ireland is ranked 10th based on the 1996 per capita spend. Figure 9.5 shows the per capita infrastructure investment for the five years from 1990-95, and in this comparison, Ireland is ranked 13th of the EU15. While Ireland's per capita spend has increased in the late 1990s, the figure illustrates the sustained high spend on infrastructure in France, Italy, Germany, Austria, Sweden and Belgium. Finland and Denmark reduced significantly the per capita spend on transport infrastructure during the late 1990s.

Figure 9.5: Per Capita Infrastructure Investment, 1990-95 (ECUs)



Source: Commission for Integrated Transport (2001).

EUROPEAN TRANSPORT POLICY

The White Paper on Transport, *European Transport Policy for 2010: Time to Decide*, was adopted by the EU Commission in September 2001. The new objectives set out for transport are summarised in the introduction by Loyola de Palacio as “restoring the balance between modes of transport and developing

intermodality, combating congestion and putting safety and quality of services at the heart of our efforts while maintaining the right to mobility" (European Commission, 2001).

The main thrust of this white paper is to shift modal share in favour of rail by (a) Promoting the rail mode along with sea/inland waterways (b) Increasing the costs of road transport (c) Increasing the costs of air transport. A package of 60 policy measures is set out to achieve these objectives through regulations, harmonisation directives, user charges, taxes and investment strategies. Table 9.4 below briefly summarises some of the main measures for road, rail and air transport.

Table 9.4: EU White Paper Policy Initiatives Promoting Increase in the Rail Traffic Share

Mode	Measures	Impacts
Road freight	<ul style="list-style-type: none"> • Harmonising transport contract minima • Work-time regulations in road haulage sector • Road safety regulations • Imposition of road user charges 	Raise the price of road transport and effect substitution in favour of rail
Rail	<ul style="list-style-type: none"> • Develop an internal European rail market with regulated competition • Rail safety regulations • Construction of dedicated rail freight network with community support • Develop rail network in "enlarged Europe" 	Improve organisational and operational aspects in rail sector, increasing its attractiveness as substitute for surface and air transport
Air	<ul style="list-style-type: none"> • Creation of "single European sky" – reduce fragmentation of ATC • Harmonise and upgrade ATC equipment • Define new airport charges regulatory regime • Define environmental regulations/rules • Imposition of fuel taxes (at least on intra-European services) • Promote intermodality with rail. 	Increase operational costs in air transport and effect substitution of rail services for short haul air services Promote consolidation in European air transport industry Promote Spatial concentration of air traffic.

Source: European Commission (2001).

The White Paper proposes measures to encourage the emergence of freight integrators and to promote interoperability between rail and sea/waterway transport (such as the standardisation of containers and swap bodies). In dealing with the congestion problem, the Commission proposes the development of dedicated multimodal freight corridors along with expansion of the high-speed passenger network. The Commission also plans to propose a change in funding rules for the Trans-European Networks (TENs) increasing to 20 per cent the maximum contribution from the Community for cross-border projects crossing natural barriers and projects at the borders of candidate countries. In addition, it is proposed that in the next two years, a framework will be established for channeling revenues from charges on competing routes towards building new infrastructure, especially rail.

The European Court of Justice ruling in November 2002 found eight member states' "Open Skies" air service agreements with the US to be illegal (2002a and 2002b). EU Transport Ministers in June 2003 granted the European Commission the right to negotiate a common agreement with the US on behalf of all member states. The White Paper proposes a clear role for the Commission in negotiating a common external air transport policy and in facilitating increased spatial and industry concentration levels in the European airline industry.

ISSUES AND DILEMMAS FOR IRISH REGIONAL DEVELOPMENT AND THE FORMULATION OF A NATIONAL SPATIAL STRATEGY

A number of issues arise from the reviews of the previous two sections. Ireland has significant infrastructure capacity constraints that will impact on the performance of the national economy and the competitiveness and performance of the regions. The level of investment in transport infrastructure will need to be increased substantially if the productive capacities of the regional economies are to be expanded on a sustained basis.

The current levels of investment are insufficient to modernise and upgrade the national transport networks. Regional policy and regional/spatial planning operate to a much longer

time span than national plans and must prioritise a programme of new construction and significant capacity expansion. Ireland is at present experiencing the mounting congestion and delay costs associated with short-run incremental increases in capacity. New funding mechanisms will have to be exploited to deliver substantial transport and productive capacity at reasonable cost for the regions and for the national economy over the next 20 years.

The European policy framework that has evolved for transport does not fit well with Irish transport needs and priorities. The Irish road network provides the basis for a flexible and extensive transportation network over which both public and private transport providers may operate. As an island and given the low population density, the dispersed settlement patterns and the dominance of Dublin in the urban hierarchy, rail transport has limited potential without very high subvention levels from regional or national government.

Research on long-run sustainable transportation options in low-density and non-contiguous regions and member states should be prioritised and inform a comprehensive European transport policy, suiting the differing needs of all major regions in the Union. At national level, government investment in transport research must be prioritised. Research supporting the key policy decisions that will take place in the next five years and shape the long term development of the island must be funded by national government with its own objectives, since these may differ from EU transport policy and research agendas.

The air transport policy agenda in Europe will have significant implications for Ireland, particularly given the relatively heavy reliance on this mode of transport. Research on US airline deregulation impacts has demonstrated the increased industry (or market) concentration among a small number of very large carriers and increased spatial concentration of traffic across a small subset of the airports network. In Europe, the development of high-speed rail networks and rail terminals at airports will free up slots at the large European airports, facilitating increased substitution of rail for short-haul air services.

The large European airports will service to an increasing extent, the long-haul external (i.e. extra-EU) routes. Changes in

ownership requirements and the negotiation of common EU external aviation air service agreements (ASAs) will encourage both the increased concentration of traffic at the large airports, and increased industry concentration as consolidation among EU carriers takes place. Direct long-haul air links from Ireland to the US may be vulnerable under this scenario, although there is also the opportunity to increase the range of US destinations served directly from Ireland, rather than connecting through UK and other EU airports.

It is vital that a long-term Irish air transport policy be developed that meets regional development needs and national development priorities. The long-term provision of airport and port capacity needs to be addressed at regional and national levels. The regulatory and ownership structures for these facilities must be examined, so that bottlenecks and constraints do not restrict opportunities for enhanced accessibility or help make the case for reduced accessibility to and from Ireland. The impact of institutional structures on the transportation sector is an evolving research area in Europe and the US and this research effort has significant strategic implications for Ireland.

CONCLUSIONS

The NSS provides an important opportunity for Ireland to set out long-run strategic goals and plans for developing the regions and the national economy. Irish transport policy and the transportation system will play a significant role in facilitating and delivering economically and socially sustainable development over the next twenty years. Ireland's freight traffic is very heavily road-based and uses Dublin Port and Dublin Airport as key gateways to trading partners in the UK, continental Europe and the US.

Ireland along with the UK has a more substantial trade share with the US than other EU countries. Irish and US firms require direct airlift capacity between the two countries. The likely accession of some or all of the 13 candidate countries to the Union will move the European centre of gravity eastwards. The thrust of the EUs transport policy is to revitalise and expand the share of passenger and freight movements by rail, and to link, inte-

grate and upgrade rail networks of the EU with those of the candidate countries. Ireland currently has very limited trade links with the candidate countries. While trade with continental EU countries has expanded significantly in the last decade, the UK trade and freight traffic shares dominate.

Forecasts of freight and passenger travel demand indicate that despite substantial investment, infrastructure capacity will be exceeded with 5 to 10 years. The NSS provides an important opportunity to set out a long-run plan for sustained large-scale investment in transport infrastructure and facilities.

Access to and from Ireland via the ports and airports will be constrained within 5 years. Ireland has the highest per capita air passengers in the EU along with the second lowest rail modal share. European transport policy over the next 10 years will seek to increase rail's traffic share and reduce the growth of air transport. The concentration of long-haul traffic at the large European airports and consolidation within the airline industry could have adverse effects on Ireland's regional and national development priorities. Irish aviation policy needs to be set out with the goal of facilitating the optimum development of air transport for the benefit of the regions.

Long-run planning of transport needs and policy goals will improve the efficiency of regional economies by reducing the substantial costs associated with a piecemeal and reactive approach. Transport policy in turn requires a broad research input to advise and inform optimum policy options.

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