Long Transport Chains: Exporting from a Peripheral Island

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ABSTRACT

The crucial dependence on intermodal transport of an open island economy, where almost all external trade passes through the seaports, is examined. The rapid growth of the Irish economy puts great strains on the transport supply chains, particularly in the vicinity of the principal port of Dublin where major congestion occurs. This adversely affects the competitiveness of small and medium sized exporting companies.

Increasing prosperity has seen an explosion in the numbers of private cars, which puts great strain on an inadequate infrastructure. A review of Irish ports confirms that congestion on the access routes to Dublin port is the major bottleneck in the long transport chains for exporters. Relief from freight traffic transiting the city centre must await the completion of a dedicated port access tunnel and interim solutions are needed.

In the case of food exporters, globalisation, the power of the retail multiples and peripheral location, demands a high level of supply chain efficiencies. A survey of export transport chains for selected products shows the transit costs can be significant proportion of total consignment value. At the level of the indigenous companies, supply chain management capabilities is shown to be below an acceptable standard in two thirds of the firms surveyed. Possible solutions are explored for facilitating freight access in the vicinity of the port and for introducing more sustainable solutions for goods deliveries in the historic city centre. Measures to improve the logistics management capabilities in companies are also described.

INTRODUCTION

Ireland: Location and Trade

Ireland is an island situated on the periphery of the European continent behind the bigger island of Britain. It therefore has long transport chains with its traditional trading partners. These transport chains often involve two sea journeys, where exports to central or northern Europe or to the United States must often transit the British land-bridge to reach the continental ports or other destinations. Many multi-national investors nevertheless, see Ireland as a profitable hub for world trading, placed as the country is, mid-way between North America and the industrial heartlands of Europe.

Virtually all of Ireland’s trade by volume passes through the country’s seaports. Driven by an expanding economy, the volume of goods has grown by more than half during the past decade. Of the thirty ports on the island, Dublin on the east coast dominates trade, accounting for a third of the tonnage handled.

It is recognised that a strong capability in supply chain management and transport logistics is crucial for industrial competitiveness, both at the level of the company and externally. This is particularly necessary for exporting companies located on a peripheral island, and disadvantaged by a poor internal transport infrastructure and congestion in the vicinity of the major port.

Globalisation, the e-economy, the growing power of the retail multiples, changing consumer lifestyles and preferences, demand an urgent response by exporters and by the transport and logistics service providers. In the new e-economy
indigenous enterprises no longer enjoy favourable terms in their domestic marketplace and are being forced to compete globally.

The much-heralded success of the Irish economy, which has enjoyed the highest rates of economic growth in the European Union, is due in large measure to the exceptional performance of the major multinational companies located there. The most profitable Irish based multinational exporters, firms such as Dell and Microsoft, are world-class leaders in the innovative application of e-logistics and of ‘virtual marketing’. This high level of in-house supply chain management (SCM) capability however, is not to be seen in the indigenous sector.

A useful comparison can be made here with Taiwan. The rapid growth of this island economy since the mid-1980s can also be linked to a strategic focus on IT related manufacturing by multinational companies and on global logistics management (1). Competitive advantage is maintained through excellent customer service underpinned by heavy investment in logistics infrastructure such as air cargo transit hubs.

Importance of Efficient Sea-ports

The high level of economic activity of recent years has placed huge demands on the relatively underdeveloped transport infrastructure of the island. This lack of capacity endangers the competitiveness of the economy, an open economy that is highly dependent on exports. The point of greatest congestion is to found at the access routes to the principal sea-port of Dublin.

The port of Dublin is located within the historical city on the river Liffey. The traffic within the hinterland of the port has become very congested and this is now a significant cost burden on the port users. Port related traffic is forced to transit the city, which adds to the congestion in the historic centre.

Objectives and Methodology

The aim of the paper is to describe the adverse impacts of peripherality, long transport chains and congestion at the principal port of Dublin, from the point of view of the exporting small and medium sized companies.

The paper first of all refers to a recent government task force report on ports that shows the compelling need to improve the transport infrastructure in the vicinity of the principal port of Dublin. This major bottleneck will not be relieved until a new port access tunnel is completed in 2007 and some interim solutions are needed. Possible measures to ameliorate congestion in the historic city centre are also described.

Secondly, a pipeline survey of selected food products is described which shows that transit costs for Irish exporters are a significant proportion of total consignment value, particularly to destinations that involve long transport chains and more than one sea crossing.

Finally, it is argued that the adverse effects of geographical location and of congestion are compounded by the poor capabilities of the indigenous sector in supply chain management. A benchmarking review indicates that two thirds of Irish firms have yet to reach an acceptable level of performance and that measures are needed to improve their logistics management.
INTRASTRUCTURAL BOTTLENECKS

Irish Sea-borne Trade

The consequences of congestion in Dublin port recently merited examination by a government ‘Task Force on Transport Logistics in connection with Ports’ (2). This examination was made in the context of Ireland’s trading performance during the past decade, which was considerably more impressive than during the years before that. The rapid growth in GDP has been more than matched by the rate of growth of imports and exports, as can be seen in Figure 1.

For example in 2000, exports were worth $ 82.5 billion and imports $ 55.9 billion. Allowing for price increases, total trade was three and a half times greater in 2000 than in 1990. Britain remains the most important trading partner but the rest of the European Union is becoming almost as important. The United States is the next largest trading partner accounting for 17% of exports.

It is expected that by 2007 traffic through the ports will increase by a further 50%. Two trends are emerging, one for the ‘lightening’ of Ireland’s exports towards higher value products and the other for smaller loads requiring more frequent delivery schedules. This is due to the importance of the American multinationals in the Irish economy that tend to manufacture electronic and pharmaceutical goods (3).

Implications for Transport of Developments in Supply Chain Management

The widespread adoption of the ‘Integrated Supply Chain’ (4), particularly by the large Irish based multi-nationals, puts the focus on transportation. The key requirement is to have fast efficient routes using the shortest and quickest methods to the major export destinations.

All freight movements in and out of the island are vulnerable at the point of intermodal change at the seaports. The type of solutions seen in other countries, such as the establishment of dedicated freight depots located inland from the major ports, the application of advanced integrated information systems and the presence of third and fourth party logistics service providers, are all relatively underdeveloped in Ireland.

Congestion in the Vicinity of the Principal Port of Dublin

For historical reasons Irish ports are located within busy towns and cities. Dublin, the principal port, originated as a Viking trading settlement some 1,000 years ago. In recent years the port has been forced to develop within a rapidly expanding urban conurbation, unlike many of the larger overseas ports which have re-located well outside their historical city centres. Traffic destined for the port is forced to transit the historic city centre. In 2007, a new port access tunnel now under construction (see Figure 2) should see some relief.

Data gathered by the Dublin Transportation Office, (which is charged with developing medium term plans and strategies for the greater Dublin area), shows that average journey times on the key radial routes have increased by 62% in the period 1991 to 1997. Commuting peak times in the mornings have increased in the same period from 1 hour to 2 hours. The travel times on the main radial freight routes into
the city are badly affected - average speed on the important East West link along the river Liffey quays to the port is now reduced to 11 km/hr at peak times.

Traffic congestion in Dublin is driven by the unprecedented boom in private car registrations. These have grown from a little over 100,000 in 1990 to 240,000 in 2000 – a very visible sign of the ‘Celtic Tiger’ economy and of the strong linkages between high GDP growth rates and increasing traffic intensities. It is projected that as Ireland moves towards the average levels of car ownership in the EU, the number of cars will have doubled by 2016. It will be seen that the growth rate for private cars is much greater than that for heavy goods vehicles (HGVs). HGV movements in Dublin are concentrated on a relatively small number of key port access routes where freight movements must compete with other users on congested streets.

In order to understand the inter-relationships between on-street traffic and port related transport, the Task Force on Ports (2) carried out a traffic count, and origin and destination survey of vehicles entering and leaving the port during a 48 hour period in July of 2001. An analysis of the time profile of the port related traffic, as shown in Figure 3, shows that this traffic is highly peaked. Passenger cars account half of this traffic. Further analysis shows the time profiles for HGVs and passenger traffic are different. While HGVs reach a plateau during the day, cars traffic peaks in the morning, midday and evening rush hours. A feature of Dublin commuters is that over half drive to work and a further 8.6% travel as a passenger. Only one in five use bus or train or walk or cycle to work, reflecting the poor provision of public transport services. It is predicted that truck movements in the port area will soon exceed 350,000 per annum and this traffic will compete strongly for increasingly limited road space, until such time as the new port access tunnel is operational.

Perceptions of the Port Users

The problems identified by (2) included the following: the unsatisfactory timing of the ferry schedules; restrictive work practices; severe traffic congestion on the main access roads; poor exchanges of information between the shippers and the manufacturers; unacceptable delays in the delivery of the necessary new infrastructure; a lack of any alternatives to Dublin port for many exporters located on the East coast.

Comparisons were made unfavourably with the best international experience for overcoming intermodal bottlenecks at ports such as Rotterdam, Barcelona, Hong Kong and Singapore. In terms of world-class facilities and standards, that Ireland has a lot of catching up to do.

A comparison can also made with the situation at the US ports (5). A 2002 survey commissioned by the Department of Transportation of intermodal access conditions at 59 American ports indicated that while the situation today is broadly acceptable, this may quickly become unsustainable as cargo volumes increase. A quarter of the 15 deepwater exporting container ports in the major population centres now face some congestion stress on the landward side. The survey provides an instructive and relevant road map for future investment priorities which includes dedicated truck lanes, upgraded local road and rail access and better integrated ITS services.
Congestion as Viewed by the Manufacturers and Traders

The findings of (2) are also supported by a survey of their client companies by the Irish Business & Employers Confederation (IBEC), which represent the interests of industry (3). In this report, the levels of satisfaction by businesses with the progress of the promised infrastructural developments as foreseen in the National Development Plan (6) was measured.

Responses were received from 580 indigenous and multinational companies representing 67,000 employees. Half the sample was located in Dublin where the impact of congestion is most severe. Two thirds of the companies were indigenous small and medium enterprises (SMEs) employing less than 100 persons.

The results are summarised as follows –

- most companies, both indigenous and multinational, see congestion as a major constraint on competitiveness. In Dublin, the overwhelming majority of firms believe that what they see as the current piecemeal policies are failing to deliver the expected and urgently needed improvements.
- 85% of all companies nationally and 91% in Dublin consider that traffic congestion affects their businesses adversely.
- The most significant impacts relate to delivery schedules, both to and from the company - 52% of firms believe that this has a major adverse impact on their ability to offer a satisfactory level of customer service.
- 44% claim that road haulage costs are adversely affected.
- In Dublin, congestion was seen by 85% of the firms to impact badly on staff punctuality, and to add to labour costs and to increase absenteeism.
- 36% of companies in Dublin have considered re-locating to a less congested region of the country.

IRISH FOOD EXPORTS & LONG TRANSPORT SUPPLY CHAIN

Characteristics of the food sector

A major investigation of the logistical efficiency of the Irish food exporting transport supply chains was carried out during the period 1996 to 1999 by a team comprising University College Dublin, University College Cork and the National Food Centre supported by the Department of Agriculture & Food and the EC Directorate General for Regional Policy (7).

The Irish food industry accounts for two-thirds of the total turnover of indigenous industry and the sector makes a substantial contribution to national wealth. The industry has annual sales of $13 billion representing 6.5% of national output and 13% of total exports.

The sector employs 40,000 people directly and accounts for 20% of total industrial employment. In addition, the industry supports 280,000 jobs on farms and in the sub-supply activities in the countryside. Almost all of the companies are Irish owned SMEs and 70% of them employ less than 50 people.
The terms of reference for the study were -

‘To investigate the value adding chains for processed food products, highlighting transport and distribution and the inter-relationships between processing technology and logistics with a view to increasing added value in the food processing industry through optimising transport, inventory and processing costs’

The logistics environment for food exports from Ireland has unique characteristics.

- 90% of the production from the sector is for export.
- Most food exports from Ireland are destined for the EU countries – mainly Great Britain followed by the Netherlands, France and Germany.
- Half of food exports by volume are chilled or frozen needing temperature control.
- The value adding chain for a food manufacturer exporting from Ireland is relatively long and involves complex supply chain options. The final customer and destination can be a retail store, a regional distribution centre, a consolidation centre, wholesaler, a caterer or another food manufacturer.
- The road haulage services are usually outsourced, mainly to small independent operators who are forced to survive on tight margins.
- Port, shipping and routing choices depends on a complex set of considerations such as the nature of the consignment, its perishability and urgency of delivery, destination, frequency of sailings, price and service reliability.
- Ireland’s island status adds significant additional handling, administrative and risk costs to the transport chain for food exports.

SURVEY OF PRODUCT CHAINS

Methodology

A methodology was developed to assess the logistical capability of exporters and to measuring their cost efficiency, quality and delivery status. To begin with information on 78 product chains was obtained from 45 selected companies, most employing in the region of from 150 to 500. The survey provided a wide geographical spread of representative companies, products and scale of operations. The list of products covered included beef, lamb, pork, biscuits, dairy products, eggs, fish, mushrooms, cereals, vegetables, potato crisps, chocolate, soups, pizza, alcoholic beverages. The bulk of the exports are meat and dairy products.

Because different customer types have different logistical and customer service requirements, the breakdown of companies surveyed was broadly in line with the overall food sector - 47% wholesalers, 32% retailers and 21% processors. The listing of product destinations also reflected the overall export trade patterns, which Britain being the most important destination followed by France and Germany.

The selected firms were interviewed in-depth (up to 2hrs.) using a structured questionnaire. Each firm was invited to nominate two typical product export chains and to detail delivery rates, product shelf life, distribution costs, risks, packaging and the information flows along the chains.

The characteristics and relative efficiencies of the distribution chains were analysed and compared using a Pipeline Mapping Technique (tracking methodology) (8). This analysis permitted the transit times and the waiting times in the various elements of the pipelines to be mapped and a distinction to be made between the value
adding and non-value adding activities. It helped to identify where scope existed for reducing inefficiencies.

The survey data collected for each of the product chains identified the category of product (ambient, chilled or frozen), its origin and destination, transport mode, land and sea routes, value and weight of product per pallet/load, distance and time on each leg of the chain, storage and waiting times along the pipeline, costs per pallet/load along the transport chain. A spreadsheet model was devised to capture all the relevant transport and logistics costs and the pipeline times for all stages of the 78 different product chains were logged. Supplementary interviews were carried out with a small sample of logistics agents, hauliers and ferry operators in order to cross-check the perspectives of the food exporters. The survey data were tabulated on EXCEL and a route mapping package was employed to calculate distances and costs at different stages in the export product chains. The delays and risks associated with the intermodal and stockholding links along the chains were identified.

The results of the survey and of the ‘pipeline mapping’ of the 78 product chains were as follows –

- The survey team was generally satisfied that the Irish food sector has accommodated the requirements of its export markets in order to maintain competitiveness.
- The survey revealed a wide range of sophistication in logistical practices and performance but only one third were classified as sophisticated.
- Logistics criteria other than cost, namely reliability, customer service and flexibility and the effective transfer of information along the supply chain are becoming increasingly important.
- The most successful exporters focus correctly on customer service. The importance of this is illustrated by the ‘sudden death’ relationship that has developed between the powerful multiples and their suppliers where a firm automatically ceases to be a supplier following a delivery failure.
- The changing retail environment focuses on Efficient Consumer Response (ECR). This puts pressure on suppliers to provide higher delivery frequencies and dramatic reductions in their order lead times. In this respect Irish suppliers were found to be at a disadvantage compared with their British and continental competitors.
- A consequence of the increasing application of ECR is that inventory is being pushed back along the supply chain to the production points. This adds to the costs to be borne by the Irish producers.
- The analysis of the relative efficiencies of the product chains demonstrated that the best chains are well organised logistically, give priority to customer needs and are well advanced in their application of information and communication technologies (ICT) supports.
- Transport and logistics costs vary widely depending on the weight and value of the goods and on the destination. For goods delivered to Britain, transport costs as a percentage of consignment value was in the range of 3% to 5% while for many goods exported to the continent the range was significantly higher at 4% to 10%.
- In a number of cases, transport costs exceeded 20% of consignment value. Destinations in Scandinavia, Italy and Greece are the most expensive to service.
• There were excessive storage times along the chains. In the case of half the chains, storage accounted for 80% of the pipeline time between production and deliveries, roll-on roll-off (Ro-Ro) being the preferred mode.
• Typical average logistics costs including storage, were found to be in the range $1.02 to $1.5 per kilometre. Logistics costs are significantly higher for frozen and chilled products than for ambient temperature goods.
• Sources of operational difficulty and added risk are delivery interruptions caused by weather conditions and other problems at sea. This gives rise to extra buffering and inventory costs for exporters.
• There is also widespread frustration with the inadequate standard of roads and with traffic congestion at the principal port.
• The Irish haulage industry, although fragmented and lacking in scale, is regarded by exporters as reasonably cost efficient.
• The standards of communications in the product chain and ICT usage are very variable.

SUPPLY CHAIN MANAGEMENT AT THE LEVEL OF THE COMPANY - A BENCHMARKING REVIEW

The Irish National Development Plan 2000 – 2006 specifically recognises the need to improve the competitiveness of indigenous industry by 'developing logistics management as a key capability' (6).

Enterprise Ireland, the state development agency charged with developing indigenous industry responded by commissioning a major benchmarking review of the logistics management capabilities of SMEs. This review was carried out by the National Institute for Transport Logistics (NITL), initially under the auspices of Enterprise Ireland and subsequently on an all-island basis by InterTrade Ireland, the North South body for trade (9).

The aim of the benchmarking study was to identify the logistics challenges faced by indigenous firms; assess their capability to address these challenges; identify the gaps to be filled and develop appropriate interventions to fill those gaps. For purposes of the survey logistics and supply chain management were similarly defined as “managing the physical flow of product and related flows of information through the whole organisation, from the purchasing of materials (buy), through production (make), distribution (move) and finally, delivery to the customer (sell)”.

Survey Methodology

A total of 600 companies were initially contacted, leading to 169 agreeing to being assessed by means of face-to-face interviews and involving the completion of a comprehensive questionnaire. The companies interviewed comprised a regionally based mix of enterprises in both the food sector and in the industrial products and engineering sector. 85 food companies were interviewed and 84 of the other categories.

Irish SMEs are relatively small by international standards – the European Commission for example would categorize an SME as a 500 person company. Of the companies surveyed, 42% employed less than 50 with an annual turnover of $6m or
less; 24% employed 100 or less with a turnover not exceeding $25m. Only 10% employed upwards of 500 or reported a turnover in excess of $125m.

A mix of 1/3 face to face and 2/3 telephone interviews were conducted using structured questionnaires. The business profile and SCM capabilities of each company was recorded and benchmarked using a range of Key Performance Indicators as described below. Information on how companies saw and organised their logistics function, on the distribution channels employed for either home sales or exports, and on how they measured costs and performance, was compiled.

Because few SMEs had a recognised single logistics management function, the managing director or comparable senior executive was approached.

The findings of the survey are as follows:-

- There was a wide variation in the degree of understanding of the modern definition of SCM and related concepts across the companies surveyed with two thirds having an imperfect appreciation.
- Irish companies do not see logistics as a key integrated senior management function – only 18% of companies had a dedicated logistics manager; 72% had the function divided among three or more managers.
- 35% of companies did not know their true supply chain costs – while all included transport costs, less than half included the other relevant elements.
- 70% of SMEs are deficient in IT applications that can integrate and optimise the flow of information through the organisation, capture real time data and share information with customers and suppliers.
- Few companies have clearly defined key performance indicators (KPIs) – they do not measure their own or their competitor’s performance.
- Half do not measure customer service, the most important criterion.
- From a customer perspective, customer service was rated second to quality and more important than price as a reason for doing business. Nevertheless the transport and procurement functions are better managed by the SMEs than the other logistics elements
- Forecasting was evidently not seen as important – 35% do not produce any forecasts.
- Many companies did not review their warehousing costs (only 32%) and 44% were found to have obsolete inventory (old stock etc.).
- Transport costs were found to be determined mainly by the products produced, by their final destinations and by the distribution channels employed rather than by sales volumes. Because 62% of the SMEs sampled service the home market and 24% service the UK, transit costs as a percentage of consignment value are typically 5% or less and this is also reflected by the earlier survey of food export chains.

Customer service (on-time delivery, reliability, product availability, responsiveness to requests for information, consistency of order cycle times, flexibility and frequency of damaged goods) needs to be recognised as the most important factor for competitive advantage. Many companies equate logistics costs with transport only. A key benefit of efficient logistics management is the ability to make sensible trade-offs between the different elements in the supply chain – for example lower inventory and better service against higher transport costs. This necessitates the use of sophisticated IT
systems, which 70% of SMEs do not have. The survey also confirmed serious skills shortages right across the logistics function. It was not widely recognised that companies who do not employ professional logistics managers are at a major competitive disadvantage.

**Benchmarking SME Performance on ‘The Logistics Capability Staircase’**

The survey ranked the participating companies according to their logistics capabilities using a set of Key Performance Indicators or KPIs. These indicators were used to monitor the logistics functions of customer service; production planning; purchasing; inventory and warehouse management; demand forecasting and transport costs.

A breakdown of the overall scores indicated that 60% of all companies scored less than 60 out of 100 and were deemed to be below an acceptable level of performance. Companies rated ‘excellent’ would have been expected to score between 80 – 100 but none scored at this level. ‘Satisfactory’ companies scored between 60 – 80 and 40% were found to be at this level - (see Figure 5).

The survey indicated that a higher proportion of companies in the engineering sector are deficient compared with their food counterparts. This reflects the demands for high standards being imposed by the retail multiples on their Irish food suppliers and is supported by the earlier survey of food export transport chains.

**POSSIBLE SOLUTIONS**

The surveys described point to the serious implications for supply chain efficiency of growing urban congestion at the principal sea-port of Dublin. These adverse effects are compounded by the deficiencies in supply chain management capabilities which are evident at the level of the exporting SMEs.

**Improving SCM and Logistics Management at the Level of the Company**

In response to the poor showing of SMEs in relation to their logistics management capabilities, Enterprise Ireland has put in place a comprehensive programme in collaboration with the third level colleges and the commercial consultants. This involves -

- Creating a high level of awareness nationally of the crucial importance of SCM for maintaining competitive advantage.
- Increasing the pool of qualified logistics professionals available to industry.
- A programme of mentoring services for Irish companies,
- Collaborating with others to raise the capabilities of ‘third party logistics service providers’ (road hauliers and freight forwarders).

Enterprise Ireland has contracted the NITL together with other designated third level institutes of technology in the regions to provide accredited full-time and part-time diplomas and tailor made in-company training courses. The response from industry is encouraging. The target is to bring 500 SMEs up the ‘logistics capability staircase’ to achieve an acceptable level of performance (a score of 60+ on the ‘Logistics Capability Staircase’ of Key Performance Indicators) by the end of 2006.
Facilitating Food Exporters

Logistical efficiency increases the profitability of food exporters and helps them to respond quickly to the delivery demands of their customers. The following recommendations deserve to be considered by the Irish food producers –

- Encourage better supply chain integration so that exporters can share marketing, logistical, technical and research intelligence with their overseas customers.
- Identify opportunities for minimising inventory costs and waiting times along the transport supply chains - except where stock-points are really needed to meet growing pressures on order lead times.
- Accelerate the introduction of more sophisticated ICT systems.
- Identify opportunities for shared logistics activities between food processors located in the same region or exporting to the same overseas destinations.
- Better customer service levels and greater flexibility are being demanded by the overseas buyers which calls for more sophistication in SCM capabilities.
- Developments in food engineering, packaging and transportation technologies can enhance logistical capabilities and product shelf-life – more research in these areas is recommended.

Recommendations for Dublin Port

The Task Force on Ports has made recommendations for the medium term, that is until the port access tunnel opens in 2007, and for a longer-term strategy -

- Port development needs to be treated in an overall framework of enlightened land-use policy and economic planning, particularly in the greater Dublin area.
- In a 20 year timeframe, Ireland should endeavour to develop world-class transport systems and maritime links that will consolidate the country’s position as a desirable gateway to Europe from North America.
- New access routes to the port are essential. Plans for a second outer orbital route to the existing M50 need to be brought forward – Fig. 2.
- The transport related measures promised in the National Development Plan are behind schedule and there is a strategic justification for fast tracking the onerous planning procedures for all port related developments.
- The feasibility of establishing a distribution centre in the hinterland of the port merits examination. Inland container facilities or “dry ports” with rail connections are a feature of many overseas ports where operations can be carried out away from the congested fore-shore.
- The feasibility of transferring containers by rail from the port to an inland facility for onward distribution by road has been investigated by private developers, but not implemented for reasons of cost. This proposal merits a re-examination that takes a proper account in the overall economic analysis of the indirect social benefits which might accrue.
- In the short term the focus must be to manage traffic in the vicinity of the port. Measures to stagger the commuter and port related traffic peaks and to separate cars from the HGVs can be implemented relatively quickly by a combination of better policing and enforcement; by preferential access to freight on the main access routes (on dedicated lanes); by offering 24 hour
services at the port; by the use of tolling to change the traffic patterns (incentives for off-peak travel); by encouraging more workers at the port to commute by public transport.

- Transfer from road to rail is a limited option in Ireland because of the short distances involved. The share of rail borne freight is only 2.4%, well below the European norms of 8%. The social and environmental benefits however, of moving goods by rail in urban areas in terms of freeing up congested road space are such as to warrant more than a narrow cost-accounting appraisal.
- An oil pipeline to transfer aviation fuel from the port area to the airport is under construction and this promises to give significant relief. There may be scope to expand this attractive intermodal option.
- A dedicated corps of traffic police with powers to intervene effectively is to be established.

Possible Sustainable Transport Solutions for the City Centre

The feasibility and justification for introducing more sustainable transport solutions for the city centre is being examined -

- The feasibility of an innovative logistics solution involving a dedicated urban distribution centre (to transfer goods from HGVs into LGVs and to consolidate partial loads) and a dedicated fleet of eco-friendly vehicles.
- An overall HGV management strategy for the greater Dublin area is currently being developed by the City Council and the Dublin Transportation Office, in anticipation of the opening of the port tunnel in 2007. This will take into account the current research on the sustainable options for city centre deliveries.

CONCLUSIONS

1. Ireland is an open island economy that is highly dependent on overseas trading. Ireland’s geographical position can be seen in a positive light as a transport hub located between North America and Europe and this is indeed demonstrated by the attractiveness of the country as a manufacturing location for the major American multinationals.

2. From the standpoint of exporting indigenous SMEs, long transport chains involving expensive intermodal changes and sea crossings carry risks. The survey of food exports show that transit costs can be a significant proportion of overall consignment value.

3. The review of ports by the government task force and the feedback from industry through IBEC focuses on the major bottleneck to the country’s principal port of Dublin. There is frustration with the lengthening lead times in delivering on the up to date infrastructure as promised in the National Development Plan. Traffic planners did not foresee the explosion in private car ownership brought about by the ‘Celtic Tiger’ economy and the major congestion that this has created. Ireland has an obligation to comply with the main policy thrust of the European Union White Paper on Transport - to
decouple GDP growth rates from rising and unsustainable levels of traffic intensities (10).

4. Congestion at the port and in the city will not be relieved until a dedicated port access tunnel from the M50 motorway is constructed in 2007 and interim solutions are needed to facilitate the freight traffic that is forced to transit the city centre.

5. The food products survey describes the additional pressures that are brought on exporting producers by globalisation, the growing expectations of the retail multiples and the advent of e-logistics. All of this has major implications for the continued competitiveness of exporting SMEs and measures which include better integration and collaboration are recommended.

6. At the level of the individual company, the benchmarking review shows that supply chain management capabilities in two thirds of SMEs are below an acceptable standard. This puts at risk the continuing competitiveness of a substantial number of indigenous companies. Happily the training and mentoring initiatives being implemented by the authorities to improve the logistics capabilities of companies are bearing fruit and this will go some way to offset the adverse effects of congestion and peripherality.

7. The feasibility of introducing a more sustainable transport strategy for goods deliveries within the historic city centre is under investigation by the Transport Study and Research Group and will be reported on next year. This study may form part of a wider strategy by the authorities to manage freight traffic in the greater Dublin area.

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