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# Newry-Dundalk Joint Chamber Forum

## *Business Case Analysis to Support the Introduction of a Greenore Greencastle Ferry Link*

10 March, 2005

“This project is supported by the EU INTERREG IIIA Programme for Ireland / Northern Ireland”



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## 1 Introduction

The Newry Dundalk Joint Chamber Forum was established by the Newry and Dundalk Chambers of Commerce in 2003 in order to share knowledge and best practice policies and to provide information on cross-border trade development opportunities, as well as promoting cross-border business advisory services for local businesses. It comprises the Executive Director and 18 Council members of Dundalk Chamber of Commerce and the Chief Executive and 14 Executive members of Newry Chamber of Commerce.

In line with the objective of promoting development between the two regions the Joint Chamber Forum agreed to initiate research into the prospect of a ferry service to be located at Carlingford Lough linking Greenore in Co. Louth with Greencastle in Co. Down. To this end the Joint Chamber Forum applied to the East Border Region and was approved for funding from INTERREG IIIA – European Structural Funds 2000 – 2006 to develop a business case analysis for the proposed car ferry service.. In September 2004 Campbell Conway Consulting (CCC) was commissioned by The Newry Dundalk Joint Chamber Forum to assist in the compilation of this business case analysis. East Border Region has been involved over many years in promoting the advancement of this project and much of the groundwork completed by their various studies has been incorporated and updated by this report. The research was supported by Louth County Council and Newry and Mourne District Council.

The following document contains the findings from the varied research elements, and draws on these where relevant to assess the level of need and feasibility of the provision of a ferry service at Carlingford Lough linking Greenore in Co. Louth with Greencastle in Co. Down.

## 2 Objectives

The agreed objective for the project was as follows:

*“To conduct a study into the feasibility of the development of a ferry service linking Greenore to Greencastle and, based on the findings of this study to develop a plan and recommendations to assist the Newry Dundalk Joint Chamber Forum in the promotion of such a service.”*

Sub-objectives for the project were:

To review and update the key findings from two of the most relevant, studies conducted to date on the proposed ferry service;

- Economic Appraisal which was undertaken by Falconer Stewart in 2000, commissioned by Newry and Mourne District Council, which examined the feasibility of establishing a car ferry link between the two points.
- Environmental Impact Study which was undertaken by Ferguson McIlveen Engineering Consultants
  - To consider the case for and against the introduction of such a service from the perspective of key stakeholders including;
    - Louth County Council
    - Newry and Mourne District Council
    - Northern Ireland Roads Service
    - Department of Transport (Republic of Ireland)
    - Marine/Harbour Authorities
    - All island and local tourist agencies
    - Other potential sources of funding
  - To compile the findings from the various strands of research and develop recommendations to assist the Newry Dundalk Joint Chamber Forum in the promotion of such a service

### 3 Methodology

To achieve the agreed objectives, four key research strands were undertaken as follows:

**Desk Research:** Secondary sources of information were interrogated to assist in the development of a base line understanding of research work carried out to date on the proposed service. The desk research process was initiated from the start, to inform the development of sample frameworks and research tools for the primary research with key informants. It continued throughout the project so that particular avenues of interest could be explored and findings validated.

**Site visits:** CCC consultants also consulted with and visited a number of representatives of similar projects throughout the island of Ireland in order to assist with the business planning process, the identification of costs incurred and in particular to assist in developing estimates for the income and expenditure that may be incurred by such a project.

**Interviews:** The desk research and site visits were complemented with approx 50 in depth interviews conducted with representatives of the following:

- ❑ District and County Councils operating in the targeted regions
- ❑ Funding agencies
- ❑ Planning experts at local and national levels
- ❑ Marine/Harbour Authorities
- ❑ All island and local tourist agencies
- ❑ National tour operators
- ❑ Best practice interviews with ferry service operators

**Engineering Study:** In parallel to the business case analysis a desktop marine engineering analysis was conducted by Kirk Mc Clure Morton, the results of which are presented in Appendix 4.

On commencement of the business case analysis study, by Campbell Conway Consulting (CCC), the Joint Chamber Forum recognised that an engineering updated analysis would also be required. The Joint Chamber Forum recommended that an appropriately skilled consultant engineer be commissioned to examine the viability of an alternate landing place on the northern shore. It was agreed that this piece of work should be looked at concurrently with the business case analysis and the CCC should be tasked with sub contracting this to a qualified engineering company.

The consultants would also like to note that it was agreed with the Joint Chamber Forum that the public consultation process be suspended until the submission of the business case analysis.

## 4 Project Proposal & Research Findings

### 4.1 Project Format

This business case analysis examines the feasibility of introducing a car ferry service across Carlingford Lough linking Greenore in Co. Louth with Greencastle in Co. Down. This examination involved a number of strands which included assessment of:

- the likely demand for such a service
- the likelihood of long term sustainability
- the technical feasibility of introducing such a service and associated infrastructure
- the estimated costs involved in introducing and operating such a service

As discussed with members of the Joint Chamber Forum the proposed service is likely to resemble existing car ferry services which operate at other locations around the coast of the island of Ireland;

- Tarbert / Killimer
- Strangford / Portaferry,
- Greencastle (Donegal) / Magilligan,
- Bunrana / Rathmullan
- Passage East / Ballyhack,
- Cobh / Monkstown,

Similar to the services listed above, and subject to interest from appropriate service providers, the proposed service at Carlingford Lough is likely to offer a shuttle service across the Lough using a vessel capable of accommodating approximately 40 cars or their equivalent in coach traffic.

#### 4.2 Rationale for the Project / Views of Stakeholders Consulted

The two regions which would be immediately served by the ferry include north County Louth which encompasses the Cooley Peninsula and south County Down which covers the Mourne Mountains and the coastal towns of south and east Down. The proposed project is currently being considered by Newry and Dundalk Chambers of Commerce as a means to encourage increased cross border and cross county interaction and as a 'tangible link' between Counties Louth and Down. The business case analysis undertaken by CCC involved consultation with a wide range of relevant stakeholder groups which included the District and County Councils operating in the targeted regions, potential funding bodies and other economic and tourist development agencies.

The consultation process revealed a significant degree of interest in and support for the proposed venture.

The most commonly cited benefits anticipated through the introduction of such a ferry service included the following;

- *Assist in promoting both sides of the Lough as an attractive and easily accessible tourist destination*

The two regions, both with intrinsic natural attractions, have considerable potential for the development of tourism. However both national and local tourism development agencies claim that this potential is currently limited due to restricted access to, from and between the regions. The introduction of a ferry service would, according to representatives of the relevant tourist agencies, help the agencies and local tourist providers in the promotion of the regions as a very attractive and easily accessible tourist destination.

By encouraging greater numbers of visitors and tourists to the region the ferry service will also help to support in the marketing and ultimately the ongoing viability of existing tourist attractions.

By strengthening the tourism infrastructure and linkages between the two regions there would also be increased justification and motivation for closer co-ordination between the two regions and the individual promoters on both sides of the Lough in relation to marketing and promotional activities. This will ultimately lead to the development of a more attractive 'package' for the potential visitor to the region.

- *Contribute to the economic development of the regions served by the ferry.*

The two regions are recognised by many of the cross border funding bodies and economic development agencies as being economically disadvantaged. Similar to other border areas the regions have, over the last thirty to forty years, suffered considerable economic depression due primarily to the decline of traditional industries and the impact of the troubles. The introduction of the ferry service has the potential to impact positively on tourism, community economic development, and business growth in the region and to attract further investment. The ease of movement of people between Northern Ireland and the Republic of Ireland will encourage more effective networking and stronger business linkages between the two markets and will ultimately assist in trade development.

In particular the proposed service would help companies in Counties Louth and Down to

- access new markets and customers
- serve exiting markets more efficiently
- access raw materials and other inputs more efficiently and cost effectively
- access a wider labour pool and range of labour skills and training supports

□ *Direct, indirect and induced employment.*

The ferry service itself will help to create local employment in both Counties Down and Louth. Similar ferry services operating at other estuarine locations around the island of Ireland employ between 14 and 20 staff members. It is anticipated that this proposed ferry service would require the employment of approximately 18 staff when both vessel crew and shore staff are accounted for.

The introduction of the ferry service would also assist in supporting and creating indirect employment of individuals in companies which supply goods and services which are required to allow the ferry service to operate. The consultants own analysis would indicate that the ferry service would assist in the creation and support of a further 10.6 full time equivalent positions through indirect employment.

Induced on site employment refers to the employment effect arising from the expenditure of those who are directly and indirectly employed as a result of the operation of the ferry service. The consultants own analysis would indicate that the ferry service would assist in the creation and support of a further 3 full time equivalent positions through such induced employment.

□ *Creation and support of off site employment*

The proposed ferry service at Carlingford Lough has the potential to impact significantly on the local economy. Users will naturally spend money in the local economy which in turn will help to support existing jobs and create new local employment. Using an extremely conservative model the consultants themselves suggest that the ferry service will at a bare minimum assist in the generation of a further €1,650,000 in the local economies which in turn would be sufficient to generate or support approximately 33 full time equivalent positions.

Relative to regional and national indicators independent analysis suggests that the two regions perform poorly on a number of key socio-economic indicators. The projected visitor numbers and their associated spend will provide a significant impetus to the local economies on both sides of the border.

□ *Time savings / efficiency gains that users of the ferry will enjoy as a result of more efficient travel patterns.*

By linking Greenore and Greencastle the service will offer time savings relative to the 25 mile road journey between the two points. These time savings can be considered as both economic and social benefits in their own rights. It should also be appreciated that there will be some savings in vehicle operating costs by reducing the road distances travelled. The reduction in road kilometres travelled will also have a positive environmental and economic impact due to reduced usage by diverted traffic on existing road network .

□ *Considered as a 'genuine' cross border –cross community project which will help to promote greater community interaction and understanding*

Several representatives from a number of those agencies who fund projects on a cross border basis suggested that the proposed service would help to encourage greater interaction and understanding between the different communities on either side of the border between Northern Ireland and the Republic of Ireland

□ *Improved access to educational opportunities*

By providing a link between Counties Louth and Down new educational opportunities will be opened to both school leavers and those returning to education after some time.

## 5 User Demand for the Ferry Service

To predict the demand for a ferry it is necessary to look at the potential volume of existing traffic that might be diverted together with the new demand created by the ferry service itself. In drawing conclusions from the analysis it is necessary to examine both these strands separately and then to combine the findings to develop an estimate of potential vehicular demand for the ferry.

### 5.1 Diverted Traffic

This element examines existing traffic flows along the Belfast Dublin A1 / M1 route, which if a ferry were in place might use the ferry route. It involves looking at the cross border traffic flows with specific route testing at Ravensdale between Newry and Dundalk and estimating the traffic emanating and channelling to and from south east County Down.

The National Roads Authority in the Republic of Ireland has a comprehensive network of traffic counters throughout Ireland. The counter at Ravensdale on the N1/A1 Belfast Dublin Route gives northbound and southbound traffic on an hourly basis each day and gives a breakdown of Heavy Commercial Vehicles (HCV's). The figures for 2004 are outlined in Appendix 1. This shows an annualised average daily directional (AADT) flow of 18,886 with a breakdown of 13.5% of heavy commercial vehicles. This traffic volume has increased by 8.3% on the 2003 figures.

Other traffic counts such as those on the

- ❑ A2 Newry, Warrenpoint, Kilkeel route,
- ❑ The A2 Newcastle Kilkeel route,
- ❑ The B27 Kilkeel Hilltown route and
- ❑ The A25 Ratfriland Castlewellan routes

are also referenced to substantiate the numbers found. (see appendix 2)

Using the model identified by the Jonathan Blackwell Report of 1993 it is possible to estimate the traffic culminating in and emanating from the coastal towns of south east Down. The methodology identified in this report also serves to update and compare the findings of 1993 with 2004 data.

The Blackwell report used a modest assumption based on empirical evidence, of 3.5% of the N1 / A1 flow culminating in or emanating from South East Down. Using this approach the following comparisons on potential diverted traffic to the ferry route may be drawn:-

**1993:** 250 divertable AADT (using 3.5% adjusted)

**2004:** 661 divertable AADT (using 3.5%)

Employing the Blackwell assumption that 40% of these potential diverts are bound for Warrenpoint and / or may not be attracted by a ferry provision CCC adopts a conservative approach to the economics and has reduced the Blackwell assumption to 2.1% diverts giving the following result on a daily basis:

**2004:** 397 divertable AADT (using 2.1%)

It is anticipated that Heavy Commercial Vehicles will not be encouraged and will have little use for the ferry service. Therefore allowing for 13.5% of the divertable AADT outlined above being HCV's as per the NRA's statistics for the A1 / N1 ( 2004), the adjusted number of diverted cars is:

**2004:** 343 divertable AADT (net of HCV's)

The time savings of up to 45 minutes and distance savings of up to 25 miles for travellers going to or from south east Down by the provision of a ferry link across the entrance of Carlingford Lough is enough to sustain this conservative number of diverters.

It should also be noted that a detailed look at the cross border traffic numbers in the past 11 years demonstrates an almost 100% increase over this period which suggests that the potential for ferry traffic has also grown significantly and is reflected in the above figures.

## 5.2 New Traffic

The operation of a ferry across the entrance of Carlingford Lough would also generate new traffic in addition to diverted traffic.

The potential new traffic is based on two elements:

1. New local business traffic generated by the route
2. Additional tourist traffic both day trips and over-night holiday makers

With reference to the first of these elements the Blackwell report of 1993 contended “*Given the impact of the border and the strong commercial ties with existing centres, this element of traffic generation is considered not to be significant and is discounted for calculation purposes.*”

Since 1993 the stakeholders consulted believe that the level of cross border business activity has grown substantially and according to the trade development body Intertrade Ireland has the potential to develop even more. Thus we must attribute some weight to the potential of even a small amount of business traffic developing between north Louth and south east Down. A better transport infrastructure which would reduce journey times between e.g. Dundalk and Kilkeel / Newcastle would assist many businesses (particularly SME's) to look beyond their traditional catchments to market their goods and services.

Two further sub divisions under this potential element of increased demand have also emerged in the course of this study, namely labour market fluidity and demand for third level educational facilities.

### 1. Local Business Traffic

#### □ Labour Market Fluidity.

Independent research carried out on behalf of *EURES Cross Border Initiative* has shown that many employers in the immediate hinterlands of both potential ferry landing points do not currently look to recruit on the opposite shore areas at present. If a ferry service existed many of these employers could extend their net to the new target areas on the other side of the Lough. Thus it would not be unusual for individuals living for example in Cranfield to work in Dundalk nor indeed for persons living in Carlingford to work in Kilkeel. Notwithstanding the complexities of living in one jurisdiction and working in another (a condition found throughout the border counties) it is recognised that the ferry could provide a “missing link” and thus create its own further demand.

#### □ Third Level Education.

A further demand likely to grow from the introduction of the ferry service would be that for third level education places on both sides. The range of courses, both day and evening offered by the Dundalk Institute of Technology and the Newry and Kilkeel Institute of Further and Higher Education would thus be available to a much wider pool of potential students than at present.

CCC predict, conservatively, that these elements of new local business traffic would create a demand of 40 vehicle movements per day or 14,000 per annum.

### 2. Tourism

#### □ Day trip Tourist activity.

A day trip is defined as “ a trip lasting for at least three hours (but not overnight), taken away from home, and which is mainly for leisure purposes.”

The potential demand for the ferry from this element is expected to be significant. South Down and the Mourne are already popular destinations for day trippers and the prospect of a circular route around Carlingford Lough is one that excites much interest in tourism circles. It should be noted that such a circuit could be provided by creating a trail for example from Greenore to Greencastle by ferry and then by road to Rostrevor, Warrenpoint, Newry, Omeath, Carlingford and back to Greenore. A bridge at Narrow Water at some stage in the future might create a further enhancement.

The recent growth in popularity of the village of Carlingford as a tourist, leisure and gastronomic destination would suggest that many new tourists would consider using the ferry for day trips from Carlingford to visit the Mourne and / or the Northern shore of Carlingford Lough returning to the village of Carlingford via Newry.

Furthermore it is anticipated that the ferry itself would create a sizeable tourist attraction in that the crossing of Carlingford Lough (one of Ireland's only three Fjords) offers spectacular views of the Mourne, Mill Bay, and the towns of Warrenpoint and Rostrevor to the north and the Coolie Mountains, Carlingford and Omeath to the south and west.



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The potential of day car and coach tours from Dublin to the coastal towns of South East Down and to the Mourne using a ferry service across Carlingford Lough is also considerable, as is the potential of a coastal scenic route between Belfast and Dublin. All of this points to a potential for use with existing tourists and perhaps more importantly the potential for such a service to generate and sustain significant increases in tourism potential.

Existing tourism diverted to the route is already accounted for in the assumptions above for the traffic diverting from the A1 / N1 route. For the purposes of this analysis we will be assuming only the new tourist traffic generated by the provision of a ferry link.

In line with the conservative approach adopted elsewhere in this report we estimate that this element will provide additional demand in the region of 50 cars per day (averaged over a 12 month period) or 17,500 cars per annum. The tourist traffic volume will vary with the tourist season with highs during summer, Easter and Christmas.

### 5.3 Overall traffic demand for the Ferry

CCC assumes that the ferry will operate throughout the year and will run a service tailored to meet the cyclical demand and the variations between winter and summer.

It is likely that the summer demand will reflect the main tourist season and may outweigh the capacity on the winter crossings by a factor of as much as 2:1.

For the purposes of our analysis we assume that the ferry will operate on 350 days in the year. This will provide for schedule maintenance of the ferry boat and for some days when the ferry will not run due to unsuitable weather conditions. From the above we can summarize the findings as follows:

Traffic Diverted from primary inland A1 / N1 route	343 AADT
New Business / labour market / educational demands	40 AADT
New Tourism / Day Tripper / Leisure journeys	50 AADT
	<hr/>
Total	433 AADT (or 151,500 per annum)

## 6 Ferry Capacity, Scheduling and Selection

Based on the very conservative assumption of a service requirement of approximately 150,000 vehicles per annum it is prudent to allow for the seasonal characteristics of this data. Ferry operators with whom the team has had discussions suggest that an average daily throughput of 433 vehicles per day indicates highs in the summer of over 800 vehicles per day to lows of as few as 120 vehicles per day in the low season.

Based on a passage of 1.1 miles and on the size, capacity and speed of the boat it is expected that a ferry service offering two round trips per hour would operate in the summer months with potential for a reduced one round trip per hour at all other times. The ferry operator would retain the flexibility to adjust ferry timetables in line with predicted demand for the service. It is predicted that the optimum sized ferry required to operate and service these vehicle traffic numbers is one that will accommodate 40 cars.

Safety and reliability are considered to be the key factors when examining the type of ferry to be used on this crossing. When examining this route some years ago Shannon Ferries went into some detail on the appropriate boat to provide this service. Shannon Ferries have given CCC permission to adapt this recommendation as follows:

- ❑ A vessel operating on this crossing could encounter tidal currents of between 5/6 knots, so the vessel must be capable of operating safely, including unforeseen equipment failure. As it is not considered necessary to operate the service, initially at least, with two vessels, it is necessary that the vessel chosen must operate to the highest standards of reliability.
- ❑ A likely scenario would be a roll on / roll off vessel built to the relevant Lloyd's Classification. It will require "restricted sea going" status to allow it to operate in Carlingford Lough. It should also be built to Department of Marine specifications and be a Class IV vessel, capable of operating in smooth or partially smooth water. It will also need to comply with MCA (UK Maritime and Coastguard Agency) requirements for a Class IV ferry.
- ❑ The draft of the loaded ferry would be no more than 1.625 metres and it will have a service speed of about 9.5 knots. The car deck will be 10 metres wide, allowing for four lanes of traffic with adequate space between vehicles. The overall length of the boat will be approximately 40 metres.
- ❑ It is envisaged that the hull will be of all watertight compartments, to comply with statutory regulations and will be constructed with a double bottom.
- ❑ To facilitate speedier loading and discharge of traffic, particularly in the summer it would be advisable that the boat ramp be the same width as the car deck (10 metres).
- ❑ As safety and reliability are fundamentals and the provision of backup in the event of unforeseen equipment failure is a required prerequisite the correct selection of engines, propellers, steering equipment and other hydraulics is of paramount importance.
- ❑ Navigation, communication and safety equipment on board must also be to the highest standards.

### 6.1 Capital Cost of Vessel

The cost of a new vessel built to the standards outlined above is estimated to be in the region of €5m in 2005 prices.

## 7 Economic Impact Assessment

### 7.1 Introduction

This section of the report outlines the consultants assessment of the economic impacts attainable through the introduction of the ferry service. Economic impacts relate to both employment impacts and gains in efficiency for service users. Both of these aspects are examined separately.

### 7.2 Employment impacts

The introduction of the ferry service will have both on site impacts and off site impacts. On site impacts relate to the employment effects arising from the ferry service itself while off site impacts refer to the impact of expenditure of users of the ferry service within the wider economy. This data has been developed using a number of different sources;

- Data relating to the operation of the service such as numbers of crew and other staff as well as purchases made to sustain the operation of the service, such as maintenance costs and fuel.
- Secondary tourism data describing users of the service such as spend per trip
- Employment multiplier data which is used to translate anticipated expenditure into employment effects

With an exploratory study of this kind there will be limitations in terms of available primary and secondary data. In such events the consultants have used modest assumptions based on previous experience of conducting similar studies.

#### On Site Impacts

As identified by many of the stakeholders consulted during the course of the business case analysis the introduction of the ferry service will help to create *direct*, *indirect* and *induced* employment.

Direct employment refers to those directly employed in the operation of the service such as vessel and shore staff. Indirect employment refers to the employ of those individuals in companies which supply goods and services which are required to allow the ferry service to operate while induced employment refers to the employment effect arising from the expenditure of those directly and indirectly employed as a result of the operation of the ferry service.

#### □ Direct on site employment

The estimated traffic volumes have naturally informed any decision making on the size of the vessel to be acquired for the proposed service. In turn the size of the vessel and the duration of the operating year will directly influence the required staffing complement for the service. Our analysis would indicate that the majority of demand would be accommodated by a 40 car vessel maintaining the timetable below;

<b>Proposed Timetable</b>	
<b>Summer Season (Mid April – Mid October)</b>	
Number of days per week	7
First sailing from Greenore	07.00
Last Sailing from Greencastle	20.00
Number of crossings	4 single sailings per hour
<b>Winter Season (Mid October – Mid April)</b>	
Number of days per week	7
First sailing from Greenore	08.30
Last Sailing from Greencastle	18.30
Number of crossings	2/4 sailings per hour



This timetable should offer an adequate service for the majority of users all year round. There is, of course, almost infinite scope for variation. In peak months in the summer season it may be appropriate to offer later sailings in the evening. Similarly there would also be scope for some reduction in service frequency in the winter months. While it may be that a frequency of two sailings per hour will be sufficient to accommodate demand at off peak times in the winter season the only additional cost of increasing sailing frequency to four sailings per hour would relate to fuel and other variable costs.

Based on the introduction of a 40 car vessel, proposed operating year, and discussions with operators of similar ferry services the consultants would estimate that the operation of the vessel will result in the direct employment of 18 full time equivalent employees including both vessel and on shore staff. These positions are outlined in the table below;

Direct on Site Employment		
Position	FTE	Location
General Manager	1	Co. Louth
Vessel Crew	9	Co Down (4) CoLouth (5)
Shore Staff	3	Co. Louth
Shore Staff	3	Co. Down
Reception	1	Co. Louth
Groundsman / Security	1	Co. Louth
<b>Total</b>	<b>18</b>	

The consultants have made assumptions about the location of jobs. For the purpose of this business case analysis it has been assumed that as the vessel will be berthed overnight at Greenore that a slightly greater proportion of employees will be residents of Co. Louth. In total therefore 11 full time equivalent positions can be expected to be generated within Co. Louth and a further 7 full time equivalent positions within Co. Down.

#### □ Indirect on site employment

Through the introduction of the ferry service the promoters/operators will also help to create 'indirect on site employment' through the purchase of goods and services which will be necessary to operate the service. The extent of this 'indirect on site employment' can be estimated through the application of an indirect employment multiplier to direct employment levels.

The Republic of Ireland Input-Output Tables outline the relationship between the Maritime/Air Transport Sector and its linkages with other sectors of the economy. These tables indicate that for every unit increase in activity in Maritime/Air Transport there is a 0.59 increase in activity in all other sectors within the economy. By applying this ratio to the anticipated level of 18 full time equivalents directly employed by the service the consultants would estimate that a further 6.5 full time equivalent positions will be produced in the Republic of Ireland and a further 4.1 full time equivalent positions in Northern Ireland.

The indirect employment impacts are therefore summarised in the table below and show that when indirect employment is included the on site employment impact increases from 18 to 28.6 full time equivalents. Understandably linkages outside the local area economy will mean that some of this indirect employment will be created within the wider national economies of the Republic of Ireland and Northern Ireland. However it would be reasonable to expect that a minimum of 75% of the indirect employment effect will accrue to Counties Louth and Down with the remaining 25% accruing elsewhere in the Republic of Ireland and Northern Ireland.

Direct and Indirect on Site Employment			
Region	Direct	Indirect	Total – Direct & Indirect
Co. Louth/ROI	11	6.5	17.5
Co. Down/NI	7	4.1	11.1
<b>Total</b>	<b>18</b>	<b>10.6</b>	<b>28.6</b>

#### ❑ Induced on site employment

Induced on site employment refers to the employment effect arising from the expenditure of those who are directly and indirectly employed as a result of the operation of the ferry service. As there is no suitably recognised Northern Ireland or Republic of Ireland data to assist in the calculation of such induced employment the consultants have relied on a multiplier which was specifically created by EKOS Economic Consultants for the purpose of a similar calculation in the context of the business case analysis which EKOS undertook on the Greencastle to Magilligan car ferry service on behalf of the North West Region Cross Border Group.

A multiplier of 1.1 will therefore be applied to the total number directly and indirectly employed as a result of the operation of the ferry service. The table below outlines total on site employment impacts and shows that when induced employment is included the on site employment impact increases to 31.5 full time equivalents..

<b>Total on Site Employment</b>				
<b>Region</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Co. Louth/ROI	11	6.5	1.8	19.3
Co. Down/NI	7	4.1	1.1	12.2
<b>Total</b>	<b>18</b>	<b>10.6</b>	<b>2.9</b>	<b>31.5</b>

#### Off Site Employment

Similar to many of the other existing car ferry services which operate at locations around the coast of the island of Ireland the proposed ferry service at Carlingford Lough has the potential to impact significantly on the local economy. Users of the ferry service will naturally spend money in the local economy which in turn will help to support existing jobs and create new local employment. This section of the report outlines the consultants estimates of gross employment which describes the employment effect arising from the expenditure of users of the ferry service in the local economy.

Anticipated traffic volumes were described in detail in Section 5. A number of assumptions have been made to calculate the overall expenditure of users of the service in the local economy. These assumptions are described below;

- ❑ The estimated day trip spend by all Northern Ireland and Republic of Ireland users is €23 per person. This estimate has been put forward on the basis of discussions with representatives from both national and local tourist agencies. From these discussions the consultants selected the most conservative estimate for this average spend.
- ❑ It is necessary to reduce the total estimated day trip spend to account for expenditure incurred in using the ferry itself. Off site expenditure is therefore estimated at €11 per person reflecting an average spend per person of €12 on ferry fares.

Therefore applying the preceding multiplier, which is based on conservative estimates, to the anticipated number of users in the first year of operation it can be shown that the ferry service will at a bare minimum assist in the generation of a further €1,650,000 in the local economies. On the basis of findings from the 1995 Bord Failte paper by Deane and Henry entitled "The Economic Impact of Tourism" in current prices this level of expenditure would be sufficient to generate approximately 33 full time equivalent positions. It should be stressed that this is an extremely conservative estimate as it does not account for the expenditure on the part of passengers of private vehicles or of coaches which could indeed be very significant.

### 7.3 Time savings – Efficiency Gains

In addition to contributing to local employment the introduction of a ferry service between Greenore and Greencastle will also offer time savings relative to the 25 mile road journey between the two points. These time savings can be considered as both economic and social benefits in their own right. Placing a monetary value on these time savings will require the introduction of some assumptions due to the existence of some uncertainties regarding the proposed project. These uncertainties are outlined below;

- Numbers of local users who will actually make time savings
- The scale of those time savings
- The extent to which ‘new’ road traffic is generated which would previously not have existed prior to the introduction of the ferry service.

Due to the existence of these uncertainties the consultants have put forward a range of estimates of time savings. The Department of Environment Northern Ireland identifies separate values for time saved for trips for leisure purposes and those trips made for business reasons. The most recently available data is outlined in the table below;

Values of Time	
Trip Type	Value per hour saved
Business	£15.78
Leisure	£3.85

The consultants have assumed that 80% of the trips on the ferry service are for leisure purposes while the remaining 20% are for business related purposes. A range of scenarios were then developed which outlines the value of time savings given various sets of circumstances. This was calculated on the basis of an average time saving of 40 minutes.

Value of Time Savings				
Year 1 Volume Traffic – 150,000 vehicles	Scenario	Time saved (minutes)	% of ferry users saving time	Value of Time Savings
	1	40	60%	£370,418
	2	40	50%	£308,602
	3	40	40%	£246,944

These calculations which are based on extremely prudent assumptions reveal that with these available time savings a significant contribution, in the form of an economic benefit, will be made towards the public sector infrastructure costs of establishing the project. It should also be appreciated that there will be some savings in vehicle operating costs by reducing the road distances travelled. The reduction in road kilometres travelled will also have a positive environmental impact.

## 8 Financial Appraisal

The basis for the approach taken to traffic forecasts was summarised in Section 5. Our analysis indicates that the majority of demand can be accommodated by a ferry that will accommodate 40 cars and which will maintain the timetable as described in Section 7. In addition to the anticipated usage outlined in Section 5 CCC estimate, based on consultation with several coach tour operators that the ferry service is capable of generating a minimum of 100 one-way coach movements per annum.

For the purpose of the revenue and expenditure forecasts CCC has employed conservative annual growth rates for the base case scenario put forward.

The growth rate projections put forward for the purpose of the revenue and expenditure forecasts are as follows;

- 2006 – 2013; compound annual growth of 2.0%
- 2014 – 2026; compound annual growth of 1.5%.

The reduction in the projected growth rate over time reflects standard forecasting procedures and the impact of any possible capacity constraints. Traffic projections for the first twenty years of operation, based on the base line estimate outlined in Section 5 and assuming the growth rate projections outlined above, are therefore described below;

Traffic Forecasts		
Year	Cars	Coaches
2006	151,500	100
2011	167,268	110
2016	181,975	120
2021	196,039	129
2025	208,069	139

### 8.1 Revenue Forecast

Based on consultation with operators of similar ferry services at other estuarine locations around the coast of the island of Ireland CCC has employed the following proposed fare structure for single trips;

- Cars €9
- Coaches €30

Revenue forecasts have been generated by applying this fare structure to the traffic forecast described above. However it would not be prudent to apply this single fare to *all* users as, similar to the vast majority of other ferry services in operation, discounts will most likely be offered for day return trips, senior citizens, and multi-journey users. With this in mind, and based on consultation with operators of ferry services at other locations around the coast of the island of Ireland, CCC has applied a dilution rate of 75% to the proposed single fares for cars and coaches. The single fares described above have therefore been factored by 0.75. The 'diluted' fares calculated on this basis are shown below;

- Cars €6.75
- Coaches €22.50



The application of these diluted fares to the demand forecast described previously is outlined in the table below. As illustrated coaches are expected to account for only a very small proportion of total revenue. (The

Revenue Projections (€)		
Year	Cars	Coaches
2005	1,022,625	2,250
2011	1,185,514	2,608
2016	1,289,749	2,838
2021	1,389,425	3,057
2025	1,474,686	3,245

## 8.2 Expenditure Forecast

In assessing the viability of the project the promoters will need to consider both the costs involved in the development and operation of the service whether these costs are borne exclusively by the ferry operator or shared with third party project promoters. The costs involved in developing and running such a service will include both capital costs and operational costs. The estimated construction costs for developing the jetties and ancillary on shore facilities are put forward by Kirk Mc Clure Morton in Appendix 3.

## 8.3 Vessel Acquisition

In developing cost estimates a further challenge is introduced as a particular operator has yet to be identified. The chosen operator may well have a vessel in their fleet which can be deployed on the proposed route across Carlingford Lough. In this situation the only cost incurred would be the opportunity cost in terms of lost revenue derived from its possible deployment elsewhere. If this option is not available possible alternatives would include the following;

- *Long term charter of a vessel.*

This would be inadvisable as consultation with informed parties indicates that it would be more cost effective to purchase either a new or second hand vessel.

- *Construction of a new build vessel*

This would allow the configuration and capacity of the vessel to reflect the particular route in question. However, as revealed through consultation with relevant providers, new build vessels are considered to be expensive relative to those available on the second hand market. In particular, purchase of a new build vessel for a new route would represent a considerable commitment for any operator to bare. The cost of a new vessel built to the standards outlined in previous sections of the report is estimated to be in the region of €5m in 2005 prices. Should this requirement be put forward as a specific condition for operators to fulfil it is likely that many potential operators would be discouraged from developing a submission for the conduct of the service unless grant aid funding was forthcoming.

- *Purchase of a second hand vessel.*

For our base case estimates we have assumed the purchase of a second hand, 40 car, vessel. The cost of acquiring such a vessel is uncertain, as it is dependent on the market at the time of purchase and any modifications or refurbishment's which may be required. Based on consultation with operators of similar services around the island of Ireland it would appear that €1,200,000 is a reasonable estimate of the likely cost.

As some uncertainty concerning this estimate exists CCC has included a number of sensitivity tests centred around the purchase price of such a vessel. CCC has also assumed that the vessel will have some residual value at the end of the twenty year period and this has been included as a capital receipt in the final year of the appraisal period.

#### 8.4 Operating Costs

The operation of the service will incur certain costs on an ongoing basis. These will comprise both fixed and variable costs and will include the following;

- Salaries and wages for general manager and crew
- Cost of fuel
- Repairs and maintenance
- Insurance
- Rent, rates and surveys
- Vessel maintenance and safety requirements
- Marketing expenditure
- Telephone and postage
- Professional fees

In outlining the relevant costs CCC has drawn on specific cost projections developed by Shannon Ferries for the purpose of the proposed ferry service at Carlingford Lough. The individual cost elements have also been validated through consultation with operators of similar ferry services at other locations around the island of Ireland most notably the Lough Swilly and Lough Foyle Ferry service in Co. Donegal and the ferry service operating across Strangford Lough in Co. Down.



The cost estimates for the first five years of operation are outlined in the table below;

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Crew Salaries and wages (18)	540,000	556,200	572,886	590,073	607,775
Fuel	52,000	53,560	55,167	56,822	58,526
Repairs and maintenance	26,000	26,780	27,583	28,411	29,263
Insurance	58,500	60,255	62,063	63,925	65,842
Rents, rates and surveys	15,600	16,068	16,550	17,047	17,558
Vessel maintenance and safety	78,000	80,340	82,750	85,233	87,790
Telephone and postage	2,600	2,678	2,758	2,841	2,926
Travel expenses	13,000	13,390	13,792	14,205	14,632
Marketing & advertising	78,000	10,000	10,300	10,609	10,927
Sundry	1,800	1,854	1,910	1,967	2,026
Professional Fees	13,000	13,390	13,792	14,205	14,632
Cost of boat charter for 3 week overhaul	25,000	25,750	26,523	27,318	28,138
<b>Total</b>	<b>903,500</b>	<b>860,265</b>	<b>886,073</b>	<b>912,655</b>	<b>940,035</b>

(Note; The one exception to this approach is for 'marketing & advertising' where a large-scale investment is made in Year One with a reduced amount in subsequent years to cover ongoing marketing)

In order to test the economic efficiency of the project CCC undertook a UK National Efficiency Test which compares all the relevant costs and revenues associated with the project for a twenty one year period covering the financial years 2005 to 2025. This has been developed using a discounted cash flow basis employing the standard HM Treasury discount rate of 8%. The outturns from each individual year are then summed to produce a Net Present Value or NPV. In studies of this nature where the NPV is positive the particular project is thought to represent an effective use of public monies.

CCC initially developed a 'base case' scenario which outlines the central estimate for the Net Present Value (NPV) associated with the project. However CCC has also developed a number of additional sensitivity tests which examine the influence of changes in particular costs and revenue items on the level of Net Present Value (NPV) for the proposed project. These sensitivities, or tests, are described in the table overleaf.

- Sensitivity Tests -	
Influence of changes in particular cost & revenue items on the level of NPV	
Scenario	Tests
1	Operating revenues 10% greater than base case scenario throughout the appraisal period
2	Operating revenues 10% below the base case scenario throughout the appraisal period
3	Capital costs 10% greater than base case scenario
4	Vessel acquisition costs – purchase of new build vessel ≈5m, Assumed residual value ≈500,000
5	Vessel acquisition costs – zero as operator has tonnage available from existing fleet

The impact of these various sensitivities is detailed in the attached NPV spreadsheet contained in Appendix 3.

## 9 Local Objections

The main source of objection to the proposed ferry across Carlingford Lough between Greencastle and Greenore comes from a group of local residents on the Northern shore at Greencastle. These objectors have come together to form a pressure group called “the Greencastle Area Residents Group”(GARG). Research by CCC suggests that although GARG are a well organised and vociferous group they represent a small minority of the views expressed about the ferry. The majority of the stakeholders interviewed are favourably disposed to a ferry service and have few if any concerns on its impact. The vast majority view it as being a significant boost to both the local tourism provision and economic activity of the area.

Nevertheless the views of the Greencastle Area Residents Group need to be addressed and presented in an effort to present a balanced analysis. GARG themselves accept that they do not represent all the residents of the hamlet of Greencastle. Their objections are well documented in correspondence with various bodies and are showcased in detail on their web site

[www.greencastle-countydown-northernireland.co.uk](http://www.greencastle-countydown-northernireland.co.uk)

The Jonathan Blackwell report of 1993 did not refer to any level of local opposition to the proposed ferry at that time.

The main reasons given by GARG to their opposition to the proposed ferry are as follows:-

- Inconsistency with Planning Policy
- Impact on:
  - The environment
  - Wildlife
  - The Coast
  - The road system and traffic
  - Farming
  - The quality of rural life
- The ferry operation and its safety
- Related Issues
  - Tourism
  - Lack of sustainability
  - Alternative options

In a letter dated 23 November 2004, received by CCC from the residents association a further concern was raised regarding a view that the proposed ferry would have an adverse effect on the value of the residents properties in the area.

CCC has been commissioned to carry out an economic evaluation of a ferry operation and it is not incumbent on us to comment on the merits of arguments which might be made from perspectives other than what might loosely be regarded as economic criteria.

Many of the objections raised by the residents will be examined by any environmental impact study that may be required before any permissions are granted.

It is important to recognize that all infrastructure projects throw up both promoters and objectors. It is sensible for promoters to listen, take cognisance, to modify plans where possible and to try and convince and win over objectors by discussion and engagement. Often concerns expressed prior to a new project commencement are not borne out by experience. It is also important that cost benefit analysis which shows a major benefit to a large group or community is weighed up appropriately against the concerns of a much smaller group. Decision makers need to take a robust stance in support of the common good and where necessary and appropriate objectors may be compensated either in financial terms if for example compulsory purchase orders are required, or by upgrades and improvements to local infrastructure.



## 9.1 Response to economic concerns raised by the residents: -

### ❑ Lack of Sustainability

The economic assessment addressed elsewhere in this study demonstrates that a ferry in this location will be self sustaining. This is substantiated by the number of operators willing to take up this route should it become available.

### ❑ Ferry Operation and its safety

This issue is entirely governed by maritime and working regulations in both jurisdictions. A licence to operate such a service would not be granted unless all operational and safety standards were met.

### ❑ Tourism

Empirical evidence garnered elsewhere in this report clearly indicates that the provision of a ferry in this location would provide a significant boost to tourism in the South Down, the Mourne and Cooley regions.

### ❑ Inadequate Road infrastructure

This is a matter of opinion rather than fact. The residents claim that the road infrastructure could not safely cope with traffic type and volume expected by a ferry service. The road infrastructure between Greencastle and the A2 Rostrevor to Kilkeel main road is narrow in places but has a good surface and presently copes with significant movement of all types of traffic including oil tankers making home heat deliveries, a large number of wide loads including caravans and mobile homes being transported to and from Cranfield and other agricultural, commercial and private vehicles. There are no restrictions on any traffic size or weight limits. Thus it is reasonable to assume that any traffic emanating or progressing to a ferry terminal at Greencastle would be in no way different than traffic presently using this local infrastructure road network. The roads currently provide movement on a two-way traffic basis and this would not require change.

The frequency and higher usage of the road network may create an ongoing demand for Roads Service to upgrade and improve the local roads, which, it might be argued, would be necessary whether a ferry were in place or not. This cost (to Roads Service) may be offset by the journey and mileage savings from transfer traffic -the N1 / A1 Ballymascanlon to border to Newry and the A2 Newry, Warrenpoint Rostrevor Kilkeel route. (see section 5 in report)

### ❑ Bridge

The problem of the small bridge which Residents contend has been added to the Listed Building List may be resolved simply by putting a one way traffic flow on this bridge controlled by a set of traffic lights.

In conclusion regarding local roads the study team's research at other ferry locations such as Strangford / Portaferry, Tarbert / Killimer and Magilligan / Greencastle (Co. Donegal) demonstrates road infrastructure networks much less developed than that at Greencastle in Co. Down.

### ❑ Property Values

Rather than have an adverse affect on property values in the Greencastle region it is the opinion of independent property valuers that as the area opens up to more tourism and business opportunities that property values will in fact increase.

## 10 Outline of discussions with other Stakeholders

### 10.1 Introduction

A combination of telephone and face to face discussions were undertaken with potential operators of the service during the course of the business case analysis. In addition to assisting with the business planning process and the identification of revenues generated and costs incurred the objectives of these discussions were;

- Develop an understanding of the companies' current scale and nature of operations.
- Establish in principle whether these companies are interested in operating the proposed service at Carlingford Lough
- Identify issues of interest to the companies, should they enter into any detailed negotiations with the client regarding operation of the service at Carlingford Lough.

### 10.2 Operator Profile and Interest

#### Lough Foyle Ferry Company

The Lough Foyle Ferry Company has operated a car ferry service between Greencastle on the Inishowen peninsula of County Donegal and Magilligan, in Limavady Borough in County Derry since June 2002. Since 2004 the company has also introduced a ferry service operating between Buncrana and Rathmullan County Donegal. The company are interested, in principle, in tendering for the proposed service.

#### Shannon Ferries

Shannon Ferries commenced operations in 1969 and have successfully developed a ferry service from Killimer, Co Clare to Tarbert, Co Kerry. This operation services well in excess of 200,000 vehicles per year. The company has previously expressed interest in operating a car ferry service across Carlingford Lough and remain interested in the project. When the project was previously put forward in the late 1990's the company directors set up Carlingford Lough Car Ferry Limited with a view to the commencement of a ferry service from Greenore, Co. Louth to Greencastle Co Louth.

At present the company which is based in Killimer County Clare, operates two vessels of 52 car and 44 car capacity across the Shannon estuary. While neither of the two vessels would be available for use on the proposed service the company would consider building and or leasing a new build vessel for the route.

#### Strangford - Portaferry

Northern Ireland Roads Service currently operates the service which acts as an essential transport link for cars, commercial vehicles and foot passengers.

The new £2.7 million MV "Portaferry II" was officially handed over to Roads Service on Tuesday 23 October 2001 by shipbuilders McTay Marine of Merseyside. This purpose-built craft successfully completed final trials in Strangford Lough. After crew training she came into service on 18 December 2001. The "Portaferry II" has replaced the MV "Strangford" as the main vessel. The MV "Strangford" has taken over the support role from the old MV "Portaferry" which was sold in May 2002.

Although this service is a successful and busy one it is understood that Roads Service has considered selling it to the private sector. Indeed it is believed that a Scottish ferry operator was close to completing a deal to take over this service within the past two years.

It is worth highlighting that a potential new owner of the Strangford Portaferry service may well attain economies of scale should they seek to co-operate with a service across Carlingford Lough. Both Ferries could operate in tandem with special fare rate structure to the benefit of consumers which in turn would be a catalyst to develop tourism in south and east Down. Another advantage would be the potential sharing of a back-up vessel between the two locations. Strangford currently has a back up vessel that might be considered somewhat under utilised.

The operators were also asked to identify issues that they would wish to discuss in any subsequent negotiations with the client. These issues centred around financial and operational matters. Financial considerations focussed on the availability of any funding or subsidy regime as well as the potential availability of public sector grants to defray start up costs. A wide range of operational matters were also raised which included the following;

- setting of targets and performance indicators by the client regarding the levels of successfully completed sailings to be completed by the operator
- whether the operator would be required to provide a 12 month service
- arrangements for breakdown and/or overhaul relief cover.
- division of responsibilities for marketing the service
- opportunity to review the proposed foreshore and landing facilities as well as agreement on ownership of shore infrastructure and payment of same.

### **10.3 Conclusion**

Initial consultations with potential operators are encouraging. A number of operators are interested in operating the service and it is likely that a vessel would be available, either from existing fleets, or from the second hand market.

### **10.4 Views of support/partner organisations**

During the course of the business case analysis CCC consulted with a number of cross border funding agencies and the District and County Councils operating in the targeted regions with the objective of examining the potential scope for support and specifically for local, national and European Union funding for the capital works which will be required prior to the commencement of the proposed ferry service. Several of these organisations spoke very positively about the proposed project and expressed an interest in progressing further with any proposals that may emerge.

### **10.5 Views of Other Users of the Waterway**

The team interviewed several maritime users of the channel separating Greenore and Greencastle at the mouth of Carlingford Lough as to their views on the potential operation of a ferry service linking the two places.

The views expressed by other ports in the vicinity are neutral to the proposed service. The management of Warrenpoint Harbour, and Greenore and Dundalk Ports pointed out that any operator of such a service would have to strictly abide by the "rules of the road" for navigation across the channel and would need to act with care and attention to other shipping movements. It was agreed that although the entrance to Carlingford Lough is restricted and is used by commercial shipping, fishing boats, mussel dredgers and leisure craft a ferry could be operated safely under the command of a professional skipper, licensed and using up to date navigational equipment.

It should be noted that some of the other ferry locations examined by the team operate safely in more demanding conditions than those that prevail at the entrance to Carlingford Lough.

## 11 Conclusions

- ❑ Economic assessment indicates potentially viable operation of a ferry service at this location
- ❑ Stakeholders – responsible local authorities, business & tourism development agencies positive and supportive about the proposed project
- ❑ Objectors views noted but could be overcome
- ❑ Significant up front costs required – will require support and involvement of local and national agencies
- ❑ Operator interest in running this service is evident
- ❑ Collaboration required between two local authorities to coordinate planning permissions and the next stages of project:
  - Environmental Impact Study will be required
  - Detailed consultation process with local residents, planners & potential funders
  - Detailed engineering study for both landing sites

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(E.&O.E.)