Proposed Modified Timetable for the Belfast – Dublin Enterprise Service

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Briefing Note on the IE Timetable Consultation to the Committee for Regional Development

prepared by

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1. The (November 2015) Irish Rail Draft 2016 Timetable Proposals: A Harbinger of Failure

In November 2015 Iarnród Éireann (IE) (Irish Rail) published proposals for a modified timetable for train services into and through Dublin Connolly station. This is the terminal for the Belfast – Dublin Enterprise service. The proposed timetable was issued for public consultation within the Republic of Ireland with a submission deadline of 8th December 2015.

The proposed changes to the timetable provide for introduction of fixed interval services for DART services with 3 trains per hour for Howth and Malahide trains with an even interval timing giving 6 trains per hour (10 min headway)between Howth Junction and Dublin Connolly (and beyond).

The new timetable incorporates slower run times for most trains as illustrated for peak hour arrivals in Dublin in Table 1. There are likely to be consequences for the number of train sets required with knock on effects on O&M costs.

TABLE 1. RUN TIMES FOR TRAINS ARRIVING AT CONNOLLY 07:30-09:30 MF (mins)			
SEECTION	**NOW**	**PROPOSED**	**DIFFERENCE**
Howth Junction – Connolly all stns	15	16	+1
Malahide –Connolly all stns	24/25	25	0/+1
Dundalk etc fast/semi-fast: Malahide - Connolly	15-21	17-26	+2-+5

This additional run time would have the effect of slowing down long distance services in particular, already delayed by stopping trains south of Malahide.

Overall trains would be slower, much slower for longer distance services, in particular the cross border services, to the extent that the Enterprise would no longer represent an attractive and competitive alternative to coach let alone car. In fact the service would be slower than at any time since before 1947 with most trains running at average speeds similar to the steam powered service introduced in 1947 (Table 2).

Passengers on the two early morning services ex Belfast (06.50 and 08.00) would suffer most with overall journey times extended by 12 minutes and 15 minutes respectively. Average speeds between Dundalk and Dublin would fall from 85 kph to 74 kph and from 110kph to 87kph respectively and between Drogheda and Dublin speeds would fall from 78kph to 68kph for comparable services.

TABLE 2. TIMETABLES AND JOURNEY TIMES/SPEEDS FOR TRAINS ARRIVING AT CONNOLLY 07:30-09:30 m-f 1968-2016 (plus 1947 Enterprise morning service for comparison)								
TIMETABLE YEAR	**1947**	**1968**	**1999/2000**		**2015**		**2016 (draft)**	
Station								
Belfast (Central)*	10.30	8.00	6.55	8.00	6.50	8.00	6.15	8.05
Portadown		8.30	7.23	8.27	7.23	8.33	6.51	8.39
Dundalk		-	8.00	-	8.02	9.12	7.30	9.19
Drogheda		-	8.23	-	8.24	-	7.54	9.41
Dublin (Connolly)	12.45	10.10	9.00	9.45	9.04	10.00	8.41	10.20
Belfast – Dublin Journey Time (mins)	135	130	125	105	134	120	146	135
Belfast – Dublin avg. speed KPH	***80***	***83***	***87***	***105***	***82***	***92***	***75***	***82***
Dundalk –Dublin Journey Time (mins)			60		62	48	71	61
Dundalk –Dublin avg. speed KPH			***88***	***110+*****	***85***	***110***	***74***	***87***
Drogheda –Dublin Journey Time (mins)			37		40		47	
Drogheda –Dublin avg. speed KPH			***84***	***c.100***	***78***	***n/a***	***68***	***80***

*Great Victoria Street prior to 1976 **Estimated

Such a timetable would represent the end of a competitive cross border InterCity rail service after 68 years of the Enterprise service.

Patronage would fall, revenue would drop and if the service between Belfast and Dublin is to be kept going it would require an increase in subsidy payments as the revenue yield of the service would drop yet further from its already low base. The latter reflects the slowing down of the service operating today by 15 minutes since 2000, even as road journey times have been reduced by at least 30 minutes.

The 2016 draft timetable would add 30 minutes to the rail journey time compared to 2000. Moreover, IE's proposals as tabled would defacto prevent any effective improvement to the service's journey time even in the longer term in the absence of very substantial complementary investment south of Drogheda.

The intervention of the Committee for Regional Development, with respect to its role advising and assisting the Northern Ireland Executive's Minister for Regional Development, has raised awareness and concerns about the potential impact of the proposed changes to the timetable among rail users as well as business and other stakeholders in Northern Ireland. As a result of its efforts and those of Northern Ireland Railways (NIR) the proposed changes that Iarnród Éireann (IE) (Irish Rail) intended to introduce from January 2016 are being subject to renewed scrutiny and discussion between the two rail administrations and possibly the responsible government departments in both jurisdictions. However, concern remains over the possible changes to the service given the domestic political and regulatory pressures Éireann (IE) (Irish Rail) is facing.

This briefing note is intended to set the current situation in context as well as setting out the potential opportunities that exist for a major improvement to the rail service in the Belfast –

Dublin Corridor and between Dublin and other major centres in Northern Ireland north and west of Belfast, including Antrim , Ballymena, Coleraine and Derry/Londonderry. It encompasses:

- **The Cross Border Enterprise Rail Service: The Historical Context**
- **Major Investment in the Enterprise: The 1997 Upgrade Programme**
- **The Cross Border Rail Service: 1997 -2015**
- **The Cross Border Enterprise Rail Service: Options for Future Railway Investment in NIR and the Cross Border Enterprise Service**
- **Addendum: Trans-frontier planning for high speed rail; lessons from the 1989 - 1997 Belfast-Dublin study and Investment Programme**

It must be stressed that there are significant barriers to realising the opportunity as follows:

- **Political**
- **Regulatory and control – skills and leadership weaknesses**
- **Finance**

The Committee for Regional Development has the potential to play an important leadership role in securing a rail service fit for the 21st Century, one that would bring very significant journey time improvements to more than one third of the population of the Island of Ireland, stretching from Derry/Londonderry as well as Belfast and south of there to Dublin and locations south and west of Dublin.

Target shortest journey times for journeys to/from Dublin within 10 - 15 years should be:

- **Belfast – Dublin: 1 hour 10 - 1hour 15mins**
- **Antrim – Dublin: 1 hour 40 minutes**
- **Coleraine – Dublin: 2 hours 15 minutes**
- **Derry/Londonderry – Dublin: 2 hours 50 minutes - 3 hours**

2. The Cross Border Enterprise rail service: The historical context

'Enterprise', the brand name for the Belfast to Dublin train service dates back to a time when the then privately owned cross border railway company, the Great Northern Railway (Ireland) (GNRI), despite its financial problems and asset challenges, was still capable of demonstrating entrepreneurship and innovation. On 11 August 1947, Ireland's first non-stop train of more than 100 miles left Belfast Great Victoria Street destined for Dublin Amiens Street, later renamed Dublin Connolly. The 2hours 15 mins timing was not particularly remarkable given that interwar trains had achieved journey times of in 2 and a half hours with five stops, including lengthy customs examination. It was only at the end of 1992, that Customs checks were abolished entirely.

However, in the austerity period after World War Two the non - stop service was an achievement offering a service on a par with elsewhere in the United Kingdom and markedly better than any other services in Ireland, North or South. A second, Dublin based "Enterprise" began in 1948. In October 1950, the Belfast based "Enterprise" was extended to Cork. The through service ceased in June 1953. In the meantime the GNR (I) had effectively gone bankrupt and was replaced as an effectively nationalised undertaking, the Great Northern Railway Board (GNRB), jointly owned by the Governments of Northern Ireland and the Republic of Ireland. In 1954, the GNRB ordered 24 diesel railcars and in 1957 the non-stop schedule was reduced to 2 hours 10 minutes. After the breakup of the GNRB in 1957, the erstwhile Ulster Transport authority (UTA) and Coras Iompair Eireann (CIE) each provided two trains each way.

These changes must be viewed in the context of the widespread closures of the railway system in Northern Ireland from 1950-65, including severance of all but one cross border route. These closures included closure of the second line to Londonderry via Omagh. The Figure below illustrates both the geographical pattern of closures and also the pace of withdrawal.

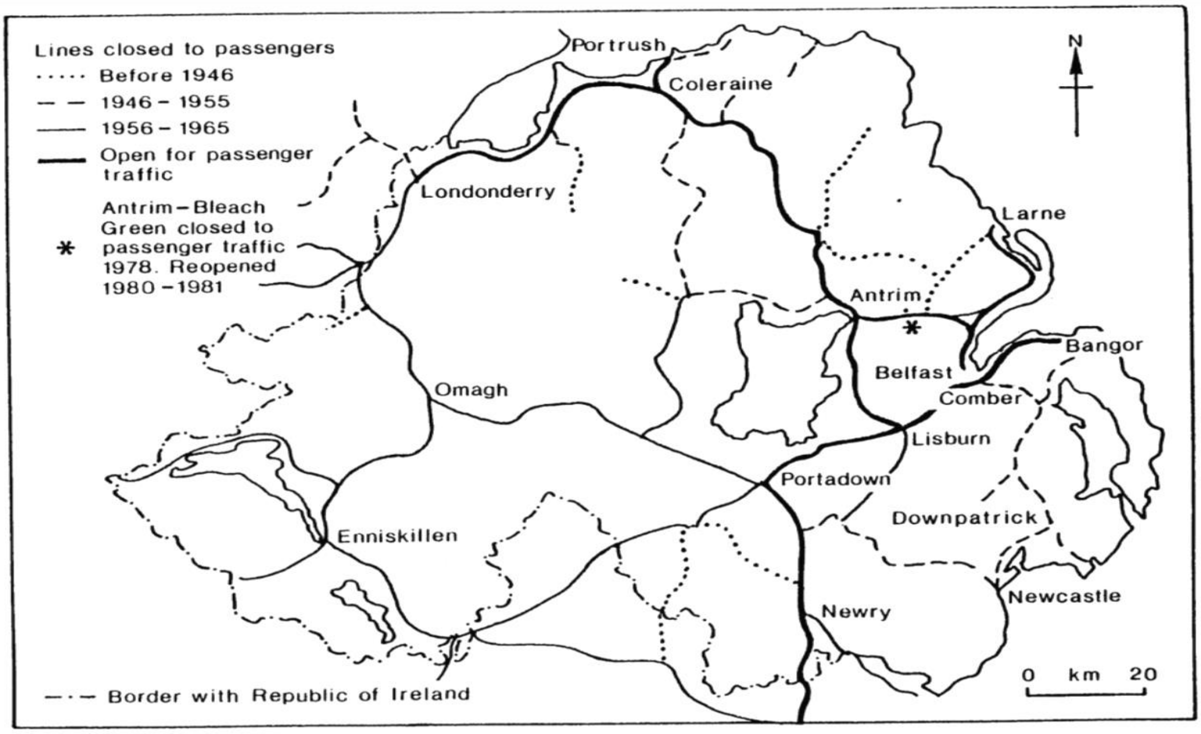


FIGURE 5.23 RATIONALISATION OF RAIL PASSENGER SERVICES IN NORTHERN IRELAND

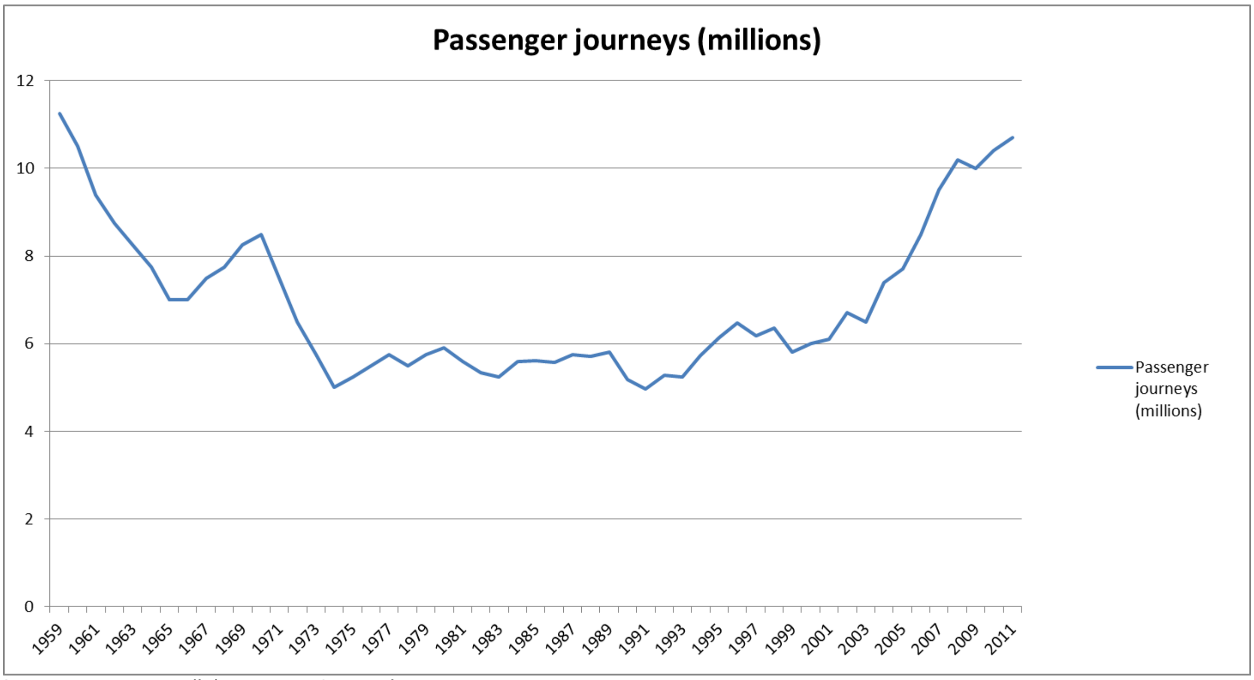
Source: Author

In 1967, the UTA announced an intention to single the track between Portadown and the Border. This produced an immediate outcry from both CIE and the Irish Government, arguing this was incompatible with an anticipated rise in cross border passenger and freight traffic following the coming into operation of the 1965 EFTA Free Trade Agreement. It would restrict operations and reduce. Ultimately agreement was reached between both railway companies and the Northern Ireland and Irish Governments such that singling was not implemented, it being anticipated this would reduce reliability and flexibility as well as capacity for improvement.

In 1969/70 NIR, with funding from the Northern Ireland Government, invested significantly in a new purpose design train as its contribution to the jointly operated service. Belfast Central became the northern terminus in 1976 and has remained so even after Great Victoria Street reopened in 1995. The 1970 train was superseded with the arrival of more powerful locomotives in 1981 - 84. Additional second hand coaches were also acquired from British Rail. By the late 1980s, the service was increased to six Belfast to Dublin trains each way: four NIR and two CIE services each way.

NIR was formed at the beginning of the outbreak of 'the Troubles' in 1968/69. Overall rail patronage dropped dramatically during the first few years of the Troubles by more than 40% before stabilising at between 5.5 and 6 million journeys over annum for the next twenty years, during a period when the railway and in particular the cross border line and service was subject to sustained terrorist attack. Research undertaken by the author of this briefing paper clearly demonstrates the profound effect of civil unrest and terrorism on rail and bus travel and services in Northern Ireland (see below).

NI Rail Patronage 1959 - 2011



Sources: NIR, Translink, DRD, DOE, Author

Disruption to Rail Services due to Bomb Attacks and Incidents (1975-1980)

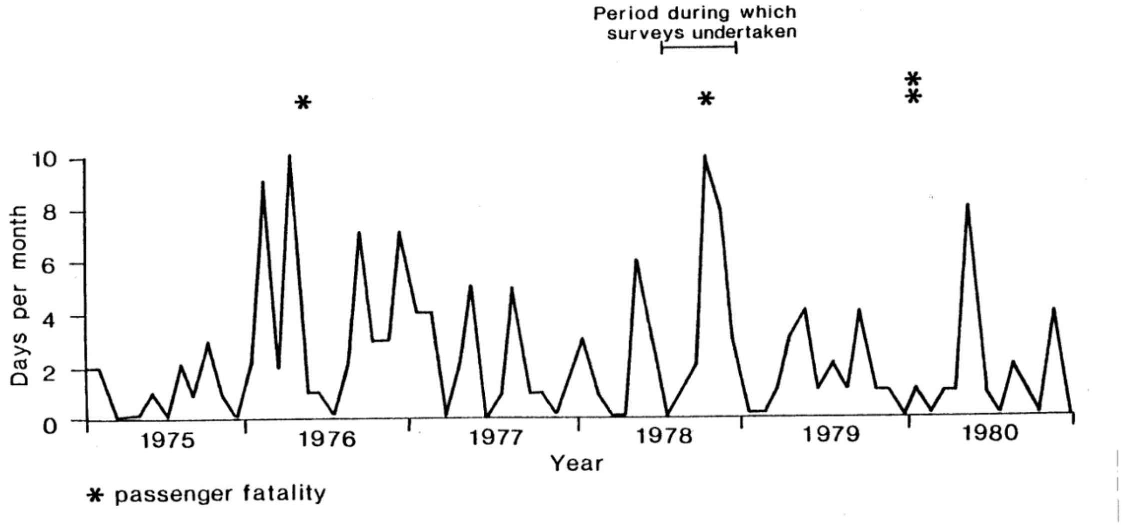
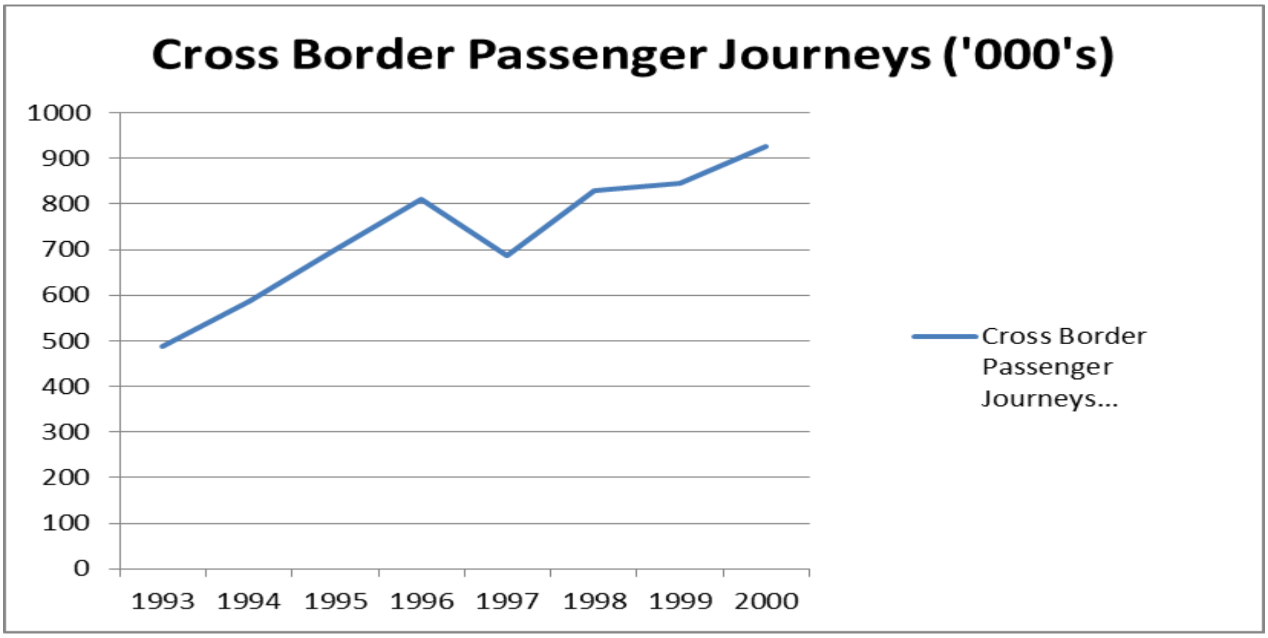


FIGURE 5.22 DISRUPTION TO RAIL SERVICES CAUSED BY BOMB ATTACKS AND OTHER INCIDENTS (1975-1980)

Source: Author

Throughout the next thirty years, NIR was faced with an ageing infrastructure, much of which was in need of modernisation and rising operating losses. However, in the 1980s and 1990s, three major projects were undertaken with 75% EC funding e.g. Cross Harbour Rail link, the new Great Victoria Street Station and the upgrade of the Belfast to Dublin line.

As the level of civil unrest tended to diminish in the run up to the Good Friday Agreement there were already signs of recovery in cross border patronage, reflecting both increased confidence on the part of the travelling public and the initial impacts of the major rail infrastructure projects implemented during the early to mid-1990's including the Cross Harbour Rail link, the new Great Victoria Street station and the upgrade of the Belfast to Dublin line (see below).



Source: CSO

3. Major investment in the Enterprise: The 1997 Upgrade Programme

In order to improve their competitiveness and demonstrate greater value for money with respect to the Belfast-Dublin route, both state owned railway companies in Ireland came together in 1988/89 to draw up a development strategy for the improvement of their joint passenger and freight operations in line with the new initiative of the railways of the European Community for the development of a European high speed network.

Introduction of the new Enterprise services in 1997 represented culmination of a planning process which was initiated in early 1988 but which has its origins much earlier. In response to anticipated competitive pressures and the financial challenges facing NIR in the late 1980s R. P. Beattie, Chief Executive of the Company at that time, wrote to his opposite number at CIE, subsequently Managing Director of Iarnród Éireann's (IE), calling for the development of a joint plan for the future development of the route. This was accepted, while the Boards of CIE, by then the holding company for CIE rail and road operating subsidiaries, and NIR also agreed in principle on a joint approach to the European Community for assistance in funding any programme of investment.

The terms of reference drawn up for the joint study set as their overriding objective the determination of the best investment policy for the cross-border rail network. In order to achieve this goal it was recognised that both companies had to develop a clear strategy encompassing the development of their joint passenger and freight operations, bearing in mind trends in the market-place and anticipated changes in the pattern of competition.

From the outset it was intended that the study was to be undertaken by an internal, fully integrated team of officers from both railway companies. This Study Group reported to the Chief Executive of NIR and the Managing Director of IE who in turn with the senior officers reported to their respective company boards.

The Study Group consisted of a number of attached personnel on a semi-full-time basis as well as other officers with specialist skills and experience as and when required. Those officers from one company most directly involved in the development of the joint plan would have direct access to information from the partner railway. A total of eight investment options (including the 'do-minimum' scenario) were drawn up for consideration. These were designated:

Option 1. 'Do-minimum': 3 train sets; 6 services each way each weekday; selected single line operation on cross-border section of route, line speed 115 km/h (145 km/h from 1993 (north of border) and 2003 (south of border); **journey time savings 15 minutes from 2004**; possible reduced reliability with single track.

Option 2. As for ' do-minimum ' with completion by 1995 and an enhanced service frequency of 8 services each way per weekday; line speed 145 km/h; **journey time savings 15 minutes from 1995**; possible reduced reliability with single track.

Option 3. As for Option 2 with 4 sets in operation offering 9 trains per weekday in each direction; line speed 145 km/h; **journey time savings 15 minutes from 1995**; possible reduced reliability with single track.

Option 4. Retention of double track throughout; 3 sets in operation offering 9 trains per weekday in each direction; line speed 145 km/h; **journey time savings 15 minutes from 1995**.

Option 5. As for Option 4 with selected track realignments including Portadown and Dundalk line speed 145 km/h; **journey time savings 20 minutes from 1995.**

Option 6. As for Option 4 (retention of double track, 3 sets in operation offering 9 trains per day) with electrification, line speed 180 km/h; **journey time savings 31 minute from 1995.**

Option 7. As for Option 5 (retention of double track and related realignments, 3 sets, 9 trains per day) with electrification line speed 180 km/h; **journey time saving 36 minutes from 1995**.

Option 8. Retention of double track with new direct line from Moira to Tandragee with electrification (3 sets) line speed 180 km/h; **journey time savings 49 minutes from 1995**.

Each of the options provided for introduction of new rolling stock. Option 2, while almost identical in its constituent elements to Option 1, resulted in significant cost savings reflecting the opportunities for 'pooling' resources which integrated planning of the cross-border service would afford. The estimation of option costs, both capital and recurrent, called for detailed investigation. *In addition, the study team developed a state of the art suite of passenger demand forecasting models and other tools and designed and implemented an unprecedented programme of surveys of cross border travellers by road and rail reflecting a* stratified sampling strategy. This encompassed on-train surveys and cross-border car users, screened near the border with assistance of the Garda Síochána with those of interest participating in the survey. In the region of 2000 people were interviewed.

The recommendations of the joint study provided for a **50%** increase in frequency and a **20** minute saving in journey time for passenger services **- 1 hour 35 minutes for non-stop trains**. These would continue to be diesel powered and the improvements were to be made possible by large scale track re-laying, signalling improvements and other infrastructure works. The latter also provided for improvements in the capacity of the route to accommodate changes in the dimensions of rail freight vehicles. **The project was to be completed by late 1997. (This was achieved).**

The study group sought guidance and direction of their respective company boards with a view to approval in principle for the preferred Joint Development Strategy and authority to proceed with a joint application for EC funding. The plan was adopted by NIR's board in the spring of 1989. Delays however, were experienced in the adoption of the plan by the IE and CIE boards. In March 1989 the Irish Government submitted a National Development Plan to the European Commission which set out the structural measures it proposed to implement over the five year period 1989-1993. No allowance was made in this plan for any proposed cross-border rail investment. In contrast a key feature of the Regional Plan submitted to the EC by the Northern Ireland (NI) authorities was the support given to the upgrading of the cross-border rail link. However, it was emphasised that the viability of the project depended on complementary investment within and by the ROI. Approval of the projects would be conditional upon such investment being agreed by the Irish authorities.

Following completion and submission of the plan four reviews of that study were commissioned by the governments in both jurisdictions and NIR. With three reviews completed the status of the investment was still uncertain at the beginning of 1991. However, prompted by disquiet among business interests, opinion formers and the public at large over the apparent lack of progress with the scheme in the Republic, in early 1992 a fourth study was requested by both the UK and Irish Governments. In effect, the fourth review included all of the original investment options plus a closure option. This fourth study endorsed the original study methodology and findings and even though the government appointed consultants subsequently assumed a reduced benefit stream compared with those obtained both by the original study. Accordingly, three years after the completion of the original study and after four reviews both governments announced their backing for the project. The service however, continued to be plagued by bomb scares and bombing with up to 200 days of disruption annually at the peak. It was an act of some faith therefore when, in April 1992, the British and Irish Governments announced an upgrade involving renewal of track and signalling and a new fleet. After 1994, the Troubles subsided and traffic began to rise, even during the disruption caused by the upgrade.

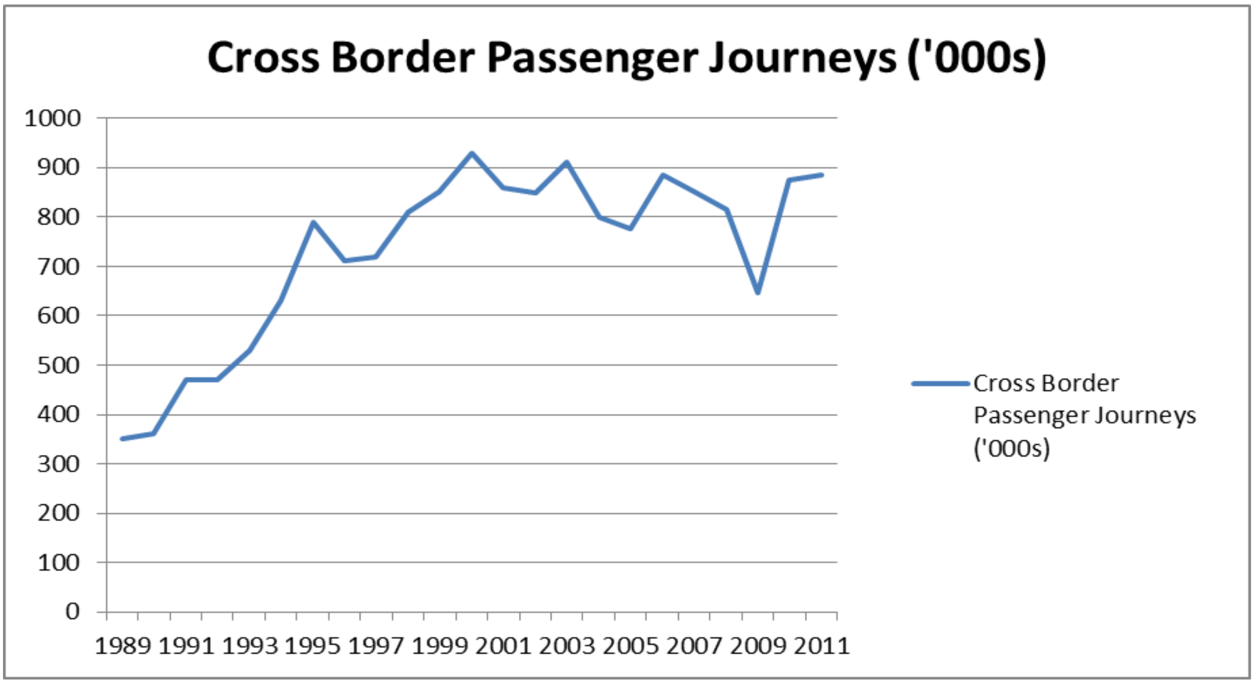
1997 saw introduction of a wholly revamped and upgraded rail service operating 8 times per weekday between Belfast and Dublin as part the designated 'European High Speed Rail Network'. While formally adopted as part of this network it shares, in common with many other rail routes so designated, the feature that it is not a high speed rail line in the manner understood in much of Europe, with speeds limited to 145 km/h even after improvements had been made. Although not a truly high speed route the investment equivalent to more than £300 million in current prices represented a significant improvement on the service then obtaining not only in terms of journey time but also in frequency and quality of rolling stock.

By 2000 the fastest journey time had been reduced to 1 hour 45 minutes. A dedicated fleet of locos and carriages is owned jointly by NIR and Iarnrod Eireann. ***(The 20 year old carriages and the locomotives are the assets that have just gone through a major refurbishment programme).***

This scale of public funding (including EC/EU funding) during that period of direct rule was without precedent and it is worth pointing out significantly surpasses the levels of investment in rail since the re-establishment of devolved government over an equivalent time period. However, it is true to say that the same funding mainly involved investment in new infrastructure or upgrading of existing lines and was insufficient to cover replacement of all outworn assets.

4. The Cross Border rail service: 1997 -2015

Initially passenger journeys continued to increase reaching at their peak just fewer than 1 million journeys per annum by 2001-2002. However, while passenger numbers have continued to increase considerably on the domestic Northern Ireland rail network the reverse is true for the Belfast - Dublin Enterprise service. **Over the 10 year period to 2011/12 cross-border passenger numbers fell by 22%, according to the DRD's own figures although the estimates differ somewhat by source *(Differences in estimate between the DRD and the CSO reflect a change in the definition of cross border passengers during the last ten years compared to earlier periods).***



Source: CSO

This decline may be a consequence of a number of factors including;

- the loss of patronage due to the Malahide Bridge collapse when a bus substitution was in place between Drogheda and Dublin;
- the economic conditions after 2008;
- the significant improvements in road infrastructure over the last several years; and
- the emergence of the most frequent and fastest long distance coach operations on the Island of Ireland and Great Britain.

In addition and unusually for Ireland, "Enterprise" locomotives were intended to provide train heating and air conditioning, lighting, this use of the engines for head end power contributed significantly to long standing reliability problems with the service when it was introduced. This continued for many years until a technical solution was found to address the problem.

Policy Context for the Railway Network and Committed Investment to 2015

During the late 90's concerns remerged about the financial performance of the railway system. The report on "The Future of the Railways Network in Northern Ireland" produced by the Railways Task Force (RTF), itself set up by the then Regional Development Minister, set the policy direction for railways investment until 2007. The recommended approach (the Consolidation Option) prioritised new investment on the more heavily used lines that were viewed as having the best opportunities for passenger growth. The Regional Transportation Strategy 2002-2012 confirmed the RTF proposals and set a target to increase patronage by 60% by 2012 on the local network. In 2007, following a further review the Northern Ireland Executive lifted the restriction on infrastructure investment on the line north of Ballymena.

The focus of investment therefore during the period since 2000 has been to keep all existing lines open and to procure additional new trains to enhance services on the Bangor to Portadown, Belfast to Larne and Belfast to Londonderry routes. This has proved to be both a prudent interim strategy as well as providing the basis for a successful recovery and growth in rail use on the domestic network.

Between 2011/12 and 2014/15, the Northern Ireland Executive was committed to provide capital investment of £174 million for the railways. The current strategy for rail Northern Ireland reflects a commitment to keep existing lines open and procurement of additional rolling stock to facilitate a 50% increase in the frequency of the main domestic rail services. The main timetable enhancements have been on the Belfast to Coleraine route - hourly timetable - and on the Belfast to Whitehead route. The main projects which have and are being supported over this and subsequent period include:

- 20 new 3-car trains.
- A new train care facility.
- Platform extensions on the railways network.
- Funding is being provided to relay the line between Coleraine – Londonderry.

A key objective of the recent and current programme of investment has been to consolidate the network to reverse the decline in passenger numbers. The success of the strategy overall is noted with passenger journeys on local services having rose from 5.8 million in 2000/01 to just under 10 million in 2011/12 representing a growth of 74%, well above the target set in the strategy that emerged from the work of the Rail Task Force in 2000. Growth of the domestic services has continued throughout the recession.

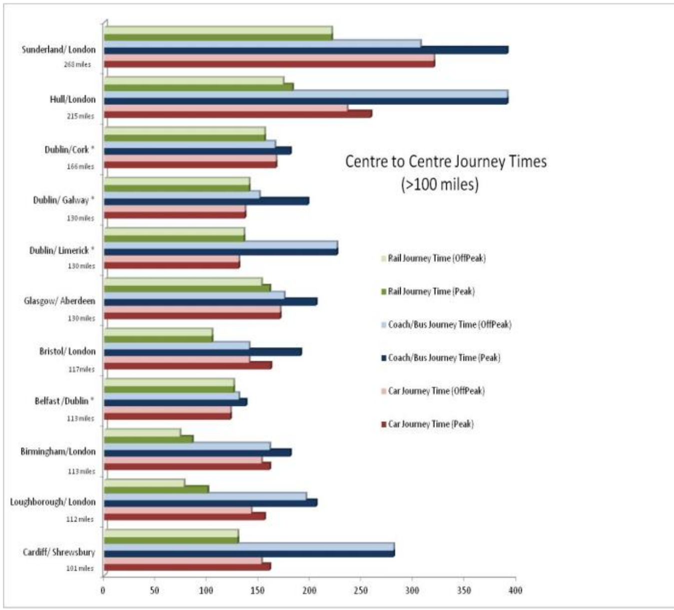
The same strategy however, has overseen a dramatic decline in the performance of NIR's *Flagship Enterprise* cross border rail service, notwithstanding the substantial investment made in mobile and fixed assets during the early to mid-1990's. It is the contention in this paper that the cross border rail service over the last decade has performed worse than any other major mainline in the UK or Ireland. The combined effect of the massive improvements in the road serving the corridor and the deterioration in the speed of the cross border rail services within Northern Ireland during the last decade has made rail largely uncompetitive. This together with the economic recession affecting both jurisdictions since 2008/9 have been the key drivers in the 20-25% fall in patronage since its peak.

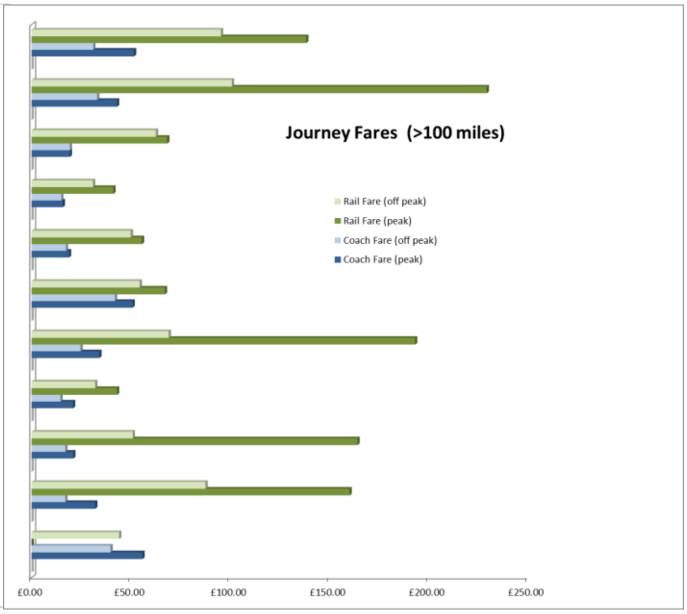
5. The Cross Border Enterprise rail service: Current challenges

How does performance of the Enterprise Cross Border Rail Service compare with other routes In Britain and Ireland?

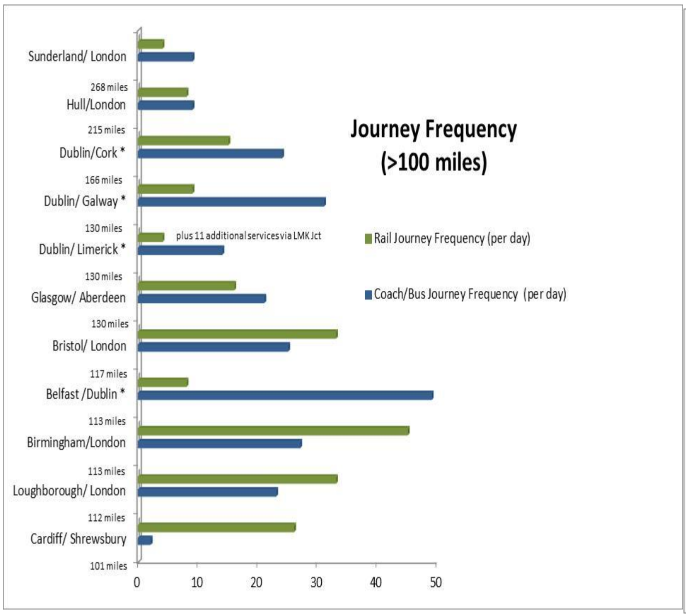
The relative lack of competitiveness of the Belfast – Dublin service is demonstrated by comparisons with road and coach alternatives in the corridor and with other long distance services in Britain and the Republic of Ireland.

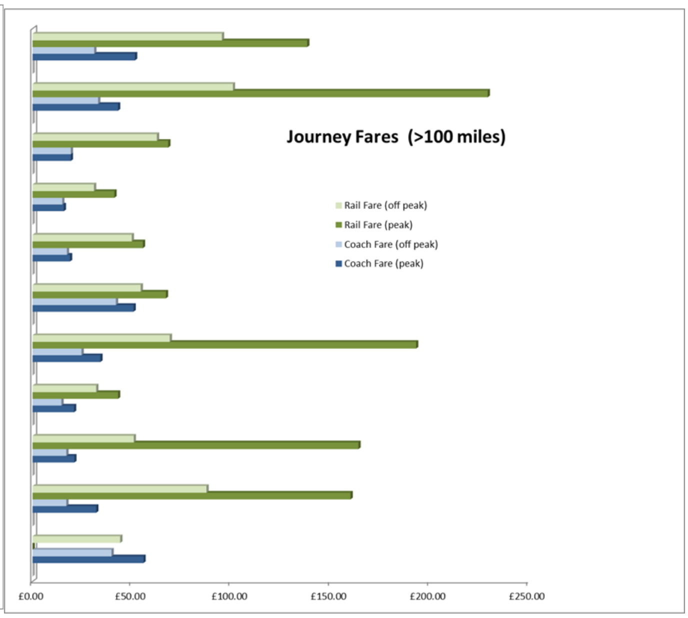
Transport Mode Competiveness (>100 miles) Journey Times and Fares





Transport Mode Competiveness (>100 miles) Journey Frequency and Fares

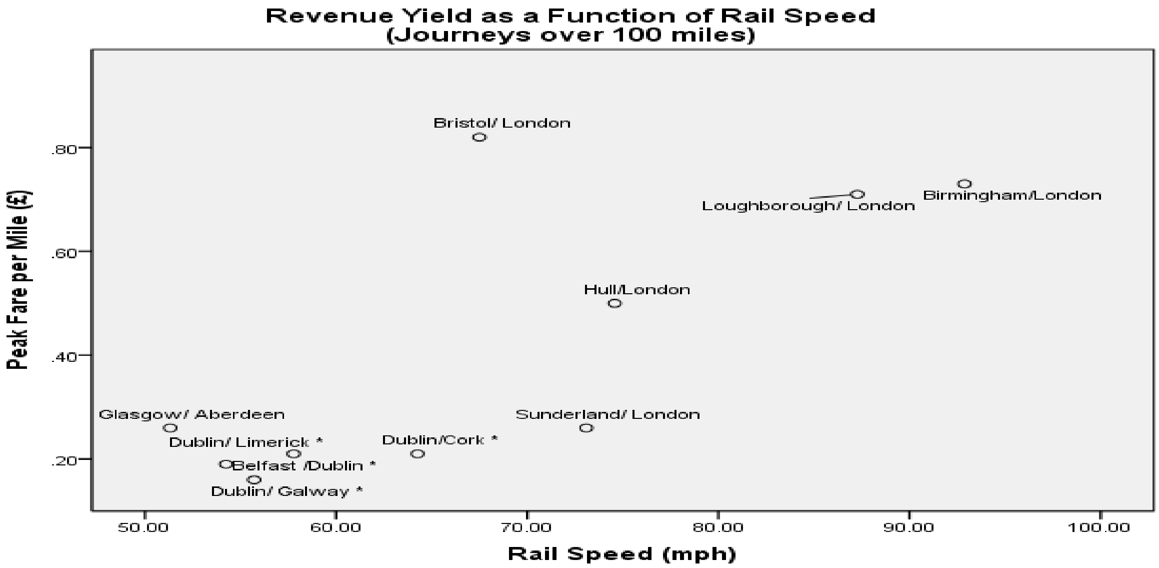




Sources: NIAO/Author and National Rail, Translink, Irish Rail, GB Rail Operator Journey Planners/Telephone Call Confirmations, UK and Ireland Coach Operator Journey Planners/Telephone Call Confirmations and Highway/Route Planners

This lack of competitiveness is reflected in the low potential revenue yield generated for the route and the subsidy requirement that entails.

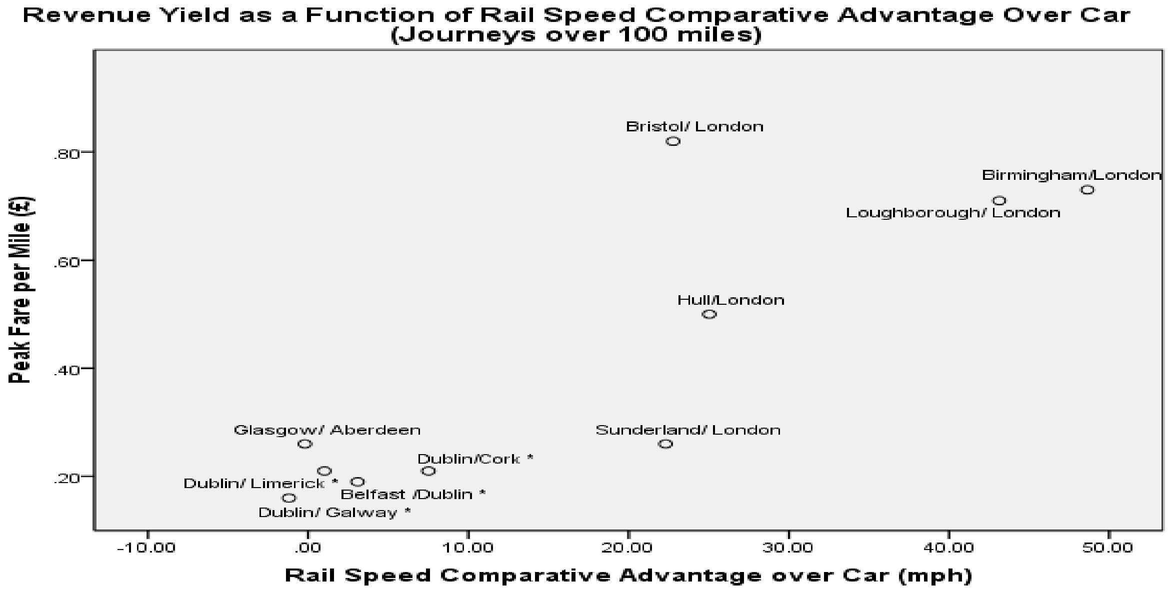
Revenue Yield as a Function of Rail Speed (Journeys over 100 miles)



Source: NIAO/Author National Rail, Translink, Irish Rail, GB Rail Operator Journey Planners, Operator Timetables

This shows that the Belfast / Dublin revenue yield is second worst in class in comparison to other benchmarked journeys.

Revenue Yield as a Function of Rail Speed Comparative Advantage over Car (Journeys over 100 miles)



Sources: NIAO/Author National Rail, Translink, Irish Rail, GB Rail Operator Journey Planners, Operator Timetables

This shows that the Belfast / Dublin revenue yield is second worst in class in comparison to other benchmarked journeys.

As a comparator levels of service offered on Irish Rail's Dublin - Cork line, not one of the faster routes benchmarked, is equivalent to a Belfast- Dublin rail time of 1 hour 35 – 1 hour 45 minutes including limited stops.

Current speeds achieved on selected non electrified intercity routes in GB suggest a target of 75-80 minutes between Belfast and Dublin is achievable in the medium/longer term for non stop services and should be set for end to end journey times.

It is the contention in this briefing note that the performance of the cross border rail service over most of the last ten to fifteen years reflects downgrading in the importance attached to the service by the Irish Government and the Northern Ireland administrations, particularly since the end of Direct Rule in Northern Ireland and the establishment of the devolved administration at Stormont. This has also shaped the priorities of Irish Rail and NIR as they have come under increased political scrutiny and regulatory control by their respective sponsoring government departments and agencies.

In the case of Iarnród Éireann's (IE) its "2030 Rail Network Strategy Review", on future investment in Ireland's Inter City Network and regional rail lines beyond 2020 identified the need for major investment to electrify the follwing rail corridors:

• Dublin – Cork;
• Dublin – Galway; and
• Dublin - Limerick.

IE's strategy document claimed there were relatively poor prospects for growth in the Dublin-Belfast corridor and thus no substantive case for major investment on the cross-border rail route.

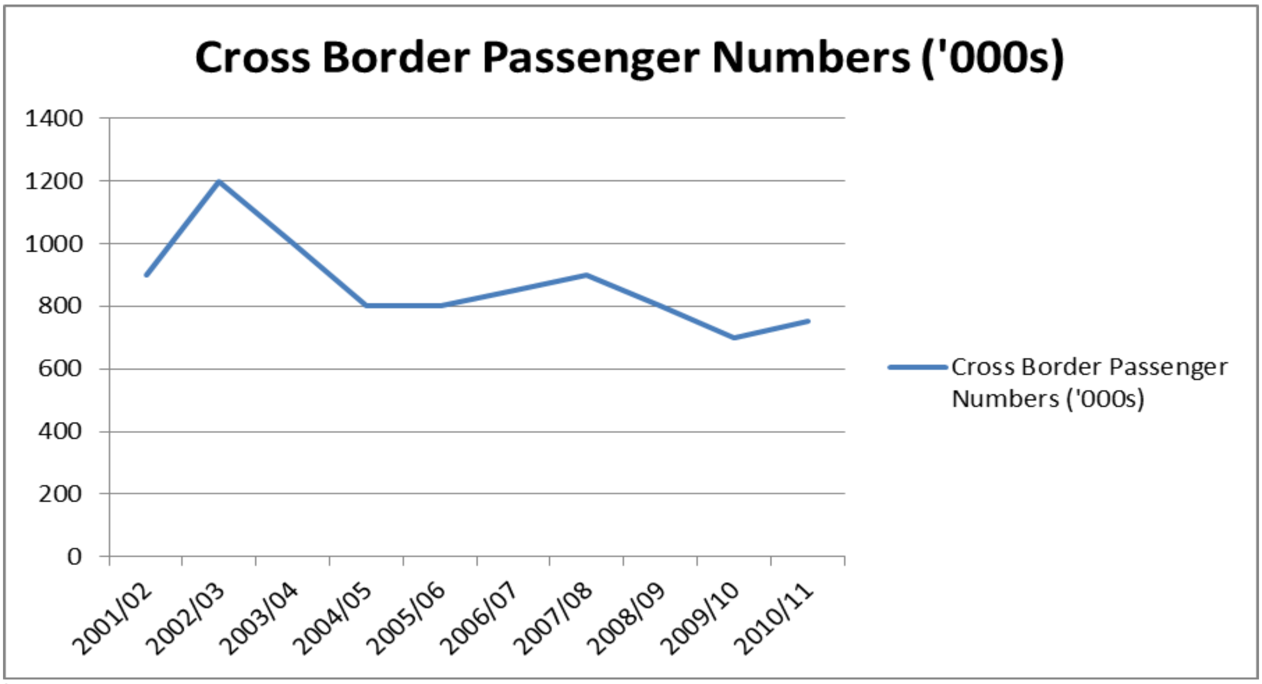
It must be stressed however that the market assessment of the route that informed Irish Rail's strategy was based on forecasting tools that are at best questionable in terms of their fitness for purpose. Important questionmarks concerning the forecasting methodology, as it applied to cross border travel, should be noted.

Iarnród Éireann's (IE) strategy therefore suggested only modest expenditure but also made reference to *'a need to remove speed restrictions on the line between Belfast and the border*. This is reflected in slower speeds within in Northern Ireland as until this year* NIR has had insufficient finance available to undertake key maintenance/renewal spending with the result that temporary speed reductions imposed more than 10 years ago on grounds of safety still remain in force. The effect is reflected in the operating speeds of trains on the respective sections north and south:

Belfast –Dundalk	**service speed 81kph**	**(maximum)**
Dundalk – Dublin	**service speed 106 kph**	**(maximum)**

In addition, both the Irish Government and the Northern Ireland Executive have invested very large sums of money in creating a road infrastructure between Belfast and Dublin to motorway/dual carriageway standard throughout, **sections of which would fail to justify funding if subject to economic appraisal elsewhere in the United Kingdom.**

The combined effect of the massive improvements in the road serving the corridor and the deterioration in the speed of the cross border rail services within Northern Ireland during the last decade has made rail largely uncompetitive. This together with the economic recession affecting both jurisdictions since 2008/9 were the key drivers in the 20-25% fall in patronage from its peak during the subsequent decade.



Source: DRD

*€9.6 of EU funding for rehabilitation of tracks between Knockmore and Lurgan under the Connecting Europe Facility was announced in July 2015 following discussions between Minister Danny Kennedy and European Transport Commissioner Violeta Bulc.

There have been reliability improvements in recent years, even while the train service slowed further. The route has exhibited a modest increase in ridership up 19% by 2014/14 since the low point in 2009/10. Nevertheless, in the longer term if substantially more people are to be encouraged to opt for rail travel on the Belfast – Dublin service, it will require significant improvement in rail journey time (and services in conjunction with speed improvements), particularly relative to travel by car.

European Initiatives and Interoperability

Consideration also needs to be given to the implications of EU Directives and EU Regulations, including arrangements governing interoperability on the route. Interoperability requires compatibility between the equipment of NIR and Irish Rail to allow the through-running of trains on both sides of the border. However, this is something the railways in Ireland are well used to and have had to face ever since partition. The enhanced Enterprise service introduced in the late 90's is an example of pooling of assets that anticipated many of the more recent examples of joint operations increasingly a feature of the continent.

The EU is central in setting Technical Standards for Interoperability (TSIs) to ensure technical compatibility of rolling stock with infrastructure and supporting systems and how these must be taken into account by both NIR and Irish Rail in planning for new railway investment. This is something both companies have been well versed in for more than 50 years. A key TSI which may have significant financial implications for both railway companies in the future is the requirement to adopt the European Rail Traffic Management System (ERTMS). However, the DRD has enjoyed considerable discretion in relation to introduction of the Interoperable process.

Northern Ireland's rail line between the border and Larne is also a long designated part of the Trans European Transport Network (TEN-T). The EU has published updated proposals for the Trans European Transport Network (TEN-T) with the Connecting Europe Facility (CEF) as its central funding instrument.

There have been various EU Directives making up the first railway package. Its purpose was to revitalise railway transport by gradually opening it to competition at Europe-wide level. The market for rail freight transport has been completely opened since 2007 and for international passenger services since January 2010. Following on from the second railway package, the main act of the third railway package was to promote open access for all international passenger services, including cabotage, across the railways of the EU. European legislation has tended to be reflected in the domestic legislation of individual countries of the EU.

The fourth railway package is a set of planned changes to rail transport regulation in the European Union. It covers standards and authorisation for rolling stock; workforce skills; independent management of infrastructure; and the liberalisation of domestic passenger services in an attempt to reduce European rail subsidies. The "compliance verification clause" could allow regulators to place sanctions on parts of a vertically integrated rail business which place obstacles in the way of competitors trying to provide services on their network; this would improve competition. Responsibility for authorising rolling-stock to use a network would be shifted away from network owners and towards the European Railway Agency. In 2015, the key technical and political elements of the package were accepted by EU transport ministers. As of December 2015 the fourth railway package had been adopted by the European Commission but had not yet been approved by the European Parliament.

Until recently both Northern Ireland Railways and Iarnród Éireann enjoyed derogations in relation from having to face possible competition to provide cross border services. However, in recent times the Irish Government indicated that it would encourage private companies who may be interested in running rail services between the Republic of Ireland and Northern Ireland to come forward. The call comes after the Irish Government confirmed that it would not seek an extension to derogation from EU law which meant Ireland had not liberalised its internal freight, or international passenger rail services. According to the Irish Government the move means that cross-border rail services – considered by the EU to be international passenger services – could be open to commercial competitors to Iarnród Éireann and Northern Ireland Railways.

Moreover, the Irish Government decided not to seek an extension to Ireland's derogation under EU rail market legislation, to retain a single operator which regulates, operates and maintains the country's mainline rail network. A separate body has been established to determine charges for access to the railway system and how capacity should be allocated. The Irish Government sees the end of the derogation as an opportunity to "encourage greater efficiency and transparency" as well as greater competition and freer access to the rail sector.

Reforms have also been introduced relating to NIR. Under the terms and requirements of European Legislation and the recast of the EU 'First Railway Package' NIR was obliged to publish a "Network Statement" (which will include Access Charging for Irish Rail), "Route Capacity Analysis" and a "Route Utilisation Strategy" i.e. future needs/capacity/capability development of the network. Northern Ireland and the Republic of Ireland had obtained derogations from these requirements that were due to expire in April 2013.

The European Commission announced its intention to propose a "Rail Package 2012/2013" in 2011 (4th Railway package). The Package addresses unbundling, domestic passenger market opening, a possible European regulatory body, rail corridors, the revision of the rail safety directive, and the extension of the role and powers of the European Rail Agency (ERA). Future investment in rail will be taken forward in the context of EU regulations and directives.

6. **The Cross Border Enterprise Rail Service: Options for Future Railway Investment in NIR and the Cross Border Enterprise Service**

The growth in passenger numbers and improvements to the quality and reliability of domestic rail services demonstrate the effectiveness of investment in rail over recent years. While recognising that rail accounts for a very small proportion of journeys made, significant additional investment will be required to increase the capacity of the rail network and realise continued growth in passenger numbers.

Up to recently the Northern Ireland Executive had been providing capital grant to NIR at an average level of £44 million per annum. According to the Department this was a higher rate of investment than at any time over the previous decade. However, the data demonstrates other parts of the UK have and continue to spend very significantly greater sums and proportions of total transport spending on public transport (per capita), including railways in particular, after taking into account population size. This variance in spending profiles from other parts of the UK (and the Republic of Ireland) also helps to explain why the competitive and infrastructure challenges faced by NIR are so acute.

In 2011 the Department and NIR identified a number of possible options as to how available capital funding, including the cross border service might be spent over the next two decades. It was estimated that over £600 million (including the existing Enterprise operation) is required over that period to maintain the existing network to a high standard, facilitating limited continued growth in passenger numbers. Failure to implement this 'maintenance package' will result in further temporary speed and service restrictions as the condition of the network, vehicles, facilities and systems deteriorates. **This network wide spending is essential as a precursor to upgrading of the Enterprise service all other options.** Within this package greatest priority would be accorded to track rehabilitation and related infrastructure given the current plethora of temporary speed restrictions on condition grounds some of which on the Belfast to the border (Dublin) route, for instance, were introduced more than 10 years ago and have seriously eroded rail's competitiveness*.

The Department has also estimated that £460 million would be required to enable a 90 minute journey time and an hourly frequency be achieved between Belfast and Dublin excluding reciprocal funding by Irish Rail and the Irish Government South of the border. This would include electrification of the route and associated costs. It is important to recognise that the current Enterprise service has already become uncompetitive, with the slowing down of the service in the last decade due to the state of the track in Northern Ireland, extra stops and scheduling constraints particularly on approaches to Dublin and to a lesser extent Belfast. At current speeds an increased frequency would seem unjustified resulting simply in lower load factors and poorer financial performance.

The £100 million quoted as a requirement to maintain the existing Enterprise service can be questioned although it is recognised the long standing temporary speed restrictions particularly between Knockmore and Lurgan that have applied for some 10 years are an important handicap to an attractive journey time being achieved north of the border. These are at last being addressed.

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The 'case' made for electrification of the Enterprise service seems unproven and it seems highly unlikely that replacement diesel powered fleets will no longer be an option by the end of this investment period, even allowing for environmental considerations. Electrification would add substantially to the costs of any upgrade.

Modern conventional diesel trains operating elsewhere in the UK typically offer a level of performance that would enable a journey time of 90 minutes to be offered between Belfast and Dublin. This could be achieved at much lower levels of investment than the £460 million referred to above.

Moreover, a target journey time of 80-85 minutes is technically realistic with conventional rail technology and improvements to infrastructure. This could be expected to at least double passenger numbers, boost yields and increase revenue significantly more than that. As yields rose in response to a markedly more attractive service the Enterprise would be able to attract a greater proportion of car users, many of whom have deserted the increasingly uncompetitive service in the last six to seven years.

Additional Considerations
Priority should also be given to addressing constraints on the tracks between Lisburn and Belfast in addition to the section within Belfast to accessing Great Victoria Street and Central Stations. This could include potentially new third lines linking the two existing Belfast stations to permit greater timetable flexibility and faster limited stop and intercity services as well as the ability to timetable more frequent services coming into the city, as and when that becomes justified. **This would underpin realising the potential of the major Transport Hub at Great Victoria Street.**

In addition, to facilitate overall reduced journey times on the Belfast Londonderry/Derry line resources should be allocated to relieving capacity constraints on the single track between Belfast and Ballymena as well as passing loops elsewhere on the route taking advantage of the former double track formation to keep costs down.

Target shortest journey times for journeys to/from Dublin within 10-15 years should be:

- **Belfast – Dublin: 1 hour 10 - 1hour 15mins;**
- **Antrim – Dublin: 1 hour 40 minutes;**
- **Coleraine – Dublin: 2 hours 15 minutes;**
- **Derry/Londonderry – Dublin: 2 hours 50 minutes - 3 hours.**

Addendum: Trans-frontier planning for high speed rail: lessons from the 1989 – 1997 Belfast-Dublin study and investment programme

What lessons can be drawn from the 1989 plan development process outlined above for ' trans-frontier ' rail schemes? At a practical level, this study demonstrates the ability as well as the cost-effectiveness for separate railway companies to combine their resources and form joint study groups for cross-border projects. With ' out of product ' costs of not more than £25 000 in 1990 prices, the study initially yielded multi million pound investment grants from the EU and the UK and Irish governments at that time.

In ***reviewing*** such schemes it is incumbent on government or other relevant authorities to commission work from organisations with specialist skills in rail operation costings, demand forecasting procedures and investment appraisal. It is evident from the experience of this study that general management consultancies find it difficult to bring such skills to bear in such a study.

The existence of political boundaries even after the Single European Act and the Treaty of Maastricht still reduces the propensity for cross-border travel and transport significantly in many instances. The effect of this is to reduce the apparent viability of such schemes in the absence of evidence to the contrary about very significant future change in demand patterns. In the case of the Belfast- Dublin route the ' border effect ' together with the sustained terrorism focused on the cross border rail service during preparation of the business case together with the general level of political violence were the most important factors in ruling out any of the electrification options as they significantly suppressed demand for cross border travel.

The implications of ' border effects ' are twofold, namely to reinforce thinking and planning of networks on a domestic or national basis and to build in fundamental weaknesses to the concept of Trans-European Networks. This is reflected in the level of service currently proposed for many if not the vast majority of cross-border links in the European High Speed Rail Network. While at that time there were indications that the EU Interoperability Directive could lead to more coordinated planning and implementation, it was premature to forecast the extent of its impact at that point. In contrast, the joint team’s study demonstrated that a move towards consideration, planning and implementation of development strategies on an explicitly cross-border basis does enhance the viability of improvement schemes. This made possible by exploitation the synergy afforded by harmonising domestic development programmes.