

IRISH RAILWAY NEWS

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83+3+94 awaits departure on the 17:19 Great Victoria Street to Larne Harbour, 1/6/1998.

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Editorial

As is now traditional I would like to apologise for the long delay in producing an issue of Irish Railway News. Unfortunately other pressures make producing this magazine very difficult and I am presently considering other options including an internet site, although I am aware that this might not be satisfactory for many readers. Please be assured that publication of Irish Railway News will not cease without prior notification.

These are exciting and challenging times for Irish Railways with large scale investments either underway or proposed. The railway is playing an increasingly important role in transportation in the Dublin area and seems set to expand further with larger trains and more stations. There is now a real possibility of services being restored to Navan, of a new line to Dublin Airport and of an additional route across the city. The latter is absolutely vital as it is simply not practical to expect Connolly Station and the loop line to handle trains from Navan, Maynooth, Kildare, Dundalk, Drogheda, Dublin Airport, Howth, Greystones and Arklow. Bigger trains and longer platforms will certainly help but at the end of day additional track is the only solution. The proposed Luas tunnel would be far more useful as part of a conventional railway running from Maynooth to Carrickmines. Such a route would remove capacity constraints on the Maynooth line and make far better use of the Harcourt Street alignment.

Despite recent investment announcements it will be several years yet before the mainline system is returned to an acceptable state of repair. In the interim passengers on many routes will have to endure extended journey times as trains trundle along at restricted speed on bad order track. The IRMS report is a sobering document and indicates just how close the mainline railway system had come to the point of no return.

In Northern Ireland the Dublin/Belfast upgrading is finally approaching completion with work now underway on the Central Line. While the new Enterprise is an undoubted success story it has yet to deliver significant journey time reductions and is too often disrupted by equipment failures. The prospect of a new line from Lisburn to Newry mentioned in the "Shaping Our Future" is an exciting one with many obvious benefits. The reopening of the Bleach Green/Antrim line will greatly improve services from Belfast to Antrim, Ballymena, Coleraine and Londonderry although the potential for commuter operations will be somewhat limited by the absence of double track. The preservation of disused rail corridors for potential public transport use offers hope that some of the ill-advised closures by the UTA might eventually be reversed.

A. Gray - 10/6/1999



Irish Rail

(Iarnród Éireann, including CIÉ and DTI)

IRMS Report on Irish Rail Safety

International Risk Management Services (IRMS) together with Michael Hamlyn Associates, Carl Bro Rail and Merz and McLellan were commissioned in April 1998, by the Department of Public Enterprise, to conduct a Safety Study of the Irish Rail network. The study had been promised by the Minister following widespread public and political concern which arose in the aftermath of the Knockcroghery derailment the previous November. The consultants reported to the Minister in October 1998 and were critical of the both the condition of the network and the resources available to Irish Rail to maintain it. As part of the study the consultants carried out a number of inspections throughout the system and their report can be summarised as under:

- Track - “There are many areas of track which have been recently laid which are in excellent condition. Unfortunately, the application of appropriate track standards is not well understood and there are wide variations in consistency across the network. This has resulted in large sections of track being in an unacceptable condition, particularly on secondary lines.” IRMS made 8 generic and 59 location specific recommendations under this heading.
- Signalling - “A total of eight serious safety failures were exposed associated with signalling. Normally, it would be expected that no such failures would be found on this kind of inspection. A high proportion of facilities are in poor condition and much of the mechanical signalling is in an unacceptable state. A number of level crossings have inadequate train braking distances and signalling overlaps, poor road surfaces and signage and much of the equipment under the control of Telecom Éireann is in a poor state of repair.” IRMS made 38 generic recommendations and 55 location specific recommendations under this heading.
- Structures - “Formal systems of preventative maintenance or inspection appear to be absent. Many station platforms have excessive gaps between the platform and trains and several also present a risk of people tripping. Fencing is poorly maintained in many areas and control of contractors working on or close to the railway appears weak.” IRMS made 16 generic and 5 location specific recommendations under this heading.
- DART Electrification Equipment - “Generally the system is in good condition, but due to its age major works will be required in the near future to keep the system running effectively. A lack of formal maintenance procedures and electrical competence was noted. The continued use of outdated equipment to enable staff to gain access to overhead power supply lines requires immediate attention.” IRMS made 3 generic and 10 location specific recommendations under this heading.
- Rolling Stock - “The condition of the rolling stock was generally satisfactory, with no major safety concerns noted. Due to the small market, Irish Rail has to buy rolling stock to a mix of international specifications. There was little evidence that any performance commitments made during the tender process by manufacturers are contractually made. Many issues were resolved post delivery - a more formal specification might have avoided some of these problems.” IRMS made 11 generic recommendations under this heading.

The consultants also criticised the maintenance of cuttings and embankments and highlighted the seriously overgrown condition of vegetation at many locations throughout the system.

In order to provide comparative data to measure safety adequacy, assist in the prioritisation of the safety programme, and provide input for cost-benefit analysis the network was broken up into 37 different sections. Each section was then analysed using a risk model which took into account various parameters including line speed, passenger flow, train frequency, whether single or double track, whether jointed or CWR. The infrastructure risks identified by the consultants, each of which were given a specific safety inadequacy rating, were also fed into the model in order to yield statistics of predicted accident frequencies, collective annual risk¹ and individual annual risk¹ for the network. These were then compared with generally accepted international criteria. This exercise produced risk ratings which in all instances satisfied the bare minimum requirements of acceptability but which breached broadly acceptable limits by an order of magnitude in no less than 17 sections. These statistics became politically controversial when opposition politicians alleged that the results had been modified at government insistence. Earlier more damning drafts of the IRMS report were produced as evidence although the matter fizzled out after being strongly denied by the Minister, involved civil servants and the consultants themselves. (¹ *Expressed in equivalent fatalities per annum, 10 major injuries = 1 fatality, 200 minor injuries = 1 fatality.*)

Based on safety considerations alone and without taking into account the commercial benefits of improved infrastructure the consultants recommended risk reduction expenditure of £231.1m over fifteen years and safety management systems expenditure of £60.5m, also over 15 years. These expenditures assume an ongoing investment of £20m per annum in permanent way renewal giving a total spend of £591.6m over fifteen years, of which £391.2m would be required in the first five years.

The lines deemed by the consultants to pose the greatest accident risk in terms of collisions and derailments are shown in table below in order of predicted annual accident frequency.

Section	Predicted Annual Accident Rate
Connolly/Mullingar	1.16
Mallow/Tralee	0.98
Athlone/Claremorris	0.70
Ballybophry/Limerick Junction	0.62
Heuston/Cherryville Junction	0.54
Limerick Junction/Waterford	0.53
Mullingar/Carrick on Shannon	0.50

An aggregate annual accident rate of 9.8 per annum is predicted for the system as a whole due to collisions and derailments. The consultants forecast that this accident rate would result in 7 equivalent passenger fatalities and 0.5 equivalent staff fatalities per year. A further 1.5 equivalent fatalities per year are forecast to affect members of the public due to predicted collisions at level crossings. The sections calculated to pose the highest annual collective risk in terms of equivalent fatalities per annum are shown in the table below along with each section's contribution to the overall annual risk for the network as a whole.

Section	Equivalent Fatalities (per year)	Contribution to Total Risk
Ballybroyphy/Limerick Junction	1.36	18.98%
Portarlington/Ballybroyphy	0.80	11.17%
Limerick Junction/Mallow	0.76	10.63%
Heuston/Cherryville Junction	0.51	7.07%
Howth Junction/Drogheda	0.49	6.86%
Connolly/Mullingar	0.40	5.58%
Athlone/Claremorris	0.38	5.34%
Portarlington/Athlone	0.31	4.25%

The infrastructure elements contributing to the risks on the above lines are detailed in the following table which emphasises the heavy weighting which IRMS appear to have applied to signals, interlocking, point detection and track circuits.

Section % Contribution To Risk	Per Way	Signals	Interlocking	Points	Train Detect
Ballybroyphy/Limerick Junction	1.23%	50.96%	15.92%	11.88%	18.83%
Portarlington/Ballybroyphy	1.59%	45.71%	14.13%	20.99%	16.86%
Limerick Junction/Mallow	1.60%	45.36%	14.16%	21.09%	16.75%
Heuston/Cherryville Junction	1.11%	45.98%	14.36%	18.92%	17.00%
Howth Junction/Drogheda	1.27%	67.64%	12.61%	4.58%	10.05%
Connolly/Mullingar	10.33%	40.96%	19.14%	16.48%	4.46%
Athlone/Claremorris	33.04%	12.14%	6.00%	44.14%	1.44%
Portarlington/Athlone	1.56%	34.23%	11.88%	36.29%	13.29%

Some interesting statistics relating to accident rates on Irish Rail are contained within the report. During the period 1993 to 1997 there were 460 derailments, 90 collisions, 20 fires, 102 obstructions encountered, 40 train splits and 90 instances of signals being passed at danger. Many of these occurrences were in depots and did not impinge on the public. Only twelve of these incidents resulted in injury.

EU Funding, Rail Safety Investments and “The Dual Rail Initiative”

As a result of numerous delays, much of which were due to political manoeuvrings and indecision, it was finally accepted by government in May 1998 that construction of the Luas light rail scheme for Dublin could not commence sufficiently soon to qualify for EU assistance under the present programmes. It is understood that monies allocated from the 1994/99 round of structural and cohesion funding must be substantially expended by the year 2000 and that this had become a virtual impossibility as a result of the substantial revision of the scheme by Mrs O’Rourke, the present Minister. Consequentially much of the £114m EU funding originally intended for Luas was reallocated as outlined in the Ministerial announcement of 25th June 1998 which is summarised below:

- Dublin suburban Rail - Additional spending of £63m (EU component £40m) to cover the acquisition of eight additional two-car DART sets, twenty additional diesel railcars, the doubling of the line from Clonsilla to Maynooth and the lengthening of platforms to accommodate larger

trains. (These measures are essentially those proposed by the Dublin Transportation Office in its short-term action plan which, although submitted to government in June 1998, was not published until September 1998.)

- Mainline Rail - Additional expenditure totalling £26m (EU component £12m) to cover the upgrading of 63 miles of track divided between Mullingar to Carrick on Shannon (35 miles), Cherryville Junction to Kilkenny (6 miles) and Mallow to Killarney (25 miles). As a consequence of this additional investment the three sections will be CWR throughout by the end of the year 2000.
- Other public transport related provisions account for a further £33.5m of EU funding, £12m of which is earmarked for Luas planning and design work.

Coincident with the publication of the IRMS report on 9th November 1998 the Minister for Public Enterprise announced that a second Inspecting Officer of Railways was to be appointed and that some £23m was to be spent immediately to address immediate safety issues highlighted by the consultants. As noted elsewhere the IRMS consultants indicated in the final version of their report that some £590m needed to be spent on the railway system over the next fifteen years to bring safety standards up to an acceptable level. The formation of a high level task force consisting of officials from the Departments of Public Enterprise and Finance and CIÉ was also announced at this time. This group was tasked with prioritising the IRMS recommendations and reporting back to government by the end of January 1999.

Following the prioritisation of the safety measures recommended in the IRMS report, details of which appear elsewhere, the Minister for Public Enterprise, Mrs O'Rourke, announced what she termed a "Dual Rail Initiative" on 4th March. The first part of the announcement indicated that the government had approved a safety-related package of expenditure amounting to £430.6m over the five years from 1999 to 2003 inclusive. The method of funding this expenditure is unclear as although there will be an annual exchequer contribution the amount is not stated and will not be determined until after an independent review of the scope for revenue generation from CIÉ's property portfolio. In the interim CIÉ is being authorised to increase its borrowings with the promise of legislative change to facilitate this if necessary. Some funding in respect of 1999 and 2000 is already in place from EU sources and some further funding can be expected thereafter although Ireland's convergence towards average EU income means that overall assistance from Europe will be much reduced after 2000. Nonetheless the Ballina branch and much of the Westport and Sligo lines retain objective one status and thus remain eligible for maximum assistance. Ironically the Limerick/Ennis line, which is to be substantially renewed between 2001 and 2003, is outside the objective one area although most of the remainder of the route to Claremorris is not excluded. (It is possible that the Ennis/Athenry section may eventually be upgraded and reopened to passengers although whether such a proposal will be submitted for EU assistance under the 2001-2006 structural or cohesion programmes remains to be seen. The reopening of this section of line would facilitate the re-establishment of Limerick/Galway services, a move that is widely viewed as having considerable potential.)

Analysis of the five-year plan indicates that much of the proposed expenditure particularly in 1999 and 2000 is not new and was already previously authorised (see above). Nonetheless the programme is substantial and significant and if implemented as promised will see major improvements on many routes and in addition lay the foundation for rejuvenation of some marginal lines, notably Limerick/Ennis and Limerick/Waterford. The components of the plan are detailed below under the main headings.

Track Renewal

This item accounts for £187m of the total expenditure over the five-year period and will result in the renewal of 392 miles of track with CWR and concrete sleepers. Work will be divided fairly evenly over

the five years with 85 miles to be renewed in 1999, 82 miles in 2000 and approximately 75 miles in each of the years 2001-3. The programme will see the virtual elimination of jointed track on all routes radiating from Dublin including the lines to Westport, Sligo, Tralee, Waterford (via Kilkenny) and Rosslare (via Arklow). In addition large sections of the Manulla Junction/Ballina, Limerick Junction/Waterford, Limerick/Ennis and Cork/Cobh lines are to be renewed. Jointed track will also be eliminated on the Howth branch and on most of the line between Islandbridge Junction and Glasnevin Junction. Even the Waterford/Rosslare Strand line will receive attention with 1½ miles of CWR to be installed in 2001. Fuller details of the proposed renewals are detailed elsewhere.

Level Crossings

Risk mitigation measures are to be undertaken at 602 level crossings that are deemed to pose an intolerable risk to passengers, railway staff and road users. Some £88m will be expended under this heading as outlined in the table below:

Year	1999	2000	2001	2002	2003
Expenditure	£9m	£22m	£22m	£20m	£15m
No. Of Crossings	70	116	154	146	116

Most of these level crossings are of the accommodation variety although as mentioned elsewhere the Arthur D. Little report, commissioned by Irish Rail, identified a number of public road level crossings where signal sighting and braking distance were deemed inadequate. Details of the latter crossings can be found elsewhere in this issue and as explained elsewhere trains are required to reduce speed approaching either or both the Up and Down distant signals at the crossings concerned. Much of the 1999 expenditure will be concentrated at accommodation crossings on the Cork and Belfast lines.

Signalling, Electrical, Telecommunications and Electrification Maintenance

Consequent on severe criticism of the state of several interlockings and concern about general maintenance standards, 73 extra staff are to be allocated to signalling maintenance work throughout the network. In addition provision has been made for resignalling at Heuston (£11m) and Limerick (£4m), this work to commence in earnest in 2000 and to be completed by 2003. Irish Rail proposes to completely remodel the station layout, platforms and approaches at Heuston, the non-signalling aspect of which will cost £9m. Separate provision for the latter amount has been made in the company's upgrading and renewal programme. The programme also includes remodelling and resignalling at a number of locations including Claremorris and Ballygeary.

This heading also covers expenditure on security and fire safety at signal cabins, track circuit actuators on inspection cars and the installation of new telephone exchanges. Where signalling systems have become seriously degraded an interim "safe working" regime will be introduced - a temporary measure in the case of the Sligo, Waterford, Tralee and Galway lines where all existing mechanical signalling will be superseded by Mini-CTC by the year 2000.

The number of staff engaged in overhead line maintenance on the DART system is to be doubled to improve standards and facilitate regular preventative inspections of overhead equipment. Purpose built road/rail overhead line access vehicles are to be acquired to improve staff safety and increase flexibility. This will lead to the scrapping of the existing OHLE maintenance train which presently consists of a single converted passenger coach supplemented by a few wagons for materials.

Expenditure totalling £44.2m under the various headings will be as under:

Year	1999	2000	2001	2002	2003
Signalling and Telecommunications	£5.6m	£8.1m	£4.9m	£4.4m	£4.4m
Electrification Maintenance	£1.0m	£0.2m	£0.2m	£0.2m	£0.2m
Heuston and Limerick Resignalling	£1.0m	£5.0m	£6.0m	£3.0m	

Structures and Fencing

Expenditure of £41.4m is proposed under this heading. This will cover work in a variety of areas including coastal defence, embankment and cutting stability, tunnel safety, bridge reconstruction, increased inspection of cast iron bridges and a review of footbridges on DART where the original methods employed to raise the structures may have compromised integrity. There will be 110 bridge renewals over the five-year period and in addition some 500 further structures will be painted. A particular priority over the next two years will be the replacement of 17 jack-arch cast iron bridges. A total of 34 of such structures are scheduled for renewal up to 2003.

The 1999 bridge programme will see the renewal of 24 bridges, the majority of which are located on four lines: Dublin/Wexford (6), Dublin/Sligo (5), Dublin/Belfast (3) and Dublin/Westport line (3). Interestingly one bridge is scheduled for renewal on the Youghal line although at present this branch is closed to traffic. Some 40 bridges are to be painted in 1999 of which 23 are located between Mallow and Tralee. Two spans of the Barrow bridge will also be painted.

Some thirty-eight miles of rural fencing is to be renewed in 1999 while urban fencing improvements are planned at Carlow, Shanganagh, Glasnevin Junction to Liffey Junction, Glasnevin Junction to Heuston, Castleknock, Howth Junction, Skerries, Dunleer, Dundalk, Greystones, Gorey, Cork, Clonmel, Carrick on Suir and Tralee.

Expenditure under above headings over the five years will be as under:

Year	1999	2000	2001	2002	2003
Bridges and Structures	£4.0m	£7.1m	£7.1m	£7.0m	£7.0m
Fencing	£2.4m	£2.0m	£1.8m	£1.5m	£1.5m

Additional Track Maintenance

Consequent on the poor state of track, and pending renewal and upgrading, maintenance gang sizes on the Sligo and Westport lines are being increased from six to twelve. On other lines with significant jointed track gangs are being increased from six to eight while each line is to have an additional mobile gang. Total expenditure over the five year period will be £17m as shown below:

Year	1999	2000	2001	2002	2003
Additional Track Maintenance	£5.0m	£5.0m	£3.0m	£2.0m	£2.0m

According to Irish Rail some 95% of jointed track has rail over 50 years old and/or wooden sleepers over 20 years old. Plain line breaks and fractures have risen dramatically since 1981 and are running at a multiple of between 3 and 7 times the corresponding statistic for Railtrack. Fastening breaks are occurring at between 62 and 162 times the corresponding Railtrack statistic.

Safety Management Systems

The development and formalisation of standards, procedures and documentation as well as enhanced training and monitoring are planned under this heading. Existing systems are deemed to be inadequate due to lack of resources and a consequent dependence on individuals, many of whom are approaching

retirement age. Expenditure under this heading will total £51.2m over the five-year period and will be apportioned as under:

Year	1999	2000	2001	2002	2003
SMS Expenditure	£8.0m	£14.0m	£10.0m	£10.0m	£9.2m

Rolling Stock

Some improvements in procedures and processes were recommended by IRMS and some £1.8m will be spent under this heading during the period from 1999 to 2003.

Suburban

The second part of the announcement related to suburban rail travel in the Dublin and Cork areas and indicated that the Minister had been given approval to carry out "costing and feasibility work on a new rail suburban commuter development plan which she had presented to cabinet this week". The short-term plan (two to five years) would involve the more intense use of existing corridors largely through the acquisition of additional rolling stock to increase train formations. According to the Minister's statement the following projects are already in progress or are planned for implementation by 2001. Virtually all of the projects mentioned by the Minister and detailed below had been announced on at least one previous occasion and when fully implemented will increase the morning peak-hour trips on suburban trains in the Dublin area by 11,300 or 60%. (See *DTI Transportation Review and Short-Term Action Plan elsewhere in this issue.*)

- DART extension to Greystones due to open in mid 1999.
- DART extension to Malahide due to open in mid 2000.
- Upgrading of the Maynooth service by the end of the year 2000.
- Additional rolling stock for Drogheda and Maynooth services in the form of 35 Arrow-type diesel railcars. (Twenty additional railcars were announced when Luas funds were reallocated - see announcement of 25th June 1998 above.)
- New station at Barrow Street to be ready by the year 2000.
- Resignalling between Connolly and Pearse to provide three extra train slots per hour. This work to be completed by the end of 2001.

Further short-term measures are expected to include the lengthening of trains and platforms and the opening or re-opening of stations at Intel (near Leixlip), Lucan North, Lucan South and Ashington (near Ashtown). The Line between Islandbridge Junction and Glasnevin Junction is to be upgraded apparently in anticipation of diverting suburban trains currently terminating at Heuston to Connolly. (*This proposal, although of considerable merit, has the potential to cause serious congestion unless the track layout at either Connolly or Glasnevin Junction is altered. As things stand it is not possible for such trains to reach Connolly without obstructing DART and north-side outer-suburban services. Furthermore signalling arrangements at the loop line platforms in Connolly would require alteration and ideally at least one additional platform would be provided in this part of the station.*)

In the Cork area short-term proposals centre around improved services between Mallow and Cobh and the possibility of partially reopening the Youghal branch between Glounthaune (formerly Cobh Junction) and Midleton, a distance of 6½ miles. As in Dublin several stations are proposed for opening/re-opening including Tivoli, Kilbarry, Ballynoe and Blarney.

In the longer term a number of strategic proposals relating to the Greater Dublin Area are under consideration for inclusion in the National Development Plan. These proposals, according to the

Minister's statement include the following:

- The reinstatement of the Clonsilla/Navan line.
- Increasing capacity by the construction of new lines and the quadrupling of existing double lines where circumstances permit.
- A new route from the Belfast line through Swords and Dublin Airport to link up with the "Western lines". This appears to be a variant of previous proposals, the main difference being that traffic to and from points north of Balbriggan would be diverted over a new line through Dublin Airport which would probably rejoin the present rail network at or near Liffey Junction. Under this scenario the existing Balbriggan/Dublin route would be available to accommodate a more intensive service and thus better cater for the substantial housing growth planned for the area through which the line passes. (*Under such a scenario Airport trains might be dealt with in a new station at a new North Wall.*) Incidentally Dublin Airport is expected to handle around 11.9m passengers in 1999, more than double the 1991 figure and 44% ahead of the figure projected for 2001.
- New Liffey crossing east of the existing loop line in order to provide increased cross-town capacity and at the same time service the area around the proposed national conference centre at Spencer Dock. (*See elsewhere in this issue.*)
- Improved rail services to centres identified in the Strategic Planning Guidelines for the Greater Dublin Area, notably Naas/Newbridge/Kilcullen, Drogheda, Balbriggan, Navan and Wicklow. Secondary development centres envisaged in the planning guidelines will be located at Rush/Lusk, Arklow, Kildare/Monasterevin and Athy.

Strategic Planning Guidelines

These guidelines were published at the end of March 1999 and seek to define the parameters for development in the Greater Dublin area up to 2011. A defining feature of the guidelines is the proposal that growth should be concentrated at centres with existing infrastructure and services and that by and large these centres should be either on or close to rail routes. The report explicitly recognises the constraints affecting present and potential traffic through Connolly Station, across the loop line and on the Belfast/Dublin route and envisages further public transport investments in the Dublin area amounting to some £600m. (*These latter proposals appear to be the inspiration for elements of "The Dual Rail Initiative" detailed earlier in this issue.*) It is understood that the planning guidelines are to be incorporated in a new planning and development legislation, due later this year.

Ministerial Commitment

The Minister for Public Enterprise, Mrs O'Rourke, has stated on a number of recent occasions that the government is now committed to the retention of all of the existing rail network. The Minister in the Dáil gave this undertaking most recently on 1st April during a debate on housing and transport.

Suburban Study

CIÉ have invited tenders from suitable consultants to carry out a comprehensive review of the suburban rail network in the Greater Dublin area. Key tasks for the consultants will be to identify network constraints and new business opportunities. This study is scheduled for completion by November 1999.

CIÉ/Irish Rail Investment Proposals

Mr Michael McDonnell, the CIÉ Group Chief Executive, outlined the company's investment needs in

respect of the railway for the period until 2006 to a Joint Oireachtas Committee meeting on 14th May 1998. The total investment outlined amounted to £650m and excludes freight investment, a rail link to Dublin Airport, park and ride facilities and additional safety expenditure which might be recommended by CIÉ and Department of Public Enterprise consultants. The Chief executive expressed concern about the age of rail assets, notably track, locomotives, passenger rolling stock and signalling at Heuston, Waterford, Cork and Limerick terminals. The proposed investments were outlined on a route basis and appear to include both infrastructure and rolling stock requirements.

Route	£m
Dublin Suburban Services (Excluding DART and Maynooth)	97.75
Dublin/Cork	84.30
Dublin to Westport/Ballina	66.60
Limerick Junction to Rosslare	54.50
DART	52.05
Dublin to Sligo	49.90
Dublin to Rosslare	38.80
Dublin to Tralee	36.00
Maynooth Line	35.20
Dublin to Waterford	28.30
Dublin to Limerick & Ennis	27.80
Limerick to Ballybroyph	27.50
Dublin to Galway	24.80
Cork to Cobh	13.90
Miscellaneous	7.20
Dublin to Belfast	5.40

Dublin Transportation Office - Transportation Review and Short-Term Action Plan

This document was published in September 1998 and reviews progress in implementing DTI strategy, assesses the increase in travel demand arising from greater than anticipated economic growth, quantifies the change in travel conditions compared with DTI forecasts and finally contains a short-term action plan to address the deterioration in travel conditions.

The short-term measures suggested in respect of Dublin suburban rail services were largely those announced by the Minister on 25th June 1998. These measures, together with the proposed implementation dates, cost and expected impacts are summaries below:

Proposed Action	Cost	Implement By	Additional Trips Generated (Morning Peak, 08:00-09:00)
Upgrade Clonsilla/Maynooth line Upgrade signalling between Connolly and Pearse to improve line capacity	£16.5m	End 2000 End 2001	1,300
Purchase 20 additional diesel railcars	£20.0m	Mid 2000	3,000
Platform lengthening	£5.0m	End 1999	necessary for larger set sizes
Purchase 8 2-car DART sets	£24.0m	Mid 2000	7,000

The report also contains a comparison of the originally projected traffic movements in the Dublin area

for 2001 and the levels of traffic now projected for 1999. An expanded version of the tables concerned is reproduced below and although journeys by rail are less than originally projected the figures indicate a very definite upward trend especially in respect of journeys into the City Centre. It should be noted that the rail figures forecast for 2001 assume an operational LRT system and the effect of the DART extensions to Greystones and Malahide, none of which have yet happened.

City Centre	1991 (actual)		1999 (current projection)				2001 (forecast)	
Mode	Trips	%	Trips	%	% v 1991	% v 2001	Trips	%
Car	29,585	53.7%	39,000	54.0%	+31.8%	+47.0%	26,514	43.4%
Bus	17,166	31.1%	19,000	26.0%	+10.7%	+8.6%	17,493	28.6%
Rail/LRT	8,368	15.2%	14,000	20.0%	+67.0%	-18.2%	17,116	28.0%
<i>Totals</i>	<i>55,119</i>	<i>100.0%</i>	<i>72,000</i>	<i>100.0%</i>	<i>+30.6%</i>	<i>+17.8%</i>	<i>61,123</i>	<i>100.0%</i>

DTI Area	1991 (actual)		1999 (current projection)				2001 (forecast)	
Mode	Trips	%	Trips	%	% v 1991	% v 2001	Trips	%
Car	109,675	63.7%	175,000	72.9%	+59.6%	+38.0%	126,289	61.4%
Bus	44,655	26.0%	46,000	19.2%	+3.0%	+0.9%	45,756	22.3%
Rail/LRT	17,760	10.3%	19,000	7.9%	+7.0%	-43.3%	35,506	16.3%
<i>Totals</i>	<i>172,090</i>	<i>100.0%</i>	<i>240,000</i>	<i>100.0%</i>	<i>+39.4%</i>	<i>+16.8%</i>	<i>205,551</i>	<i>100.0%</i>

As can be seen from the table the overall number of trips into the city centre has increased by about 31% with little change in the modal split between cars and public transport. Rail traffic entering the city centre area has increased by no less than 67% and as a consequence rail market share has risen from 15.2% to 20%.

In contrast, although the number of peak hour trips in the DTI area has risen by 39%, rail traffic has not kept pace, with only a 7% increase in journeys between 1991 and 1999. Car ownership in the DTI area has increased from 248 to 350 (per 1,000 inhabitants) compared to a level of 288 (per 1,000 inhabitants) originally forecast for 2001 by the DTI.

Proposals have been developed by the DTO for possible inclusion in the upcoming National Development Plan. These include the doubling of the DART fleet to provide eight-car sets on all peak period services with the object of generating an additional 16,000 peak hour trips per day. A 60% increase in the non-DART suburban rail fleet is also envisaged as is the introduction of direct services from Naas (read Sallins) to Connolly via the Phoenix Park tunnel. The proposed expenditure of £204m on DART projects is stated to be additional to those projects already announced.

National Conference Centre

Planning permission has been sought (March 1999) from Dublin Corporation for the largest urban development ever envisaged in Ireland. The proposals lodged by the Spencer Dock Development Company cover a 51-acre site owned by CIÉ and comprising the area presently occupied by the Midland and London & North Western yards. The plans propose the construction of 3,012 apartments in 11 blocks, a further nine blocks of office space, two hotels and 144,000 square feet of retail space. There would also be a Technology Centre and parking for 2,000 cars. The former Midland Hotel and the London & North Western terminal are to be restored. An underground rail terminal is proposed

although exactly what services will be provided is presently unclear. Given the links already in place to all main lines, except the former DSER, the scope for a major transportation centre is self-evident although the proposed station will not apparently be capable of handling mainline trains due to the approach gradients and other constraints. The potential for cross-city services also exist should the proposed link to Barrow Street be built. It is thus critical that adequate space and facilities are reserved for railway operations and that a proper plan is in place before the £1.2b development proceeds. This development is expected to generate 44,000 additional trips daily with some 11,000 people employed on the site when completed. The Environmental Impact Study states that 70% of those working on the site would use public transport and that total demand would amount to some 26,000 trips daily. A somewhat naive and worrying approach emerges from the EIS when it cheerfully suggests that a bus interchange facility might be established in the car park at Connolly catering for up to 100 buses per hour. It is not clear how such a volume of interchange passengers could be handled at Connolly given that there isn't even a footbridge linking this area of the station with the suburban platforms, let alone the capacity on the trains to carry the extra traffic.

Station Improvements

Additional parking facilities are presently being constructed at Greystones by the local authority and plans are in place for the expansion of existing facilities at Clontarf Road and Bray. This investment is being co-financed by the European Regional Development Fund.

At the time of writing in early June 1999 work had just commenced on the extension of the Down side car park at both Donabate and Rush & Lusk stations.

Incidentally the car parks at both Rush and Donabate were previously extended in 1997 and as at numerous other locations are now monitored by CCTV cameras.

The Down platform at Laytown was lengthened to accommodate an eight-piece railcar set in September 1998.

As of early June 1999 Meath County Council were putting the finishing touches to a substantial new car park on the Up side of the line adjacent to Laytown station. A new and rather unusual booking office has been constructed at the Dublin end of the Down platform. Although plain and vandal-proof the new building is not unattractive being circular in shape and taller than strictly necessary from a functional point of view. The offices and waiting room on the Down platform remain boarded up and are extremely unsightly.

The station buildings and shelter at Gormanston have been redecorated in green and this together with the numerous floral displays has transformed the station into one of the most pleasant in the Dublin area.

A new car park has been provided to serve Killester station. It is located on the Down side of the adjacent to the Collins Avenue overbridge.

Additional car parking for commuters has been provided on the Up side of the line at Portlaoise using an area formerly occupied by loading banks.

The new platforms at Charleville had been completed by mid-May 1998 by which stage work had almost been completed on a modest station building on the Up side and a small but attractive shelter on the Down side.

The Up main platform at Howth Junction was extended northwards in November 1998 and is now capable of accommodating an eight-piece railcar set. A new northbound starting signal to replace HJ24 has been erected at the Malahide end of the extension although it has yet to be commissioned.

New overhead masts have been erected at the south end of Lansdowne Road and Sidney Parade

stations in order to facilitate the extension of the platforms at both locations. This work is required in connection with the proposed operation of eight-piece sets on the 07:26 and 07:43 ex Drogheda, the 09:20 ex Bray, and eventually on peak period DART services. At Blackrock both platforms are to be extended northwards and with this in mind the overhead lines for both roads are supported on a cantilever structure anchored to a new mast which has been erected on the Down side of the line immediately north of the station.

Substantial additional car parking has been provided on the Up side at Salthill station.

A new footbridge is to be provided at Mallow station which will incorporate lifts from each platform. Renewal of this time-honoured, awkward and inadequate structure will greatly ease the lot of passengers requiring to cross the line at Mallow either to exit the station or to make connection with some other service.

Platform 1 at Athlone has been extended towards Galway and now occupies part of the area formerly used for handling bagged cement. This is the most frequently used platform at Athlone and although lengthened is still shorter than the island platforms.

Customer information displays have been erected at Malahide, Howth Junction, Bayside, Sutton, Sandymount, Sidney Parade, Blackrock, Glenageary, Dalkey and Shankill and operate as described in the last issue. VDUs are now in place on the street level concourse at Pearse and are used to display a summary of services together with their scheduled and expected departure times. While the customer information system displays on the platforms have greatly improved the quality of information available to the public, the system clock appears to be free running and is often fast resulting in trains departing ahead of schedule. This is a particular problem in the case of outer suburban trains starting from Pearse but is also a nuisance elsewhere as many DART services operate to inflated schedules at off-peak times and can thus be anything from three to five minutes early at some stations. This is particularly so at Pearse and Lansdowne Road as all trains have included an allowance for a stop at Barrow Street since 1996. This station is not expected to open until early 2000.

Permanent Way and Bridges

Almost 56 miles of new track was installed during 1998, the bulk of it on the Sligo, Galway and Waterford lines. Almost all of this work was achieved within the constraints of possessions that rarely lasted for more than eight hours at a time. Consequently disruption to regular traffic was relatively minor and inconvenience to passengers was generally confined to mid-morning and early afternoon services.

Irish Rail has adopted a radically different approach to track renewals during 1999. With work being concentrated on a particular route for periods of up to three months during which the line concerned would be closed from early Monday until around midday the following Friday. This changed approach derives from the following factors:

- The necessity to absorb EU funding within the time limits laid down for the completion of projects being assisted under the terms of the 1994-1999 programmes. In particular the additional funds allocated to the railway as a result of the stalling of the Luas project must be translated into progress on the ground within a relatively short period.
- The poor state of much of the existing track, which was highlighted in the IRMS report, means that renewals must be progressed as quickly as possible to eliminate safety risks.
- The plethora of new speed restrictions which have been applied in the last two to three years means that most lines are operating to schedules which are significantly inferior to those which applied in the late 1970s and through much of the 1980s. A trip on almost any part of the system

(other than from Dublin to Cork, Limerick and Belfast) is generally a tedious proposition with trains drifting along for miles on end at speeds of between 25 and 40 miles per hour.

- Experience gained by Irish Rail during contract relaying for NIR in 1996, when single line working was introduced on parts of the Belfast line for periods of up to a month at a time, showed that much greater progress could be made if the line did not have to be handed back to the operators each day. The fact that most of the lines being renewed by Irish Rail are single track to start with meant that complete closure for extended periods was the only way of applying this principle. Buses were provided in lieu of trains during the periods when lines were closed. This is understood to have resulted in a near total loss of business traffic and a more than expected drop in traffic generally.

Athlone/Galway (Single track)

A total of just over 9½ miles of track was renewed at different times during 1998 as detailed in the table below:

Athlone West/Ballinasloe	MP 89 to MP 91 ³ / ₈	Single track
Attymon/Athenry	MP 108 to MP 109	Single track
Attymon/Athenry	MP 110 to MP 111 ¹ / ₄	Single track
Athenry/Galway	MP 114 ¹ / ₈ to MP 114 ³ / ₄	Single track
Athenry/Galway	MP 120 to MP 122 ⁷ / ₈	Single track
Athenry/Galway	MP 124 to MP 125 ¹ / ₂	Single track

Stone arch overbridge No.123, at MP 90½, was replaced by a portal arch structure as part of the preparatory work for relaying between MP 89 and MP 91³/₈.

The Ballinasloe/Galway line was closed from 08:30 on Mondays to 13:00 on Fridays and again from 08:30 to 16:00 on Saturdays commencing on 4th January 1999. Normal rail services operated on Sundays although these were severely disrupted on a number of occasions due to speed restrictions. This was particularly so in the afternoon when the 14:50 ex Galway would be delayed in getting to Ballinasloe and in turn would delay the 14:15 ex Heuston. This latter would then be further delayed west of Ballinasloe with the result that the 16:25 ex Galway would have to wait for a considerable period in Athenry. On departing Athenry the 16:25, now badly late, would then have to negotiate the same speed restrictions as the other trains and consequently ran up to an hour behind schedule on a number of occasions, notably 31st January and 7th February. On both dates it was necessary to put up a separate set for the 20:15 Connolly/Dundalk. On the first date the Galway train simply continued to Dundalk out of path while on 7th February three through passengers were transferred to a scheduled empty working which departed Connolly around 21:00. Cancelled weekday trains were replaced by substitute buses between Ballinasloe and Galway, those ex Galway being scheduled to depart 25 minutes ahead of the normal train time.

Work progressed rapidly with up to two miles of track being installed every week until the end of February, by which stage no less than 14¼ miles of new track was in place. About half the mileage renewed was still restricted to 25 mph at this stage as long sections were either partially or wholly unballasted or had yet to be fully packed and lined. Normal working, which was due to resume on 6th March, did not actually restart until 15th March by which stage sufficient of the temporary restrictions had been removed to allow current schedules to be maintained.

Irish Rail had indicated that services on the Galway line would be accelerated when the new timetable was introduced on 30th May 1999 although no indication was given as to the proposed journey times. (The annual timetable change has been deferred for other reasons until Sunday 19th September 1999.)

Although the new track has clearly been installed to 90 mph standards or better it is believed that the maximum line speed will be 80 mph due to the fact that the proposed new signalling system will not provide the normal CAWS indications.

Apart from track upgrading and related activities, which included substantial drainage work and embankment strengthening, the opportunity was also taken to install fibre optic cables for the ESAT and Mini-CTC projects and to remove much of the vegetation which was threatening to engulf parts of the line. Several bridges were renewed including at least two small underpasses, one of which (UB 142) will carry the new loop at Woodlawn. The former stone arch overbridge at MP 100½ has been replaced by a prefabricated portal-arch resting on the original abutments. At other locations deep excavations were made at, and for a considerable distance on either side of, the stone arch bridges at MP 99, MP 100 and MP 106¼. At Galway station the main departure road was excavated and reinstated using slightly sub-standard concrete sleepers set in a concrete apron. While this work was in progress those passenger trains that were running arrived and departed at the normally little used bay platform.

As a result of the completion of this project, which cost around £6.4m, almost 96% of the Athlone (East Junction)/Galway line consists of CWR on concrete sleepers. Some work remains to be done between the East and West junctions at Athlone as well as through Ballinasloe (91¾ to 92⅓) and Athenry (113¼ to 113¾). The sections of track renewed during the course of this project are shown in the table below:

Ballinasloe/Woodlawn	MP 92⅓ to MP 95	Single track
Ballinasloe/Woodlawn	MP 96¾ to MP 101½	Single track
Woodlawn/Attymon	MP 101½ to MP 102¼	Single track
Woodlawn/Attymon	MP 104¼ to MP 107	Single track
Attymon/Athenry	MP 112½ to MP 113¼	Single track
Athenry/Galway	MP 113¾ to MP 114⅓	Single track
Athenry/Galway	MP 122⅓ to MP 124	Single track
Athenry/Galway	MP 125½ to MP 126⅓	Single track

With the exception of 1⅓ miles around the former Carrowduff station the speed limit from Athlone (West) Junction (MP 78¼) to the River Suck Bridge at Ballinasloe (MP 91¾) was raised from 70 mph to 80 mph with effect from 2nd June 1998. The 1⅓ miles concerned constitute the first section of the Galway line to be cleared for speeds in excess of 70 mph.

Athlone/Westport (Single track)

Two short stretches of line were renewed during 1999 bringing the length of CWR on this route to just over 20 miles or 24% of the total branch. The sections renewed were from the automatic half barrier crossing at Bellacagher (MP 106) to Ballymoe station (MP 107⅓) and from MP 120½ to MP 121⅓. Various sections of line have had 30ft rails changed out and patch resleepering is in evidence at several locations. Apart from a few lengths of track near Curry level crossing no track renewals of any consequence took place during 1998.

As of the end of 1997 the oldest rail on this line dated back to 1902 with some sleepers dating back to 1948. The average rail age on jointed track exceeded 60 years while the average sleeper age was approximately 27 years.

A further 29½ miles of this line were subject to a formal reduction in maximum permitted speed from 70 mph to 50 mph with effect from 2nd June 1998. Many of these restrictions were already in place

prior to this date having been gradually introduced in the months following the Knockcroghery derailment. At the time of writing less than 30% of this line is cleared for 70 mph with almost all jointed track restricted to 50 mph or less.

Following the IRMS report Irish Rail indicated its intention to replace all jointed track on this line with CWR by 2002. This involves the renewal of 62.8 miles of track which is scheduled to take place as under:

1999	2000	2001	2002
11.525	16.100	26.925	8.250

Cherryville Junction/Waterford West (Single track)

Almost nine miles of track were renewed with CWR in 1998 leaving just over eleven miles of jointed track between Cherryville Junction and Kilkenny and a further twenty miles between Kilkenny and Waterford. A little over 59% of this line now consists of CWR with the remainder to be renewed by 2003. Details of the 1998 renewals are contained in the table below:

Cherryville Junction/Athy	MP 32.4 to MP 33 $\frac{3}{4}$	Single track
Cherryville Junction/Athy	MP 38 $\frac{1}{2}$ to MP 39 $\frac{1}{2}$	Single track
Carlow/Bagenalstown	MP 59 $\frac{1}{2}$ to MP 62	Single track
Bagenalstown/Kilkenny	MP 69 $\frac{3}{4}$ to MP 71	Single track
Lavistown West Junction/Lavistown South Junction	MP 30 $\frac{5}{8}$ to MP 31 $\frac{1}{8}$	Single track
Thomastown/Waterford West	MP 43 $\frac{1}{8}$ to MP 44	Single track
Thomastown/Waterford West	MP 50 to MP 51 $\frac{1}{2}$	Single track

With effect from 2nd June 1998 the Cherryville Junction/Athy section, a distance of just over twelve miles and consisting of CWR throughout, was cleared for 80 mph. Elsewhere long lengths of jointed track, totalling almost twenty-one miles, have had reduced speed limits imposed. While many of the new restrictions are between Kilkenny and Waterford over four miles of the Carlow/Bagenalstown section, from MP 62 $\frac{3}{4}$ to MP 67, are now restricted to 40 mph.

The renewal programme for the next five years is shown below:

1999	2000	2001	2002	2003
8.350	5.000	5.720	5.525	3.975

As of the end of 1997 the oldest rail between Kilkenny and Waterford dated back to 1907 with some sleepers dating back to 1962. The average rail age on jointed track in this section was just under 79 years while the average sleeper age was around 21 years.

Dublin/Belfast

The short section of jointed track on the Up road between Howth Junction and the crossovers at Kilbarrack was excavated and welded at the end of January 1998 thus removing one of the last remaining sections of jointed track between Fairview and the Portadown.

While most of this line remains in excellent condition there is considerable evidence of formation deterioration at several locations, notably on the Up line near Laytown, from MP 16 to Rush, across Malahide estuary (on both lines) and at various locations between Clontarf and Howth Junction. Much work has taken place in recent months on the latter section with patch excavations, re-ballasting and

packing evident at and/or near the old Clontarf station, Killester, Harmonstown, Raheny and Kilbarrack. The area around the crossovers north of Killester is still in need of attention while recent repairs to the Down line at Raheny are again showing evidence of formation degradation and poor drainage.

Two short sections of the Up line were re-railed in 1998, from MP 55 $\frac{1}{4}$ to MP 54 $\frac{3}{4}$ (just north of Dundalk) and from MP 16 to MP 15 $\frac{5}{8}$ (between Skerries and Rush). So far this year new rail has been installed on the Up line between the crossovers at Mosney.

Elsewhere, despite new long-welded rail being in situ on the Up line for some time between MP 29 and MP 27 $\frac{1}{2}$ and between MP 15 $\frac{3}{8}$ and MP 14 $\frac{3}{4}$, there has been little opportunity to install it as there are already possessions on most Sundays to facilitate work associated with the DART extension to Malahide.

A short section of the rock cutting on the Up side has recently been cut back near MP 59, presumably in response to IRMS recommendations.

Dublin/Rosslare Strand (Double track to Bray, single thereafter)

The few significant track renewals on this section of line were all in the immediate Dublin area and as before most of the work was associated with DART. Track renewed with CWR totalled about two miles since December 1997 as follows:

Dalkey/Bray	1998	MP 10 $\frac{3}{4}$ to MP 11 $\frac{7}{8}$	Down line
Greystones Station	1998/9	MP 16 $\frac{7}{8}$ to MP 17 $\frac{1}{16}$	Up and Down platform lines
Greystones/Wicklow	1998	MP 21 to MP 21 $\frac{1}{2}$	Single track (Breaches Bridge)

Efforts to address formation deterioration on stretches of CWR installed in the early 1980s are evident at various locations, particularly between Pearse and Dun Laoghaire. As elsewhere it will be some time before the accumulated effects of inadequate maintenance have been fully dealt with. The condition of the slab-track between Dun Laoghaire and Sandycove was raised in the IRMS report which noted that failures had already occurred at various locations and were imminent at others. Repairs to date were found to be of variable quality. A little further south, gauge retention and drainage problems were highlighted by IRMS between Sandycove and Dalkey although it is understood that the existing jointed track in this area will be replaced in the near future.

With effect from 2nd June 1998 slightly over 29 miles of this line had further speed restrictions of 50 mph or less imposed due to the condition of the track. A 50 mph speed limit now applies on some 25 miles of track with a further 22 miles restricted to 40 mph. The longest stretch of 40 mph running is between Gorey and Ferns, from MP 63 $\frac{5}{8}$ to 70 $\frac{1}{2}$.

As of the end of 1997 the oldest rail between Shanganagh Junction and Wexford dated back to 1903. The average rail age on jointed track in this section was 60 years while the average sleeper age was around 19 years. Between Wexford and Rosslare some rail dated back to 1898, a mere sixteen years after the line opened.

The renewal programme for the next five years anticipates the replacement of 82 miles of jointed track as shown below:

1999	2000	2001	2002	2003
4.625	11.350	14.975	19.205	31.595

Dublin/Sligo (Double track to Clonsilla, single thereafter)

Just over twenty-two miles of CWR on concrete sleepers was installed on this line in 1998 and although the bulk of it was between Dublin and Mullingar, significant renewals occurred elsewhere as shown in the table below:

Liffey Junction/Clonsilla	MP $6\frac{1}{8}$ to MP $7\frac{1}{4}$	Down line
Clonsilla/Maynooth	MP $7\frac{1}{4}$ to MP $8\frac{3}{4}$	Single track
Clonsilla/Maynooth/Enfield	MP 11 to MP 16	Single track
Maynooth/Enfield	MP $18\frac{1}{2}$ to MP 19	Single track
Maynooth/Enfield	MP $20\frac{1}{4}$ to MP $22\frac{1}{4}$	Single track
Enfield/Killucan	MP $36\frac{1}{2}$ to MP $41\frac{1}{2}$	Single track
Mullingar/Edgeworthstown	MP $53\frac{3}{8}$ to MP $54\frac{3}{8}$	Single track
Boyle/Sligo	MP $107\frac{3}{4}$ to MP $112\frac{1}{4}$	Single track
Boyle/Sligo	MP $126\frac{1}{2}$ to MP $127\frac{1}{2}$	Single track
Clonsilla/Liffey Junction	Mp $7\frac{1}{4}$ to MP $6\frac{7}{8}$	Up line

With effect from 2nd June 1998 three sections of line between Carrick on Shannon and Boyle, totalling a little over fourteen miles and consisting largely of CWR, had their speed limit raised to 75 mph. In common with other lines additional speed limits have been imposed on jointed track with an additional thirty miles now restricted to a maximum speed of either 40 or 50 mph. The length of track restricted to 50 mph totals 56 $\frac{3}{4}$ miles while just over ten miles are restricted to 40 mph.

An extensive and disruptive programme of rail changing took place between Ballymote and Sligo from September 1998 to April 1999 during which period the Boyle/Sligo section was typically closed from 08:30 to 16:00 except on Fridays and Sundays. The opportunity was also taken to replace sub-standard CWR between MP $127\frac{3}{4}$ and MP $128\frac{3}{4}$ near Clooney.

Work commenced around the middle of February 1999 on the doubling of the Clonsilla to Maynooth section. A base has been established at the former Lucan North station and the first activity of any significance was the demolition of the Down platform and most of the station building. Incidentally the latter had been occupied until relatively recently and was of a similar design to that at Leixlip (Louisa Bridge). The running line through Lucan was slewed away from the Down side during this work but has now been reinstated in such a way as to provide sufficient room for the new Up road formation. The formation for the new Up road was substantially complete and partially ballasted for a distance of over two miles from Barberstown level crossing to a point just short of Leixlip (Confey) by mid-May. At the time of writing in early June the track had been slewed on either side of Confey and work had started on the construction of a new Down platform a short distance on the Maynooth side of the existing station. When this is ready the existing platform will be demolished and the Down line returned to the position it occupied prior to 1990 when the track was realigned to make way for existing Confey station. It is expected that the new platform will then be extended back as far as the overbridge in order to provide sufficient length to accommodate an eight-piece railcar set. Commencing on 10th April 1999 the Clonsilla/Maynooth section has been closed from about 20:00 on Saturdays to 17:00 on Sundays to facilitate work associated with the doubling project. Incidentally the existing line between Clonsilla and Maynooth, which was singled in 1929, generally follows the course of the original Down line. There are significant deviations, however, through and on either side of Leixlip (Louisa Bridge) due to curvature realignments which took place after Leixlip ceased to be a block post in 1977.

Commencing on Friday 9th April 1999 the Mullingar to Longford section was closed to all traffic from approximately 11:00 on Mondays to 14:30 on Fridays and again on Saturdays from 11:00 to 19:30.

Possessions were also taken on Friday night/Saturday morning as traffic allowed. These closures are to continue until July and are to facilitate the installation of 15½ miles of CWR on concrete sleepers. The cost of this work is put at £6.5m and is part of the 1999 renewal programme for the Sligo line. Pending the resumption of normal working most services from Sligo have been advanced to depart twenty minutes earlier than advertised in the current timetable in order to compensate for the delays associated with bus transfers between Longford and Mullingar. On days when trains are running through without bus transfers, departure times have also been changed although in some instances departures are later due to pathing difficulties arising from extended running times. The 06:08 Longford/Connolly service, which runs on Tuesdays to Fridays only, now starts from Mullingar at 06:43 and has a bus connection from Longford at 05:45. Departure times from Dublin are unchanged except on Sundays, although arrival times at stations beyond Mullingar are later than advertised in the current timetable. The 17:15 Connolly/Longford (daily except Sunday) terminates at Mullingar on Mondays to Thursdays and on Saturday with a bus connection being provided to Longford arriving twenty minutes later than the normal train time. The full service presently running to/from Sligo is shown in the tables below.

Service ex Sligo	Dublin	Normal Service	
04:25 (Monday only)	arr 08:26	04:45 arr 08:26	Through train
07:25 (Monday and Saturday)	arr 11:00	07:45 arr 11:00	Through train
07:25 (Tuesday to Friday)	arr 11:05	07:45 arr 11:00	Bus transfer Longford/Mullingar
08:40 (Sunday only)	arr 12:20	08:40 arr 12:00	Bus transfer Maynooth/Connolly
13:05 (Mon-Thu & Saturday)	arr 16:48	13:25 arr 16:50	Bus transfer Longford/Mullingar
13:15 (Friday only)	arr 16:55	13:25 arr 16:50	Through train
14:05 (Sunday only)	arr 17:37	14:00 arr 17:20	Through train
17:30 (Sunday only)	arr 21:10	17:30 arr 21:00	Through train
18:00 (Monday to Thursday)	arr 21:45	18:20 arr 21:45	Bus transfer Longford/Mullingar
18:20 (Friday only)	arr 21:55	18:20 arr 21:45	Through train
18:20 (Saturday only)	arr 22:10	18:20 arr 21:45	Bus transfer Maynooth/Connolly
18:30 (Sunday only)	arr 22:10	18:20 arr 21:45	Through train

Service ex Dublin	Sligo	Normal Service	
08:20 (Sunday)	arr 12:10	08:35 arr 12:00	Bus Connolly/Maynooth
08:28 (Monday and Saturday)	arr 12:10	08:28 arr 11:55	Through train
08:28 (Tuesday to Friday)	arr 12:10	08:28 arr 11:55	Bus transfer Mullingar/Longford
13:15 (Sunday only)	arr 17:05	13:30 arr 16:55	Bus transfer Connolly/Maynooth
13:25 (Mon-Thu & Saturday)	arr 17:10	13:25 arr 16:50	Bus transfer Mullingar/Longford
13:25 (Friday only)	arr 17:05	13:25 arr 16:50	Through train
17:05 (Friday only)	arr 20:45	17:05 arr 20:40	Through train
18:20 (Monday to Thursday)	arr 22:00	18:20 arr 21:40	Bus transfer Mullingar/Longford
18:20 (Friday and Saturday)	arr 21:55	18:20 arr 21:40	Through train
18:30 (Sunday only)	arr 22:05	18:20 arr 21:40	Through Train

One of the side effects of these possessions has been the cancellation of the Sligo liner trains and the temporary diversion of traffic via Ballina with road haulage between there and Sligo. Other traffic affected includes the oil and timber trains, both of which now generally operate on Fridays to Sligo

returning the following Sunday. On occasions the possessions have been lifted briefly to facilitate the operation of a mid-week oil train although in some instances timber trains have been trapped in Longford for several days waiting for the line to open. Incidentally tar traffic for Sligo Quay, normally attached to the liner trains, is being conveyed on the oil trains as opportunity offers. Another interesting side effect has been the use of the Athlone/Mullingar section for material trains from Portlaoise and other permanent way related traffic. Again Sundays tend to be busier day with materials being assembled at Mullingar for the following week's work.

Track renewals on the Dublin/Sligo line in 1999, up to and including 14th May, are shown in the table below. The entire Mullingar/Edgeworthstown section from the canal crossing at Mullingar to the loop turnout at Edgeworthstown consisted of CWR and concrete sleepers by this date except for a few lengths of track over the River Inny bridge, near Multyfarnham. Unlike some other recent upgrading work on single track routes there was little requirement to strengthen the embankments as the Mullingar/Longford line was originally double track. Other work evident in this section includes the extensive clearance of overgrowth, the renewal of drainage channels and the reconstruction of several bridges including OB 397 and OB 408 which are now portal arch structures. At least five small underbridges including UB 396, UB 413, UB 434 and UB 437 have also been renewed. As can be seen from the table almost ten miles of track have been renewed up to mid-May, with no less than eight miles being completed between 9th April and 14th May.

Maynooth/Enfield	MP 16 ⁵ / ₈ to MP 18½	Single track
Mullingar/Edgeworthstown	MP 54 ³ / ₈ to MP 57½	Single track
Mullingar/Edgeworthstown	MP 58¼ to MP 60¾	Single track
Mullingar/Edgeworthstown	MP 63 ⁵ / ₈ to MP 66	Single track

As of the end of 1997 the oldest rail between Mullingar and Sligo dated back to 1900 with some sleepers dating back to 1952. The average rail age on jointed track in this section was 64 years while the average sleeper age was around 24 years. Some urgency has been attached to renewals on this line given that the average rate of fishplate failure between 1985 and 1997 was 2.1 complete breaks per mile per year.

As can be seen from the table below some thirty miles of the Sligo line are to be renewed in both 1999 and 2000 at which stage less than ten miles of jointed track will remain.

Track Renewal Programme, Sligo line 1999 to 2003

1999	2000	2001	2002	2003
30.545	29.725	6.150	3.500	Nil

Dublin/Cork (Double track throughout)

Following criticism by IRMS of the risk posed by steep cutting sides, material was removed from the top of some of the cuttings near Mallow (MP 142) and between MP 153½ and the former station at Rathduff.

An extensive programme of ballast cleaning, drainage repair, overgrowth clearance, rail changing and defective sleeper replacement is underway on this line although as of early June 1999 there were still a depressing number of bad order restrictions, most noticeably between Dublin and Limerick Junction. The Down line approaching Knocklong station, which has been the subject of a slack for almost a year, is finally receiving attention with the ballast cleaner being observed in action on Sunday 9th May 1999. New cess drainage has been installed at this location similar to that between Belfast and Lisburn and it

is understood that the overbridge just north of the station is to be raised in order to allow an adequate depth of ballast without the necessity for a dip in the formation. Renewal of the main running lines at Cork station, including the single track "goods loop" appears to be imminent with long-welded rail already deposited and awaiting installation.

Given that over 98% of the Cork line already consists of CWR, the track upgrading programme for the next few years is modest with $1\frac{5}{8}$ miles due for renewal in 1999 with a further mile in 2000. The only remaining sections of jointed track are between Heuston and Islandbridge Junction, through Portarlington station, through Limerick Junction and between Kilbarry and Cork, the latter section including the 1,355 yard tunnel immediately north of Cork station. The total length of jointed track is presently $5\frac{1}{2}$ miles and although not included in the 1999/2000 track replacement programme the Heuston/Islandbridge section is likely to be renewed in the context of the proposed Heuston area resignalling project. Renewals at Portarlington may have to await the long proposed layout alterations, which would see the junction with the Athlone line moved to the Dublin end of the station.

Islandbridge Junction/North Wall

The eastbound line between the Phoenix Park Tunnel and Glasnevin Junction, a distance of just over $1\frac{3}{4}$ miles, was renewed during a series of possessions between 2nd and 8th April 1999. Much of the work was carried out over the Easter Bank Holiday Weekend during which period eastbound traffic was largely suspended although single line working was introduced as required between Heuston and Connolly. As the Newcomen Junction to Glasnevin Junction line was closed it was not possible to divert traffic destined for the Clonsilla direction over the latter route and as a result there was considerable congestion and delay associated with wrong line movements from Heuston. (Incidentally trains from Heuston travelling over the wrong line were required to operate under the authority of a pilotman and were unable to regain the correct line until after North Strand Junction. It was thus necessary to suspend services between Connolly and Clonsilla when single line working was in force between Connolly and Heuston.)

Limerick/Rosslare Europort

(Single except double track to Killonan Junction and from Waterford West to Waterford Central)

Several miles of sub-standard rail between Cross level crossing and Oola were replaced in early 1999, the last section from MP 18 to MP 19 being completed at the beginning of May. The Limerick Junction/Rosslare section acquired its first-piece of CWR with the reinstatement of the original alignment at the site of UB 129A, which carries the line over the new Clonmel bypass. Elsewhere on the latter section there has been a noticeable increase in permanent way activity with panel relaying, patch resleepering and rail replacement evident at various locations although, apart from the sleepers, most materials are second-hand.

Overbridge No.25 at Pallas station has been renewed and lifted.

With effect from 2nd June 1998 the maximum permitted speed between Limerick Junction and Rosslare Strand was reduced to 40 mph throughout. At the time of writing in June 1999 the line was littered with lesser restrictions, some due to bad order track and the remainder related to inadequate signal protection at level crossings. Also from 2nd June the maximum permitted speed on the Down line between Limerick and Killonan Junction was reduced from 80 mph to 60 mph although 80 mph is still permitted on the Up line. In reality Down trains had little opportunity to reach 80 mph in any event given a mid section restriction to 60 mph and the sharp turnout from double to single track at Killonan.

As of the end of 1997 the oldest rail between Limerick Junction and Waterford dated back to 1904 with some sleepers dating back to 1950. The average rail age on jointed track in this section was 79 years while the average sleeper age was around 23 years. The situation between Waterford and Rosslare was slightly worse with an average rail age of 87 years and an average sleeper age of 27 years.

Subsequent to the IRMS report Irish Rail indicated its intention to install 25½ miles of CWR between Limerick Junction and Rosslare Strand by 2003. Although most of these renewals are scheduled to take place between Limerick Junction and Waterford a little under 1½ miles of CWR is proposed for installation in 2001 between Waterford and Rosslare Strand. Given the level of investment represented by the proposed renewals it is to be hoped that Irish Rail may finally take some interest in the provision of a worthwhile passenger service on this line.

Track Renewal Programme
Limerick Junction/Rosslare Strand

1999	2000	2001	2002	2003
Nil	Nil	5.250	6.000	14.250

Mallow (Killarney Junction)/Tralee (Single line throughout)

Some 4½ miles of this line were renewed with CWR and concrete sleepers during 1998 with a further 9 miles renewed so far this year, thus bringing the total proportion of CWR on the branch to almost 42%. The mileages concerned are shown in the table below:

Mallow/Banteer	1999	MP 2 ⁷ / ₈ to MP 6	Single track
Banteer/Millstreet	1998	MP 12 to MP 15	Single track
Rathmore/Killarney	1999	Mp 29 ⁵ / ₈ to MP 32½	Single track
Rathmore/Killarney	1999	MP 36 ¹ / ₈ to MP 39 ¹ / ₈	Single track
Farranfore/Tralee	1998	MP 57¾ to MP 59¼	Single track

Three small overbridges located within a short distance of each other, OB 23, OB 24 and OB 25, were renewed in 1998 preparatory to relaying between Banteer and Millstreet.

Various sections of line, particularly between Killarney and Tralee, have had older rail exchanged for newer second-hand material while recent resleepering is in evidence at several locations including a stretch immediately on the Tralee side of Gortatlea. Another stopgap measure was the relaying of about a mile of track from Tralee Junction (Killarney) to the abandoned Fitzgerald Platform at MP 40½. Materials used in the latter instance consisted of panels of bullhead rail and wooden sleepers.

In order to facilitate the 1999 renewal programme the Mallow/Tralee line was closed to traffic from about 09:15 on Mondays to 17:30 on Fridays. Possessions were also taken throughout the day on Saturdays although the 07:00 Tralee/Heuston and 18:30 Heuston/Tralee ran without the necessity for bus transfers. All Up trains ran on Sundays although departure times were advanced by up to twenty minutes in some instances. In the Down direction the 13:05 Heuston/Killarney was cancelled with passengers being required to travel on the 13:20 to Cork and transfer to buses at Mallow. Passengers on the 15:25 ex Heuston were also required to transfer to buses as the connecting 17:15 ex Cork was cancelled at Mallow. The restricted Sunday service was due to pathing difficulties arising from altered sectional allowances which were designed to take account of the lengthy 25 mph permanent way slacks associated with the relaying project. Apart from the trains already mentioned the only other rail service was the 07:00 ex Tralee on Monday mornings which ran to balance Sunday's 19:00 Heuston/Tralee. Substitute buses generally left Tralee twenty minutes ahead of the normal train time although arrivals were up to 43 minutes earlier as the buses were not constrained by the numerous speed restrictions, lengthy block sections and consequent pathing difficulties which are such a prominent feature of this line at present.

With effect from 2nd June 1998 almost 35 miles of this line was subject to a reduction in maximum

permitted speed from 60 mph to 50 mph or less due to bad order track. At the present time 60 mph is permitted on just over 18 miles of the 61 $\frac{3}{4}$ mile long branch with 50 mph allowed on a further 22 $\frac{3}{4}$ miles and 40 mph on the remainder. At the time of writing in June 1999 almost six miles of the Killarney/Farranfore section was subject to further speed restrictions of 30 mph or less.

As of the end of 1997 the oldest rail between Mallow and Tralee dated back to 1907 with some sleepers dating back to 1952. The average rail age on jointed track in this section was 44 years while the average sleeper age was around 16 years. Despite the relative youth of both sleepers and rail the rate of fishplate failures between 1985 and 1997 was 2.2 per mile per year, slightly worse than the Mullingar/Sligo line.

Next year's renewal programme should see the completion of CWR installation between Mallow and Killarney after which work will concentrate on the Killarney/Tralee line. The full programme is set out in the table below.

Track Renewal Programme, Mallow/Tralee

1999	2000	2001	2002	2003
8.375	17.000	7.000	8.500	2.000

Portarlington/Athlone (Single track)

A further 5 $\frac{3}{4}$ miles were relayed with CWR and concrete sleepers in 1998 bringing the proportion of welded track this route to almost 89%. Sub-standard rail has been changed between MP 65 $\frac{3}{4}$ and MP 66 $\frac{3}{8}$, between MP 59 and MP 59 $\frac{3}{4}$ and at several locations between Geashill and Tullamore. Despite the recent activity there is still a 50 mph slack in force from MP 59 to MP 61 $\frac{1}{2}$, pending repairs to derailment damage dating from 1996. Formation excavation and ballast cleaning is evident at various locations, notably between Clara and Ballycumber, where poor drainage had resulted in ballast degradation and the development of slurry spots. At the time of writing in June 1999 preparations are well advanced for the relaying the first two miles of the branch at the Portarlington end, from MP 41 $\frac{3}{4}$ to MP 43 $\frac{3}{4}$. As is now standard, embankments in this section have been widened and accumulated overgrowth removed. The table below shows track renewals on this line during 1998.

Geashill/Tullamore	MP 55 $\frac{1}{2}$ to MP 57 $\frac{3}{4}$
Tullamore/Clara	MP 61 $\frac{3}{8}$ to MP 64 $\frac{7}{8}$

Some of the speed restrictions on this line were altered from 2nd June 1998 with several sections of jointed track, previously cleared for 80 mph, being restricted to a maximum speed of 60 mph pending renewal. This change primarily affects the start of the branch at Portarlington and a short section immediately east of Athlone. In contrast most of the restrictions around Clonnydonnin have been lifted with the result that 80 mph is now permitted over almost the entire section from Clara to Athlone, except for a short length between MP 70 $\frac{5}{8}$ and MP 71 $\frac{1}{2}$ which is still restricted to 70 mph.

Manulla Junction to Ballina (Single track)

The maximum permitted speed on this line was reduced from 60 mph to 50 mph with effect from 2nd June 1998. It is proposed to renew 7 miles of this branch in 2002 and 8 miles in 2003. The entire branch currently consists of jointed track with rail dating back to 1911 and sleepers to 1953. At the end of 1997 the average rail age was 69 years and the average sleeper age about 33 years.

Cork/Cobh (Double Track)

A considerable amount of resleepering and panel relaying took place during 1998 particularly between Cobh Junction and Marino Point. As on other secondary routes, apart from sleepers most materials are

second-hand. Between Marino Point and Cobh repair work is less extensive and is generally confined to patch resleepering at track joints.

The maximum permitted speed on this line was reduced to 40 mph for locomotive hauled stock with effect from 2nd June 1998, although railcars are still permitted to operate at up to 50 mph. This is the first time for many years that a differential speed has applied to railcar operated services although this was common in the 1950s and 1960s both in the Republic and in Northern Ireland. The entire Cobh line currently consists of jointed track and at the end of 1997 contained rail dating back to 1907 and sleepers dating back to 1964. Average rail age was 74 years although the average sleeper age was only 15 years.

It is proposed to renew 3 miles of this line in 2001, 6¾ miles in 2002 and 7 miles in 2003.

Limerick/Ennis

The speed limits on this line have not been altered with passenger trains theoretically allowed travel at up to 50 mph and freight trains at up to 40 mph. In practice, however, temporary speed restrictions are in place over almost the entire line with speed limits varying between 25 and 40 mph.

As of the end of 1997 this line contained rail dating back to 1885 and sleepers dating back to 1927. Average rail age was 79 years and average sleeper age was 39 years.

It is proposed to renew 6 miles of this line in 2001, 7 miles in 2002 and 5 miles in 2003. At the time of writing in June 1999 and for several months previously this line has generally been closed for several hours each weekday to facilitate rail changing and other temporary remedial work. As a consequence both the 12:10 Limerick/Ennis and the 13:50 return are normally substituted by buses.

Limerick/Ballybraphy

The speed limit on this line was reduced to 40 mph with effect from 2nd June 1998. In common with other routes some patch repairs have been carried out at various locations although no significant work is planned in the context of the current five year plan. Prior to June 1998 some 41½ miles of this route was cleared for 60 mph running with just over six miles of the remaining 11 miles cleared for 50 mph.

As of the end of 1997 this line contained rail dating back to 1907 and sleepers dating back to 1957. Average rail age was 70 years and average sleeper age was 27 years.

Miscellaneous

It is understood that Irish Rail has instituted a ban on passenger trains between Limerick and Foynes, Athlone and Mullingar and Athenry and Claremorris. One of the first groups affected was the Irish Railway Record Society which had planned to operate an executive train excursion over the Athenry/Claremorris line at the end of May 1999.

Some four miles of the Ballinacourty branch, between Waterford and Kilmeaden, is understood to have been lifted by early 1998, apparently to provide rail for use elsewhere.

In order to assist with the enhanced level of infrastructure renewal Irish Rail are to purchase specialist equipment for relaying and handling railway points and crossings. Closing date for tenders was 29th January 1999.

British Steel Track Products has been awarded an exclusive two-year contract to supply Irish Rail from its Workington plant. The rail is shipped to Waterford and loaded onto the so called “steel train” for final delivery to Portlaoise.

New metal gradient posts were installed on the Belfast line between Dublin and the border in early 1998. Similar posts have since appeared at other locations throughout the system.

DART Extensions and Related Matters

The contract for the erection of overhead line equipment and electrical supply work in connection with both the Malahide and Greystones extensions was awarded to Adtranz in early January 1998 and was valued at £12m.

Bray/Greystones

Work on the extension of the DART system from Bray to Greystones was almost complete at the time of writing in mid February 1999. The main contractors, Adtranz GmbH, established a base in part of the car park at Bray in May 1998 and set to work on the erection of overhead line equipment from the existing limit of electrification near MP 12 $\frac{3}{4}$, to a point near MP 17 $\frac{1}{2}$. Apart from the Greystones station area the section concerned is single throughout and passes through four significant tunnels varying in length from 143 to 1,084 yards. Erection of masts proceeded rapidly with the base of each being placed into hollow cylindrical steel piles. The masts were initially secured by temporary wooden wedges, which remained until the pile had been partially filled with concrete and the latter had set sufficiently to take the load. The piles were subsequently topped up and later encased in a square concrete cap. Erection of insulators, brackets, cantilevers, earth wire, parallel feeder, catenary and conductor was undertaken using the contractor's road/rail vehicles thus reducing the requirement for work trains to a minimum. At the time of writing in mid-February all of the approximately 144 masts are in place as is all the overhead wiring. Adjustment and tensioning of the overhead system is also complete except through Greystones station where final adjustment awaits completion of permanent way renewals.

Pile driving equipment was mounted on a rail wagon included in a special works train which was generally hauled by 143, a restricted locomotive allocated to the DART extensions project. In the tunnel sections cantilever supports are generally attached to the tunnel sides although where clearances are particularly tight, as in No.4 tunnel, the conductor is mounted on the tunnel roof. Not too long after the erection of the overhead conductor in No.4 tunnel, it was observed that considerable corrosion of components was occurring. Investigations revealed that water seeping through the roof was reacting chemically with sulphurous deposits to form sulphuric acid. Consequently special measures will have to be taken to protect the overhead equipment within the tunnel and this work will probably cause some delay in energisation of the section between Bray and the new substation at Ennis Lane.

Two new substations have been constructed, one on the old "Pig bank" at Bray and the other near Ennis Lane accommodation crossing, about a mile north of Greystones. A ducted 38kV power supply has been provided adjacent to the Up line from Shankill substation. The latter is being slightly enlarged to accommodate switchgear and other equipment associated with the new feed to Bray. Two transformers are in place at Ennis Lane and the substation has been connected to the ESB supply at 38kV. At Bray only one transformer has been installed although a second bay is provided for possible future use.

At Greystones both running lines are electrified as is the Up siding and the outermost of the two sidings on the Down side. The Up siding, although initially shortened as a result of layout modifications effective from 1st November is to be extended to 194m - sufficiently long to stable eight DART cars. Widening of the embankment to accommodate the extension of the Up siding was complete by mid-January and lengthening of the siding was expected to take place in February.

The public amenity area on the Down side of Greystones station, once part of the station yard but now owned by the local authority, is to be converted for use as a car park. With this in mind, spoil excavated during track renewal through the station was deposited in this area and used to fill in the old turntable pit which had remained as a recognisable feature subsequent to the change of ownership. Despite this development car parking at, and in the vicinity of, Greystones station will be extremely limited and

there is some trepidation locally that the centre of the village will become one large car park when DART services commence.

Although some final adjustments to the overhead wiring had yet to be completed at Greystones station in early February it is anticipated that the line will be energised in early June although services are not expected to commence until 19th September 1999. It is worth noting that the erection of masts and overhead line equipment resulted in little disruption to normal services. Possessions were generally taken during the night although the infrequent nature of the existing service meant that much work could be done in daylight, between trains.

The metal footbridge immediately north of Greystones station was temporarily removed on 7th February 1999 and is to be replaced by a new structure providing adequate clearance above the overhead lines. The station footbridge will also have to be replaced due to inadequate clearance and when this is done the overhead wires in the station can be finally adjusted in readiness for energisation.

Both Up and Down platform lines have been excavated and renewed with CWR on concrete sleepers. The platforms themselves have been extended at the Bray end.

The addition of the Bray/Greystones section to the DART network provides Irish Rail with a number of challenges. In the short to medium term, pending delivery and commissioning of new DART cars, services to and from Greystones will be severely limited at certain times of the day. This problem will be most acute between 08:00 and 09:30, as almost all available stock is fully committed during this period. (See separate 1998/9 DART timetable review.) There should be little difficulty in providing services from Greystones prior to 08:00, as many sets either take up duty at Bray or have a sufficiently long lie-over to continue to Greystones and return in time to take up their existing links. While the signalling between Bray and Greystones allows trains to operate in the same direction at approximately five minute intervals, the constraints of the single line mean that the promised fifteen minute interval peak period service will only be possible by stacking sets in Greystones. Thus several sets would work empty to Greystones in the morning at close intervals prior to the morning peak. Similarly in the evening sets would have to remain in Greystones until service frequencies returned to normal off-peak levels. An alternate method of serving Greystones during peak periods which would optimise the use of rolling stock and track capacity would be to use two-car sets on services from Greystones in the morning and to Greystones in the evening. These sets could be added to four-car formations in Bray in the morning and split from six-car formations in the evening. Thus two empty six-car sets from Bray to Greystones in the morning could provide six return services departing from Greystones. This would require the provision of a "call on" signal from the Greystones direction into one or both of the through platforms at Bray. Signalling arrangements of this type have virtually disappeared from Irish Rail layouts but are used to good effect on NIR, particularly at Great Victoria Street, Lisburn and Coleraine. (Prior to 1959 it was common for Up Greystones trains to arrive into an occupied platform at Bray in order to give passengers the choice of travelling to Westland Row or Harcourt Street without having to cross the footbridge at Bray. These facilities survived at Bray until the demise of semaphore signalling in 1983.)

Off-peak services are likely to run at half-hourly intervals given an eight to ten minute sectional running time from Bray to Greystones (in either direction) and a modest margin for recovery. The extension of services to Greystones and the discipline associated with the single line will hopefully result in a total revamp of off-peak DART services. At present there are normally four trains per hour on weekdays in each direction although service intervals vary erratically, and without good reason, between 9 and 23 minutes.

Traffic at Greystones is expected to increase by a factor of seven with the introduction of DART. The station currently handles about 75,000 commuters per annum and this is conservatively predicted to increase to 500,000 per annum.

Howth Junction/Malahide

The DART extension to Malahide entails the electrification of about 4½ miles of double track railway from MP 5¼, north of Howth Junction to MP 9½, just north of Malahide. The first masts were erected adjacent to the Down line near MP 5½ at the end of August with work generally proceeding in a northerly direction. By the end of December 1998 over 75% of the masts had been erected using the procedures already described under the Greystones heading. At the time of writing in mid-February some 222 masts were in place with only four remaining to be erected on the Up road and about twenty on the Down road. At least one of the “quarry sidings” is to be electrified in order to allow for the short-term storage of DART trains. Given the level of vandalism now prevalent at Malahide, as evidenced by the deterioration in the condition of the station, it would be impractical to use the quarry area overnight without a substantial investment in security.

Stringing of the overhead cables commenced in mid-January 1999 and was almost 70% complete within a month, by which stage wiring was in place over both roads to MP 8. As in the case of the Greystones project this work was undertaken using the contractor’s fleet of road/rail equipment. These vehicles gain access to the track from the Up side car park via a gap separating the present Up platform from the recently constructed extension. The latter remains out of use for the present and as a consequence the Up platform still extends under OB 27. All overhead structures and wiring were in place by 29th April including conductor to serve the proposed layout alterations at the south end of the station. Only one of the two quarry sidings have been wired although little additional work would be required to wire the second. As of the beginning of June Adtranz were within a few weeks of fully completing the overhead system although it will not be possible to run services until the signalling and layout alterations have been completed. This work is not expected to commence until later in the year and as a consequence DART services to Malahide are not expected to start until the year 2000.

So far there has been little disruption to services as a result of this project with most work taking place during possessions of one or other line at night or on Sundays. During these possessions single line working is instituted as required over the opposite road either between Skerries and Howth Junction or Malahide and Howth Junction.

Preparatory work in connection with the renewal and widening of OB 18, near MP 5¼, commenced in mid-February 1999. This narrow bridge carries a busy link road and has long been inadequate for the volume of road traffic passing over it, so much so that traffic lights have been in place for years to limit the flow of vehicles to one direction at a time. Track renewal in connection with the upgrading of the Dublin/Belfast line resulted in the lowering of the formation under the bridge, a short-term measure pending the replacement of the existing structure. Notwithstanding the hopelessly inadequate nature of the bridge from the road traffic point of view it appears the local authority expected the Railway Company to foot the bill for renewal and widening. As the railway’s requirement for increased clearance to accommodate overhead electrification could be met by a simple renewal, similar to that of OB 21, the matter remained in dispute between the parties until now. New abutments had been built immediately south of the existing OB 18 by the end of March thus facilitating the placing of new spans over the railway on 27th/28th March 1999. The next stage saw the construction of approach ramps to serve the new structure and as soon as these were ready the old arched structure was completely demolished during the course of an overnight possession on 29th/30th May. The final stage will see the new bridge enlarged to its full width although as far as the railway is concerned additional ballast can now be deposited and final adjustments made to the OHLE.

The arched portion of OB 21, an accommodation bridge constructed in red brick and located near MP 6½ was demolished on Saturday/Sunday 5th/6th September 1999. Replacement reinforced concrete “portal arch” sections resting on the springing points of the original structure and providing a much improved clearance envelope were placed in position during the course of the same possession. The

additional clearance is required to facilitate overhead line equipment.

Fingal County Council has engaged contractors to construct a pedestrian footbridge over the railway at Malahide station. The new structure will be located immediately south of OB 27 and is the result of a compromise agreement with local residents associations who had opposed the renewal of OB 27. This eventually took place in April 1997, having been considerably delayed by the dispute, which had centred around the absence of a public footpath on the southern side of the road at this point. Work on the construction of the new footbridge commenced in late February 1999 and is now complete.

Construction of the new Malahide substation was well advanced by early February on a site above the line, on the Down side, close to MP 8½. A new switch-house building is complete at Howth Junction and is located adjacent to the relay room in the “V” between the Up main and Down branch platforms. Alterations to traction feed arrangements were in hand at Howth Junction in early March.

The extension of DART services to Malahide poses some interesting challenges from the point of view of pathing, frequency and stopping patterns. At present the numbers boarding the five Up outer suburban trains at Malahide between 07:30 and 08:45 exceeds one thousand passengers. With the exception of the 07:18 ex Mosney¹, which is formed by one Dublin based Sligo Mk2 set and runs to Connolly only, all of these trains are generally already overcrowded by Skerries and are occasionally so full that passengers are left behind at both Malahide and Portmarnock. It seems likely that most of these trains will continue to serve Malahide, as otherwise the station would be isolated from Donabate and points north thereof. DART services from Malahide (and Howth) are likely to operate at approximately fifteen-minute intervals during the morning peak. This will eliminate the current practice of closely following services from Howth squeezed between outer suburban trains. At present the first of each pair, 07:53, 08:08 and 08:26 are six-piece sets while the following 07:58, 08:14 and 08:30 services are formed by four-piece units. The next pair, 08:47 and 08:52 ex Howth, are both four-piece sets as there is insufficient rolling stock available to augment the 08:47 and as a consequence severe crush loading normally occurs on this service. A similar pattern will most likely apply in the evening peak although the opportunity will probably be taken to remove the Malahide stop on the 17:13 Pearse to Dundalk as this train is now generally so overcrowded that passengers are regularly left behind at Connolly. (The next Dundalk service is the 19:00 to Belfast and this too usually has passengers standing, although in this instance a relief sometimes operates to Dundalk at 18:50 if severe overcrowding is anticipated.)

Off-peak services to and from Malahide (and Greystones) are expected to operate every half-hour. Interestingly the only way to provide a regular interval service from Malahide, Howth and Greystones, as well as between Howth Junction and Bray, is to split the service at Howth Junction with every second train taking the branch. Assuming that a regular (or even near regular) interval service is to be provided, the only realistic choices are a service interval of either 10 or 15 minutes in each direction between Bray and Howth Junction with trains continuing to Howth and Malahide every 20 or 30 minutes respectively. Given that paths need to be provided for mainline, outer suburban and Maynooth services and also that DART drivers are presently none too plentiful, the most practical option appears to be a half-hourly service to Greystones, Howth and Malahide with trains every fifteen minutes between Howth Junction and Bray. Such a service would require eleven sets to operate compared to the ten employed in the present Howth/Bray timetable. Given that off-peak services are now formed of four-car sets (two cars after about 20:00 on weekdays) there is ample scope for future growth without necessarily having to increase frequency.

¹ As mentioned elsewhere this train was altered to run to Pearse from 19th April 1999.

Signalling and Layout Alterations

Irish Rail sought tenders in May 1998 for the “design, supply of material, supervision of installation,

testing and commissioning of alterations to the existing SSI interlocking at Malahide". This work is necessary to accommodate layout changes, which will include the installation of a new facing crossover at the south end of the station. The latter will enable trains to run directly to the Up platform from either the Down mainline or the quarry sidings.

A trailing crossover is to be retained at the south end of the station, but this will be located nearer to Howth Junction than at present. In addition the signalling system in the Malahide area and between Malahide and Howth Junction will have to be made compatible with electric traction. There was little evidence of signalling related activity up to the beginning of March 1999 and it seems that much of this work will coincide with the layout alterations which are not scheduled to take place until late 1999 or early 2000. (Incidentally Adtranz had virtually completed the erection of the overhead line equipment by early May and as a result wires are presently in place over non-existent crossovers.) Installation of impedance bonds was well advanced on both roads between Howth Junction and Malahide as of early May. This work is a necessary pre-requisite to energising the overhead system and should allow power to be switched on in the next few months between Howth Junction and the new Malahide substation at MP 8½. Energising the remainder of the line to MP 9½ will probably have to await the completion of the signalling and layout alterations at Malahide station which have already been referred to.

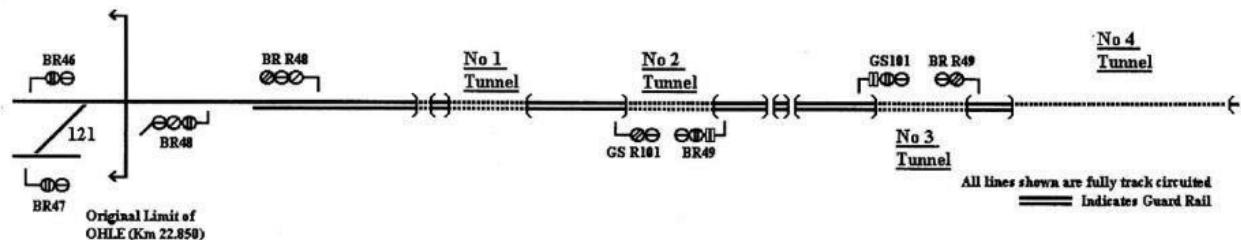
Irish Rail published a notice in June 1998 seeking expressions of interest from suppliers in a turnkey package which would involve the design, installation, testing and commissioning of new track and signalling in the Heuston/Inchicore area. The project would incorporate the remodelling of the Heuston station layout and would accommodate proposed platform alterations and additions. In September 1998 Irish Rail invited expressions of interest in a turnkey package to provide remote control of the proposed Heuston and Inchicore layout together with an upgraded remote control system for the remainder of the network. (The latter part of the project would see an upgrade of the supervisory and control elements of the existing CTC system and the incorporation of Heuston and Inchicore into the area presently controlled from Connolly.)

Irish Rail sought tenders in October 1998 for the resignalling of the Clonsilla/Maynooth section as a double track route with track circuit block throughout. The project also includes the replacement of semaphore signalling at both stations and the conversion of the existing gated level crossings at Reilly's, Ashtown, Coolmine, Porterstown, Clonsilla, Barberstown and Blakestown to full barrier crossings with CCTV supervision. The line to Maynooth together with all intermediate level crossings will be controlled from Connolly and as a consequence both Clonsilla and Maynooth signal boxes will be closed, although provision is to be made for local control should the need arise. Coded track circuits are to be employed throughout and in-cab CAWS indications will be provided.

In order to facilitate preparatory work in connection with the remodelling and resignalling of the track layout at Greystones station, the up siding, fouling track circuit and associated shunt signals were disconnected on 18th October 1998. The Up loop and the signals reading into it were taken out of use on 24th October as was the ground frame controlling movements into, and out of, the Down sidings. The existing track circuits which monitored the running line between the southbound platform starting signals (16A/16B) and the berth for the Up outer home signal (No.1) were also dispensed with on the latter date as was the fouling track circuit associated with the Down siding. During the course of a possession from around 14:30 on 24th October to about 17:00 on 26th October all existing connections at Greystones, except the north turnout, were renewed. The south crossover is now located some distance south of its original position thus lengthening the loop to 255 yards. The Up siding, effectively an extension of the Up loop, was considerably shortened at this time as the widening of the single-track embankment south of the original buffer stop had yet to take place. During the period from 26th to 31st October all connections at Greystones were out of use and as a consequence all services were routed via the Down line and it was not possible to cross trains during this period. This was the last few days

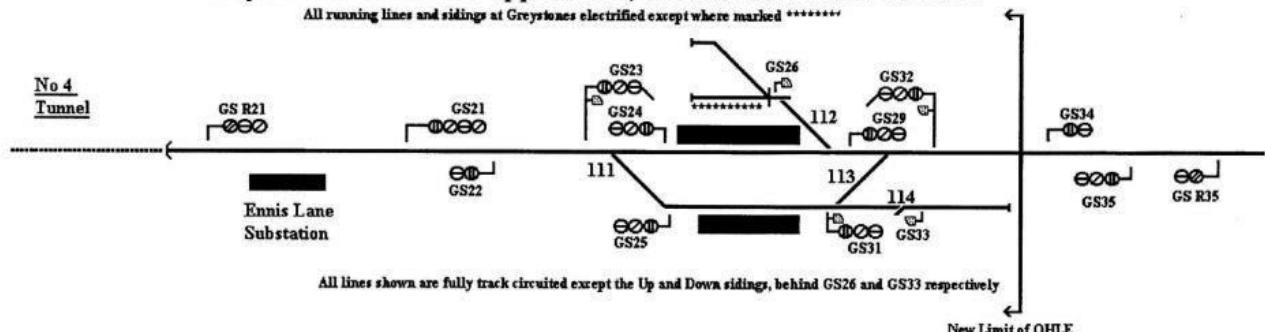
of semaphore signalling at Greystones with the Down home (17), Down platform starter (16A), Down advance starter (14), Up outer home (1), Up home (2) and up platform starter (3A) still operational. In addition the Up distant (GSR1), Up advance starter (GS13), Down distant (GSR18) and Down outer home (GS18) remained operational. The latter group of signals was converted to colour light operation in 1983. Normal track circuit block arrangements continued to apply to/from Bray during this period while ETS working remained in force to/from Wicklow.

Bray Head, showing guard rail and existing signalling, also previous limit of electrification



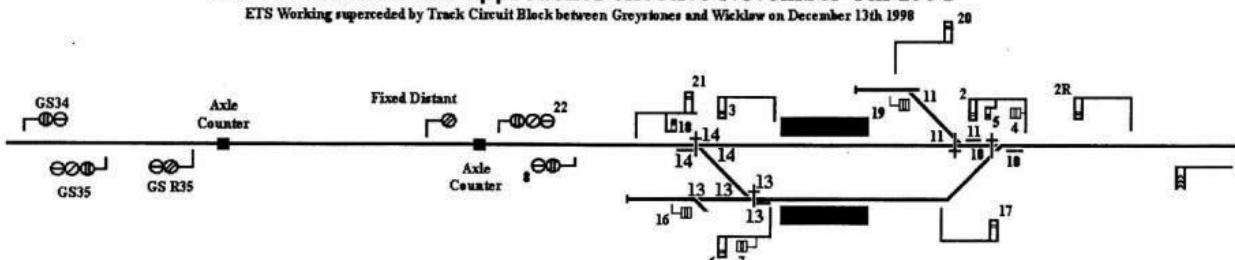
Greystones Station and approaches, effective November 1st 1998

All running lines and sidings at Greystones electrified except where marked *****



Wicklow Station and approaches effective November 8th 1998

ETS Working succeeded by Track Circuit Block between Gresford and Wicklow on December 13th 1992



Track circuiting is provided between Greystones station and the axle counter on the Wicklow side of GS E35 and again at Wicklow from the up/mach side of No 22 signal to Nos 18/21 signals.

Traffic was again suspended through Greystones on 1st November on which date the new signalling and track layout was brought into use, with the line being handed back for normal working in time to pass the 14:45 from Rosslare Europort. Signals in the Down direction consist of a three-aspect distant (GSR21), a four-aspect outer home (GS21), a three-aspect home reading to either platform (GS23), a three-aspect main platform starter (GS29), a three-aspect loop platform starter (GS31) and a two-aspect advance starter (GS34). Signals in the Up direction consist of a two-aspect distant (GSR35), a three-aspect outer home (GS35), a three-aspect home (GS32) reading to either platform, a main platform starter (GS24), a loop platform starter (GS25) and an advance starter (GS24).

Although the location of the Down distant and outer home signals are unaltered both have had additional aspects added and are also renumbered. The Down distant, formerly capable of displaying a single yellow aspect only, now displays either green, double yellow or single yellow depending on conditions ahead. For instance, if the Greystones/Wicklow section is occupied, a southbound train

routed to the Down platform will encounter a green on the distant, a double yellow on the outer home, a yellow on the home and a red on the platform starter. Similarly, a southbound train routed to the Up platform will encounter the same aspect sequence with, in addition, a position 4 route direction indication on the home signal. Southbound trains routed via the Down platform will encounter green aspects on all signals provided the route is set up and the line is clear up to and including the overlap of the Wicklow Down outer home signal (No.22). It should be noted that GS31 will not display a proceed aspect unless the Up platform track circuit is occupied and hence the least restrictive aspect sequence for southbound trains approaching the station and routed via the Up platform is as already described. Northbound trains will encounter green aspects on all signals through Greystones provided the route is set up through the Down platform and the line is clear at least as far as the overlap of the Up intermediate automatic signal located at the southern portal of No.2 tunnel. The revised aspect sequence will enable DART trains to approach Greystones without the automatic train protection system.

Signalling at the south end of the station is fairly standard with shunting movements able to approach the Down advance starter fully protected by the Up distant and Up outer home signals, both of which have been moved towards Wicklow. Subsidiary signals control movements into and out of the Up and Down sidings while those located at the home signals allow for shunting movements onto occupied platforms. The Down siding points are converted to power operation but can not be reversed while the platform is occupied. Unlike Irish Rail's more recent re-signalling schemes all points are fitted with clamp locks mechanisms similar to those already in use between Howth and Bray.

The new layout at Greystones is at present controlled from the existing signal box, the operator interface being via a graphical workstation similar to those installed at Drogheda, Dundalk and Waterford.

The Down semaphore distant signal at Wicklow was replaced by a single yellow aspect colour light signal on 8th November. On the same date a new three-aspect Down outer home signal (No.22) and a new Up advance starter (No.8) were commissioned. The new signals facilitate running/shunting movements towards the advance starter whether or not the Wicklow/Greystones section is occupied.

ETS working between Greystones and Wicklow ceased on 13th December and all movements are now subject to track circuit block regulations although there are in fact no track circuits from a point south of GSR35 to a point just north of the Wicklow Down outer home. Movements through this section are controlled by the sequential occupation and clearance of entry/exit track circuits with trains being proved complete by axle counters located at the extremities of the non-track circuited portion of line. This is the third application of axle counters on Irish Rail, the others being on the single line sections between Mallow and Banteer and across the Barrow bridge on the South Wexford line.

The facing crossover (251), located just north of Malahide station and installed in 1982, was renewed during the night of 16th/17th January 1999. The new crossover is considerably longer than the original and is similar in design to the crossovers installed at Skerries, Mosney, Drogheda and Dundalk between 1994 and 1997.

Installation of impedance bonds at track circuit boundaries between Bray and Greystones was well advanced by mid-February 1999. These devices allow the free flow of traction return current to the substations but prevent the passage of low voltage AC current used for signalling purposes. Because of the presence of guard rail on the exposed sections around Bray Head it has been necessary to mount the impedance bonds adjacent to the track rather than between the sleepers as is the general practice elsewhere on the DART system. Work is also proceeding on the installation of new location cases and signals on the section of track between the Down main and loop starters at Bray (BR46/47) and the approach to the new Greystones Down distant (GSR21). Although there will be no change to signal locations or line capacity this work is necessary, as the existing equipment is not compatible with

electric traction and must be replaced before the line is energised.

Because of the volume of work and multitude of signalling projects now being undertaken by Irish Rail the company has decided to engage outside project managers to liaise with contractors, monitor progress and conduct technical audits. Irish Rail personnel will continue to produce scheme plans, control tables and other design criteria as well as conducting final acceptance tests.

The Mini-CTC contract has passed to GEC-Alstom following that company's acquisition of the Bologna based SASIB group in January 1998. SASIB had previously acquired the US based General Railway Signal Corporation in 1991, hence the proposed use of the GRS Vital Processor Interlocking in the Mini-CTC project. This project, which was described in the last issue, has been progressing extremely slowly and it is presently unclear when the first location will be commissioned. Fibre optic cables have been installed on the Galway line and are presently in process of installation on the Sligo, Tralee and Waterford (via Kilkenny) routes. This aspect of the work is being undertaken by Modern Networks Limited in parallel with the ESAT project and has featured the use of both the original Irish Rail cable plough train and a second train which was assembled to assist with the ESAT project. Each Mini-CTC location will be linked to Dublin (Connolly) by fibre optic cable which will also carry CCTV images of centrally controlled level crossings as well as CIÉ group data and telecommunications traffic. Conventional multi-core cables are being used to connect each interlocking to its associated points and signals. The present position (May 1999) in respect of each of the four lines awaiting resignalling as part of this project is as under.

Ballinasloe/Galway

Fibre optic cable in place throughout.

Ballinasloe: New west crossover assembled and local cable installation well advanced. (*The east turnout at this location is not being replaced as it is only a few years old.*)

Woodlawn: New connections are awaiting installation at either end of the proposed loop since at least mid-December 1998. The formation for the loop, which will be about half a mile long, has been prepared on the Down side of the line and has resulted in the partial demolition of the former cattle bank. There will be a crossover at the Athlone end of the station and a turnout at the Galway end, the latter to be located a short distance west of the level crossing.

Athenry: A new crossover has been assembled at the east end of the station and is to be located some distance on the Athlone side of the existing loop connection. The final layout here appears to be in some doubt although it is believed that the Tuam line will be connected to the up loop as at present and that the Ennis line may trail onto the Galway line just west of a relocated turnout to the Up loop. (*Interestingly the Ennis line still meets the Galway line by means of a double track junction as both routes consist of main and loop lines at their point of connection. This arrangement which was much favoured by the Board of Trade still exists at Claremorris and Mullingar also, although both are likely to disappear in the near future.*)

Galway: A new crossover has been assembled on the Down side at the foot of the embankment near the Lough Atalia bridge. Various new connections are stored in the yard awaiting installation. The refuge siding which parallels the main running line from the existing east crossover to a point near Renmore has been taken out of use and will be incorporated in a new loop which will extend from Renmore to the Lough Atalia bridge. According to notices posted in Galway it had been intended to commission the Mini-CTC interlockings at Ballinasloe, Woodlawn, Athenry and Galway by 30th April 1999.

Mallow/Tralee

Signal and point locations have been pegged out, notably at Banteer, Millstreet and Rathmore

although there was little other indication of signalling related activity as of early April. (Markings at Millstreet confirm the intention of reinstating the badly missed crossing loop at this location. incidentally Millstreet remains a block post and is switched in as required to allow access to the goods yard or to split the Banteer/Rathmore section at times of heavy traffic.)

Cherryville Junction/Waterford

Installation of fibre optic cable complete between Waterford and Kilkenny by early April and in progress between there and Cherryville. A number of new signal bases are in place at Athy and Carlow. The formation has been prepared for the new loop at Ballyhale which will be approximately half a mile long and is located almost exactly half way between Waterford West and Kilkenny. The existing loop at Thomastown is to be taken out of use when the Mini-CTC scheme becomes operative.

Maynooth/Sligo

Installation of fibre optic cable is presently in progress although there is little other evidence of signalling related activity.

In order to facilitate improvements to the N61 at Knockcroghery the station layout is to be reorganised with both ends of the loop being moved northwards towards Roscommon. The alterations to the layout are necessary as the existing loop points at the Athlone end of the station are directly in the path of the proposed road realignment. Although not actually part of the Mini-CTC project Knockcroghery is to be fully resignalled and will apparently be the first location to be controlled by a GRS Vital Processor Interlocking. (See Mini-CTC above.) The gated level crossing at Hodson's Bay, which is located at MP 81½ between Athlone and Knockcroghery, is awaiting conversion to automatic operation. The road leading to the Hodson Bay hotel crosses the railway at this and although much improved in recent years narrows to its original width to pass over the railway. Much of the equipment required for this conversion has been on site for at least a year and has been wired back to Knockcroghery signal box.

Irish Rail are understood to be formulating plans for the resignalling and remodelling of Claremorris and Ballygeary due to the degraded condition of the interlocking at both locations. Facing point locks are to be fitted to the Barrow Bridge in response to criticisms contained in the IRMS report.

Consequent on a review of the safety of level crossings it was discovered that braking distances between protecting signals and crossing gates were inadequate in a number of instances and as a result "temporary" speed restrictions have been imposed at the locations concerned. The Westport and Sligo lines were the first affected with speed restrictions of between 35 mph and 50 mph being imposed in May 1998 on the approach to one or both distant signals at eleven crossings. The temporary speed restriction is designed to ensure that an approaching train is travelling at a sufficiently low speed to stop safely from the point at which the driver first sights the relevant distant signal. None of the restrictions introduced in May 1998 have been lifted although eleven further crossings have had restrictions imposed. Apart from Edermine Ferry (Enniscorthy/Wexford section) all of the latter group are on the Limerick Junction/Rosslare line. The 22 crossings so far affected by these restrictions are invariably protected by semaphore signals sited less than half a mile away and worked off the heel of the gates.

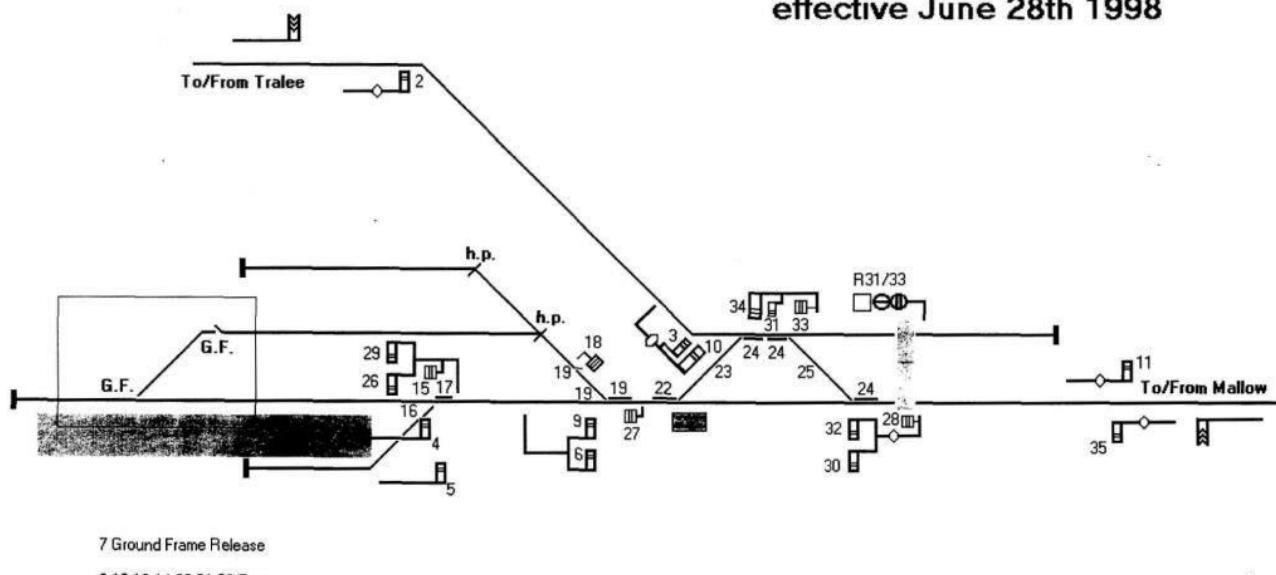
Most semaphore signals throughout the system have had their arms fitted with a combination of reflective and fluorescent materials as described in previous issues. The treatment of fixed distant boards, a feature of many single-line block posts, has varied with semaphore arms being fixed to the board in some instances, a semaphore arm substituted in other instances and in a few cases the board remains unaltered despite the conversion of the associated stop signals.

Consequent on the sale of much the yard at Killarney to facilitate the erection of a complex of factory

shops it has been necessary to alter the station layout. The changes considerably restrict operations while the development itself means that Irish Rail is deprived of land which could have been used to improve passenger facilities and extend the less than adequate station car park. (This sale generated a degree of political controversy given that CIÉ appear not to have been overly enthusiastic vendors.)

The turnout and associated trap points (No.13) connecting the platform line with the inner loop at the Mallow end of the station was removed in April 1998 along with No.12 disc, which controlled movements onto the mainline. No.15 disc, which is mounted on the same post as the inner home signals, is retained to control shunting movements onto either of the two platform lines. More changes occurred on 28th June 1998. The turnout and associated traps (No.19) connecting the mainline to the outer loop (and thence to the goods yard) were moved to a position slightly nearer Mallow. Instead of leading to the outer loop this connection now gives access to the inner loop, which is thus extended at the Mallow end. Major changes also took place at the buffer stop end of the station with the connection to the outer loop removed and the points (and associated traps) leading from the mainline to the inner loop being relocated under the station canopy. This means that 226m are available without fouling the siding points. The only remaining siding is 224m long and is thus barely able to accommodate a 201 class locomotive and nine Mk3 coaches. A further 50m is available between No.18 signal and the turnout connecting the siding to the loop and thus either the loop or siding can hold a slightly larger set. The main platform line, between No.4 signal and the new friction buffer stop, is shortened by 64m thus significantly reducing the size of trains which can be accommodated at the platform face. The opportunity was also taken to move the Up main platform starter (No.4) towards Mallow as this signal is no longer required to protect the fouling point of No.13 points which were removed in April 1998 as already stated. Subsequent to the signalling changes both the main and bay platforms were extended by approximately 17m (towards Mallow) thus increasing the length of the main platform to 236m, marginally more than is required to accommodate a full size Mk3 set.

**Killarney, altered layout,
effective June 28th 1998**



The line between Connolly and Newcomen Junction was formally closed to all traffic with effect from Monday 18th May 1998 in order to facilitate the installation of a new lifting bridge over the Royal Canal. Consequently signals CY82 and signals CY64 have been fixed at danger and the points at Newcomen Junction secured normal and those at Connolly secured in the reverse position. (The line between Connolly and Newcomen Junction was already out of use by 3rd May.) This closure is to

facilitate the provision of a lifting bridge over the Royal Canal at Newcomen Junction. Supports for the new structure were in place by the end of August 1998 and although the new bridge and its associated lifting towers have been installed for some time the track had yet to be reinstated as of early June 1999.

The line between Newcomen Junction and Glasnevin Junction was closed to all traffic on 18th May 1998 to facilitate development work at Croke Park and the reconstruction of an adjacent section of the Royal Canal. Part of the line is being used to provide access from Jones Road to the construction site. Temporary buffer stops are in place on both the Up and Down line about 200 yards east of Glasnevin Junction. At Newcomen Junction a short section of both roads remains in use for shunting purposes and as a consequence shunt signals CW62 and CW63 read to temporary buffer stops rather than CW57 and CW58. The lamps have been removed from the latter signals in order to avoid confusion as to the limit of shunt.

The disused signal box at Laytown station was badly damaged by fire in the early hours of 18th April 1998. It is understood that vandals started the fire. The remainder of the box, including the base was demolished on 3rd May 1998.



(9004) 3 p/p + 227 on the 09:50 ex Drogheda at Laytown, 20/4/1998.

The disused signal box at Dunleer was dismantled at the end of July 1998 and is to be privately preserved.

The seaward of the two Dublin-facing bay platforms at Dun Laoghaire has been extended by 31m in order to allow a six-piece push/pull set and its locomotive to stand clear of the main line. A further 5m standing room has been provided by relocating the platform starting signal, DL39. The two changes, which were implemented on 26th July 1998, increase the total standing room behind signal DL39 to 168m. The extended portion of the platform is not electrified and DART drivers must take care not to go beyond the original stop point. As a consequence of this change the 07:43 ex Drogheda is no longer required to run empty from Dun Laoghaire to Bray. Interestingly this train is shortly expected to

become an eight-piece 2700 class railcar and as such will probably be marginally too long to fit in the extended platform.

ESAT

ESAT Telecom, one of principal players in the Irish telecommunications market, is in the process of creating a substantial fibre optic network using railway right of way under the terms of an agreement with CIÉ, which still owns the network operated by Irish Rail. The first section of cable to be installed was in place along the Down line between Mallow and Limerick Junction by mid-May 1998. Since then cable has been put in place between Dublin and Cork, Dublin and Rosslare Strand, Dublin and Galway (via Mullingar), Portarlington and Athlone, Limerick and Galway (via Ennis), Limerick and Annacotty, Limerick and Ballingrane, and Limerick and Rosslare Strand (via Waterford). Work is presently in progress between Cork and Tralee and is expected to take place shortly between Dublin and Dundalk and Mullingar and Sligo. It is understood that cable is also to be laid from Athenry to Sligo via Claremorris and possibly also from Dundalk to Portadown and Drogheda to Navan. It is anticipated that the Ballingrane cable will continue to Tralee along the former "North Kerry" route, the alignment of which is still fairly intact except at Rathkeale where the formation has been incorporated into a bypass road. The overgrown condition of the Mullingar/Athlone section meant that the vegetation had to be cut back before ploughing could commence, although this was done on one side only. When the network is complete most of the major centres will be accessible by at least two routes. In the case of Dublin/Dundalk, Athenry/Galway and Mallow/Cork cable either has or will be laid on either side of the track so as to give as much diversity as practical. As of mid-April 1999 the sections from Dublin to Cork, Limerick to Rosslare Strand and Limerick to Galway had been commissioned. (The importance of the connections to Rosslare Strand derives from the presence of undersea cables from there to the UK mainland.)

Much of the cable was installed at night although daytime possessions were used where sufficiently long intervals were available between trains or where line closures or single line working could be tolerated. Some of the work was scheduled to take place during closures associated with other projects such as the renewal of the Ballinasloe/Galway line or the doubling of the Clonsilla/Maynooth line.

Train Radio

Mode C radio coverage became officially operational in early January 1998 on the Athlone/Westport, Athlone/Galway, Manulla Junction/Ballina and Limerick/Claremorris lines.

Heuston Station

As part of the proposed further developments at Heuston it is expected that CIÉ will shortly seek proposals from interested parties for the construction of both an hotel and a 1,000 space multi-storey car park. (*The latter is urgently needed as the existing 350 space facility is extremely wasteful in terms of land and is in any event woefully inadequate in terms of capacity.*)

Scaffolding and protective sheeting to facilitate the cleaning of the stonework presently hides the exterior facade of Heuston station. This work will further enhance the station appearance and complement the much-praised refurbishment of the concourse, which has now been completed.

Connolly Station

In order to facilitate the redevelopment, enlargement and modernisation of facilities at Connolly most of the existing concourse was closed on 15th June 1998. The booking office, enquiries office and certain of the station offices are housed in temporary accommodation as are the newsagent and snack

food outlets. This work also includes, and is largely financed by, an office block which is being erected at the southeast corner of the station over the roadway parallel to Platform 2. The ramp, steps and escalator leading from Amiens Street are presently out of use and pedestrian access is via a temporary footbridge spanning Sheriff Street. Openings have been made onto this footbridge from the top end of Platform 4, through the arches forming the side wall of the station. A new Fastrack office with turning facilities for vans has been built adjacent to the car park. The contractors for the work are Grahams of Dromore, the same company that built the cross-harbour road and rail bridges in Belfast. It is expected that work on the station refurbishment, costing £3m, and the Enterprise Building, costing £6m, will be completed by December 1999.

New Station at Drumcondra

The new station at Drumcondra was officially opened by the Taoiseach, Mr Bertie Ahern, at 12:00 on 2nd March 1998. The official party travelled to Connolly on the 11:45 ex Enfield, which incidentally started from Maynooth due to the late running of the outbound service.

Although extremely well located and potentially an excellent interchange point with bus services the frequency of the present rail service at Drumcondra is such as to limit business to a few hundred passengers a day. The station is open in time for the 06:48 to Maynooth on Mondays to Saturdays and closes after the 23:32 to Connolly on Mondays to Fridays and the 19:47 to Connolly on Saturdays. The only service at present is provided by Maynooth local services, all of which call at the new station except the 05:50 (MF) ex Connolly. There are thus twelve Down trains and eleven Up trains on Mondays to Fridays reducing to nine Down and eight Up on Saturdays.

Despite being extremely close to Croke Park, the GAA headquarters, no special trains have yet served the station. This is somewhat surprising given that the platforms are adequately long to handle many of these trains. The Kildare v Kerry and Kildare v Galway football matches on 30th August and 27th September respectively illustrate the point. While the Tralee, Killarney and Galway specials ran to Connolly, most Kildare supporters had to make do with Heuston, an awkward location for anybody dependent on public transport to get from and to rail services. (As elsewhere in Dublin, taxis are a rare sight at Heuston with long queues the norm at almost any time of the day or week. Buses to and from the city centre are at best irregular and are often insufficient in number for the traffic offering. In addition to waiting time the length of the bus journey is unpredictable and there are normally long delays while passengers queue to purchase tickets from the driver at Heuston and the city centre departure points.) On 30th August there were two specials from Kildare and one each from Newbridge, Athy and Ballybrough. Apart from the Athy special which ran to Connolly, these trains terminated at Heuston. Four of these five specials were formed by six-piece Arrow railcars or Mk3 push/pull sets and could easily have been accommodated at Drumcondra.

The new station offers various facilities for people with limited mobility as well as those with hearing or sight problems. There are lifts to both platforms, induction loops at the booking office and on the public phones (for the hard of hearing) and tactile markings on the platforms for the blind.

Tara Street Station

The Down platform has been extended northwards by 39m to PE21, the northbound starting signal. The additional length means that the platform can comfortably hold six-car outer suburban push/pull sets and should just be capable of accommodating an eight-piece 2700 class Arrow set, given that the door openings on the latter are some distance away from the extremity of the vehicles. Construction began in May 1998 but due to the confined nature of the site and the fact that the extended platform is on a viaduct it was necessary to erect a steel supporting structure on which to build the platform decking. Another (minor) complication was the necessity to move one of the masts supporting the overhead line

equipment and this in turn required an extension to the portal beam spanning both lines at this point. A substantial steel framed canopy, with its main support at the northern end, covers most of the extension but terminates short of the narrow 2m wide passage leading to the main entrance/exit. A glazed rear wall allows waiting passengers to savour the view along the Liffey towards Dublin port and the open sea beyond.

As already mentioned and pending further alterations there is a marked narrowing of the platform where the old and new portions meet due to the location of the existing entrance/exit. A second access point leading to and from street level has been provided from the northern end of the extension although this is not in use despite the severe congestion which is such a characteristic of Tara Street at peak times.

CIÉ is assessing tenders from up to 15 interested parties for a large-scale development at Tara Street station. The proposed scheme will feature a new split-level concourse with 20,000 sq.ft. of retail space and up to 200,000 sq.ft. of office accommodation, the latter to be erected above the station. An hotel with up to 100 bedrooms may also be constructed on the site. Tara Street is the closest station to the city centre and with 25,000 passengers embarking or disembarking each day, Monday to Friday, is Irish Rail's busiest station.

Kilcock

The new station at this location finally opened for traffic on 2nd November 1998. Although devoid of any significant features the single cobble-block surfaced platform is finished to a high standard and is backed by a tall thick wooden picket fence. Furnishings include a shelter and a containerised "booking office" with a small car park being provided adjacent to the entrance. The new station is located close to the centre of the village on the Down side of the line at MP 18⁵/₈. It is approximately half a mile nearer Dublin than the original which although now in private hands and closed to passengers since 1947, freight since 1963 and as a block post in 1977, is still substantially intact.

The first train to call at the new station was the 04:50 ex Sligo, 079 + GSV + 4 Cr, which departed one minute late at 07:30. Some fifteen passengers joined bringing the total on board to about 180. Further stops more than doubled the passenger compliment so that by the time the train left Drumcondra, 18½ miles away, at 08:22 there were some 430 on board. Primarily because of the tortoise-like schedule no less than 15"-35" were spent motionless at the ten stations between Kilcock and Drumcondra. Arrival in Connolly was at 08:49 instead of 08:26, the delay being due to a points failure at North Strand Junction. The following 08:00 ex Maynooth, 077 + EGV +6 Mk2s, arrived in Connolly at 08:55 on this date with a further complement of at least 500 more commuters.

Services at Kilcock are particularly spartan with just two trains to Dublin (Connolly) at 07:29 (Monday to Friday) and 12:01 (Sundays excepted). Return trains depart Connolly at 10:40 and 17:15, neither of which runs on Sundays. Given that Arrow railcars operate much of the Maynooth local service and that the running time between Kilcock and Maynooth is only about five minutes it is extremely surprising that an effort could not have been made to provide a better service. (At least five additional services could be provided by extending existing Arrow workings to Kilcock while still retaining adequate turn-round time. Irish Rail have indicated that frequencies will be increased when the line is re-signalled although it is unclear how the existing signalling prevents railcar sets turning back from Kilcock given that such movements would be in possession of the Maynooth to Enfield ET staff at all times.)

Barrow Street

The renewal of the stone arch portion of UB 59 at Barrow Street took place over the 1998 Easter weekend and resulted in a 48-hour closure of the Pearse/Lansdowne Road section from 12:00 on

Saturday 11th April 1998. The portion of the bridge which has been renewed carries the present Up and Down mainline although track alignments at this location will be altered when the layout changes associated with the new Barrow Street station have been implemented.

A number of preparatory projects associated with the proposed Barrow Street station are presently in hand. In order to facilitate the vacating of the old Grand Canal Street locomotive depot a modern two-road facility has been constructed on the Down side at Kildare station and this will shortly become the maintenance depot for the fleet of permanent way machines currently maintained at Barrow Street.

In order to facilitate the altered arrangement of OHLE masts which are necessary to accommodate the new station at Barrow Street both the “outside” and “straight” roads, which are located on the Up side at the south end of the Boston yard, were taken out of use on or around 19th April 1999. Consequent on these changes it was not possible to run round locomotive hauled trains at Pearse without obstructing two of the three running lines. While the number of occasions where this is necessary has been reduced as a result of the gradual introduction of new railcars there are still three locomotive hauled sets employed on Dublin outer suburban services during the morning and evening peak periods. The only such services actually terminating at Pearse at present are the 07:18 ex Mosney and the 10:30 ex Dundalk. In the evening there are departures for Mosney at 14:50 and for Drogheda at 16:18. As an interim measure pending restoration of the “outside road” the Connolly pilot was sent to Pearse each morning to retrieve the coaches off the incoming 07:18 ex Mosney and work them back to Connolly from the Boston yard. (*Incidentally the 10:30 ex Dundalk is formed by the 06:57 ex Arklow while the 14:50 ex Pearse forms the 16:12 from Mosney to Arklow. The third set is required to work the 06:08 ex Longford and 17:15 return, both of which presently run to/from Connolly only.*)

Erection of new masts, which are located on the ground made available by lifting the “straight” road, was facilitated by reversible working on the Down line between Pearse and Lansdowne Road from around 20:45 to 05:00 on several nights, notably 26th/27th, 29th/30th and 30th/31st April. DART services were suspended completely between Pearse and Lansdowne Road from 12:00 on 1st May to about 12:15 on 3rd May. During this period services on the Bray side of the blockade operated to/from Lansdowne Road, with both lines north of Merrion in use for traffic in either direction as the facing and trailing crossovers at Lansdowne Road were within the possession. During the 48 hour suspension of DART trains the overhead wires on both the Up and Down running lines in the vicinity of the old Grand Canal Street depot were transferred to four new masts, each of which has an attached cantilevered structure extending over both lines. Services to and from Rosslare were unaffected by this work.

It is expected that a one-acre site beside the new station and fronting onto Barrow Street and Grand Canal Dock will be made available for commercial development. CIÉ apparently expects Barrow Street to be the second busiest DART station given the number of apartment and office developments either taking place or planned in the immediate vicinity.

Dun Laoghaire

The new overhead concourse at Dun Laoghaire was officially opened by the Minister for Public Enterprise on 21st May 1998. Facilities for the mobility impaired include wheelchair ramps from Crofton Road and lifts from the concourse to platform level. Apart from the booking office and entrance barriers the concourse contains an ATM and a retail unit currently occupied by a Bewleys Express outlet. The new facilities cost £1.45m and although not connected to the nearby ferry terminal were 50% funded by the EU Interreg fund because of Dun Laoghaire’s role as an inter-regional gateway.

Howth Junction

The Up main platform has been extended towards Malahide using prefabricated box-concrete sections. It is now long enough to fully accommodate a six-piece push/pull set and should be adequate for an eight-car 2700 class railcar set.

Dundalk 150

The 150th anniversary of the commencement of rail services from Drogheda to Dundalk and from Dundalk to Castleblaney was commemorated on 24th April 1999 in a ceremony at Dundalk station. (Both lines opened on 15th February 1849 and allowed passengers to complete the journey from Dublin to Belfast in about eight hours, although it was still necessary to travel by road from Drogheda station to Newfoundwell and from Castleblaney to Armagh.) Many of the guests attending the 24th April ceremony arrived in Dundalk on one or other of two special trains, one from Dublin and one from Belfast. The Dublin train consisted of GNR(I) 4-4-0 No.171 + 4 Cr + DV and was due to depart at 10:25. Meanwhile GNR(I) 4-4-0 No.85 + DV + 5 Cr worked a 10:35 special from Great Victoria Street, with both trains being scheduled to arrive in Dundalk at more or less the same time. The Dublin train later formed an exclusion from Dundalk to Poyntzpass while No.85 continued to Drogheda working another public excursion. Both trains returned to Dundalk tender-first where the locomotives were exchanged, with No.85 working the return service to Dublin and No.171 taking the Belfast train. A number of preserved coaches were stabled in the bay platform at Dundalk during the day, including 2977, the recently restored TPO. Given the very creditable efforts that have been made to improve both the facilities and the overall ambience at Dundalk station it was particularly appropriate that the inaugural annual Heritage Award for 1999, sponsored by Waterford Crystal, went to Dundalk. Despite the recent modernisation of the station, the distinctive W.H. Mills design remains prominent with its wonderful combination of yellow, brown, red and black brick.

Disputes

Slow progress in productivity negotiations and intra union difficulties resulted in unofficial action by drivers on Sunday 12th July 1998. The stoppage, which was called by the National Locomotive Drivers Committee, received widespread support at mainline depots and apart from a few trains on the Belfast line (between Dublin and Dundalk only due to the NI security situation) there was an almost complete standstill. The only other regular train running was the 08:52 ex Rosslare which terminated short of its destination and returned to Rosslare in the path of the 10:00 ex Dublin. One special train operated from Waterford to Thurles and back in connection with a GAA fixture. The outbound trip was formed by 169/176 + EGV + 8 Mk3 and passed Cahir at 11:29. in contrast DART trains operated an augmented service to cater for crowds watching the Tour De France.

The CIÉ chairman, Mr Brian Joyce, in a speech to the Chartered Institute of Transport on 17th November 1998, criticised government intervention in negotiations between CIÉ group companies and the trade unions and suggested that such interference was impeding progress towards changes in work practices and cost structures. He sought an unequivocal and unambiguous statement that government require CIÉ to implement changes and that they (the government) will not be a party to the negotiation, conciliation and arbitration process. Given the continued delicate state of productivity negotiations and the complicated inter-union relationships this statement was the cue for another one day unofficial dispute although in this instance it was effectively sponsored by SIPTU and opposed by the National Locomotive Drivers Committee. The dispute received widespread publicity and there were dire predictions of road traffic chaos throughout the city given that large numbers of rail passengers were expected to drive to work. While traffic conditions on Tuesday 24th November, the day of the strike, were described by AA Roadwatch as absolutely awful many people remained at home and Dublin city

centre presented a somewhat deserted appearance for much of the day. No DART services ran while all mainline trains were cancelled apart from the 06:45, 08:00, 12:30, 14:00 and 18:10 from Belfast to Dublin and the 09:40, 11:00, 15:20, 19:00 and 20:30 from Dublin to Belfast. A number of local services also ran on the Belfast line including the 06:04 and 06:40 from Dundalk, the 08:08 ex Pearse, the 09:45 ex Drogheda and the 17:13 and 22:05 ex Pearse to Dundalk. The 17:43, 19:35 and 21:40 Heuston/Kildare and the 18:46, 20:38 and 22:28 return services reportedly ran as did a number of freight trains including several beet and fertiliser movements.

Under pressure from politicians and others, Irish Rail proposed to run a late night DART service on Fridays and Saturdays between December 11th and 19th December. Additional services were proposed from the city centre at midnight, 01:00 and 01:30 with a flat fare of £3 to be charged per trip. However, amidst concerns about security and other matters, drivers at Fairview and Bray refused to co-operate and the plan was abandoned although public pressure may eventually force the matter back onto the agenda.

A serious assault occurred on a DART service travelling between Howth Junction and Connolly on 30th August 1998 at around 19:00. A male passenger had a knife held to his throat and was forced to reveal the PIN number for his ATM card. The victim struggled somewhat with his assailants and received serious cuts to his hand. Further incidents including one in which thugs prevented drivers closing the train doors at Harmonstown on 7th February 1999 led drivers to threaten the suspension of north-side DART trains after 19:00 with effect from Monday 15th February. This threat finally produced a response and resulted in the reintroduction of a security presence on DART shortly afterwards.

Limerick/Claremorris

The Modern Railway Society of Ireland chartered 113 + 9 Mk2s from NIR on 13th June 1998 to operate a special train at 06:25 from Belfast Central to Limerick via Athlone and Ennis. The return working departed Limerick at 15:39 and ran via Waterford and Lavistown to Dublin before finally departing Connolly for Belfast at 21:09.

Some minor bridge repairs have been carried out between Ennis and Athenry including the re-decking of the Upper Fergus bridge and the fitting of handrails to many of the underbridges in the section. The former signal box at Ballycar, between Limerick and Ennis, has been demolished apparently to facilitate the installation of a new drainage channel through the former station.

The morning Ennis/Dublin and evening Dublin/Ennis services continue to do good business with some 60/70 passengers to and from Ennis on Mondays to Thursdays and Saturdays. On Fridays weekend business swells the load on the 17:30 ex Heuston to such an extent that there would normally be about 200 passengers on the Limerick/Ennis portion of the trip.

At least two coal trains operated from Foyes to Ballina, via Tuam, in early 1999 although rumoured regular workings have so far failed to materialise. One of these trains led to some interesting movements on 27th January 1999 when a double-headed empty timber train left Limerick at 05:25 for Ennis. Having dropped the timber wagons the engines were attached to a laden fertiliser train which they then hauled to Athenry. The pair were then split with one continuing to Claremorris to pick up a rake of empty coal containers. The return working was not without interest as the engines were reunited at Athenry and worked a combined empty fertiliser and coal train thence to Limerick.

As of early February 1999 up to four bulk cement trains were operating weekly between Limerick and Athenry.

The signal box at Gort has been re-glazed and fitted with protective metal strips to deter vandalism. The steps leading to the operating floor have also been repaired although the cabin remains out of use.

It is reported that fertiliser traffic from Foynes destined for Ennis is now being brought directly by road.

Freight Snippets

Irish Rail invited tenders in May 1998 for a new rail mounted, container-handling crane at Ballina.

Carriage of bagged cement to Wexford (by rail) recommenced in early 1998. Trains generally consist of about ten wagons and operate at approximately weekly intervals. The wagons are loaded at Platin and are worked from Drogheda to the North Wall either as a special or as part of some other movement. Onward conveyance is by means of the regular liner from North Wall to Waterford and thence as a special working via Wellingtonbridge. The latter part of trip usually occurs on either a Saturday or a Monday departing Waterford at 09:00. It is understood that bagged cement for Carlow and Kilkenny is regularly conveyed on liner trains to Waterford thus largely eliminating the dedicated cement trains which were once a feature of the route.

Irish Rail sought tenders in July 1998 for the supply of 24 bogie packet wagons capable of carrying 45ft long, 9ft-6in high containers. The proposed wagons are to be air-braked and were reportedly intended to cope with an anticipated 110 containers per week in and from the new Coca-Cola plant in Ballina. (It is understood that this traffic will not now be carried by rail.)

Grain traffic originating in Waterford, which had ceased by early 1998, reappeared in early 1999 with three trains typically running each week to Portlaoise. In contrast grain trains originating in Foynes and North Wall are relatively rare although at least one grain operated from Foynes in May 1999.

Traffic at Foynes is presently somewhat irregular although there are still occasional workings of fertiliser, coal, grain and molasses. An unusual movement took place towards the end of August 1998 when eighteen wagons were dispatched to Belfast.

Fertiliser traffic out of Adelaide for various locations in the Republic, including Portlaoise, continues to be an important constituent of traffic from Adelaide as evidenced by the presence of between 18 and 20 bogie fertiliser wagons on 9th September 1998.

The first of a series of up to 20 converted 47ft-6in vacuum-braked wagons appeared on a timber special at Ennis on 10th October 1998. The same train also included two 4-wheelers which had also been converted to carry timber. There are presently at least four sets dedicated to timber traffic, two of which are air-braked and two of which are vacuum-braked. One of the vacuum-braked sets consists entirely of four-wheel wagons and this set has been observed with a consist of up to 25 wagons.

It was reported in early 1999 that Thurles and Portlaoise Guinness traffic is now normally road hauled from Dublin apparently due to the lack of available capacity on liner trains from Dublin. Similarly, despite a plentiful supply of fertiliser wagons, traffic previously loaded at Foynes for Ennis was being conveyed directly from Askeaton to Ennis by road.

Cement traffic into Athenry remains healthy with around four trains per week operating from Limerick via Ennis.

It is understood that Irish Rail have sold all or a portion of their land holding at Cabra depot for residential development. Although not yet confirmed it appears that the bulk cement storage silos will be demolished and that this traffic will transfer to road haulage. This location has often been mentioned as a potential site for a suburban station although there are presently no regular passenger services on this route apart from the 16:25 from Galway to Dundalk on Sundays.

There has been some recovery of traffic into and out of Belview in recent months with container specials being operated for both Norfolk Containers and Andrew Weir Shipping, although the latter traffic was of short term duration and has now ceased. There are presently services for Norfolk

containers from North Wall to Belview on Fridays and Tuesdays and from Belview to North Wall at 02:05 on Fridays and Mondays. As the Cherryville Junction/Waterford line is no longer manned at night the 02:05 from Belview operates via Limerick Junction. On Monday 17th May there were two departures from Belview, both for North Wall, one with Norfolk Containers via Limerick Junction and the other with AWS containers via Lavistown. These fully laden trains passed Hazelhatch at 11:40 and 11:50 and were formed by 133/127 + 18 bogies and 126/129 + 18 bogies.

Proposals presently exist for a major landfill operation at Silvermines, which would be fed with refuse by rail from various urban centres around the country. The plans have so far met fierce resistance in the area although the proposed site would appear to be ideal for this type of operation, given that mining activity has left large scale excavations in the immediate vicinity of the disused rail sidings.

Incineration of domestic waste from the south-east area at the ESB's Great Island power station is also under consideration and it is again proposed that the operation would be rail fed.

The bogie bulk cement wagons were employed between Drogheda and Cork during the first half of 1998 and again between January and May 1999. On at least one recent occasion, probably in response to the shortage of cement wagons, the bogie set was used as follows: Drogheda/Cork (laden), Cork/Limerick (empty), Limerick/Tullamore (laden) and Tullamore/Drogheda (empty).

Guinness traffic, previously dealt with at Cork station is now handled at North Esk. It is understood that cement traffic will follow as soon as facilities are available at North Esk. These changes are necessary due to the sale of land adjacent to Horgan's Quay.

The through Galway/North Wall and North Wall/Galway liner trains mentioned in the last issue never materialised and as a result the connecting services between Athlone and Galway have been retained.

Annual Report

1997 was a relatively good year for Irish Rail with the company reporting a surplus of over £12m compared to a deficit of £28.3m in 1996. Revenue grew in most sectors including rail freight despite the closure of both Bell Lines and the Asahi plant, although the effect of these closures in a full year has yet to be seen. Road freight revenues fell sharply, no doubt reflecting the cessation of Sundries traffic at the end of 1996 and as a consequence total revenue growth was only £2.6m. The improvement over 1997 was primarily due to cost savings of £2.2m, interest reductions of £1.4m and the virtual elimination of restructuring costs which amounted to £37.1m in 1996. The results for 1995, 1996 and 1997 are shown in the table below:

	1997 IR£000	1996 IR£000	1995 IR£000	% Change 1996-7	% Change 1995-6
Mainline Passenger	61,231	56,223	53,603	+8.91%	+4.89%
DART	14,278	13,775	12,649	+3.65%	+8.90%
Rail Freight	17,334	16,735	17,398	+3.58%	-3.81%
Road Freight	17,051	21,697	20,673	-21.41%	+4.95%
Rail Catering	9,366	9,046	8,858	+3.54%	+2.12%
Rosslare Harbour	6,627	6,177	6,009	+7.29%	+2.80%
Miscellaneous	3,139	2,750	2,722	+14.15%	+1.03%
Total Revenue (A)	129,026	126,403	121,912	+2.08%	+3.68%
State Grants (B)	92,400	92,405	97,000	-0.01%	-4.74%
Profit On Asset Disposal (C)	58	(228)	60		
Total Operating Costs (D)	197,064	233,365	214,165	-15.56%	+8.97%

Interest (E)	12,238	13,660	13,211	-10.41%	+3.40%
Surplus/Deficit (A+B+C-D-E)	12,182	(28,345)	(8,404)		

The deployment of staff across the various activities of the railway company at the end of 1997 was as follows, the figures for 1996 being shown in brackets:

Railway Operations	4,331	(4,536)
Road Freight	241	(267)
Rosslare Harbour	71	(66)
Catering	296	(299)
Total	4,939	(5,168)

The number of passengers carried on Irish Rail services in 1997 was 29.4m, an increase of 5.4% on the previous year. Mainline passengers accounted for 9.1m trips while DART and Dublin outer suburban services between them carried 20.3m passengers.

A breakdown of passenger traffic on the principal mainline routes for 1997 is shown in the following table along with the corresponding figures for 1993. These figures illustrate varying performance with traffic static or declining on routes where service quality has markedly declined and/or journey times have become uncompetitive.

Route Dublin To/From	1993 Passenger Traffic (000)	1997 Passenger Traffic (000)	% Change 1993-1997
Cork	2,198	2,388	+8.64%
Limerick & Ennis	555	579	+4.32%
Belfast ¹	280	332	+18.57%
Galway	960	974	+1.46%
Waterford	891	741	-16.84%
Tralee	556	596	+7.19%
Westport/Ballina	390	411	+5.38%
Sligo	554	557	+0.54%
Rosslare	446	444	-0.45%
Totals	6,830	7,022	+2.81%

¹ Irish Rail's share of inter-state trips only and does not include any element of local trains, e.g. Dublin/Dundalk traffic is excluded. Improved services commenced to Belfast on 1/9/1997.

Alexandra Road Extension

Services into the Coastal Containers depot commenced on 21st April 1998. Traffic at the moment is normally handled by a single train, which generally operates on a Monday to Friday basis. The maximum permitted train size is fifteen bogies.

Timetable Matters

Mainline Services (Weekdays)

The 1998/9 mainline timetable became effective on 2nd June and contains yet more extended journey times, notably of services on the Dublin to Sligo, Rosslare, Tralee, Ennis, Galway, Ballina, Westport and Waterford lines. Also badly affected are the Ballybroy/Limerick and Limerick Junction/Rosslare lines. On a more positive note there are quite a number of additional trains, mainly at weekends and particularly on Sundays. A table showing current frequency and fastest journey times is included under each heading together with the fastest journey times offered in a selected previous timetable, in most instances that from 1988/9.

Dublin/Belfast

The basic service remains unaltered as the schedules continue to contain allowances for single line working between Belfast and Lisburn. The only change from the previous timetable concerns the weekday 18:10 ex Belfast, which now serves Dundalk and Drogheda. While this change was probably desirable the consequent deceleration has reduced the turn-round at Connolly from 25 to 16 minutes and as a result the departure of the 20:30 to Belfast is alien delayed. The full service is summarised below.

Dublin-Belfast	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday	Sunday		1998/9	1988/9	
Down Trains	8	8	8	8	8	8	5	02:00	01:55
Up Trains	8	8	8	8	8	8	5	01:59	01:55

The Operational Programme for Transport 1994/99 promised a journey time of 1' 35" to be achieved by 1996.

Dublin/Cork

The major change on this route occurs on Sundays with an additional service in either direction, the Up train leaves Cork at 11:05 and returning as the new 15:25 ex Dublin. The Up train makes the same stops as the weekday equivalent but is seven minutes slower. The Down train completes the journey with three stops in 2' 30", the same schedule as applies on weekdays. These additional workings commenced on 20th September 1998 and are nominally "winter" trains although patronage is such that they are likely to run for the full duration of subsequent timetables. An 18:25 service from Cork to Heuston serving Limerick Junction only is now shown in the Sunday schedule as a "winter" relief although this service was actually added during the course of the previous timetable. Also added during the course of the 1997/8 timetable is the Sunday only 16:10 ex Mallow, which serves all stations to Heuston. As a consequence the preceding 14:05 ex Tralee runs non-stop from Mallow to Heuston. There is also a new Saturday service to Cork at 08:45 serving Limerick Junction and Mallow and booked to arrive in Cork at 11:35. This train was advertised as running in July and August only but has in fact continued on most Saturdays to date, albeit in slightly varying schedules and has occasionally been diverted to either Killarney or Tralee depending on the loading of the following 09:05 to Tralee.

On weekdays the 07:30 ex Cork has been altered to depart at 07:15. Although running time is still a relatively leisurely 2' 35", including two stops, punctuality has been improved considerably by pathing this train ahead of the 07:30 ex Waterford. There are a number of minor changes to other departure and arrival times but these do not merit individual mention. The full service at the time of writing is summarised in the following table.

Dublin-Cork	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	7	9	9	10	8	10	7	8	02:20
Up Trains	7	9	8	10	8	9	8	8	02:20

The Operational Programme for Transport 1994/99 promised a journey time of 2'-15" to be achieved by 1996.

Dublin/Limerick/Ennis

Alterations on this route are relatively minor, the principal being the cancellation of the weekday connection into the 07:30 ex Cork consequent on the retiming of that service. The 07:35 ex Ennis now departs at 07:10 in order to connect with the 08:05 ex Limerick which previously departed at 08:25. The journey time from Ennis to Limerick has been extended from 40 to 48 minutes due to the poor state of the permanent way, although the 3-hour end to end journey is still reasonably attractive. The weekday evening service from Dublin to Ennis still leaves at 17:30 and also takes three hours, five minutes slower than 1997/8 and ten minutes slower than 1996/7. The morning Dublin/Ennis service, on weekdays, now takes 3'-53" primarily due to speed restrictions between Ballybroy and Killonan Junction. (The Ennis connection from Limerick forward is a continuation of the 10:18 ex Ballybroy, the Nenagh branch connection off the 09:05 ex Heuston. Passengers for Ennis travelling on the 09:05 can thus change at Ballybroy or alternatively at both Limerick Junction and Limerick. In the latter case there is a delay of forty-five minutes awaiting the Nenagh branch train at Limerick.) The afternoon service to Dublin still departs at 13:50 and arrives in Dublin at 16:52 although the connecting time in Limerick is reduced due to extended running between Ennis and Limerick. There is a new service in either direction between Limerick and Dublin on Sundays, the Up train departing at 16:20 and connecting into the 16:10 ex Mallow. The new Down service, due in Limerick at 17:23, commenced on 20th September and is a connection off the 15:25 Heuston/Cork. The full service between Dublin and Limerick/Ennis is summarised below.

Dublin-Limerick	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	4	10	6	13	4	10	4	10	01:58
Up Trains	4	10	5	12	4	10	4	7	02:00

There is an additional service on Monday mornings at 06:00 ex Limerick to connect into the 05:20 ex Cork and returning as a connection off the 05:35 (MO) ex Heuston. There are thus 11 services each way on Mondays.

Dublin-Ennis	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1996/7
Down Trains	1	2	1	2	1	2	0	1	03:00
Up Trains	0	2	0	2	0	2	0	1	03:00

The Operational Programme for Transport 1994/99 promised a journey time of 1'-50" between Dublin and Limerick, to be achieved by 1996.

Dublin/Limerick (via Nenagh)

Services on this route continue to deteriorate, the latest changes reflecting a reduction in the maximum

line speed between Ballybroy and Killonan Junction from 60 to 40 mph.

There are just two trains in each direction on weekdays with one on Sundays. Journey times on the branch are increased by as much as twenty-four minutes and this combined with unattractive connections at Ballybroy make journeys to Roscrea and Nenagh by rail even less competitive than previously. The full service is summarised below.

Dublin-Limerick (via Nenagh)	Direct service/Full service							Fastest	Fastest	
	Mon-Thu		Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	0	2	0	2	0	2	0	1	02:55	02:32
Up Trains	0	2	0	2	0	2	0	1	02:50	02:25

Dublin/Tralee

Services on this line have deteriorated significantly due to the imposition of additional speed restrictions between Mallow and Tralee with lengthy sections limited to 40 mph. The additional speed limits and the absence of crossing facilities at Millstreet have made pathing on the branch difficult with the result that journey times are increased in some instances by as much as 38 minutes. A connection is provided off the 07:30 ex Dublin on weekdays until 19th September 1998 and again from 19th April 1999, during which period the 09:10 Cork/Tralee and 12:00 Tralee/Cork operates. The latter provides a connection into the 14:00 Cork/Dublin at Mallow on Fridays only. This service is actually fifteen minutes faster than previously due to the later departure from Tralee and arrives in Dublin at 16:37. The 15:25 ex Dublin continues to connect into the 17:10 Cork to Tralee service at Mallow giving a Tralee arrival at 19:32, thirteen minutes faster than previously. This improvement is achieved by means of a reduced connection time at Mallow (down from 31 to 17 minutes!) and a more favourable path on the branch. In contrast the 17:45 ex Tralee now departs at 17:10 and spends 22 minutes at Rathmore before continuing to Mallow where connection is made with the 19:00 Cork/Dublin as heretofore. The connection off the 11:25 ex Dublin reaches Tralee at 16:03 instead of 15:25, largely due to an increased wait at Mallow to cross the 12:00 ex Tralee. Other weekday services are between five and ten minutes slower. The 20:20 Tralee/Cork, which was the return of the 17:10 ex Cork, is cancelled although the set returns as an empty train departing Tralee at 20:10. The pattern of deceleration is similar on Sundays although the 14:05 ex Tralee is actually 25 minutes faster as a result of being altered to run non-stop between Mallow and Dublin. Passengers for intermediate stations are required to transfer to the new 16:10 ex Mallow, which as mentioned elsewhere serves all stations to Dublin including Ballybroy. Additional Sunday services commenced on 1st November with the introduction of a 17:15 Cork/Tralee and 20:50 Tralee/Cork service, the former taking a connection at Mallow off the new 15:25 Heuston/Cork which commenced on 20th September. Finally on Saturdays, during July and August, there is an additional 13:40 Heuston/Tralee, which assumes the path the regular 15:15 Cork/Tralee at Mallow. As on Fridays this working is balanced by diverting the 09:30 Tralee/Cork to Heuston. The full service to/from Dublin is summarised below.

Dublin-Tralee	Direct service/Full service							Fastest	Fastest	
	Mon-Thu		Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	2	»6	4	»7	»»2	»6	3*	4* ^{\$}	03:51	03:45
Up Trains	2	4	3	»5	»»2	4	3*	5*	03:50	03:35

» Reduces by one 21/9/1998 - 18/9/1999.

»» One additional through service July and August only.

* One of these services originates/terminates in Killarney.

\$ Additional service from 1st November 1998.

The Operational Programme for Transport 1994/99 promised a journey time of 3'-15" to be achieved by 1999.

Dublin/Waterford

Services on this line are little changed from 1997/8 although all services are decelerated, the worst affected being the weekday 15:05 ex Dublin which is 13 minutes slower than previously and does not now reach Waterford until 17:52. There is a new service to from Heuston to Carlow at 16:45 on Mondays to Thursdays and Saturdays returning at 18:10. The outward train serves all stations from Hazelhatch to Carlow while the return working stops at Athy and Kildare only. The 05:20 ex Waterford on Mondays only now departs at 05:10 but does not reach Heuston until 08:00. This train serves all stations to Heuston except Sallins. There is a new service at 18:20 from Kildare to Waterford taking connection off the 14:45 ex Westport. This service commenced on 20th September and runs for the "winter" period to accommodate heavy student traffic destined for Carlow and Waterford. It was planned to use the Spanish Arrow sets on the 14:45 ex Westport from 20th September and to split the train at Kildare, although this has not yet happened due to the delayed delivery and commissioning of the new railcars. The full service to/from Dublin is summarised below.

Dublin-Waterford	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	4	4	5	5	4	4	3	02:35	02:25
Up Trains	4	4	5	5	4	4	3	02:30	02:15

There is a fifth on Mondays at 05:10 ex Waterford.

The Operational Programme for Transport 1994/99 promised a journey time of 1'-50" to be achieved by 1998, presumably by means of services routed via the Lavistown bypass.

Dublin/Westport/Ballina

Services on this line are decelerated by between three and six minutes and this results in either earlier departures or later arrivals or both. The only substantive changes are on Sunday and involve the 15:10 ex Westport and the "winter" 16:45 ex Claremorris. The first mentioned is advanced to 14:45 and arrives in Heuston at 18:37, five minutes slower than previously. There is a new 16:00 departure from Westport during the "winter" period replacing the former 16:45 ex Claremorris. Almost all Westport trains have connections at Manulla to facilitate Ballina/Dublin and Dublin/Ballina traffic, the only exception being the Sunday 16:00 ex Westport which although booked to call at Manulla Junction has no branch connection. (At present Up branch trains continue empty to Claremorris to allow the locomotive to run round. The set then normally returns to Manulla Junction to await the next service from Dublin. On Sunday afternoons, however, the branch train leaves Ballina at 15:00 to connect with the 15:10 ex Westport and then returns empty to Ballina via Claremorris. The set is not back in Ballina in sufficient time to form a connection into the 16:00 ex Westport and thus does not leave Ballina again until 17:30 as a connection into the 17:40 ex Westport. If the branch train is changed to railcars, as intended, there should be no problem providing a connection into the 15:10, 16:00 and 17:40 from Westport as it will not be necessary to run-round and consequently the set will be able to return directly from Manulla to Ballina.) The full service to/from Dublin is summarised below.

Dublin-Westport	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	3	3	3	3	3	3	1	03:43	03:25
Up Trains	3	3	3	3	3	3	3	03:45	03:20

Dublin-Ballina	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	0	3	1	4	0	3	0	2	03:50
Up Trains	0	3	0	3	0	3	0	3	03:45

The Operational Programme for Transport 1994/99 promised a journey time of 3"-10" between Dublin and Westport, to be achieved by 1999.

Dublin/Galway

The Galway line timetable is somewhat of a mixed bag with most trains being unaltered although there are decelerations of up to seven minutes to some services. In contrast to the general trend the 16:50 ex Heuston departs at 17:00 but still arrives in Galway at 19:45. This train is now formed of Mk3 stock and no longer calls at stations between Hazelhatch and Newbridge inclusive. (These stations are served by the new 16:45 service to Carlow.) The 18:55 to Galway is now formed by Mk2 air-braked stock but runs to the same schedule as formerly. On Sundays there is a new service at 16:25 ex Galway, currently formed by a four-piece Arrow railcar set, which runs to Dundalk via Heuston and Connolly. (Presently the four-piece set splits at Connolly with two cars continuing at 20:15 to Dundalk.) Incidentally this service is the only timetabled passenger movement between Heuston and Connolly and patronage is generally modest, a situation which arises in part from the semi-secrective manner in which this leg of the service is run. On one or two occasions in early 1999 the 20:15 to Dundalk has run in two portions, one originating in Connolly, the other being the through service from Galway which has been subject to severe delays summarised below.

Dublin-Galway	Direct service/Full service							Fastest	Fastest
	Mon-Thu	Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	5	5	5	5	»4	»4	4	4	02:35
Up Trains	5	5	5	5	\$4	\$4	4	4	02:33

» One additional Heuston/Galway service runs during July and August.

\$ Two additional Galway/Heuston services run during July and August.

The Operational Programme for Transport 1994/99 promised a journey time of 2'-15" between Dublin and Galway, to be achieved by 1998.

Dublin/Sligo

All services, except the 13:30 ex Connolly and 18:20 ex Sligo on Sundays, have been decelerated with journeys extended by up to twenty minutes due to a combination of additional speed restrictions and poor crossings. There is a new "winter" 17:30 ex Sligo on Sundays, which takes up the running of the former 18:50 ex Longford. This train is normally formed by a hauled push/pull which works the 17:15 Connolly/Longford on Saturdays and then continues to Sligo, either empty or with passengers depending on circumstances. This train has proven so popular that an additional relief has been operating from Mullingar to Connolly at 19:10 on Sundays since November 1998. The former 15:45 Connolly/Longford service which ran on "winter" Sundays to balance the 18:50 ex Longford has been cancelled. The 13:30 ex Connolly and 18:20 ex Sligo are reduced to a ten-piece formation (previously 13 Mk2s on "winter" Sundays) and consequently are accelerated by five minutes in the case of the Down train and two minutes in the case of the Up Train. The full service to/from Dublin is summarised below.

Dublin-Sligo	Direct service/Full service								Fastest	Fastest
	Mon-Thu		Friday		Saturday		Sunday		1998/9	1988/9
Down Trains	3	3	4	4	3	3	3	3	03:20	03:15
Up Trains	3	3	3	3	3	3	4	4	03:15	03:07

An additional service operates at 04:45 ex Sligo on Mondays only.

An additional service operates at 06:08 ex Longford on Tuesdays to Fridays.

An additional service operates at 17:15 from Dublin to Longford on Mondays to Saturdays.

The Operational Programme for Transport 1994/99 promised a journey time of 2'-45" between Dublin and Sligo, to be achieved by 1998.

Dublin/Rosslare Europort

Services on this route have been decelerated by up to fourteen minutes making the service even less competitive than previously. Indeed the general deterioration on this route is such that traffic is actually falling despite the extremely buoyant travel market and the increasingly congested state of the Republic's roads. The full service to/from Dublin is summarised below. Departures from Rosslare and Connolly generally depart earlier although the 18:00 ex Rosslare is deferred to 18:25 each day, including Sundays.

Dublin-Rosslare	Direct service/Full service								Fastest	Fastest
	Mon-Thu		Friday		Saturday		Sunday		1998/9	1995/6
Down Trains	3	3	3	3	3	3	3	3	02:59	02:50
Up Trains	3	3	3	3	3	3	3	3	03:00	02:50

There are additional departures from Connolly to Gorey at 12:48 and 16:20 on the Saturday of the June Bank Holiday weekend and on all Saturdays in August. Trains return at 15:20 and 19:05.

There is also an additional 06:57 from Arklow to Dundalk on Mondays to Saturdays and at 16:12 from Mosney to Arklow on Mondays to Fridays.

The Operational Programme for Transport 1994/99 promised a journey time of 2"-35" between Dublin and Sligo, to be achieved by 1999.

Limerick Junction/Rosslare Europort

Services on this route follow the same pattern as in previous years with one return service from Rosslare to Waterford on Mondays to Saturdays leaving at 07:05 and returning at 17:00. A further service operates at 15:55 from Limerick to Rosslare returning at 19:40, again on Mondays to Saturdays. During the period from 8/6/1998 to 5/9/1998 the 07:05 ex Rosslare runs to Limerick Junction arriving at 10:04, one minute after the departure of 09:00 Cork/Dublin service! There is also a service from Limerick to Waterford at 10:10 which calls at Limerick Junction from 10:37 to 11:05 and takes a connection off the 09:05 ex Heuston. Passengers on the 07:05 ex Rosslare for Limerick can reach the latter at 10:41 but must change to the 10:08 ex Limerick Junction to do so. Passengers from the Dublin direction intending to connect with the 15:55 from Limerick must travel on the 13:20 ex Heuston and wait at Limerick Junction for 75 minutes before continuing their journey. Journey times on this route are extended by up to twenty-three minutes due to a reduction in the permitted line speed to 40 mph. As a consequence the 17:00 ex Waterford now takes 1'-40" to cover less than 30 miles. (This is partially due to an extended stop at Rosslare Strand to cross the 18:25 ex Rosslare Europort, although in practice the crossing is normally understood to take place in Rosslare pier sidings at 18:15.)

Cork/Cobh

This service generally runs at hourly intervals from 07:25 to 23:25 ex Cork and 07:55 to 23:55 ex Cobh. There are additional services at 06:10 and 07:48 ex Cork returning at 06:40 and 08:25 ex

Cobh. Inevitably and often for no apparent reason there are some variations in the normal pattern with departures ex Cork at 13:23 and 15:18 and ex Cobh at 14:00, 14:50 and 21:00. Apart from the 07:48 ex Cork and 08:25 ex Cobh all services are normally formed by a two-piece Arrow railcar set although the 13:23 ex Cork and the 14:00 ex Cobh operate to a slightly extended schedule to accommodate locomotive haulage. The general speed limit on the Cobh branch is now 40 mph although railcars are allowed to operate at up to 50 mph. As a consequence locomotive hauled trains are now allowed 27 minutes for the trip compared to 22 minutes for railcar operated services. Services from Cork on Sundays are at 11:25, hourly from 13:00 to 17:00 and then 18:45 and 20:15. Return trains from Cobh are at 11:55, hourly from 13:30 to 17:30 and then 19:15 and 20:45.

Dublin Suburban Services (Weekdays)

The new DART timetable, which was due to take effect on 2nd June 1998, was deferred for two weeks due to the late notification of roster changes to drivers. In the event the changes were minor and are summarised below with the principal changes highlighted:

DART Southbound

09:48 Howth/Dun Laoghaire extended to Bray on Saturdays only.
10:15 Howth/Bray, 2 minutes later throughout due to changed outer suburban working.
12:50 Howth/Bray runs non-stop from Dun Laoghaire due to altered Rosslare path.
13:15 Howth/Bray, 5 minutes earlier throughout due to altered Rosslare path.
15:25 Howth/Bray, 5 minutes later throughout due to altered Maynooth/Pearse path.
19:55 Howth/Bray, 5 minutes later throughout due to deceleration of 18:10 ex Belfast.
22:08 Howth/Bray, 6 minutes later throughout, clashed with 20:10 ex Belfast.

DART Northbound

06:00 (MF) Bray/Howth, new service replacing the former 06:35 Pearse/Howth.
06:35 Pearse/Howth advanced to 06:33 on Saturdays, replaced by 06:00 ex Bray on Mon-Fri.
06:30 Bray/Howth, 5 minutes earlier throughout on Mondays to Fridays, unchanged on Saturdays.
07:16 (MF) Howth Junction/Howth cancelled and path used by altered 06:30 ex Bray above.
07:50 (MF) Bray/Howth, now runs Mondays to Saturdays due to cancellation of 07:57 below.
07:57 Bray/Howth, cancelled.
08:02 (MF) Bray/Howth, 2 minutes earlier throughout and strengthened to six cars.
08:10 Bray/Howth strengthened to six cars on Mondays to Fridays.
11:00 Bray/Howth, 2 minutes later throughout.
16:16 Bray/Howth, 2 minutes later throughout.
21:00 Bray/Howth, 7 minutes later throughout due to altered Rosslare path.
23:15 Bray/Connolly, 5 minutes later throughout.

The remainder of the suburban timetable became effective on the advertised date. Again there are few major changes except in regard to Maynooth services where journey times are increased by up to 20% for no apparent reason. Similar decelerations are also evident in respect of certain services to/from Carlow, Portlaoise and Kildare. The changes to the morning DART service ex Bray has reduced congestion at Howth Junction and improved the timekeeping of both the 08:02 ex Drogheda and 06:45 Ex Belfast. The changes in outer suburban services are detailed below under the various headings:

Northern Outer Suburban, Southbound

07:18 (MF) Mosney/Connolly was advertised as extending to Pearse from 21st September 1998, but due to ongoing delays in commissioning the Spanish Arrows continued to form the morning departure from Connolly to Sligo until mid-April 1999 and was thus unable to run to Pearse as scheduled.
06:40 (MF) Dundalk/Bray no longer serves Shankill in order to increase turn-round time at Bray.

07:26 (MF) Drogheda/Bray now departs at 07:25 but still rarely runs to time due to overcrowding and a conflict with the 07:16 ex Bray at Howth Junction.

08:01 Drogheda/Pearse deferred to 08:02 and accelerated to Donabate, additional 2 minutes allowed thence to Connolly. Arrives in Pearse at 09:04 as heretofore.

09:50 Drogheda/Pearse advanced to 09:45 and runs non-stop from Skerries to Connolly. This change is to reduce overcrowding on the two-car Arrow which forms this train on Mondays to Fridays.

10:19 Skerries/Pearse, new service calling at stations no longer served by the 09:45 ex Drogheda.

Northern Outer Suburban, Northbound

07:13 Connolly/Drogheda, new service to provide a connection into the 07:40 Connolly/Belfast.

08:53 Bray/Connolly is extended to Skerries running non-stop between Connolly and Skerries. This train runs from Pearse on Saturdays.

16:45 Pearse/Drogheda, 2 minutes later throughout.

17:28 Pearse/Drogheda, accelerated by five minutes to arrive Drogheda at 18:31 on Fridays. Continues to run non-stop from Connolly to Donabate due to reduced formation.

Maynooth Service, Westbound

05:55 (MF) ex Connolly advanced to 05:50 and decelerated by 5 minutes.

06:48 ex Connolly advanced to 06:44 and decelerated by 2 minutes.

08:02 ex Connolly advanced to 07:57 and decelerated by 5 minutes.

09:06 ex Connolly decelerated by 2 minutes.

10:40 ex Connolly (to Enfield) decelerated by 10 minutes.

14:00 ex Connolly decelerated by 5 minutes.

16:05 ex Pearse decelerated by 8 minutes.

17:15 ex Connolly (to Longford) decelerated by 5 minutes.

17:52 ex Connolly decelerated by 5 minutes.

20:54 (MF) ex Connolly decelerated by 4 minutes, advanced to depart at 20:40 from 8th June.

Maynooth Service, Eastbound

07:00 (MF) ex Maynooth advanced to 06:52 and decelerated by 8 minutes.

06:15 (MF) ex Longford advanced to 06:08 and decelerated by 6 minutes.

09:15 ex Maynooth decelerated by 6 minutes.

10:05 ex Maynooth decelerated by 3 minutes.

11:45 ex Enfield deferred to 11:50 and decelerated by 3 minutes.

13:05 ex Maynooth decelerated by 4 minutes.

15:05 ex Maynooth decelerated by 5 minutes.

17:05 ex Maynooth advanced to 17:00 and decelerated by 5 minutes.

19:10 ex Maynooth decelerated by 6 minutes.

21:35 (MF) ex Maynooth decelerated by 5 minutes.

23:00 (MF) ex Maynooth decelerated by 5 minutes.

South Western Corridor, Westbound

06:00 (MF) Heuston/Kildare no longer serves Cherry Orchard, one minute faster.

06:35 Heuston/Portlaoise advanced to 06:20 and decelerated by 15 minutes.

10:05 Heuston/Kildare runs 15 minutes earlier throughout.

16:50 Heuston/Galway no longer serves Hazelhatch, Sallins or Newbridge and now departs at 17:00.

16:45 (FO) Heuston/Carlow, new service serving all stations Hazelhatch to Carlow.

South Western Corridor, Eastbound

06:45 ex Carlow advanced to 06:38, decelerated by 7 minutes and no longer serves Sallins.
07:05 ex Portlaoise advanced to depart at 07:00, is decelerated by 5 minutes but now serves Sallins.
05:30 ex Galway is advanced to 05:25, decelerated by 5 minutes and no longer serves Newbridge.
09:00 ex Kildare is advanced to 08:55.
18:10 (FO) ex Carlow, new service serving Athy and Kildare only.
18:38 ex Kildare deferred to 18:46 and follows 18:10 ex Carlow.
20:38 ex Kildare runs 6 minutes later on Friday due to altered Up Waterford passenger.
21:50 ex Kildare deferred 6 minutes.

Although the number of DART sets in service during the Monday to Friday morning peak is reduced from seventeen to sixteen, the current timetable utilises six six-car and ten four-car sets between 08:10 and 09:06 each morning. This represents an availability requirement of 95% of the eighty-strong fleet. Eighteen sets are rostered to cover the Monday to Friday evening peak with two six-car and sixteen four-car sets in traffic between 17:39 and 17:57. Monday to Friday off-peak requirements reduce to forty cars (ten four-car sets) between 11:18 and 15:34 and twenty cars (one four-car and eight two-car sets) between 21:39 and 23:26. Saturday requirements are broadly similar to those on Mondays to Fridays except that there are no peak periods in either the morning or evening.

Dublin Suburban Services (Sundays)

12:50 Howth/Bray runs 5 minutes earlier throughout due to altered Rosslare path.
13:15 Howth/Bray runs 5 minutes earlier throughout due to altered Rosslare path.
21:05 Bray/Howth runs 3 minutes later throughout due to altered Rosslare path.

The basic Sunday DART timetable requires seven four-car sets after 12:00 although on busier days, particularly during the summer, sets are often strengthened to six-car formations with four or six-car auxiliaries being operated between Connolly and Bray as required.

The 1998/9 timetable has been extended to 18th September 1999. The usual summer extras have been scheduled to/from Galway, Tralee and Gorey and operate on dates corresponding to 1998. The traditional extra token service between Waterford and Limerick Junction will operate from 31st May to 4th September, during which period there will be two passenger trains each way between Waterford and Limerick Junction. On Sundays a number of the winter only services are retained, notably the 11:05 Cork/Dublin and 15:25 Dublin/Cork. The 16:00 ex Westport, 17:20 ex Limerick, 17:30 ex Sligo and 18:25 ex Cork are, however, cancelled as is the 12:45 Heuston/Limerick.

Some changes are expected to the suburban timetable in July and these may include a limited DART service to Greystones and a Sunday local service to Drogheda although neither are fully confirmed at the time of writing.

Locomotives and Rolling Stock

111 was based at Drogheda in early January 1998 and featured on various workings including cement trains to and from Cabra. Incidentally this locomotive was observed working a grain train at the Avonmore Co-op facility at Conniberry in December 1997.

GEC Alstom confirmed Irish Rail's order for 5 two-car EMUs in February 1998. Each set will consist of a motor and trailer car with a total nominal capacity of 414 passengers per set. The maximum speed of the new sets in normal operation will be 110 km/h and it is understood that asynchronous traction motors will be employed, the first such application of this technology on Irish Rail. The trains will be delivered from the Santua Perpetua facility in Barcelona and were due to go into service in the spring of 1999 although it now appears that delivery will not take place until September 1999 with

commercial service commencing around mid-2000. This order is valued at about £13m.

The 2700 class diesel railcars ordered from GEC Alstom in June 1996 began arriving in Dublin on 27th April 1998, four months behind schedule. Deliveries from the Barcelona plant continued at approximately fortnightly intervals until 19th December by which stage twelve two-car sets (2701 to 2724) had arrived. Even numbered cars contain a toilet compartment, wheelchair accommodation and CAWS control equipment. A further vehicle, 2726, arrived on 11th January 1999 and it was originally intended to match this or some other even numbered car with 2609 which has lain idle since June 1995. Unfortunately it appears that the 2600 and 2700 series vehicles are incompatible and will probably never be routinely combined into mixed sets. (*Incidentally 2609 was substantially cannibalised over the years and was effectively unavailable for use as a spare in any event.*)

The new railcars, costing about £1m each, are similar in many respects to the Japanese manufactured 2600 class and have a carbon-steel body-shell constructed to meet the impact specifications of UIC 651. Each vehicle has a main engine for traction purposes with a second engine providing power for heat, light, battery chargers and train controls systems. The outer bogies of each vehicle are driven via a three-stage transmission system, the first stage hydraulic and the following two stages direct as in the 2600 class. The main engine is a Cummins NTA 855 R1, which delivers 350 hp at 2,100 rpm, giving a hp/tonne ratio of 9.1 compared to 8.6 hp/tonne for the Japanese cars. The radiator-cooling fan is directly coupled to the main engine unlike in the 2600 series where a fan belt is used. The braking system is controlled via a standard UIC twin-pipe arrangement with two ventilated disc brakes mounted on each axle. Poor adhesion conditions trigger an automatic sanding system, a concession to operating practices outside these islands and a response to some unfortunate incidents that have occurred with similar types of stock in the UK. The front end of each vehicle is fitted with a Scharfenberg automatic coupler while the inner ends of each two-car set are secured via semi-permanent bolted-bar couplers.

The interior of the 2700 series railcars differ considerably in layout and ambience from the 2600 series with a generally simpler finish although individual full-height seats are provided as opposed to the half-height upholstered benches found in the 2600 sets. The toilet compartment, while still wheelchair accessible, is reduced in size and is located in such a way as to provide an adjacent sanctuary for undesirable elements who can remain out of view from the rest of the carriage. The face to back arrangement of seats is somewhat claustrophobic and while making it impossible for passengers to place their feet on the seats in front, the forward seat-back will provide a ready surface for graffiti artists. (*About half the seats on each side of the carriage face one way with the other facing the opposite direction and in consequence a small number of face to face bays are provided on either side of a narrow table at the transition points.*) Each two-car set seats 117 passengers compared to 129 in a 2600 set although standing room is increased from 206 to 274 passengers giving a total nominal crash-load capacity of almost 400 passengers per set. Two alarm handles are provided per car and when operated will apply the emergency brake, sound a warning tone in the driver's compartment and illuminate an emergency light on the exterior of the vehicle. An intercom system is provided to enable passengers to make contact with the driver should the need arise. As with the 2600 series there are two entrances on each side of the vehicle, in the case of the 2700 cars these are double-leaf sliding plug doors.

The 2700 series cars can operate in combinations of up to ten vehicles (16 in an emergency) and have a nominal maximum speed of 120 km/h compared to 110 km/h for the 2600 series. The maximum speed for trial running has been set at 80 mph. The new cars are noticeably better in acceleration than the 2600s and when operating normally have little difficulty attaining the maximum permitted speed. Riding is perceptibly better than the 2600 series although not on a par with conventional coaching stock especially on poor or mediocre track.

The first of the two dual-cab cars, 2751, is understood to have arrived in April 1999. It can seat 53

passengers and has a nominal crush load capacity of 192. It had originally been intended to operate one of these cars on the Limerick/Ballybrophy line and one on the Ballina branch although it now appears that one or both of may be allocated to the Cork/Cobh line. The intended formation is unclear - possibly 3-car sets in peak periods and single or double sets off-peak. Another variation suggests double-car sets at peak periods and single-car sets off-peak. The single-car units each contain a toilet and have facilities for wheelchairs.

The first revenue use of a 2700 series set took place on the 23rd October when 2711/12/05/06/08/07 worked the 13:17, 15:40 and 18:16 Pearse/Drogheda as well as the 14:32 and 17:00 Drogheda/Pearse and the 19:50 Drogheda/Connolly. The same set appeared again on 13th November and worked the 08:02 Drogheda/Pearse before being split to form the 16:18 (4-car) and 17:28 Pearse/Drogheda (2-car). The four-car subsequently formed the 18:16 to Connolly while the 17:28 worked empty to Balbriggan and thence back to Drogheda as the continuation of the 17:47 ex Pearse (The latter train had been terminated at Balbriggan and the set sent empty to Dublin to cover the 19:00 to Belfast as the incoming De-Dietrich set had failed at Newry). The two-car set then formed the delayed 18:55 ex Drogheda departing at 19:20. For some months subsequent to this date 2700 class sets were only permitted to operate in six-car formation apparently due to concerns about track circuit actuation.

Regular use of the 2700 class began on 4th December with the same six cars as had previously featured rostered to work the 07:13 Connolly/Drogheda, 08:38 Drogheda/Pearse, 16:47 Pearse/Drogheda, 18:02 Drogheda/Connolly, 19:10 Connolly/Drogheda and thence empty to Dublin.

The performance capabilities of the new cars can be seen in the table below which shows recorded sectional running for the 08:38 ex Drogheda on 27th and 28th April. The generally shorter dwell time on the second date was due to a delayed departure from Drogheda caused by a door problem. The average speed between stops was generally over 45 mph with 52 mph being achieved on the slightly longer hop between Drogheda and Laytown.

	Distance (Miles)	08:38 ex Drogheda 2701/02/07/08/04/03		Station Dwell Time	
		27/4/1999	28/4/1999	27/4/1999	28/4/1999
Drogheda	0.00	00:00	00:00	00:00	00:00
Laytown	4.59	05:35	05:18	01:22	00:53
Gormanston	3.16	04:08	03:59	00.20	00:16
Balbriggan	2.25	03:19	03:17	01:28	00:38
Skerries	3.79	04:37	04:39	00:55	00:50
Rush	4.03	05:09	05:06	00:28	00:23
Donabate	2.49	03:17	03:15	00:27	00:47
Malahide	2.44	03:26	03:33	00:43	00:34
Portmarnock	2.30	03:35	03:30	00:20	00:38
Howth Junction	1.90	03:16 sigs	03:42 sigs	00:38	00:46
Killester	2.41	03:19	03:22	Non-stop	Non-Stop
East Wall Junction	1.68	01:59 sigs	03:51 sigs	Non-stop	Non-Stop
Connolly	0.71	02:10 sigs	01:37	03:32	01:41
Tara street	0.75	02:10 sigs	01:57	00:53	01:07
Pearse Station	0.25	01:13	01:15	To Yard	To Yard

Although the 2700 class sets visited most of the IR network on trials during 1998, including Ennis to

Athenry, they are presently only cleared for normal operation between Bray and Dundalk. Although trials continue to take place regularly from Inchicore to Limerick Junction, mainly at night, such trains are restricted to 10 mph through all stations except those between Hazelhatch and Kildare inclusive. Similarly transfers between Inchicore and Connolly are subject to a 10 mph restriction through the new station at Drumcondra. As a consequence of restricted availability the sets so far commissioned rarely see Sunday service with one six-piece set stabled at Connolly and one at Drogheda, the latter out of use between about 20:00 Saturday and 08:02 the following Monday.

With effect from 17th May 1999 suburban carriage links were altered and as a consequence six-piece 2700 class sets now work the 07:25 Drogheda/Bray, 09:20 Bray/Drogheda and 07:43 Drogheda/Dun Laoghaire. This change has proved somewhat unpopular given that the six-piece railcar formations offer fewer seats than the six-piece push/pull sets which they replace. Although there is a greater proportion of standing room in the railcars overall accommodation is little increased as the six-piece railcar set is over twelve metres shorter than the corresponding push/pull. These trains often load in excess of 1,000 passengers and usually offer standing room only from Skerries. Eight-car formations have been promised although these will probably have to await proposed platform extensions at Lansdowne Road, Sydney Parade and Blackrock.

As of 17th May 1999 eighteen of the twenty-five single-ended cars had entered service, with 2713/14 and 2717/18 making their first appearance on that day's 07:43 ex Drogheda. Although eighteen cars had been in traffic by this date only two six-car sets are presently rostered. All trains operated by these units continue to be accompanied by maintenance technicians from both the manufacturers and Irish Rail. Apart from clearance issues the most obvious problems to date have been engines going off-load (sometimes several in one set) and doors failing to operate correctly. For instance on 19th May both the 07:25 and 07:43 ex Drogheda were delayed due to the latter problem.

The first appearance of the long promised eight-car sets occurred on 5th June 1999 when 2714/13/02/01/11/12/08/07 worked the 14:50 Pearse/Drogheda and 2718/17/10/09/05/06/19/20 worked the 16:47 Pearse/Drogheda. These sets were used the following day to form special trains from Drogheda and Dundalk to Connolly in connection with a GAA fixture. Unfortunately a number of thugs travelling on the 18:00 ex Drogheda on the 5th started a fire on the train resulting in a delay of almost 40 minutes and the subsequent arrest of two suspects at Howth Junction. As a consequence the 19:10 to Drogheda was formed by a two-piece Arrow set which returned empty to Dublin on arrival.

Irish Rail invited tenders in early July 1998 for the conversion of an ex-BR coach into a cafeteria car. This project appears to be related to a proposal to transfer a Mk3 push/pull set from the Dublin suburban area for use between Heuston and Waterford. (*Use of a push/pull set would avoid running round in Kilkenny although the only real way of achieving a competitive time between Dublin and Waterford is to route some services via the Lavistown curve. Such a move would result in a journey time of well under two hours.*)

The proposal to convert 99520 into a driving trailer for use on the Galway line appears to have been abandoned, possibly in the light of the decidedly mixed success of 201 class operated push/pull sets on the Dublin/Belfast line. The major problem with the latter appears to derive from the use of locomotive based head end power, which has proven to be a significant source of both locomotive and set failures.

The refurbishment of ex-BR Mk3 International coach (originally 99529, then 6208) was substantially completed at Inchicore by September 1998 although as yet this vehicle has not been introduced into traffic pending the acquisition of suitable bogies. 6208 has since been renumbered 7173 and had made it as far as the yard in Heuston by early June 1999.

Irish Rail invited tenders in early July 1998 for the supply of 8 two-car electric multiple units to be fully compatible with the existing DART fleet. The same notice also invited tenders for 20 diesel

multiple-unit railcars (i.e. 10 two-car sets). An order for both DART and diesel railcar equipment was placed with the Tokyu Car Corporation of Yokohama, Japan on 15th February 1999 with delivery scheduled for July/August 2000. Despite the wording of the tender document it appears that the Tokyu DARTS will be four-car sets containing two intermediate coaches without driving cabs. These cars will be of stainless steel construction with a nominal crush load capacity of 906 passengers. Each two-car railcar set will have a crush load capacity of 347 passengers and a top speed of 120 km/h. Both DART and diesel cars will be fitted with individual seats as opposed to the rather uncomfortable bench arrangement in the existing DART sets and the 2600 Arrow railcars. When all outstanding orders are completed Irish Rail will have a DART fleet of 106 cars and a diesel railcar fleet of 64 cars. The storage and maintenance of the additional vehicles will require the provision of new sidings and other facilities. One of the proposals currently being canvassed would see the erection of a new railcar depot at Drogheda in the area once occupied by Buckey's sidings and out of use since March 1997.

Mk3 push/pull intermediate 6319 emerged from Inchicore after an overhaul at the end of April 1999 sporting the standard Inter-City script on both sides. This is thought to be related to the proposal to transfer a push/pull set onto the Waterford line as already mentioned. Since then two further vehicles, 6302 and 6317, have been refurbished and like 6319 have had tables fitted in the face to face bays.

Two of the Mk3s most seriously damaged in the Knockcroghery derailment, 7129 and 7151, were sent for repairs to the Adtranz facility in Derby on 14th July 1998. One of the pair, 7151, had returned to Inchicore by the beginning of May 1999 with the second following by early June.

The sixteen seats closest to the entrance doorways were removed from a further 22 DART trailers during 1998 to give a seating configuration identical to that in 8305 and 8307. Cars 8301 to 8324 inclusive now seat 56 passengers only with the rest of the space available for standees. This is actually the second reduction in seating as both these vehicles and the motor coaches were originally fitted with tip-up seats in the entrance vestibules giving a total seating capacity of 88 passengers per car.

Irish Rail is seeking potential suppliers to meet an annual requirement for 39,000 cast iron brake blocks for use with rail vehicles. Interested parties were to submit tenders by 21st March 1999.

A refurbishment programme of engine and transmission equipment on the 2600 series railcars commenced in 1998 with a view to improving the reliability of the fleet. This work together with in-service failures has reduced the number of vehicles in traffic to ten or less at various times and in consequence Cravens have appeared on Heuston/Kildare services on more than one occasion. The 2600 series cars are being fitted with track circuit actuation equipment although this is not yet fully commissioned and consequently trains formed by these units continue to be worked under absolute block regulations with following traffic having to wait at the previous controlled signal.

Mk2 composites 5153 and 5155 had been converted to standard class accommodation only by April 1998. First class accommodation is still available in 5152 and 5159.

Cravens stock continues to be refurbished with 1514, 1543, 1545, 1546, 1551, 1552, 1557 and 1558 being ex shopped over the past eighteen months.

207, which was damaged in the Yorkgate collision in April 1998, returned to Inchicore on Sunday 14th June. The locomotive was hauled from Dundalk by 155 and had a DV attached at the rear to act as a brake van. 207 returned to traffic in early October 1998 following extensive repairs and repainting.

075, damaged in the Finaghy collision of April 1998, returned to traffic at the beginning of April 1999 and was observed working the 17:05 to Sligo on 1st April.

226 now carries plates commemorating the 150th anniversary of the arrival of the railway at Thurles in March 1848.

216 had a bogie change at Cork on 22nd May. The operation required the use of two road cranes and is

the second such occurrence in the Cork area in recent months. The other occurred at Mallow and involved 221.

Ammonia Traffic

The standard formation of the Marino Point/Shelton Abbey Anhydrous Ammonia trains is now seven cars which means that Sunday operation is less frequent. Three trains, each consisting of seven cars and running six days a week, are capable of conveying the same tonnage as the same number of trains with six cars running seven days per week.

New Ross Branch

It is understood that planning permission granted by Kilkenny County Council for a new 1,165m line connecting the New Ross branch with the Louisiana Pacific plant at Belview has been appealed. It had been hoped to start work on the new line towards the end of 1999 and when completed Irish Rail are expected to vacate a large portion of the yard at Waterford to facilitate road improvements.

Accidents Derailments, Mishaps and Vandalism

The 17:30 Heuston/Ennis terminated at Limerick Junction on 19th January 1998 due to a derailment at Limerick which blocked both lines near the station for several hours.

Locomotive 202 was damaged in a collision with another locomotive at Cork station on 11th February 1998. One of the drivers is understood to have required hospital treatment.

The locomotive of the 18:50 Connolly/Dundalk parted company with its train near Rush on 13th February 1998. The train was formed by 208 + 3 p/p (9004) and as result of this incident the following 19:00 to Belfast was delayed by over 1½ hours.

The line between North Strand Junction and Church Road Junction was closed as a result of a serious derailment involving a Guinness transfer train which occurred around 17:00 on 30th March 1998. A second derailment in the same area delayed restoration of normal working until Sunday 5th April. During the interim period the only access to North Wall was via Newcomen Junction and as a consequence trains to and from Islandbridge Junction were required to run round at either Pearse or Connolly. Operations were further hampered for a time as a result of a minor derailment in the Boston Yard at Pearse station.

Up to ten windows were smashed on 8319 by vandals operating from the platforms at Clontarf Road on Friday/Saturday 10th/11th July 1998.

The 16:30 Cork/Dublin, which was formed by a four-car Arrow railcar, split in Cork tunnel on 7th September 1998. The front portion of the train continued for at least half an hour before the driver was alerted to the problem by CTC. The rear portion came to a halt in the tunnel although its presence was treated as an apparent track circuit failure until the signalman was alerted to the contrary by the driver of a train on the opposite line.

The Limerick/Ennis line was closed on 26th September following the partial derailment of an empty bulk cement train from Athenry near MP 14. Considerable damage was caused over a distance of about eight miles and as a consequence the line remained closed for almost two weeks until the morning of 10th October 1998. The 13:50 Ennis/Limerick was apparently trapped at Ennis as a result of this incident and was eventually worked empty to Galway.

The Dublin/Cork line was blocked at Sallins on 22nd October 1998 due to the derailment of a trial train of Mk3 stock in the Up loop around 15:30. Traffic was initially stopped on both lines although Down trains were allowed to proceed once it had been ascertained that it was safe to do so. The trial is

believed to have consisted of a 201 class locomotive, an EGV and five Mk3s. It is reported that the train was completely derailed from the trailing bogie of the second coach to the leading bogie of the last coach. Although neither main line was damaged the last coach came to rest with its rear end fouling the Up main line. This vehicle was re-railed and removed from the scene in time to allow traffic to resume on the Up line shortly after 19:30, although trains continued to be delayed because of damage to signalling cables which occurred during the course of the derailment. Five of the six vehicles were still at Sallins the following morning by which stage normal working had fully resumed. Passengers were taken off the 14:45 ex Limerick, 16:26 ex Kildare, 13:20 ex Westport, 14:55 ex Waterford, 14:45 ex Cork and 15:25 ex Galway at various points and conveyed to Dublin by road. These trains then continued towards Sallins to await clearance of the Up line. The first Up train with passengers was the 14:00 ex Tralee which arrived in Heuston at 21:17 followed by the 18:46 ex Kildare (empty) at 21:35, the 18:10 ex Carlow (empty) at 21:40 and the 17:45 ex Limerick at 21:50. Some of the incoming sets were used to form outgoing services including the 18:15 to Waterford, the 18:30 to Tralee and the 19:05 to Cork which departed at 20:59, 21:06 and 21:31 respectively. The Mk3s on the trial train had been intended for use the following day which was the Friday of the October Bank Holiday weekend. This incident probably precipitated the use of a Spanish Arrow on the northern outer suburban line the following day in order to release a push/pull for main line duties. The latter formed the 12:35 special to Longford which due to a late departure terminated at Mullingar in order to get back to Dublin in time for the 16:30 Heuston/Cork.

Serious flooding at MP 16, at the top of Rush bank, closed the Dublin/Belfast line at 20:00 on 2nd November. The 20:30 ex Dublin ran to Malahide only with passengers being taken by bus to Drogheda to join a second train which was formed by the set of the 20:10 ex Belfast. The 20:30 got away from Drogheda around 22:45 while passengers off the Up train finally departed by bus for Dublin around 22:30. The 22:05 Pearse/Dundalk also terminated at Malahide on this date. Services operated more or less normally the following day although some delays were caused by flood related track circuit failures. Minor landslips were reported the same evening near Killiney and in the cuttings just north of Mallow. The flooding at the top of Rush bank recurred on 5th January 1999 but did not close the line.

Storms and high winds on 26th December 1998 blocked the Claremorris/Manulla Junction and Sligo/Edgeworthstown sections. Services were not immediately disrupted as Irish Rail do not operate on either the 25th or 26th December. The Sligo Line, which was obstructed by at least 20 fallen trees was cleared by 10:30 on the 27th although the 14:00 ex Sligo was about 55 minutes late as a result of the earlier disruption.

The main Dublin/Cork road and rail routes were closed when an articulated lorry crashed through the southern parapet of Kyle Bridge shortly after 12:10 on Saturday 27th March 1999. The lorry fell about 30ft onto the track and comprehensively blocked both lines between Kildare and Cherryville Junction. The first service affected was the 11:40 from Heuston to Waterford, which had just left Kildare station. Passengers on this train were taken by bus to Athy to join the set of the 10:50 ex Waterford which had terminated there. The 11:05 and 14:45 ex Cork terminated at Portlaoise as did the 14:45 ex Limerick. In the Down direction passengers travelling on the 13:20 to Cork and 14:35 to Limerick were taken by bus from Kildare to Portlaoise although a combination of confusion and severe road traffic congestion meant that the first of these did not get away from Portlaoise until almost 17:00. Mid-morning and early afternoon services to/from Galway and Westport were also severely disrupted with passengers being transferred by bus between Kildare and Tullamore in some instances. Both lines were reopened at about 17:50, the first Down train being the 15:25 to Cork which passed Cherryville Junction at 17:56. There then followed a brief procession of trains including the 17:00 to Galway, the 17:20 to Cork and the combined 17:30 and 17:37 to Limerick after which some semblance of normality returned. The first Up train was an Irish Traction Group special, formed by A39 + GSV + 6 Cr, which had left Limerick at 12:10 for Dublin and was routed, as scheduled, via Ennis and Athlone. This train

ran via the Up loop in Kildare as the main line was occupied by the 09:40 empty ammonia train from Shelton Abbey consisting of 071 + barrier + 7 ammonia tanks + barrier. The southern carriageway of the Dublin/Cork road reopened on 24th April, just ahead of the May Bank Holiday Weekend.

The driver of a car attempting to cross the Galway line on the outskirts of the city at the Murrough accommodation crossing had a lucky escape when an engineer's train struck the vehicle on 28th January 1999. This incident prompted Irish Rail to warn users of such crossings that the closure of a particular line for upgrading did not mean that there would be no trains on the line.

The locomotive of an empty cement was derailed near Rathbane level crossing on the outskirts of Limerick on 12th February 1999. As a consequence the road traffic was blocked for at least twenty minutes awaiting an engine from Limerick which pulled the wagons clear of the crossing.

The Tipperary/Clonmel line was closed following the derailment of a Limerick/Waterford bulk cement train on the Cahir side of Bansha at around 04:00 on 24th March 1999. It is understood that the train consisted of twenty four-wheel wagons and that thirteen of these were derailed. The derailment was a particularly destructive one during the course of which the train became divided. The undamaged portion of the train, including the locomotive(s), continued to Waterford while one wagon, which had lost its buffer beam at the Limerick end, was brought to Clonmel. The recovery work was a somewhat involved affair and could not get underway until suitable access could be prepared for a road crane. As the track had been totally destroyed over a distance of several hundred yards the wagons were first lined off the formation and placed at right angles to the line. Second hand panels were then brought to the site but had to be resleepered prior to installation. Once the track had been restored twelve wagons were recovered and brought to Tipperary for storage. Most of these are quite badly damaged and only a few are expected to be repaired. Normal traffic resumed with the 15:55 from Limerick to Rosslare Harbour on Friday 2nd April, nine days after the derailment. During the closure period timber, container and cement trains was diverted via Kilkenny thus causing considerable congestion in Kildare and straining the capacity of the Cherryville Junction to Waterford line. A series of 25 mph speed restrictions were in place near Bansha on the date of the derailment. Some of these had been there for some time although at least one was of more recent origin, although it is unclear if this was a factor in the derailment. Maximum speed on this line has been progressively reduced in recent years and is now only 40 mph.

Services to Galway and Westport were severely disrupted on 30th March 1999 due to vandals placing pieces of rail on the line near Athlone. The train most directly affected was the 14:25 to Galway which was disabled due to damaged brake pipes and could only be moved after all the brakes had been isolated. The 15:25 ex Galway terminated at Athlone and returned to Galway eventually forming the 18:05 to Dublin. The Up Westport was badly affected and in consequence a relief set had to be provided to cover both the 18:10 Heuston/Westport and 18:55 Heuston/Galway. The latter was formed by the set of 18:10 ex Carlow and was thus both late and overcrowded. The following morning a special train operated from Portarlington to Heuston in order to relieve the 05:25 ex Galway which, due to its reduced size, would otherwise have been unable to carry the traffic offering. The formation of the Mk3 International set was reduced for several days alter this incident while the damaged vehicles were made fit for traffic.

The 13:25 ex Sligo terminated at Maynooth on 23rd March due to a gas leak at Leixlip, Louisa Bridge. The 16:05 ex Pearse reportedly terminated at Clonsilla and returned in the path of the 17:00 ex Maynooth. The 17:15 to Longford departed Connolly at 17:23 followed by the 17:52 to Maynooth, which ran in two portions, each formed by a two-piece Arrow. The first of these terminated at Clonsilla and returned empty to Connolly to work an 18:20 Connolly/Maynooth special. Passengers intending to travel on the regular 18:20 Connolly/Sligo who had not already been dispatched by bus to Maynooth were accommodated on this train.

Mk2 generator van 5602 was badly damaged at Maynooth on Saturday 5th June 1999 as a result of a collision which occurred while 087 was running round the set of the 18:20 from Sligo. The Sligo train had terminated at Maynooth because of engineering works associated with the doubling of the line to Clonsilla.

Overhead Line Maintenance

Following criticism of the adequacy and safety of Irish Rail's overhead line maintenance train in the IRMS report, the company issued an invitation to tender in December 1998 in respect of rail or road/rail vehicles suitable for the maintenance/replacement of 1,500v DC overhead systems.

General Traffic and Operations

One of the two Arrow sets working the Heuston/Kildare local service was replaced by a Cravens set on 27th January 1998. As might be expected services became later and later as the day progressed and in consequence the 18:35 Heuston/Kildare was cancelled. Intending passengers for Newbridge and Kildare were accommodated on the 18:30 to Tralee while those destined for intermediate stations had to wait for the 19:35 service. Similar problems were reported on several other days during the same week.

Due to the failure of the 06:04 ex Dundalk, the 08:08 ex Pearse and 09:50 ex Drogheda were formed by a De-Dietrich set on 20th April 1998. The two trains mentioned were formed by 227 + 3 p/p (9004) and ran from/to Connolly only. The 09:50 ex Drogheda ran non-stop from Skerries on this occasion and was followed by a second train which had worked empty from Dublin.

127 + 2 p/p (6105) was at work on Dublin suburban services towards the end of May 1998. It worked various services including the 16:18 ex Pearse to Drogheda on the 20th and 21st and an 18:50 relief to Dundalk on the 23rd. An additional coach was added on 24th May and the set again covered the 16:18 ex Pearse, the 18:00 ex Drogheda and the 19:10 ex Connolly.

Consequent on the shortage of Mk3 stock arising from the Knockcroghery derailment it has become the practice to run a relief to the 09:05 ex Heuston on Saturdays in order to separate Cork and Tralee traffic. A similar service ran during July and August 1998 and then resumed in October 1998 and has run on most Saturdays since then.

The 09:50 Connolly/Mosney, 2617/14/03/04, was disabled near Malahide on 5th July 1998 following an altercation with a pheasant. Despite the apparently minor nature of this incident the 09:50 did not reach Malahide until 13:20 where passengers were obliged to disembark and join a relief train formed by the set of the 10:00 to Belfast. The latter, which was only running to Dundalk, was evacuated at Portmarnock with passengers being brought forward by road.

Due to a delay in handing back a possession between Bray and Greystones on a date in late June or early July 1998, the 13:25 Connolly/Rosslare was shunted to the middle road at Bray so as to keep the platforms free for DART operations.

The 18:50 Connolly/Dundalk relief on 5th August was formed by 2617/14 and was held in Drogheda from 19:25 to 19:38 to allow the 19:00 Connolly/Belfast to overtake. The reason for this slightly unusual manoeuvre was to avoid blocking the Belfast train which would otherwise have had to wait in Drogheda until the railcar had passed safely within the home signal at Dundalk. (*The Arrow railcars are not trusted to operate track circuits and therefore must always be protected in the rear by a controlled signal. As all intermediate signals between Drogheda and Dundalk are automatics any train following an Arrow railcar must wait until the entire section is clear. There is of course no restriction on an Arrow following another train into an automatic section.*)

The 09:30 ex Tralee, formed by 214 + 7 Mk2s + EGV, proved to be a miserable experience for passengers on 15th August 1998. The train arrived in Killarney with about 300 passengers and departed with at least double that number. Incredibly three of the seven coaches were reserved for Gaeltacht students and most of the vestibules and doorways were obstructed by luggage.

The 13:30 to Sligo was delayed by almost an hour on the Sunday 18th August 1998 as a preceding timber train from Sligo to Waterford, 074 + 9 bogies, was unable to proceed beyond Drumcondra due to possessions between Glasnevin Junction and Islandbridge. Attempts were made to divert the train to Clonsilla but the driver was not passed for the route and in consequence the train had to be hauled back towards Connolly.

The auto-routing computers at Connolly CTC are a frequent source of problems at Mosney particularly at the beginning and end of the season when stops are being added or deleted. For instance on 28th August 1998 about eight intending passengers were left on the platform when the 08:36 ex Drogheda was routed through on the mainline. Almost forty passengers for Mosney were obliged to disembark at Gormanston and retrace their steps on the 06:57 ex Arklow which stopped specially at Gormanston on this date.

The All Ireland football final of Sunday 27th September 1998 put Irish Rail resources under considerable strain as additional winter services had commenced the previous Sunday while there was also a commitment to a Drogheda/Claremorris pilgrimage special. The teams involved were Galway and Kildare in the semi-final and Laois and Tyrone in the minor. Given that the regular mainline timetable requires about 244 carriages spread over 40 links and that only about 20 vehicles were spare and available for traffic the provision of even a modest programme of special trains required considerable imagination and a significant reorganisation of normal links. Details of the special trains which ran on this date are summarised below together with some flavour of the altered arrangements necessary to provide the sets. (Extra workings are highlighted for simplicity).

The **07:35 Galway/Connolly** was formed by 204 + 8 Mk3 International + EGV - this set then formed the 14:15 Heuston/Galway and 18:10 Galway/Heuston as per the normal roster.

The **18:00 Connolly/Galway** (9 Mk3s) was formed by the 09:45 Limerick/Heuston. The regular 18:30 Heuston/Limerick was formed by the incoming 14:05 ex Tralee which normally returns as the 19:00 to Tralee. The latter was formed by the 14:30 ex Cork while the 19:15 to Cork, normally formed by the 14:30 Up, used the set of the 14:45 ex Westport. The latter set normally works the 20:40 to Galway and as a consequence this service was covered by the set off the incoming 17:30 ex Cork. (An empty working from Galway during the night returned these carriages to Dublin in time for Monday's 07:30 to Cork.)

The **08:05 Galway/Connolly** and **17:25 Connolly/Galway** were formed by the set of the previous day's 18:55 Heuston/Galway. The latter consisted of 7 Cravens + GSV and remained in Galway instead of working empty to Westport. An empty carriage working from Cork to Heuston on Saturday night plus Dublin area Cravens were used to provide stock for the 16:00 Westport/Heuston, the **09:10 Galway/Connolly** and the **19:30 Connolly/Galway**. The 09:10 ex Galway was formed by 221 + GSV + 9 Cr although the rear two carriages were locked off due to gangway damage and were removed altogether for the return trip. The 16:00 ex Westport was formed by 226 + 4 Cr + GSV on this date while a Mk2 air-braked set, 210 + DV + 7 Mk2a/b formed the 14:45 ex Westport. Incidentally four of the Cravens available at Heuston for inclusion in specials would normally have worked empty to Mallow on Sunday afternoon to form the 16:10 Mallow/Heuston. The latter was covered by the push/pull set which had worked Saturday's 21:00 from Heuston to Cork.

The **09:45 Galway/Heuston** and **19:25 Heuston/Galway** used the Executive set including the spare "InterCity Gold" coach and was reserved for VIPs.

The 14:15 from Dublin to Belfast and the 17:30 return were formed by 078 + 6 NIR Mk2s. This set, hauled by 077, worked an **auxiliary from Belfast** arriving in Connolly at 12:24. The normal Irish Rail Mk2 set was thus free to work the **07:00 Drogheda/Claremorris** and **17:35 Claremorris/Drogheda**. In order to avoid unnecessary empty carriage working, the set off the Claremorris special stabled in Drogheda on Sunday night and worked the following morning's 08:02 Drogheda/Pearse, which consisted of 078 + 6 Mk2s + EGV.

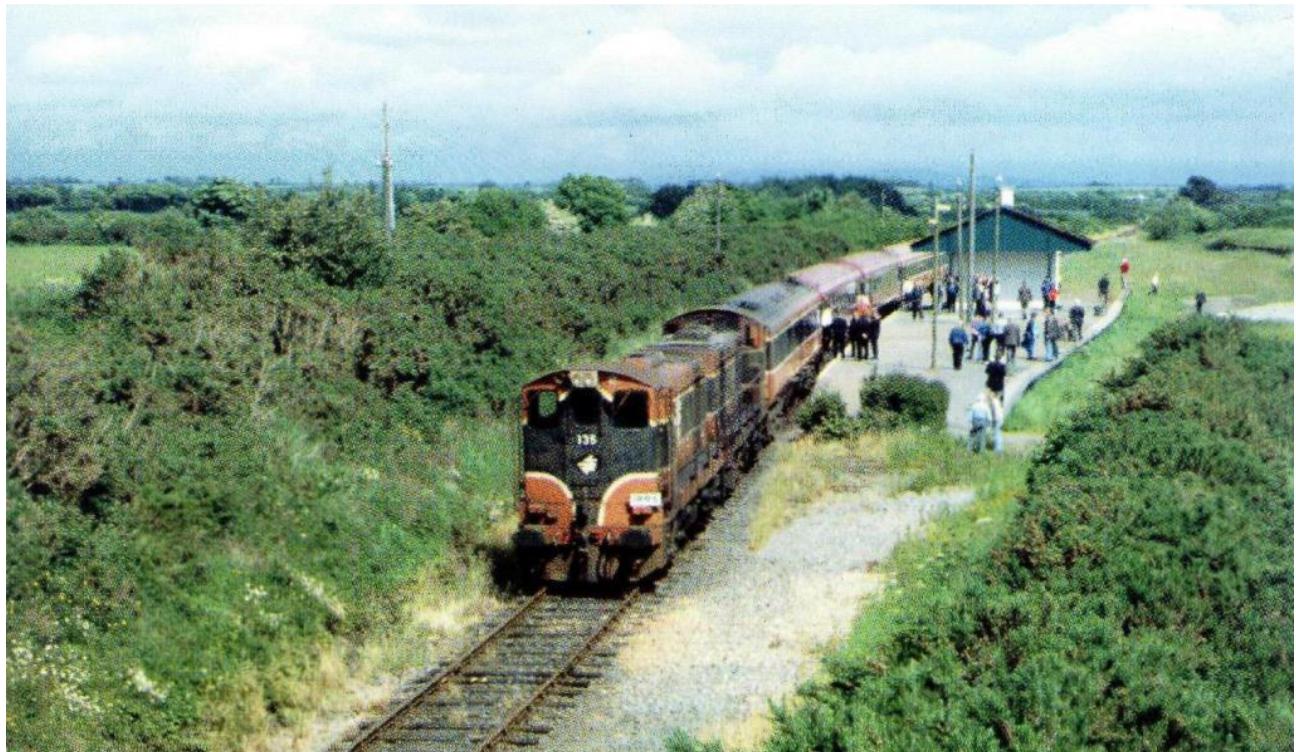
About 600 passengers used **the 09:30 Belfast/Connolly** and **18:55 Connolly/Belfast**, which were formed by NIR stock and consisted of 96+4+95+2+99.

A six-piece push/pull formation was used for the **10:25 Kildare/Heuston** and the return **18:25 Heuston/Kildare** as well as **the 11:00 Athy/Connolly** and **the 18:25 Connolly/Athy**. One of the push/pulls normally works the 14:50 Heuston/Waterford and 18:00 return but on this date these services were covered by the Mk2 set which would normally have worked Saturday's 21:00 to Cork and Sunday's 14:30 Cork/Dublin and 19:15 Dublin/Cork. The 21:00 to Cork was worked by the six-piece push/pull set which usually goes to Sligo on Saturday evening for the following day's 17:20 to Connolly. The latter was formed by four Cravens and a van on this date and these in turn worked back empty to Sligo for Monday's 04:45 to Dublin. The set for the 04:45 normally stables over the weekend in Sligo and is formed by part of Fridays 17:05 ex Connolly. The remainder of the 17:05 set, generally three Cravens, normally returns attached to the rear of Saturday's 07:45 ex Sligo although on this occasion the entire 17:05 set was worked back to Dublin. The stock for Sunday's 17:20 from Sligo also formed the 17:15 Connolly/Longford on Saturday and then continued empty to Sligo as normal. The 14:30 ex Cork on Sunday was covered by the set of Saturday's 18:30 Heuston/Tralee, which also worked the 07:25 Tralee/Cork on Sunday morning. The 19:15 Dublin/Cork was worked by the incoming 14:45 ex Westport as already noted. As the Tralee based Mk3 set had gone to Cork (and thence to Dublin) Sunday's 14:05 ex Tralee was formed by the 08:30 ex Heuston. As the latter normally returns as the 17:15 Tralee/Dublin it was necessary to work empty carriages to Tralee and these left Heuston around 12:00 formed by the 08:35 ex Galway. The 18:50 from Heuston to Galway then had to be covered and this was done by using the Mk2 set of the incoming 14:50 ex Galway, which is usually spare on arrival in Dublin. Finally the set of the Saturday's 15:15 Cork/Tralee returned empty to Cork and apart from the 07:25 Tralee/Cork worked its normal link on Sunday including a number of Mallow locals as well as the 12:10 Cork/Tralee and 17:35 Tralee/Cork. (The Mk3 set could have been sent empty to Cork on Saturday evening but this would have required keeping the Tralee branch staffed until the early hours of Sunday morning, hence the arrangements outlined above.) Providing the second push/pull was a little less involved. Firstly the four-car Arrow which normally works the 16:25 from Galway was replaced by (6103) 2 p/p + 206 which was normally spare at Inchicore on Sunday as of 27th September. The four-piece railcar set was in turn strengthened to six cars using a two-piece set, which is generally spare at Inchicore on Sundays. This set then formed the **11:13 Newbridge/Heuston**, the 16:10 Heuston/Limerick and the 19:35 Limerick/Heuston. The last two trains mentioned are normally formed by a six-piece push/pull, which was thus freed to work an alternative link as already indicated.

A number of specials utilised sets which in the normal course of events were not due to leave Dublin until after 12:00 and/or were due out of service in Dublin before 20:00. The 11:30 Kildare/Heuston was formed by a four-piece Arrow railcar set which then worked the 12:45 Heuston/Limerick, 17:20 Limerick/Heuston and **20:00 Heuston/Kildare**. Similarly the 16:30 ex Cork, another four-piece Arrow, formed the **19:35 Heuston/Portarlington** while the 16:10 ex Mallow, a six-piece push/pull, formed the **19:10 Heuston/Portlaoise**.

Despite the adventurous carriage rosters services generally ran close to schedule and by and large the overcrowding so characteristic of previous years was absent. One notable exception was the 08:40 ex

Sligo, 078 + EGV + 9 Mk2s, which arrived in Connolly at 12:22 with around 900 passengers. Many of the people on this train travelled from Maynooth, which, despite being in Kildare, did not have the benefit of a special.



133 + 135 head the IRRS Executive Special at Ballycullane, 6/6/1998.

An unusual special operated on 10th October to convey a party of over 300 passengers from Sutton to the Curragh. In scenes reminiscent of a busy day on the “Hill of Howth” tramway the large crowd assembled in the car park prior to entering the station via the side entrance after the 10:40 ex Howth had departed. The special train was formed by (6101) 6 p/p + 127 and left at 11:00 thus slightly blocking the 10:53 ex Howth which departed at 11:05. The rather unusual motive power was due to the fact that 201 class locomotives have not been cleared to operate on the Howth branch.

Irish Rail announced that passengers travelling on certain trains out of Heuston on the Friday of the October 1998 Bank Holiday weekend would require boarding cards. As a consequence accommodation was still available on the 17:20 to Cork at departure time and passengers for Limerick Junction, Mallow and Cork not holding boarding cards were hastily loaded, resulting in a slightly delayed departure. Buses were also provided to Cork between 16:30 and 17:00 to supplement trains although there were few takers. At lunchtime on this date, 23rd October, there was a 13:30 relief to Cork behind the 13:20 regular and ahead of the 13:40 (Fridays only) to Tralee. The additional relief was formed by the set off the 17:00 Waterford/Rosslare and consisted of 233 + Van + 2 Cr. It is understood that this train returned empty to Thurles to work the Limerick portion of the 17:37 ex Heuston.

The severe problems caused by the lack of sanding equipment on Irish locomotives was well illustrated on Bank Holiday Monday 26th October 1998. Amongst the trains affected were the following:

- 06:45 ex Belfast, locomotive 216, 8 minutes late at Drogheda.
- 08:00 ex Belfast, locomotive 207, 17 minutes late at Dundalk.
- 08:28 ex Connolly, 071 class, 64 minutes late at Mullingar having stalled at Castleknock.
- 18:30 ex Connolly, 071 class, at least 90 minutes late at Rathdrum.

A further relief train was added to the Sligo line timetable on Sundays with effect from mid-November 1998. The train, which left Mullingar at 19:10, was initially formed by the spare two-piece push/pull set although Cravens were used from time to time as required. This train operated until mid-May 1999 and typically loaded over 100 passengers. During the "winter" period the full Sunday service from Mullingar to Dublin was therefore 10:44, 16:02, 19:10, 19:31 and 20:27 - one more train than on weekdays! An additional service from Dundalk to Dublin also operated on a few Sundays in early 1999 departing at 19:20, just ahead of the 18:15 ex Belfast which was due to depart at 19:31. This train was generally formed by the spare De-Dietrich set although a six-piece Spanish Arrow set was used on one occasion.

In an effort to relieve severe overcrowding on the 06:45 ex Belfast a relief train ran from Drogheda at 08:20 on the 7th December 1998 and at 07:50 from Dundalk on the 7th, 8th, 9th, 14th and 15th. These trains were formed by the spare De-Dietrich set in each instance.

The 16:47 Pearse/Drogheda divided between the fourth and fifth vehicles shortly after leaving Malahide on 29th January 1999. The train consisted of a six-car Spanish Arrow set made up of 2705/06, 2709/10 and 2711/12 (not necessarily formed in that order) and was rejoined in the section before proceeding cautiously to Donabate where the passengers were obliged to disembark. The 17:13 ex Pearse was held in Malahide while the railcar set proceeded cautiously as far as Skerries where it was stabled in the loop. The Down line was thus blocked for slightly over an hour and as a result following services were delayed by up to 37 minutes. Following earlier incidents the interconnecting doors are generally locked on both the Japanese and Spanish sets thus restricting passenger circulation to two vehicles irrespective of the train size. An undesirable feature of this arrangement is that passengers may not be able to contact the driver in the event of an emergency as the intercom system is no longer functional on some of the Japanese sets.

The Arrow operated 12:15 Heuston/Cork failed on the Dundrum side of Bishopswood level crossing on Sunday 31st January 1999. It is believed the train may have struck high ballast north of Thurles but was not initially disabled by the encounter and went on to serve the latter station before continuing towards Cork. Despite persistent efforts the brakes could not be released and the failed set was eventually towed into Limerick Junction arriving at 20:03, some six hours behind schedule. Up trains operated normally up to and including the 14:30 ex Cork after which single line working was introduced to pass the 12:45, 13:05, 13:20, 13:45 and 15:25 ex Heuston, the latter arriving in Limerick Junction at about 19:00, just over two hours late. Meanwhile a queue of trains built up behind the 14:05 ex Tralee, which was blocked in Limerick Junction for over 2½ hours due to the procession of trains negotiating the long single line section from Thurles. The 16:10 ex Mallow was cancelled at Limerick Junction and its engine sent to assist the failed Arrow. In consequence the already much delayed Tralee train was required to serve all mainline stations to Dublin and thus did not reach Heuston until 21:30. The 16:30 ex Cork, another Arrow set, didn't reach Dublin at all and was sent back from Limerick Junction to work services on the Cobh line. The passengers who had set out for Cork on the 12:15 eventually joined the 15:25 ex Heuston and reached their destination at 20:05.

- The 12:15 ex Heuston is normally a four-car formation, half of which remains in Cork for the following week's Cobh line service. The 16:30 ex Cork is likewise a four-car set, half of which works down on the 12:15, the remainder being formed by the previous week's Cobh line allocation.

A special train ran from Ballinasloe to Ballymena on 13th February 1999 in connection with a rugby league fixture. The train departed Connolly at 10:46 and consisted at that stage of 210 + 6 Mk2 + EGV. About 250 passengers travelled on this excursion.

Traffic on the Belfast line was particularly heavy on 17th March 1999. The 19:00 to Belfast ran in five

portions at 18:14 to Belfast (4-piece De-Dietrich), 18:35 to Dundalk (6-piece Spanish Arrow), 18:50 to Drogheda (2-piece Arrow), 19:00 to Belfast (8-piece De-Dietrich) and 19:05 to Belfast (112 + 7 NIR Mk2s).

Sunday 11th April was a particularly busy day at Mullingar. There were four movements on the Athlone line, a Down light engine, an Up inspection car, an Up rail train and an Up materials train. In addition there were three freight movements from Sligo, a laden timber, a liner train and an empty oil train.

Drogheda - Coffee, Traffic Lights and Car Parking

Commuters using Drogheda station between 06:00 and 09:00 on 16th December last were treated to tea, coffee and sandwiches by Irish Rail in a seasonal gesture of goodwill. Traffic at this station has doubled in recent years due to a combination of improved services and large increases in population in and around the town. Somewhere in the region of 700 to 800 passengers would typically board or alight from trains at Drogheda during the three hours concerned, the busiest train being the 08:24 Enterprise service which is scheduled to run non-stop to Dublin.

The increased business has resulted in several extensions to the car park as a consequence of which the area west of the mainline and north of the Navan branch is now almost entirely given over to parking space, apart from a small area reserved for road freight vehicles. In order to deal with congestion traffic lights are being erected at the entrance from the main Dublin/Belfast road, an overdue improvement given that it takes up to twenty minutes to get onto the main road at busy times.

Miscellaneous

According to the Clare Champion of 29th January 1999 the Tanaiste, Mary Harney, made a whistle stop tour by inspection car of a number of lines in the Limerick area in connection with proposals by a local councillor for commuter services to Castleconnell, Ballysimon, Raheen, Moyross and Munget.

Services would also operate to Shannon Airport, Ennis and Adare. Ms Harney afterwards suggested that a study to be carried out by Irish Rail and the Shannon Development Agency should investigate the possibility of diverting freight traffic onto the area's rail network.

Irish Rail's upgraded Mk3 composites now carry First Class labels thus heralding the further demise of the failed super standard concept.

Irish Rail has been experiencing considerable difficulty maintaining catering services at various stages over the last year to eighteen months due to competition in the job market. As many as nine staff reportedly left in one day in early September 1992.

Irish Rail raised most of its fares from 16th September 1998. Although single fares were unaltered day, monthly and weekend tickets were adjusted upwards as were monthly and weekly season tickets.

Challenged on a radio interview in November 1998 about widespread overcrowding on trains Joe Meagher, Irish Rail's managing director, indicated that passenger carryings were up 10% on DART/Suburban services and 7% on mainline services compared with 1997. He also stated that Irish Rail was looking at ways of controlling access to busier services.

Most of the pole route has been removed between Malahide and the border. The only traffic in recent years was accommodated on a single copper wire used for block telegraph operation.



This project generated intense controversy during 1998 with much of the debate continuing to concentrate on the capacity of the proposed LRT system and the desirability or otherwise of running at

street level through the city centre. The year saw an extraordinary decision by the government to set aside the recommendations of its own consultants and opt for a greatly expanded system featuring both underground and surface routes through the city centre. The latter decision has resulted in a further delay to the project and in consequence Luas ceased to be eligible for assistance under the rules governing the EU structural and cohesion funds for the period from 1994 to 1999. It is understood that the government intends to re-apply for funding in the next round although the reduced amounts available to Ireland and the sharply increased cost of the project mean that it may well have to bear the brunt of the expenditure itself. A short resume of developments in relation to Luas is presented on a month by month basis for the period January 1998-April 1999.

March 1998

The Progressive Democrats, the junior partner in the current government, announce their proposals for solving Dublin's transport gridlock. The most striking features of the plan are in relation to Luas with proposals for a greatly expanded system which would include an underground section from St Stephen's Green to Broadstone with lines serving Swords, Dublin Airport, Connolly Station and the Docklands as well as Templeogue/Knocklyon. These plans appear to have won out at cabinet judging from the government's response to the W.S. Atkin's report.

April 1998

W.S. Atkins invited to make a presentation to the cabinet on 28th April to discuss the consultant's appraisal of surface and underground options for Luas. Government divisions on the issue result in a decision being deferred for a week.

Following the cabinet meeting the W.S. Atkins report is published recommending that the city centre portion of the Tallaght to Dundrum line should be built on the surface and should follow CIÉ's proposed alignment. While a number of underground options were examined by Atkins the one favoured by the consultants would have seen the Tallaght line follow a shorter, faster routing via Tymon North, Kimmage and Mount Argus and thence in tunnel to join the Harcourt Street alignment just north of Ranelagh. The combined Tallaght and Dundrum route would continue in tunnel to O'Connell Street via St Stephen's Green and Tara Street.

The total length of tunnel under this proposal would be 5.5km. Somewhat surprisingly, despite the shorter journey times offered by this routing, the consultants concluded that the number of journeys likely to be generated by 2006 would be 23.2m for the suggested underground system compared to 29.2m for the all-surface option. The cost of the surface system is put at £263m while the modified system with the underground routing proposed by Atkins would cost between £500m and £620m although, due to the lack of detailed data, tunnelling costs could not be predicted with a high degree of confidence.

One of the four tunnel options considered by the consultants involved putting the CIÉ route from Dundrum/Sandyford to Tallaght underground between St Stephen's Green and Smithfield, a proposal similar in many respects to the St Stephen's Green/Broadstone tunnel eventually announced by the government in May. This option was found to deliver no capacity advantages relative to the surface option and to have a lower revenue generating potential.

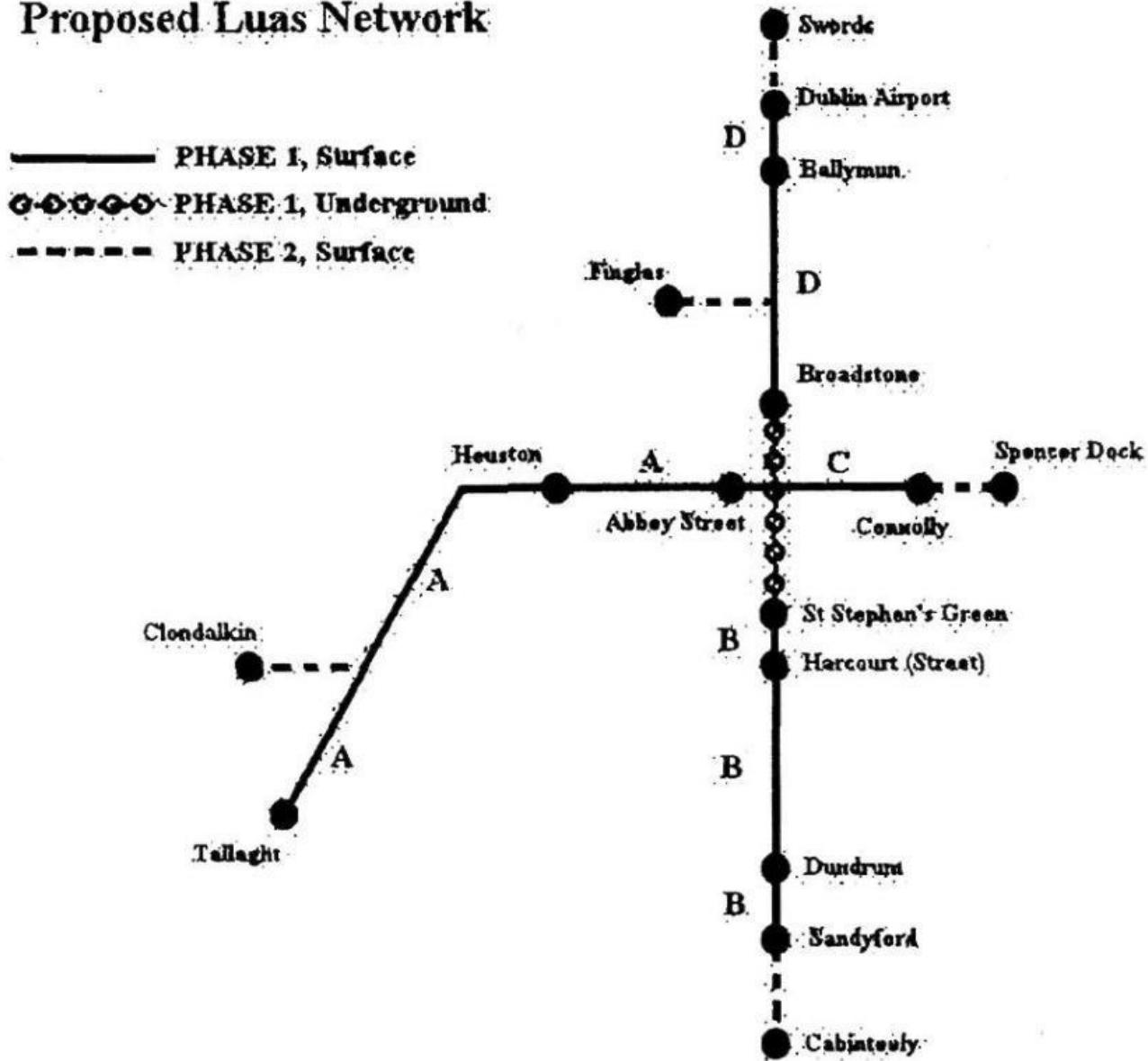
W.S. Atkins invited to make a presentation to the cabinet on 28th April to discuss their appraisal of surface and underground options for Luas.

May 1998

The Government announced a revised and expanded LRT network to a somewhat sceptical public and

media on 5th May. The principal conclusions of the W.S. Atkins report are effectively ignored with the announcement that the Tallaght line will run to Connolly on the surface while the Sandyford/Dundrum line will run to Dublin Airport via Ballymun with an underground section between St Stephen's Green and Broadstone. This routing will see trams use both the former Harcourt Street/Bray and Liffey Junction/Broadstone lines. The cost of the revised system is put at somewhat over £400m, although no precise figures were given for the tunnel section. Phase 2 of the government's plan, as yet uncosted, proposes the extension of the Airport link to Swords, the Sandyford link to Cabinteely and the Connolly link to the Spencer Dock area. Spurs are also proposed from the Tallaght line to Clondalkin and the Airport line to Finglas.

Proposed Luas Network



July 1998

An indicative timetable was published by the Department of Public Enterprise on 1st July in respect of the Luas project and this is reproduced here for information.

Targets	Tallaght to Abbey Street	Sandyford to St Stephen's Green	Abbey Street to Connolly
Application Submitted to Minister for Public Enterprise by CIÉ	Summer 1998	Winter 1998	Summer 1999
Application documentation on public display; Inspector appointed to conduct public inquiry	Autumn 1998	Spring 1999	Autumn 1999
Public inquiry held	Winter 1998	Summer 1999	Winter 1999
Report from Inspector and Ministerial decision	Spring 1999	Autumn 1999	Spring 2000
Light Railway Order comes into effect (Tenders issue)	Summer 1999	Winter 1999	Summer 2000
Contract letting	Winter 1999	Summer 2000	Winter 2000
Construction begins	Spring 2000	Autumn 2000	Spring 2001
Construction completed	Winter 2002	Summer 2003	Winter 2002

CIÉ Public Consultation on surface section Broadstone - Ballymun - Dublin Airport	Consultancy Studies on underground section St Stephen's Green - Broadstone	Borehole drilling on underground section St Stephen's Green - Broadstone
Autumn 1998	Autumn - Winter 1998	Spring - Autumn 1999

As can be seen there is as yet no schedule for construction of the St Stephen's Green to Broadstone section and in consequence it is unclear how long the various components of Luas will be required to operate independently of each other. (*The viability of a service from Broadstone to Dublin Airport would clearly be questionable in the absence of through running to the city-centre, although as yet no timetable has been published for the construction of this line either.*)

CIÉ applied to the Minister for Public Enterprise for a light railway order in respect of the Tallaght to Abbey Street section of Luas on the 22nd July.

September 1998

21st September is set as the final date for receipt of tenders from consultants interested in carrying out a study to advise on a Public Private Partnership approach to the Dublin Light Rail Project.

November 1998

The public Inquiry into Line A, Tallaght to Abbey Street, opened on 2nd November. The proposed double-track line is 14km in length and will initially be operated by a fleet of twenty tramcars with services running every five minutes at peak periods and every ten to fifteen minutes off-peak. The tramcars will be 30m long initially (although they can be extended to 40m or 50m if required) and according to CIÉ will be able to accommodate 60 seated and 175 standing passengers. Maximum system capacity, based on the above figures was quoted as being approximately 3,000 people per hour per direction. The projected journey time is 38 minutes. (*Incidentally the W.S. Atkins system capacity analysis assumed that a 30m tramcar would be able to accommodate 194 passengers.*)

December 1998

CIÉ applied for a light rail order in respect of Line B (St Stephen's Green/Sandyford) on 14th December.

Judge Sean O'Leary's appointment to carry out a public inquiry into the application for Line B is announced.

A public consultation document, setting out the various route options for the light rail line from Broadstone to Ballymun and Dublin Airport was launched on 18th December.

The results of the Public Inquiry into CIÉ's application for a light rail order in respect of line A (Tallaght to Abbey Street) were forwarded to the Minister on 18th December. The Inspector recommended that the application should proceed subject to CIÉ meeting twenty-one conditions designed to reduce disruption to communities and businesses that might otherwise be caused by the construction and operation of the LRT line. The Inspector's report indicated that, without reservation, the inquiry took the view that the Line A proposal would make a significant contribution to public transport needs in the Metropolitan area. Interestingly the Inspector commented that: "*One of the major difficulties encountered by the inquiry was that the scale of the need tended to overwhelm the modest proposal. Many well motivated people encouraged the rejection of this proposal in favour of a more radical, far reaching and expensive option but none suggested that the need for some action did not exist.*" This remark well illuminates the context in which the Luas system is to be built and while not saying so explicitly suggests that something more radical might now be more appropriate.

The Minister for Public Enterprise appointed Arthur Andersen lead consultants on Public Private Partnership options for the Luas project.

February 1999

CIÉ invite submissions in respect of the routing of Line C (Abbey Street to Connolly).

March 1999

The Minister signed CIÉ's application for a Light Railway Order in respect of the Tallaght - Abbey Street line on 1st March. The order will be confirmed unless an application for leave to apply for a judicial review is lodged by 5th May. Construction of Line A is now expected to start early in 2000.

The Irish Times reported that the Dublin Transportation Office have prepared a revised alignment for the proposed extension of Line B beyond Sandyford. It is now being suggested that Luas would approach Carrickmines via Ballyogan Road in order to serve a more densely populated area than would be the case if the more direct route along the former Harcourt Street alignment is used. The latter passes close to Leopardstown Race Course and Foxrock Golf Club and would be some distance away from proposed developments in the area.

April 1999

Public Inquiry into Line B (St Stephen's Green to Sandyford Industrial Estate) opens on 13th April with His Honour Judge Sean O'Leary presiding. This line will be 9km in length, although all but one 1km will utilise the former Harcourt Street line. Services will be provided using 13 trams, based in a depot on the Sandyford Industrial Estate. The proposed depot, which was not part of the original plans, is necessary because Line B will be isolated from both Line A and the principal depot which is to be located adjacent to the M50 motorway at the Red Cow. The journey from Sandyford to St Stephen's Green is expected to take 22 minutes.

It was announced on 14th April that the Arthur Andersen/Steer Davies Gleave report into a Public

Private Partnership approach to Luas recommends that

- CIÉ should build lines A, B and C on a conventional public sector procurement basis.
- Private sector operators should be invited to bid for a franchise to operate the entire system. An operator should be selected for Lines A, B and C by spring 2001 to allow for staff recruitment, operational planning and marketing in advance of the commencement of services on line A in winter 2002.
- Private sector consortia should be invited to bid to design and construct Line D through a design, build and transfer contract.
- As an alternative to design, build and transfer the tunnel section might be constructed on a design, build, finance and lease basis.

Present indications are that the government will accept the recommendations of the consultants and indeed would be most anxious for the private sector to fund the underground section from Broadstone to St Stephen's Green.

May 1999

Minister O'Rourke announced government approval for the purchase of the first twenty tramcars for the Luas project on 5th May. These cars will cost £28.7m and will operate on Line A, between Tallaght and Middle Abbey Street. (See description in the previous issue.)



Moving Forward

The Northern Ireland Environment Minister, Lord Dubs, launched what was described as a Statement on Transport Policy for Northern Ireland at the Ulster Folk and Transport Museum in Cultra on 24th November 1998. This interim plan follows from the British Government's White Paper titled "A New Deal for Transport: Better for Everyone" presented to Parliament the previous July. The policy statement was described as an important step in developing a strategy to enable a move from a transport system which is dominated by, and to some extent geared towards, car use to a more balanced and integrated transport system, in which public transport and non-motorised transport are attractive options for many trips. The statement recognises that simply continuing to expand the road network to meet ever increasing demands from the private car will not meet the Region's social and economic requirements or secure mobility which is sustainable in the long-term. The statement commits the government to the preparation of a Regional Transport Plan, which will be in place by 2001/2 and will cover the following five years to 2006/7. In the interim period to 2001/2, as far as railways are concerned, the government is committed to the following, most of which has already been announced.

- Completing the upgrade of the Belfast/Dublin line.
- Reinstatement of Bleach Green Junction/Antrim.
- Provision of a £4.4m inter-modal transportation centre at Bangor.
- A major track upgrading programme throughout Northern Ireland starting with the Bangor line.
- The development of a Public Private partnership for railways.

- Completion of the study into the possible uses for the former Belfast/Comber railway line and the initiation of studies of other substantially intact former rail routes. (*Translink apparently wants to install a busway on the Comber route, a desire which is seen in some quarters as reflecting the bus oriented pedigree of the company's management. - Ed.*)

Shaping Our Future

A draft Regional Development Strategy for Northern Ireland covering the next quarter century was published by the Department of the Environment on 8th December 1998. The plan envisages the Northern Ireland population growing to 1.744m by 2025 with 200,000 new homes being built during the period. While much of the growth is anticipated in the Greater Belfast area, including Lisburn, Carrickfergus, Bangor and Newtownards, significant development is envisaged in Derry/Londonderry, a "Major Regional City" and designated "Major Service Centres" at Antrim, Ballymena, Coleraine, Newry, Omagh, Craigavon (Portadown/Lurgan) and Enniskillen. Twelve other towns are also expected to grow considerably although only two of the latter, Larne and Ballymoney, are served by existing rail routes. There are five nominated Key Transport Corridors and although the railway only features significantly in two of them most of the "Major Service Centres" are still served by the rail network. The plan suggests amongst other things.

- Increased line speeds.
- Enhanced commuter services in the Belfast Metropolitan particularly and in particular to/from Carrickfergus, Lisburn, Antrim, Templepatrick and Bangor.
- Progressive improvements in infrastructure on the Belfast to Derry/Londonderry route to provide similar ride quality to that available on the Dublin route.
- Reinforcing the market for rail services by encouraging development in and close to rail corridors and giving appropriate planning protection to land required for new stations and park and ride facilities.
- Examining the feasibility of promoting greater rail use for freight by improving connections to external gateways, the strategic road network and centres of major economic development. The potential for increased rail freight movements to and from the remainder of the island is to be explored.
- The identification and safeguarding of disused rail routes with a view to possible future use for transport purposes including footpaths, cycle ways and (in the longer term) public transport. The Belfast/Comber/Newtownards route is mentioned in one context with specific reference to the so-called E-Way study presently taking place.
- Greater integration between transport modes.

One of the more interesting possibilities contained in "Shaping Our Future" arises in the discussion of improved Inter-City links along the Eastern Seaboard Corridor where it is suggested that a new railway could be constructed from Lisburn through Banbridge to a point north of Newry. The new railway would be built at the same time as a future motorway and would closely parallel it. Apart from creating a new commuter route to the Banbridge area such a link would shorten the Belfast/Dublin line by about eight miles and at the same time bypass Lurgan (three urban level crossings), Portadown (severe curvature), Scarva (reverse curvature) and Poyntzpass (severe curvature). As a consequence of the mileage reduction and the elimination of some of the most difficult sections of the existing route the overall Belfast/Dublin journey time would be reduced by at least fifteen minutes thus making an 80 minute Inter-City timing easily achievable.

Bleach Green Junction/Antrim

Government approval for the upgrading of the Bleach Green Junction/Antrim line was finally announced on 18th September 1998 by the NI Environment Minister, Lord Dubs. This frequently deferred project will see the reintroduction of regular passenger traffic on the line and the return of Belfast/Londonderry services to the faster and more direct routing which applied until 1978. Work on the £14m project is presently scheduled to commence in September 1999 and will take about a year to complete. (See below for further details.)

NIR sought tenders in October 1998 for the repair and waterproofing of the 700m long Bleach Green Viaduct as well as minor repairs to approximately 20 other structures including steel, concrete, reinforced concrete and masonry bridges. The contract will also include the provision of new walkways and parapets at many of these structures in accordance with current practice.

Northern Ireland Railways have appointed Mott MacDonald Ltd to provide project management services in connection with the “excavation, drainage, relay and signalling of 14 miles of single-track railway between Bleach Green Junction and Antrim”. The contract was officially announced on 27th January 1999. Project management costs of £1.2m are anticipated.

Tenders were invited at the end of March 1999 for the excavation, drainage, relaying and resignalling of 13 miles of single track and 1½ miles of double track situated between Bleach Green Junction and Antrim. The track is to be completed to a standard that will permit 90 mph running and will consist of CWR on concrete sleepers throughout. The contract also includes the provision of five AHB crossings, the construction of a standard length passing loop near MP 16 and the erection of two new stations, one at Templepatrick and the other at Mossley West. The line will be controlled from the existing signalling panel at Belfast Central. Work is expected to start in September 1999 and to be completed by May 2000, during which period the line will be available to the contractor under continuous 24-hour possession. It is expected that the new track will generally follow the alignment of the former Up line although where lateral clearances are limited, notably beneath stone arch bridges, the track will be placed in the centre of the formation. The existing running line, formerly the Down line is to be removed.

It is planned to develop a substantial park and ride facility at Antrim while the stations at Templepatrick and Mossley West will be able to accommodate 35 and 87 cars respectively.

City Junction/Central Station

Northern Ireland Railways sought tenders in October 1998 for the renewal of 1.5km of double track railway between City Hospital Halt and Belfast Central station. The tender specifies that the line is to be upgraded to 90 mph standards. The successful contractor will be required to excavate and remove the existing formation, lift and dispose of the old track, install new drainage and geo-technically treat the formation prior to relaying. The contractor will also be responsible for laying, testing and connection of new signal cables as well as the installation of new track and ballast. NIR are to provide rails, sleepers, pads, clips and insulators. This project is currently scheduled to commence on 23rd May and will take fourteen weeks to complete. In order to facilitate empty stock movements between Great Victoria Street and York Road it is proposed to reopen the Bleach Green Junction to Antrim line and for this reason between two and three thousand sleepers are being replaced in order to make the line safe for traffic. Nonetheless stock transfers will be a tedious exercise given the circuitous route and the current relatively poor condition of both the Lisburn/Antrim and Antrim/Bleach Green Junction lines.

Alleviation of the severe drainage problems, which are particularly evident in and around Botanic station and at the Ormeau Road bridge, will require the construction of a new pumping facility in order to keep water levels in check. Adequate drainage has become an even more critical issue on the Central

line in recent years due to a rise in the water table attributable to the effects of the Lagan Weir.

An interesting side effect of the closure of the City Junction/Central line will be the use of Great Victoria Street as the terminus for Enterprise services to and from Dublin. As a consequence all four platforms were lengthened during September/October 1998 and are now at the maximum possible length that can be achieved within the confines of the present station layout. Platforms 2 and 3 can thus comfortably accommodate the Enterprise sets despite the relocation of the friction buffer stops some 10 to 17m further away from the end of the platforms. The latter change took place at the end of March 1999. Concern about the noise levels associated with head end power, particularly with the locomotive parked under the Boyne Bridge, led to the installation of a shore supply at Great Victoria Street in May 1999. This will enable De-Dietrich sets to draw power from the mains electricity supply when stabled or during lie-over periods at GVS. (*Incidentally it was always envisaged that the platforms would extend to the starting signals and although the foundations were constructed accordingly budget constraints resulted in somewhat shorter platforms being built at the time of re-opening in 1995. The present length of Platforms 1, 2, 3 and 4 are now 187, 223, 227 and 159 metres respectively.*)

Despite the fact that Great Victoria Street offers more convenient access to the city centre, better interchange with other services and shorter journey times Translink are presently resisting the permanent re-routing of the Dublin service although public pressure may yet alter the official view. The principal problem with Great Victoria Street is the limited circulation space in the station and the absence of catering and other facilities, although there is ample space on the site to rectify these deficiencies given the will to do so. Incidentally Great Victoria Street is NIR's busiest station and is used by 1.7m passengers every year.

Renewal of the Central line is expected to cost about £4m and will be 75% funded by European funds.

There is speculation that pile driving may take place adjacent to the line during the closure period in connection with the proposed construction of apartments over the track between Botanic Avenue and Bradbury Place.

- It should be noted that renewal of the Central Junction to City Hospital portion of this route is not part of the current contract, the reason being that this section was somewhat refurbished when City and Central Junctions were installed in 1995.
- The contract for the renewal of the City Junction/Central line was awarded to Mowlems, the same company which undertook the Belfast/Lisburn upgrading.
- Translink has arranged discounted car parking in the Great Northern multi-storey car park with 120 spaces on level nine reserved for the use of Enterprise passengers. Four parking spaces have also been reserved on level one for use by people with mobility difficulties.

Bangor

NIR/Ulsterbus invited tenders in July 1998 for the demolition of existing facilities at Bangor and the phased construction over 18 months of a rail/bus interchange building, various bus depot facilities and a car park. Integrated facilities are also to be provided at Coleraine although the existing station buildings are to be retained.

Central Station

NIR are to undertake a £2.9m refurbishment of Central Station with work due to commence before the end of 1999. The project, which includes office refurbishment, will result in a general revamp of passenger facilities, a new parent's room and a new entrance from the car park. Lifts and escalators will be provided linking the concourse with both the platforms and the car park.

Dublin/Belfast Project

The Up and Down lines through and in the immediate vicinity of Poyntzpass station were renewed during January and February 1998 with both roads being subsequently welded. The redundant trailing crossover adjacent to the signal box was removed during the course of this work.

Renewal of the Central Junction/Lisburn section commenced on 2nd March 1998 with work progressing in stages along the Down line from a point just west of signal 155 at Central Junction to a point just east of No.745 crossover at Lisburn. The contractors were given continuous possession of separate segments of the Down line for periods of between 14 and 42 days with seven distinct phases up to 15th August 1998 as detailed in the accompanying table. The length of track closed during each phase varied between 1¹/₈ and 1⁵/₈ miles. Generally about half the section under possession was handed back at the end of each phase with the remainder being incorporated into the next phase. Much of the track was therefore out of use for two phases with a short section in the immediate vicinity of the motorway overpass at Black's Road being out of service for three phases, i.e. from 3rd May to 26th June inclusive. The extended possession at Black's Road was to enable the Department of the Environment to undertake remedial work on the foundations of the overpass, the long-term stability of which had been giving cause for concern. This involved the insertion of lateral beams under the track and was undertaken during overnight possessions which resulted in the 22:20 Bangor/Portadown and 22:10 Portadown/Bangor being substituted on various dates by buses between Great Victoria Street and Lisburn.

Work shifted to the Up line on 16th August with continuous possessions being given to the contractor in five phases, the last of which terminated on 12th December 1998. The lengths of the sections under possession were similar to those that had applied during the renewal of the Down line although there was less overlap between successive phases. The total length of track renewed by the contractors was thirteen miles, made up of the double track section between MP 105¹/₄ and MP 111³/₄. During the course of the contract the trailing crossovers at Dunmurry and Balmoral were renewed as was the facing turnout from the Down line into the Adelaide yard. These connections are numbered 765, 768 and 769 respectively.

In order to minimise disruption single line working was established between temporary turnouts, which were located at the either end of the section under possession. A maximum of four of these turnouts was in place at any one time, two associated with the current possession and two associated with previous or subsequent possessions. It was therefore possible to switch easily from one possession to the next without having to recover and immediately re-install the temporary turnouts. Because the sections under possession were generally overlapped, it was normally only necessary to slew the track into the temporary turnout at the beginning of the new possession and remove the track slew at the end of the old possession. (The turnout and track slew at the end of the new possession would generally be in place within the old possession while the turnout and track slew at the beginning of the old possession would generally lie within the new possession. As a consequence one end of the new possession could be prepared in advance and one end of the old possession dismantled at a later stage.)

Following excavation, generally to a depth of 2-3 feet, a semi-permeable membrane was laid onto which fresh ballast was deposited and subsequently levelled using laser technology. The initial layers of ballast were generally delivered by road vehicles drawing from stockpiles at one or other of the temporary work sites, which were established at various locations adjacent to the line. As a general rule removal of redundant track panels and the delivery of new rail and sleepers took place at night with this aspect of the work being facilitated by possession of the opposite road. Final ballasting of newly laid track also generally took place at night but in this instance the Walrus hoppers were used as once the track was in place the movement of rubber-tyred vehicles was somewhat restricted. The area under the control of the contractor was delineated by temporary fencing which was attached to the innermost rail

of the adjacent running line.

A particular feature of the Belfast/Lisburn upgrade was the complete reconstruction of the drainage system, which consists of perforated piping accessible via inspection manholes placed at intervals of approximately 200m.

A number of ancillary works were also carried out including renewal and relocation of signal cables, clearance of overgrowth, the provision of cess walkways, waterproofing of bridges, the raising of both platforms at Derriaghy by 200mm and the reconstruction of the Down platform at Lambeg. This latter work was necessary as the “six foot” at this location was deficient and had necessitated restrictions on Hunslet locomotives due to their wide profile.



457+2 trails towards Central Junction, 7/8/1998.

The contractors had use of various 5'-3" gauge equipment including a flash-butt welding machine imported from Australia, three of the NIR “Walrus” bogie ballast hoppers and six bogie flats. The latter, R1-R6, consisted of RPSI coach underframes which were decked for use in carrying new sleepers, recovered panels and other materials. The Walrus hoppers were refurbished for their new use and the wagon sides restored to their original height to increase capacity. Generally speaking Mowlems provided their own motive power in the form of a road/rail Unimog although NIR locomotives, including 102, were used on a few occasions. Incidentally the RPSI vehicles were previously 1328, 1469, 1483, 1915, 231 and 227 respectively. In the latter stages of the contract the rail welding facility at Lislea Drive was recommissioned using NIR’s Plasser & Theurer flash butt welder as static plant. This greatly simplified the logistics of rail handling and welding and may prove beneficial to NIR or others during the course of subsequent renewals.

Contrary to what was suggested in the last issue single line working was established between temporary turnouts and controlled by pilotman. The permanent crossovers at Central Junction, Balmoral and Dunmurry were not used for single line working purposes although those at the Belfast end of Lisburn station did feature in arrangements as shown in the accompanying diagram. In all

temporary turnouts were installed at 22 different locations although in fact 24 had been planned - Tx17 and Tx18 were not required due to better than anticipated progress in renewing the Up road.

This was one of the most ambitious and demanding pieces of single line working yet attempted in Ireland. There were theoretically four paths per direction per hour and although the service was drastically curtailed there were still at least 90 trains to be conducted through the single line section on Mondays to Fridays with a lesser volume on Saturdays and Sundays. Considering that over 20,000 trains would have passed through the single line sections this aspect of the project worked remarkably well despite two serious incidents which are mentioned elsewhere.

The cost of the Belfast/Lisburn upgrade was £12m of which 75% came from the European Regional Development Fund. A speed limit of 90 mph will apply on both lines from a point just beyond Hilden (MP 106 $\frac{1}{4}$ approximately) to Central Junction (MP 111 $\frac{3}{4}$ approximately).

(Parts of the Central Junction/Lisburn line had 50 mph restrictions imposed in 1991 and the whole section had its 70 mph overall limit reduced to 40 mph in July 1994. Also from July 1994 a 30 mph restriction was imposed on both roads at, and approaching, Dunmurry, from MP 108 to MP 109.)

Following completion of the main contract NIR commenced the excavation and renewal of both lines through Lisburn Station, from MP 104 $\frac{3}{4}$ to MP 105 $\frac{1}{4}$. This work commenced on the weekend of 13th/14th February and was expected to take about sixteen weekends to complete. The existing crossovers and turnouts are not being replaced at this time although the formation beneath them is being renewed. It is anticipated that 90 mph will be permitted through Lisburn when this work is completed although as mentioned elsewhere a temporary 20 mph speed restriction is presently in force.

At the time of writing about 150m of jointed track was still in place on each line immediately south of Central Junction, an unfortunate oversight given the high standard which now applies on the remainder of the section to Lisburn.

NIR crews are expected to turn their attention to Portadown station and approaches once Lisburn is complete. Work here is less complicated and will consist of welding and/or renewing both lines from about MP 86 $\frac{1}{2}$ to MP 87 $\frac{1}{2}$.

The series of CWR breather switches installed on the Down line between MP 85 and MP 86 at the time of renewal, in 1995, were removed around the end of August 1998. This section of line is built across boggy terrain and there had been some concern about the stability of standard welded length, hence the extra breather switches.

NIR invited tenders in November 1998 for the supply of permanent way materials to support its track renewal and maintenance programme over a period of three years. The company is seeking 5,400 tonnes of rail, 70,000 sleepers and 140,000 rail pads. Also required are 280,000 rail insulators together with equal quantities of concrete sleeper shoulders and rail clips. The quantities specified are sufficient to replace about 31 miles of single track.

At the present time almost 94% of NIR's portion of the Dublin/Belfast route consists of CWR and this figure will rise to almost 97% when renewal of Lisburn station and the Central line is completed.

The existing 65 mph speed restriction¹ from MP 70 $\frac{1}{4}$ to MP 70 $\frac{3}{4}$, between Newry and Goraghwood, was reduced to 60 mph in January 1999. The 75 mph limit¹, from MP 73 to MP 74 $\frac{3}{4}$, between Goraghwood and Poyntzpass, was reduced to 70 mph at the same time. It appears that these changes have been imposed because the lateral acceleration experienced at the previous limits, notably on De-Dietrich stock, was considered to be a little excessive. (Ironically older Mk2 stock routinely negotiated the curves at these locations for years without any difficulty.)

¹ This speed restriction was actually 70 mph prior to September 1997.

Elsewhere on the Dublin/Belfast route there are long term temporary restrictions to 15 mph on both lines through Portadown station, from MP 87 to MP 87½. (The track in this area is lightly ballasted and consists of a mixture of jointed bullhead and flat-bottom rail.) There is a restriction on the Down line through Lurgan station to 70 mph although 90 mph is normally permitted on the Up line. The problem here presumably relates to the platform although both roads between the station and Bell's Row could do with additional ballast and would benefit from the attention of a packer and liner (*A temporary speed restriction of 40 mph was imposed in March 1999, just east of Lurgan station, following riot damage to Lake Street level crossing. This restriction was still in force at the beginning of June.*) Moving east the section between Moira and Lisburn, nominally cleared for 90 mph, is restricted to 70 mph in both directions although, despite some formation problems, the reason for this restriction is not entirely clear. Lastly the Lisburn/Belfast section remains subject to an overall speed limit of 40 mph to Central Junction and 20 mph from there to Belfast Central. There is also a 30 mph restriction between MP 108 and MP 109 on both roads (near Dunmurry) while renewal of track at Lisburn has resulted in a 20 mph restriction through the station since February 1999. The various restrictions just outlined mean that 90 mph running is permitted on only 38% of the Portadown to Belfast (Central) line - a situation which has changed little in almost two years, since September 1997.

Section	Start Date	End Date	Line Closed	From	To	Section Length	Days	Total Days	Renewed	Total Renewals
TX3-TX1	02/03/98	06/04/98	Down	110.375	111.750	1.375	36	36	0.625	0.625
TX4-TX2	07/04/98	02/05/98	Down	109.625	111.125	1.500	26	62	0.875	1.500
TX7-TX5	03/05/98	16/05/98	Down	108.875	110.250	1.375	14	76	0.500	2.000
TX8-TX6	17/05/98	30/05/98	Down	108.625	109.750	1.125	14	90	0.625	2.625
TX11-TX9	31/05/98	20/06/98	Down	107.500	109.125	1.625	21	111	1.125	3.750
TX12-TX10	21/06/98	04/07/98	Down	106.500	108.000	1.500	14	125	1.250	5.000
Lisburn (745 c/o)-TX13	05/07/98	15/08/98	Down	105.250	106.750	1.500	42	167	1.500	6.500
TX14-Lisburn (746 c/o)	16/08/98	05/09/98	Up	106.750	105.250	1.500	21	188	1.000	7.500
TX16-TX15	06/09/98	26/09/98	Up	107.625	106.250	1.375	21	209	1.250	8.750
TX20-TX19	27/09/98	17/10/98	Up	109.125	107.500	1.625	21	230	1.250	10.000
TX22-TX21	18/10/98	14/11/98	Up	110.250	108.750	1.500	28	258	1.375	11.375
TX23-TX24	15/11/98	12/12/98	Up	111.750	110.125	1.625	28	286	1.625	13.000

Newry

No announcement has yet been made in respect of the provision of planned permanent facilities at Newry railway station and as a consequence the booking office, waiting room and toilets continue to be housed in portable structures. The present station, formerly known as Bessbrook and abandoned many years previously, was re-opened in 1984 and has proved to be a major success story despite being bombed by terrorists on numerous occasions. Hopefully the return of relative normality in recent years will encourage the provision of facilities appropriate to present traffic levels. (*Incidentally a new £1.75m bus station was announced on 27th April 1998 for a site on Soho Island in the town centre.*)

EWAY

W.S. Atkins have been commissioned by a client group comprising NITHC, Translink and DOE(NI) to develop ways of improving transport conditions in East Belfast covering in particular the Dundonald, Comber and Newtownards corridors. The stated aim is to provide a modern quiet and environmentally friendly public transport system integrated with, and complemented by, new park and ride facilities as well as local traffic and highway improvement schemes. The proposals being developed by the consultants centre around the former B&CDR lines to Comber and Newtownards although it appears

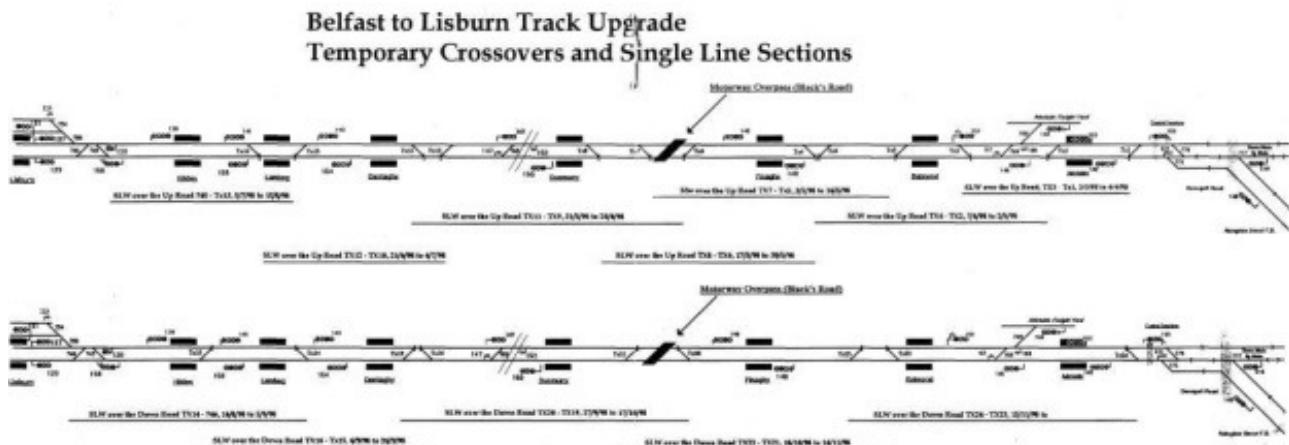
that, despite a public desire for the reinstatement of the railway, nothing more adventurous than a busway is envisaged, at least in the short-term. The consultant's report was due for publication in early 1999.

Belfast International Airport

The proposed development of a major business park at Belfast International Airport is understood to include an offer by the developers to rebuild the disused Aldergrove Halt on the Lisburn/Antrim line. It is understood that the Airport operators are anxious to address the current public transport deficit at the Airport and would be supportive of public/private partnership initiatives to improve rail access. (See also under *Moving Forward elsewhere in this issue*.)

Signalling Layouts and Level Crossings

The Central Junction/Lisburn track-upgrading project necessitated a rolling programme of temporary signalling arrangements and alterations in order to protect each successive single line section. The turnouts were hand operated at all times and were not interlocked in any way with the signalling system. The arrangements were revised on a number of occasions in the light of experience and are summarised below.



Phases 1 & 2 (TX3-TX1 & TX4-TX2)

A fixed red signal was provided at each end of the single line section with the immediately preceding signal being modified to clear on approach only. In other words a driver coming towards the beginning of a single line section would typically encounter an amber signal followed by an approach released amber signal followed by a fixed red signal. All intermediate signals within the single line section were rendered inoperative while single line working was in progress. All trains proceeding beyond the fixed reds required the authority of the pilotman who if not accompanying the train had to personally authorise it to proceed.

Phases 3 to 8 Inclusive (TX7-TX5, TX8-TX6, TX11-TX9, TX12-TX10, Lisburn-TX13, TX14-Lisburn)

The single line sections were now protected by a double fixed red at either end with the immediately preceding signal altered to display a "call on" indication only. A driver approaching the commencement of a single line section would thus encounter an amber signal, followed by a "call on" signal followed by a fixed double red signal. A speed restriction of 15 mph applied between the "call on" signal and the fixed red while the single line itself was restricted to 20 mph.

Phases 9 to 12 Inclusive (TX16-TX15, TX20-TX19, TX22-TX21, TX23-TX24)

Following an incident on 18th September 1998 whereby the 13:20 ex Dublin crossed onto the Up line at TX16 and continued towards Belfast on the wrong line additional precautions were put in place.

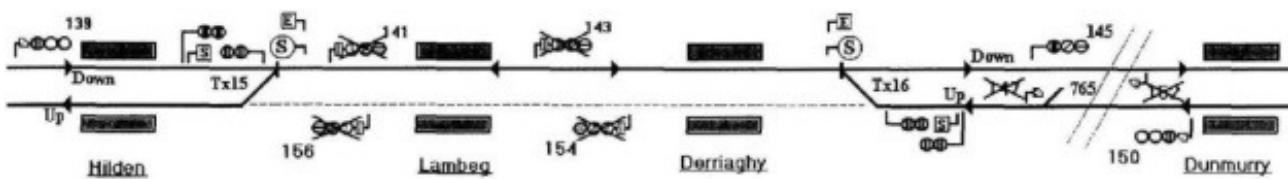
The driver noted that the crossover was improperly set for the Up road and it is suggested that having queried this with the person on the ground was told to proceed. Once run control realised what had happened the 13:20 was brought to a halt by radio without any adverse consequences. (*The points had most likely been left in the reverse position after the 14:05 Bangor/Lisburn had entered the single line section a few minutes earlier. Assuming that services were operating normally the Down Dublin would have been held at Hilden for the Lisburn bound train before being authorised to proceed. Having sent away the 13:20 the pilotman would have remained at Hilden to conduct the closely following 15:10 ex Lisburn through the single line section.*)

Given that the temporary turnouts faced traffic about to leave the single line section it was now thought prudent to place a set of fixed double red signals to block movements which might attempt to proceed in the wrong direction on the single line. As a further precaution signs were erected to mark the precise beginning and end of the single line section. The stop boards were co-sited with the double red signal at the entrance to the single line section while a stop board was erected approaching the turnouts and co-sited with the “end of single line working board”.

Single Line Working Tx16 - Tx15, 6/9/98 to 26/9/98

- ⑤ Sign bearing the legend STOP
- ⑥ Sign bearing the legend END OF SINGLE LINE
- ⑦ Sign bearing the legend START OF SINGLE LINE
- ⑧ Fixed Double Red Colour Light

From Dublin & Lisburn



15mph speed restriction applicable from signal 139 to start of single line

15mph speed restriction applicable from signal 150 to start of single line

20 mph speed restriction applicable in either direction between Tx15 and Tx16

The construction of a new concrete roadway, which parallels the Down line for a little over half a mile on the approach to Poyntzpass, has allowed the closure of four unattended crossings, McVeigh's (No.1 and No.2) and Clarke's (No.1 and No.2). The first mentioned was an occupation crossing, the remaining three were accommodation crossings. These changes became effective towards the middle or September 1998.

NIR's 80 and 450 class railcars are presently being fitted with additional safety equipment known as the Drivers Reminder Appliance, or DRA. This equipment is now mandatory in the UK and is

apparently intended to supplement AWS. When commissioned the driver will apparently be required to set the device when stopped at a red signal thus preventing the vehicle accepting power. These devices are intended to remind the driver of the signal ahead but are entirely dependent on the driver for their effectiveness.

NIR Performance

Statistics published by the DOE in respect of NIR show a significant increase in passenger receipts for 1997/8 compared to the previous year. Both passenger journeys and passenger miles also increased. The strong revenue performance reflects increased business on the Dublin line since the new Enterprise service was introduced in September 1997. In contrast with the underlying trend since 1993/4, shown in the table below, statistics for the first nine months of 1998/9 show a 9% decrease in passenger numbers and a 5% decrease in passenger miles compared to the same period in 1997/8. Despite the reduction in journeys, receipts from passengers for the first three-quarters of 1998/9 were over 18% higher than in the same period of 1997/8. This latter statistic reflects continued buoyancy on the Dublin line to such an extent that increased revenue on this route more than compensated for the reduced volumes elsewhere. The reduction in passenger numbers was probably inevitable given the severe disruption to services from Belfast to Lisburn, Lurgan, Portadown, Newry and the Londonderry line which were caused by single line working associated with the Belfast/Lisburn upgrade.

	1992/3	1993/4	1994/5	1995/6	1996/7	1997/8
Passenger Journeys	5.2	5.7	6.1	6.4	6.2	5.4
Passenger Miles	101.2	116.1	131.61	143.9	131.2	140.1
Passenger Receipts		7,736	8,676	9,772	9,959	11,254

Passenger journeys and passenger miles are in millions, receipts are £000s.

- The first million passengers had travelled on the new Enterprise service by 28th October and to mark the occasion Ms Inga Irvine from Portstewart and Mr Ronan Mullan from Coleraine were presented with champagne and flowers before joining their train for Dublin. The first year of operations saw cross-border passenger journeys increase by no less than 38% and as a consequence traffic levels now exceed those predicted for the year 2000.

Infrastructure & Permanent Way

The Ballymoney/Coleraine section reopened to normal traffic on Saturday 24th January, the first train being the 06:20 ex Londonderry. Due to the 42-day line closure and consequent build up of rust on the rails working by pilot-man applied until after the passage of the 09:45 Belfast/Portrush.

The cause of the closure was the slippage of an eighteen-foot high embankment over a distance of about fifteen feet. Plans to re-open the track on 14th December had to be abandoned after it was discovered that the embankment had slipped further after being freshly ballasted on 13th December. Further investigation revealed that there were two layers of saturated soft silty clay about 1.5m below the foot of the embankment and that this was the source of the failure. Some 30m of embankment were subsequently reconstructed necessitating the diversion of a stream and the delivery of some 7,000 tons of filling to the site, which is located some 1½ miles from the nearest road. The new embankment is less steep than the one it replaces and was constructed using a stepped platform and geo-textile material. A retaining wall consisting of gabions was also constructed at the base of the embankment to improve stability.

Repairs to UB 326 over the Connswater near Victoria Park resulted in the partial closure of the Bangor

line over the weekend of 30th January/1st February 1998. Trains operated between Sydenham and Bangor only with all traffic between Rockport emergency crossover and Sydenham routed over the Up line, under single working conditions. Trains crossing this bridge were still subject to a 20 mph restriction in May 1999. A substitute bus service was provided between Central Station and Sydenham from around 13:00 on the Saturday until close of business on Sunday evening.

Repairs to the sea defences in the Kilroot/Clophan Point area have commenced although there are apparently no immediate plans to reinstate the Up line.

Freight Traffic

The volume of freight traffic into and out of Adelaide depot recovered somewhat during 1997 with some 273,000 tons of merchandise being handled. Despite the substantial fall in business in recent years due to the collapse of Bell lines, the loss of the Freightliner contract and the reduced share of the Northern Ireland cement market serviced from the Republic there are encouraging signs in the 1997 figures. The most notable change was the marked increase in southbound container tonnage over the previous year, which was more than sufficient to reverse the downward trend evident since 1993 and illustrated in the accompanying table.

Freight Traffic at Adelaide Depot (1993-1997)

	1993	1994	1995	1996	1997
Brewery Products (Inbound)	26	32	32	32	31
Brewery Products (Outbound)	4	3	4	4	3
Fertiliser (Inbound)	16	20	25	13	21
Fertiliser (Outbound)	63	64	72	66	55
Containers (Inbound)	101	66	46	39	28
Containers (Outbound)	38	30	17	19	76
Cement (Inbound)	140	144	78	56	59
Total (Inbound)	283	262	181	140	139
Total (Outbound)	105	97	93	89	134
Grand Totals	388	359	274	229	273

All figures are in 000s of tonnes.

New Timetables

A new timetable was introduced on 2nd March 1998 in order to facilitate a rolling programme of single line working between Central Junction and Lisburn in connection with track upgrading. The main feature of the timetable was an almost 20% reduction in local services between Lisburn and Belfast and the further lengthening of journey times by between four and eleven minutes. Although the number of trains between Portadown and Lisburn was unchanged, almost all services not already serving intermediate stations between Hilden and Adelaide were altered to do so. Several Londonderry line services suffered the same fate thus contributing to a Great Victoria Street/Antrim journey time of up to 65 minutes. As it would have been impractical to have separate timetables for each phase of the work Down trains were allowed up to eleven minutes for the 1½ miles from Adelaide to Great Victoria Street. Similarly Up trains had a similar allowance for the one mile section from Hilden to Lisburn. The theory was that while intermediate timings would vary as the work progressed the trains would never depart ahead of their advertised time and would arrive in Lisburn or Great Victoria Street at or before the stated time. This generally worked well although the timetable was thrown into chaos on a few occasions as a result of various incidents, some of which are detailed elsewhere.

Some time after the completion of the Belfast/Lisburn upgrading a few trains were altered to avoid unnecessarily waiting for time at Lisburn. These were the 16:17 ex Whitehead, the 16:33 ex Bangor and the 17:00 ex Larne Town due to depart GVS at 17:08, 17:20 and 17:58, the first for Newry and the latter two for Portadown only. These alterations were effective by early March 1999 and resulted in a 7-8 minute earlier arrival at stations beyond Lisburn.

Consequent on the further reduction in services to and from Lisburn the number of movements at Great Victoria Street on Mondays to Fridays fell from 206 to 192. There were actually 292 movements (146 arrivals and departures) when the station originally opened in September 1995 but this was cut back in later timetables by terminating most Larne Line trains at Belfast Central and by a reduction in service frequencies between Lisburn and Belfast. In 1995 there were 59 Up and 57 Down trains stopping at Lisburn on Mondays to Fridays. The March 1998 timetable showed 35 services in either direction, a staged reduction of 40% in less than three years. The only positive change in the timetable concerns the Larne and Bangor lines, both of which have a small number of additional through workings to/from Great Victoria Street, although services on these lines were otherwise little altered.

The number of links required to operate the March 1998 timetable was the same as the September 1997 timetable as although peak trains were slightly reduced in frequency on the Lisburn line this was only just sufficient to compensate for increased journey times due to single working. Of the 22 links two were operated by De-Dietrich sets, one by hauled Mk2s and nineteen by railcars. The actual number of railcars in use varied somewhat depending on the availability of stock and in some instances links normally formed by double-railcars sets had to make do with a reduced formation.

The older to facilitate renewal of the City Junction/Belfast Central line a new timetable was introduced on Sunday 23rd May and will remain in effect until at least 22nd August. All services between Belfast Central and Great Victoria Street are cancelled during this period and as a result both Botanic and City Hospital have been temporarily closed. Services on the Bangor and Larne lines are unaltered although all trains either start or terminate at Belfast Central. Local services to Lisburn, Portadown and Newry are accelerated by up to thirteen minutes consequent on the restoration of pre-1994 sectional running times. in the Up direction all services terminate at Great Victoria Street but apart from earlier GVS arrival times are generally unaltered. In the Down direction services follow the same pattern as established in March 1998 although departures from GVS are generally later with a few services being altered to accommodate changes in the links arising from the temporary demise of through working between GVS and Belfast Central. There is no increase in frequency between Belfast and Lisburn and no attempt has been made to reintroduce the pattern of semi-fast services that existed prior to the September 1997 timetable. Not only that but services remain at the reduced levels implemented in the March 1998 timetable despite the fact that single line working ceased in December 1998. Services on the Londonderry line similarly start from or terminate at GVS and also benefit from accelerations of up to thirteen minutes between GVS and Lisburn, although services altered in March 1998 to serve intermediate stations between Belfast and Lisburn continue to do so.

Services to and from Dublin have been temporarily diverted to Great Victoria Street and are generally accelerated by between five and ten minutes. Ominously and for no apparent reason sectional times south of Portadown have been lengthened by up to four minutes for most trains thus absorbing part of the time saved by the completion of engineering work between Belfast and Lisburn upgrade. The 08:00 ex Belfast escapes being decelerated and is still advertised to run from Portadown to Dublin in 78 minutes at a respectable, although not overly demanding, average speed of 67 mph. Non-stop trains between Portadown and Great Victoria Street take between 29 and 31 minutes in either direction and thus generally fail to match what was achieved over twenty years ago with locomotives of less than half the horse power, an overall speed limit of 70 mph, semaphore signalling and a longer route (i.e. to/from Belfast Central). Even allowing for the present temporary speed restrictions the timings

between Belfast and Portadown are disappointing given that the distance is only 25½ miles.

(Incidentally the GNR compounds were well capable of running from Portadown to Belfast in less than 25 minutes in the 1930s - British Locomotive Practice and Performance, Railway Magazine December 1932.)

Two De-Dietrich sets are stabled at Great Victoria Street overnight and as there are no maintenance facilities at this location the set forming the 06:50 ex Belfast is taken out of service on arrival in Dublin. As a consequence the 09:40 to Belfast and 12:30 ex Belfast have been temporarily downgraded and are now formed by Irish Rail Mk2 air-brake stock. While limited catering facilities are provided there is no provision for "First Plus" passengers on these services. The air-braked set also works a number of local services, notably the 07:18 Mosney/Pearse, the 16:18 Pearse/Drogheda and the 18:16 Drogheda/Connolly. The first application of these arrangements was somewhat disastrous due to signalling problems in Dublin on 24th May which delayed the return of the air-brake set from Pearse. As a consequence the 09:40 to Belfast did not reach Drogheda until 10:57, 42 minutes late. The return working at 12:30 from Great Victoria Street was less severely delayed and arrived in Dublin about 15 minutes behind schedule. *(As the possessions associated with the Central line renewal include City Junction, there is presently no fully signalled method of running round a train at Great Victoria Street. Consequently a light engine from Adelaide generally follows the 09:40 from Dublin in order to release the train engine and shunt the carriages back onto the platform.)*

In order to maintain paths at the Dublin end the departures ex Belfast have been slightly modified in some instances with Up trains due to leave Great Victoria Street for Dublin at 06:50, 08:00, 10:30, 12:30, 14:05, 16:15, 18:10 and 20:10 on Mondays to Saturdays. There is no change in the departure times from Dublin on weekdays. On Sundays the 14:15 is deferred to 14:30, is formed by De-Dietrich stock and arrives in Belfast at 16:35, five minutes earlier than before. The 15:00 to Belfast is formed by the Mk2 air-conditioned stock previously used on the 14:15 and arrives in Belfast five minutes later than before at 17:15. In the Up direction trains depart at 10:10 (formerly 10:00), 14:00, 15:00, 17:30 and 18:15. The 17:30 is now formed by De-Dietrich stock and is due in Dublin at 19:35 instead of 20:00. The 18:15 ex Belfast is now a Mk2 set and is due into Dublin at 20:30, five minutes later than before. This train is due to call at Mosney from 13th June to 22nd August and as such is the only direct service in either direction between Mosney and Belfast.

The return of Dublin trains to Great Victoria Street will undoubtedly reopen the debate about the most suitable Belfast terminal for Enterprise services. While Central Station stood on its own for many years amidst somewhat of an urban wasteland the picture has changed considerably in recent times with developments such as the Hilton Hotel and the Waterfront Hall. Nonetheless Great Victoria Street is much closer to the city centre, offers the same rail connections to Bangor, Larne and Londonderry and is close to many of the city's best known landmarks such as the City Hall, the Europa Hotel and the Opera House. In addition, Great Victoria Street is actually nearer Dublin and thus would facilitate a marginally shorter journey time. The availability of car parking and suitable pick up and set down facilities might be an issue although parking is available in the adjacent, and aptly named, Great Northern Centre. The major disadvantage is the small concourse and the apparent reluctance of elements within Translink to contemplate extending railway facilities onto land currently used by Ulsterbus. It will be interesting to see if the transport company is swayed by public opinion or sticks doggedly to its position that Central Station will serve as the terminal for Dublin services for the foreseeable future.

Larne Line

The section of the disused Up line which was brought back into use to allow trains to bypass Whitehead tunnel is still carrying traffic despite the completion of repairs in the tunnel and the renewal

of underbridge 437A. This diversion commenced on 30th November 1997 and was to have lasted for about eight weeks. (The Up line at this location had only recently been renewed with CWR when it was taken out of use on 29th August 1994.) The present arrangements between Downshire and Whitehead are shown diagrammatically below.

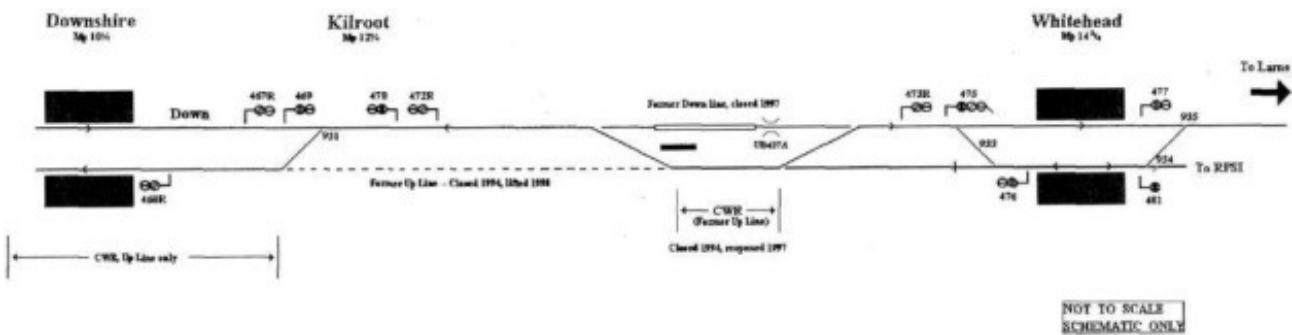
Approximately 1½ miles of the disused Up line, from MP 14 to MP 12½ has been lifted. Some of the recovered material together with rails which were awaiting installation at the time of closure were used to relay the Up line between Downshire and the turnout from the single line at Kilroot. Relaying of this latter section of line had been completed by the middle of November 1998. (The stub of the former Greenisland/Monkstown line saw use as a base for ballast loading in connection with this work.)



90+2 trailing towards Whitehead on the 14:58 from Belfast, 15/4/1998. (Note layout!)

It is understood that Translink have engaged consultants to advise on repairs to coastal defences between Kilroot and Cloghan Point as the existing running line is only marginally less threatened by the weakened state of the coastal defences in this area. Remedial work commenced in this area during February 1999 although there are apparently no plans to reinstate the double line in the immediate future.

A rock fall originating on the cliff face above Whitehead tunnel, near MP 14¼, closed the Larne line beyond Downshire from about mid-day on Wednesday 30th September 1998. A Down train, formed by a three piece-piece 80 class set, No.96, was disabled at the scene after running into debris which had fallen onto the track. As there were no other sets on the Larne side of the obstruction it was not possible to provide any rail services between Whitehead and Larne and as consequence bus substitution applied from Downshire. The Downshire/Whitehead section was reopened on Sunday 18th October. The running line at this point is now protected by a wall of gabions but was still subject to a 20 mph speed restriction in early July 1999.



Traffic and General Operations

On 13th March 1998 the 11:00 ex Dublin, a standard 8-piece De-Dietrich set, lost no less than 44 minutes between Dublin and Portadown due to locomotive difficulties. The return train, the 14:00 ex Belfast, still powered by 209 arrived in Portadown at 14:53. Time onwards to Newry was 29"-38" with a further 31'-26" being taken to Dundalk, the train plodding up the Wellington Bank at a steady 12 mph. No less than 46'-19" was required to cover the Dundalk/Drogheda section with a minimum speed of 14 mph being recorded between Dunleer and Kellystown. The 14:00 eventually terminated in Drogheda at 16:49, with passengers being transferred to the 17:00 local service to Dublin. This latter was in turn looped in Mosney to allow the empty De- Dietrich set to overtake it and in consequence did not reach Dublin until 18:09 just as the 16:50 to Belfast was departing with 208 now in charge. Incidentally the empty De-Dietrich set was hauled from Drogheda to Dublin by 184+148.

Due to an overnight possession of the Central Junction/Lisburn line not being handed back until 07:30 on 21st April 1998 the 06:45 ex Belfast started from Lisburn and was formed by 69+1. The delayed start resulted in the train arriving in Dublin about half an hour late. Passengers from Drogheda to Dublin were accommodated on the 08:38 local while those from Dundalk had to make do with buses as there was no stock immediately available to accommodate them.

Irish Rail's 151 was used on the 08:12 ex Bangor and 17:05 ex Great Victoria Street on 18th and 19th September 1998 due to a shortage of available NIR locomotives.

The 09:40 Dublin/Belfast service failed at Laytown on 1st September 1998. The train was rescued by 077 which towed 206 and the eight-piece De-Dietrich set through to Belfast arriving around 13:10, about 15 minutes ahead of the 11:00 ex Dublin. An NIR crew subsequently worked 077 and the failed 206 to Portadown where they picked up 227 from an IR crew who then took charge of 077 and 206 for the remainder of the trip to Dublin. Normal working resumed with the 18:10 to Dublin which was formed by (9004) 8 p/p + 227. The 12:30 ex Belfast and 15:20 ex Dublin were formed by 94+4+69 on this date, the latter arriving in Lisburn about twenty minutes late at 17:30.

A Newry/Curragh special proved somewhat of a frustrating experience for passengers on 21st September 1998 when brake problems delayed the train in Connolly for 80 minutes and necessitated the removal of one of the three-piece 80 class sets forming the service. There were also delays on the return journey due to a driver shortage at Inchicore which meant that the outbound empty carriages from Dublin to Kildare had to wait for a pilot driver to become available.

A further NIR special visited the Curragh on 17th October, this time running from Belfast and formed by 69+4+99+2+85.

NIR advised passengers at Portadown on 19th October 1998 to make alternative travel arrangements due to leaves on the line. Services elsewhere were said to be running about fifteen minutes late. The 06:45 ex Belfast was 22 minutes late leaving Drogheda on this date while the 08:00 ex Belfast was twelve minutes late, both being delayed as a result of adhesion problems.

Considerable damage was caused to UB 151 on 23rd September 1998 when the bridge was struck at speed around 11:00 by a low loader travelling on the Newtownhamilton/Dundalk road. This bridge is located at MP 56 in the Dundalk/Newry section and as a consequence the line was closed between these two points pending an inspection of the structure. The 11:00 ex Dublin went no further than Dundalk while the 10:30 ex Belfast terminated at Newry. The 12:30 ex Belfast was turned back at Drogheda in order to form the continuation of the 13:20 ex Dublin. Intending passengers for the latter were brought to Drogheda in a special working formed by Cravens stock. Repairs proceeded over the following four days with single line working over the Up road between Dundalk and Newry. Despite the fact that this section of line is equipped for reversible working the facility has never been fully commissioned and consequently there were the usual delays associated with single line working controlled by pilotman. In contrast to the situation at Dundalk, where signals are in place but crossed out of use, trains approaching Newry on the wrong line are fully signalled into the station, a common sense arrangement given that all the necessary hardware is in place. Normal double line working resumed on Sunday 27th September although matters were further complicated during the interim period by the failure of the 09:40 ex Dublin near Newry on the 25th and the overly cautious working which was then in operation between Lisburn and Belfast.

Following the single line working scare of 18th September procedures were tightened up to the point where delays became intolerable with considerable congestion being experienced between Belfast and Lisburn particularly during the morning and evening peak periods. Because of the closely integrated nature of NIR operations almost the entire network was affected and consequently the company felt obliged to apologise to its customers for the delays which were attributed to the necessity to impose additional speed restrictions due to the complexities of the work then in progress. Matters settled down after a while and services gradually returned to relative normality.

Ulster's participation in the European Rugby cup final against the French team Colomiers at Lansdowne Road on 30th January 1999 resulted in exceptional demand for cross-border rail travel on this date. Tickets for the special trains went on sale on 16th January with queues forming outside Central Station from 03:30. Some 4,000 tickets were sold to eager fans within the space of a few hours and rail tickets were unobtainable in the days leading up to the match. All travel on both special and Enterprise services from Belfast on the morning of the match had to be pre-booked with sales limited to available seating. As a consequence services on both the preceding Friday and following Sunday were busy with several auxiliaries being required. An additional special was also provided from Belfast at 10:45 on the Saturday morning to take any unexpected overflow off the 10:30 Enterprise and to provide accommodation for regular passengers from Dundalk and Drogheda. Relevant services to and from Dublin on 29th and 30th January are shown in the table below, including local services on the Saturday morning. Day return fares on Saturday were £17 on the special trains and £26 on the Enterprise services (£45 in First Plus). Boarding cards were issued for the 07:50, 08:20, 08:30, 09:10 and 09:35 ex Belfast and were valid on these trains only. As most seats out of Belfast on the Saturday morning had been sold to Rugby fans it was anticipated that traffic on the 16:50 ex Dublin that day would be much lighter than usual and in consequence this service was formed by the De-Dietrich spares.

Return services to Belfast on the Saturday were scheduled to depart from Connolly at 17:50, 18:15, 18:35, 19:00, 19:05 (Dundalk portion of the 19:00), 19:35, 19:45, 20:30 and 20:40. On the Sunday there were trains to Belfast at 10:00, 12:10, 14:15, 15:00, 15:05, 18:00 and 18:30. All of the Sunday trains were formed by De-Dietrich sets except the 14:15 and 15:05 which consisted of 229 + EGV + 6 Mk2s and 112 + 9 (NIR) Mk2s respectively.

Date	Service	Formation	Location	Time	Load
29/1/99	12:30 ex Belfast	(9002) 8p/p+209	Connolly	Arr 14:43	300/320
29/1/99	14:00 ex Belfast	(9003) 8p/p+207	Drogheda	15:45/15:47	400/430
29/1/99	Relief Train	111+9 NIR Mk2s	Drogheda	16:08/16:09	50
29/1/99	16:00 ex Belfast	(9001) 4p/p+206	Drogheda	Pass 17:30	130
29/1/99	16:10 ex Belfast	(9004) 8p/p+218	Drogheda	Dep 17:53	400
29/1/99	18:10 ex Belfast	(9002) 8p/p+209	Drogheda	Dep 19:46	350/380
29/1/99	20:10 ex Belfast	(9003) 8p/p+207	Drogheda	21:51/21:52	120/130
30/1/99	06:45 ex Belfast	(9004) 8p/p+218	Malahide	Pass 08:45	430
30/1/99	08:10 ex Dundalk	(9001) 4p/p+206	Malahide	Pass 08:56	90/110
30/1/99	08:38 ex Drogheda	216+7Mk2s+EGV	Malahide	09:15/09:16	160
30/1/99	07:50 ex Belfast	67+2+8085+4+92	Malahide	Pass 09:47	630/680
30/1/99	08:00 ex Belfast	(9002) 8p/p+209	Malahide	Pass 09:53	480
30/1/99	08:20 ex Belfast	95+4+8097	Malahide	Pass 10:09	400
30/1/99	09:45 ex Drogheda	(6102) 6p/p+216	Malahide	Pass 10:20	230/250
30/1/99	10:19 ex Skerries	(6101) 6p/p+224	Malahide	10:35/10:36	200
30/1/99	08:30 ex Belfast	111+9 NIR Mk2s	Malahide	Pass 10:40	350/380
30/1/99	09:10 ex Belfast	078+9Mk2s+EGV	Malahide	Pass 11:13	450/480
30/1/99	10:30 ex Dundalk	084+GSV+4Cr	Malahide	11:37/11:39	400/460
30/1/99	09:35 ex Belfast	81+4+89	Malahide	Pass 11:42	400
30/1/99	11:30 ex Drogheda	2614/17/05/06	Malahide	12:15/12:16	230/290
30/1/99	10:30 ex Belfast	(9003) 8p/p+207	Malahide	Pass 12:28	480
30/1/99	10:45 ex Belfast	086+GSV+7Cr	Malahide	Pass 12:47	60/70

Passenger loadings on the Enterprise service were particularly heavy during the period from November 1998 to March 1999 with commuter, shopping, student and sporting traffic all very much in evidence. In the Up direction additional trains were frequently required to assist the 06:45 ex Belfast (generally from Dundalk), the 08:00 ex Belfast (from Belfast or Portadown) and the 10:30 ex Belfast (from Belfast, Portadown or Dundalk). In the Down direction the heaviest train out of Dublin tends to be 19:00 to Belfast and this was frequently preceded on Mondays to Thursdays by an 18:50 to Dundalk running in the same path as on Fridays. (*This train also ran for much of the summer period to cater for day excursion traffic returning to Dundalk from Mosney.*) On busier Saturdays an 18:35 relief to Belfast was fairly common although the 18:50 path to Dundalk sometimes operated instead. On Sundays the 10:00 ex Belfast and 15:00 ex Dublin have frequently been duplicated while a relief from Dundalk ahead of the 18:15 ex Belfast featured on several dates during January and February 1999. Heavy southbound traffic on Fridays resulted in relief trains from Belfast on a few occasions during January and February. For instance on 12th February 8068+4+8087 formed a relief to the 14:00 ex Belfast as far as Newry while the De-Dietrich spares worked a relief to Dublin ahead of the 16:10 from Belfast. A very healthy First Plus business has been built up on Mondays to Fridays, particularly on the 08:00, 10:30, 16:10 and 18:10 from Belfast and the 07:40, 09:40, 15:20, 16:50 and 19:00 from Dublin. Despite the relatively high proportion of First Plus seating on the Enterprise sets and the £45 return fare, bookings can be difficult to obtain on the 08:00 from Belfast and to a lesser extent on the 07:40 from Dublin.

Relief trains also operated from Belfast to Newry on a number of occasions once paths became

available with the resumption of normal working between Belfast and Lisburn. For instance on 12th February 1999 8068+4+8087 ran to Newry ahead of the 14:00 to Dublin while the spare De-Dietrich set was used to form a 16:00 to Dublin running ahead of the regular 16:10 departure.

Accidents, Derailments and Other Mishaps

The 17:10 ex Londonderry, 89+4+96, terminated at Bellarena on 6th February 1998 due to a bogie problem which necessitated the attendance of the fire brigade. The line was closed for the remainder of day while arrangements were made to recover the disabled train. The failed set, 89+2, was hauled from Coleraine to York Road by 184+148 on 8th February.

The 04:35 Dundalk/Adelaide bulk cement train, 075 + 18 four-wheel bulk cement wagons, collided with the 04:20 Dundalk/Adelaide liner train at Finaghy on 7th April 1998. The first train, 149 + 1 bogie + 8 4-wheelers, was standing at a temporary fixed red signal between Finaghy and Balmoral when the accident occurred. It appears that the 04:20 was waiting to be sent forward into the single line section when the impact occurred. Damage was severe with several wagons of the liner train being totally destroyed and their cargo of beer kegs being scattered around the site like discarded toys. The locomotive of the second train was completely derailed and came to rest on its right hand side at an angle of about 80° to the running lines. The first two cement wagons, although upright, were derailed, the first of the pair being badly damaged. The opposite line was completely blocked and all traffic was suspended between Great Victoria Street and Lisburn until the wreckage had been recovered and the line handed back for traffic late the following evening. In the interim services to and from Dublin used Lisburn as their terminus and were formed by the Dublin based De-Dietrich set, 98+3+91 and a four-piece Cravens set, the latter hauled by a variety of 071s and 201s. Passengers on Dublin and Londonderry line services were taken by bus between Lisburn and Belfast. The Inchicore steam crane assisted in the recovery operation.

Incidentally, or otherwise, 7th April was to have been the first day of single line working between TX4 and TX2 and in consequence investigations are believed to have centred around the associated temporary signalling and in particular the aspect shown by No.149. The latter is located between Dunmurry and Finaghy and if operating correctly would have been showing a red aspect to protect the standing train. Fortunately none of the four crew was seriously hurt although at least one of those concerned was out of work for several months following the accident. Ironically the driver of the second train was due to leave the railway within a few days of the accident and was somewhat unlucky to have his last few days marred by an incident of this nature. An Inquiry into this accident was conducted by Dr W. Beattie of Queen's University although his report has not been published.

The locomotive of the 11:00 ex Dublin parted from its train at or near Belfast Central on 15th April 1998. As a consequence the 14:00 to Dublin was formed by 92+3+96 and did not depart until after 15:00. The 16:50 to Belfast was also badly delayed but managed to get away ahead of the 17:28 Pearse/Drogheda local.

The 18:10 ex Belfast struck and killed a man at Moira on 15th April 1998. As a consequence the line was closed for several hours and the 19:00 and 20:30 ex Dublin were obliged to terminate at Portadown. The latter was formed by a 3-piece De-Dietrich set and returned empty to Dublin on arrival. Passengers travelling on the 18:10 were eventually brought to Dublin on a relief train which departed Portadown just before 21:00, in the path of the 20:10 ex Belfast.

The 19:10 ex Londonderry was disabled at Brookmount on 16th April due to a broken axle on motor coach 87. The line was closed for over 19 hours as a result of this incident although the train was apparently able to continue under its own power with the defective axle supported on a wheel skate.

The 06:50 ex Great Victoria Street to Larne Town collided with a set of empty carriages leaving York

Road depot to form the 08:00 Enterprise from Central Station to Dublin on 29th April 1998. The rear portion of the Enterprise set was snaking onto the Up Larne line at the time of the collision having just cleared the exit from York Road depot. Some superficial damage was caused to the last coach of the Enterprise set, 9205, although the brunt of the collision was borne by 207, the rearmost vehicle of the Enterprise set, and the leading vehicle of the Larne train, motor coach 96. Although 207 was not derailed it sustained serious body and running gear damage as well as a pierced fuel tank. Ironically, despite the first two vehicles of the railcar set being completely derailed damage was less severe although the motor coach required considerable body repairs as a result of its sidelong encounter with 207. The railcar set, 96/769/733, came to rest with the leading two vehicles inclined at a 30° angle to the running lines. The final position of 96 and 769 gave the impression that they had been lifted off the road and placed on the ground parallel, and immediately adjacent, to the trailing crossover linking the Up and Down Larne lines.

The seven undamaged vehicles of the De-Dietrich set were pushed to Belfast Central by 112 using a Mk2 coach in the role of match truck. The set was then joined with 234 and worked the 14:00 to Dublin, 16:50 ex Dublin and 20:10 to Dublin. By Friday 1st May 206 had replaced 234 and the set had again been made up to eight coaches, still with 9001 as the driving trailer. The line remained closed at the accident site until 17:15 on 30th April, some 34 hours after the collision. Recovery of the derailed vehicles was effected using road cranes positioned on the adjacent M2 motorway. While the line was closed substitute buses were provided between Central Station and Whiteabbey although arrangements were working anything but smoothly on the evening of the accident. For instance there was no bus connection for the 20:15 from Whiteabbey to Larne Harbour while passengers arriving from Larne Harbour were left waiting for around twenty minutes. Access remained available at the Larne end of York Road depot at all times and there was thus no shortage of sets for the truncated Larne line service. As sets for the Bangor, Portadown and Londonderry lines had already left the depot when the accident occurred these services were able to operate more or less normally although it was necessary to stable equipment at Great Victoria Street on the night of 29th/30th April.

Subsequent to this accident special instructions were issued requiring drivers of trains calling at Yorkgate to halt at a marked point on the platform from which a clear view of signal 217 is obtainable. *(A banner repeater for signal 217 is in place on the Central side of Yorkgate station to facilitate non-stop trains that might have been checked at the previous signals. The banner repeater predates the accident and was installed due to the restricted sighting conditions approaching signal 217.)*

Services between Portadown and Newry were suspended for a few hours on the morning of 19th May 1998 when part of the parapet of the Madden Bridge at Tandragee fell onto the line shortly after the passage of an Up train (possibly the 06:45 ex Belfast). Following this incident the Department of the Environment closed the road bridge to all traffic. At the time of writing in May 1999 the bridge, the abutments and the approach ramps had been completely demolished. Pile driving for new ramps and bridge foundations are currently in progress although it will be several months before a new OB 228 emerges from the debris.

Mr Christopher Hall, a senior member of the UK's Railway Inspectorate, has been appointed to review the conduct and outcome of NIR inquiries into the three serious accidents which occurred in the early part of 1998. The appointment was announced in a statement by Lord Dubs on July 1998. The Minister also announced that a wider safety audit would be initiated by NIR and would take account of, and build on, previous and current safety work commissioned by the company into infrastructure, including track, structures and signalling; rolling stock; train protection systems and operational management. The principal findings and recommendations of both Mr Hall's investigation and the safety audit will be made public. The terms of reference for the safety audit were to be agreed between NIR and the Railway Inspectorate and the audit itself will be overseen by a senior Inspector.

The 06:50 Belfast/Londonderry service, formed by 733+83, was badly derailed near Magilligan on 24th July 1998, as a result of a collision with a herd of cattle. Three passengers were taken to hospital and nine animals were killed. The line was cleared in time to permit a full resumption of services on 27th July.

The 06:50 Belfast/Londonderry service struck and killed a man at Lisburn shortly before 07:30 on 15th December 1998. Services were disrupted for several hours as a result of this incident although traffic was permitted to pass through the Down loop after a short delay. Passengers travelling on the 08:00 Enterprise to Dublin and the 07:40 Enterprise from Dublin were reportedly conveyed by local services to and from Portadown due to the fact that De-Dietrich stock was not then permitted to enter the loop at Lisburn. Following a trial on 25th April 1999 such stock may now be routed through Lisburn loop but only in an emergency and subject to a 5 mph speed restriction.

The 20:30 ex Dublin struck and killed a woman near the canal bridge at MP 75^{1/4}, just south of Poyntzpass, on 19th May 1999. The RUC closed the line until the following morning and detained the train at the scene for almost four hours.

High winds over the Christmas period blew down the Platform 3 starting signal at Portrush and disrupted the tablet circuit. (This was not a major problem as the Portrush branch is usually worked by a manual staff with Portrush cabin normally switched out.)

Civil Disturbances and Related Problems

A warning of a bomb south of the border disrupted services between Dundalk and Newry from 09:30 to 12:30 on 23rd February 1998. Passengers travelling on the 09:40 ex Dublin and 10:30 ex Belfast were transferred by bus between Newry and Dundalk. Further warnings on the 24th resulted in traffic being suspended for a time between Newry and Dublin and Howth Junction and Howth.

A suspect device beside the line near Altnaveigh Orange Hall closed the line between Newry and Dundalk around 10:00 on 3rd April 1998 and resulted in the suspension of all services until the following Sunday, 5th April.

A small explosion occurred at the “Red Bridge” just south of Newry on 4th May 1998. This incident happened shortly after 13:30 but did not affect the 12:30 ex Belfast which was due around this time. Passengers on the 14:00 ex Belfast were severely delayed awaiting buses and did not reach Dublin until around 18:20. As a consequence Irish Rail provided a set for the 16:50 ex Dublin which was formed by 223 + EGV + 8 Mk2s on this date. The line between Dundalk and Newry remained closed until the morning of 6th May while security forces searched for a second device which the terrorists claimed to have planted. This incident was attributed to the so-called “Real IRA”, a vicious dissident group which was responsible for the massacre at Omagh on 15th August 1998.

A suspect gas cylinder closed the line between Portadown and Lurgan from 06:00 to 20:30 on 1st May 1998. The driver of an early morning goods train from Dundalk reported the device, which turned out to be a hoax.

A crude explosive device detonated under the overbridge at Finaghy station while being examined by security forces around midnight on 23rd May 1998. A further suspect device was later found at Lake Street level crossing in Lurgan following a phoned warning and the line between there and Moira remained closed for most of the day. As there was no suitable NIR stock at Portadown an Irish Rail set, 225+ 6 Mk2 + EGV, worked the continuation of the 10:00 ex Belfast from Portadown as well as the 15:00 ex Dublin and the 17:30 ex Belfast, again from Portadown only. While all Down trains departed more or less to schedule Up trains were delayed by at least 30 minutes. The worst affected services were the 14:00 and 15:00 ex Belfast which were combined and did not arrive in Dublin until 18:16. The spare De-Dietrich set, which consisted of a three-piece formation on this date, worked the 17:30 ex

Dublin and the continuation of the 18:15 ex Belfast although as might be expected both trains were badly overcrowded.

The 20:30 Dublin/Belfast terminated at Portadown on 30th May and returned empty to Dundalk due to riots on the Garvaghy Road at Portadown.

A bomb warning closed the line between Lurgan and Moira from 20:00 on 31st May to 09:30 on 1st June 1998. As a consequence Sunday evening's 18:30 ex Dublin terminated at Portadown while the following day's 06:45 and 08:00 ex Belfast started from Portadown. Incidentally the 06:45 was formed by 2603/04/14/17, which worked empty from Dundalk to Portadown, and arrived in Dublin a mere two minutes late at 09:02. (*As this was a Bank Holiday in the Republic none of the preceding local trains into Dublin were operating and consequently the normal pathing delays did not apply.*)

At least one and possibly two security alerts in the Lurgan area disrupted services between Portadown and Moira on 1st and 2nd July 1998. As a consequence of these incidents Enterprise services terminated at Portadown for much of the day on 1st July with two full size De-Dietrich sets being stabled south of the border that night, one in Dublin and one in Dundalk. Traffic had resumed through Lurgan by 4th July by which time another incident had closed the Dundalk/Newry section.

An explosion was reported near Newry at 01:20 on 2nd July 1998 resulting in the closure of the Dundalk/Newry section and the suspension of all cross-border rail traffic up and including 14th July. The long closure arose not so much from the incident at Newry itself but because of the imminent annual chaos associated with the Drumcree Orange march at Portadown.

Due to the deteriorating security situation in Northern Ireland, Irish Rail posted notices on 6th July 1998 announcing the indefinite suspension of cross-border rail services. Bus connections would, however, be available at Dundalk for all advertised services except the 10:10 ex Dublin and 20:10 ex Belfast.

For the period from 6th to 10th July most internal NIR services were suspended each evening as early as 17:30 in some instances either due to bomb alerts or as a precaution in view of the menacing situation on the streets. The station at Portadown was closed entirely on several occasions during this period as a result of staff intimidation. In the midst of such widespread disruption and with so few people travelling it was decided to suspend Belfast/Lisburn services entirely between 09:30 and 15:30 on both 10th and 11th July. Interestingly this pause in services was used by Mowlems to demolish the Down platform at Lambeg in connection with the upgrading of the Belfast/Lisburn line.

A suspect device at Lake Street level crossing at Lurgan resulted in the closure of the line between Lurgan and Moira on the morning of 22nd July 1998. The 06:45 ex Belfast ran in two sections, one from Dundalk and one from Portadown, formed by 181 + 4 Cr + DV and 2+91 respectively. These trains left Drogheda at 08:28 and 08:40 respectively. Passengers on the 07:40 ex Dublin and 08:00 ex Belfast were also obliged to avail of bus transfers although the line was opened in time to allow the 09:40 ex Dublin to operate normally.

A security alert in the Lurgan area closed the line between Portadown and Moira on 10th October 1998. The 06:45 and 08:00 ex Belfast started from Portadown and were formed by 2+8089+2+8068 and 8098+3+92 respectively. Both trains were delayed by about 30 minutes. The line reopened around 08:30 and thus the 07:40 ex Dublin was unaffected. A further alert, also at Lurgan, closed the line for almost 24 hours from 16:00 on the 30th. The worst affected train was the 16:10 ex Belfast which did not reach Dublin until around 19:45. Normal services resumed with the 15:20 Down and 16:10 Up on the 31st.

The 11:00 ex Dublin terminated at Portadown on 27th February 1999 apparently due to a security alert in the Lurgan area. The set returned as the 12:30 ex Belfast which started from Portadown. All other Enterprise services ran normally.

The murder of a prominent Lurgan solicitor, Mrs Rosemary Nelson, by dissident loyalist terrorists on 15th March 1999 provoked several nights of rioting in “Republican areas” especially in and around Lurgan and Portadown. The railway was blocked that evening, and on several subsequent occasions, at Lake Street level crossing by burning barricades and abandoned vehicles, some of which were driven for some distance along the line before being set on fire. Services were again suspended between Portadown and Lisburn due to overnight rioting on 19th/20th March when further obstacles, including a bus, were abandoned on the track. During much of the week cross-border services operated to/from Portadown with passengers to/from Belfast being conveyed by road, north of Newry. Normal services resumed with the 14:00 ex Belfast on 21st March. The 10:00 ex Dublin consisted of 227 + 4p p/p (9004) on the latter date as two of the three eight-piece De-Dietrich sets were trapped in Belfast, while the third had stabled overnight in Dundalk and was used to work the 10:41 ex Portadown. (A temporary speed restriction of 40 mph was imposed at Lake Street due to the damaged condition of the crossing surface.)

Disputes

NIR services were severely disrupted on 22nd May 1998 when some 25 drivers reported sick at York Road depot, apparently in protest at disciplinary measures arising from the 29th April collision at Yorkgate. As far as Enterprise services were concerned the principal casualty was the 06:45 ex Belfast which was cancelled between Belfast and Drogheda. Irish Rail crews and stock worked the 08:26 Drogheda/Dublin, the 09:40 Dublin/Belfast and the 12:30 Belfast/Dublin. The 14:45 Dublin/Dundalk and 15:10 Dublin/Belfast were combined with passengers being obliged to change at Dundalk into a De-Dietrich set which had worked empty from Belfast following the resolution of the dispute. An NIR crew worked the 14:00 ex Belfast, (9003) 8 p/p + 209, although a delayed departure meant that the train did not reach Dublin until 16:56. The return 16:50 departed Connolly at 17:12 with almost 400 passengers on board.

Locomotives and Rolling Stock

Northern Ireland Railways have sought tenders for the provision of six three-car DMU sets. Each set is to have a maximum length of 69m and be capable of seating between 200 and 250 passengers. The sets will be leased and ideally would be available for use in Northern Ireland by mid 2000. It is expected that suitable sets may be sourced in the UK and are likely to be second-hand. This move is seen as a stop-gap measure to address both the re-opening of the Bleach Green Junction/Antrim line and the diminished reliability of the existing fleet. The ultimate intention is to replace the bulk of the current railcar fleet under a public-private partnership, which would see some £80m spent on new stock.

No.96, damaged in the Yorkgate collision, returned to traffic in August 1998 being observed in pristine condition at the head of the 08:45 special from Belfast to Dublin on 23rd August. The full formation of this train was 96+4+85+2+98. No.83, slightly damaged in the Magilligan derailment on 14th July returned to service on 19th August as part of the consist of the 13:25 Central to Londonderry.

112 was at Inchicore in early September 1998 awaiting a new turbocharger as well as attention to its wheels and pistons. Sourcing a turbocharger proved somewhat of a problem as none were readily available due to the fact that Irish Rail's 071 class fleet have all been uprated and consequently use a different model.

Mk2 coaches 930 to 933 inclusive were sent to the Glasgow facility of Railcare Ltd in August 1998. The four vehicles have been refurbished and modified in such a way as to provide two additional 80-class compatible railcar intermediates and driving trailers. So far 8775 (formerly 930) and 8777 (formerly 931) along with motor coaches 8082 and 8093 have been returned to NIR and the other two are expected by early June. 8775 arrived in Belfast on 1st April 1999 and was in traffic by the following

Friday while 8777 was returned on 20th April and had entered traffic by 26th April. Both of these vehicles, which are classed as intermediates, seat 76 passengers arranged in six rows of ten seats and two rows of eight seats. The reduced seating rows are at opposite extremities of the vehicles, and are intended to facilitate adequate access to and from the vestibule areas. Power car 8082 was delivered to York Road on 5th May with 8093 following on 21st May. Neither have yet returned to traffic pending reinstallation of the power units and associated equipment. The driving trailers will be numbered 8755 (formerly 932) and 8756 (formerly 933) and will seat up to 75 passengers.

Only nine of NIR's Mk2 coaches were available for traffic as of mid November 1998. A seven-piece set normally features on both the 08:12 Bangor/Great Victoria Street and the 17:05 Great Victoria Street/Bangor expresses, which run on Mondays to Fridays only. The Mk2 set also appears occasionally on Enterprise services as a substitute for De-Dietrich stock in the event of the latter failing or being unavailable for one reason or another. Relief trains to Dublin on Saturdays and Sundays are another regular duty although rostered use on the Londonderry line on Friday is avoided if alternative equipment is available.

All NIR rolling stock, with the exception of the De-Dietrich coaches, is being gradually renumbered in the 8000 series, apparently for compatibility with computer based vehicle record systems already used by Ulsterbus. Existing numbers are prefixed by an "8" although as yet some vehicles have escaped, including 102, 111, 112, 208 and 209.

Hunslet locomotive 102 has been out of traffic since early December 1998 and its future may well be sealed if a rumoured swap of equipment takes place between NIR and Irish Rail. Such a deal might see NIR acquiring at least one twin-cabbed Bo-Bo which would render 102 surplus to requirements.

The prime mover from locomotive 208 was sent to Turner Rail in April 1998 for attention and was returned in May 1998.

Sir Myles Humphreys

The death occurred at the end of February 1998 of Sir Myles Humphreys (72) who was a former chairman of Northern Ireland Railways, the Northern Ireland Transport Holding Company and the Police Authority. Sir Myles was also Lord Mayor of Belfast for a time and was instrumental in developing exchange visits between Belfast City Council and Dublin Corporation at a time when such events were none too common. He had a special love for the railway and lobbied enthusiastically for many of the projects which have come to fruition in recent years, notably the Cross Harbour link, Great Victoria Street and the upgrade of the Dublin/Belfast line. As a final tribute railcar 99 "Sir Myles Humphreys" sounded a salute as the cortege passed under the railway on the way to Roselawn for a private cremation.

Miscellaneous

The overbridge at the Pomeroy end of the former Dungannon station has been renewed and widened by the Department of the Environment. The original centre pier has been removed although the former railway right of way continues to be preserved in accordance with a more forward-looking approach to former railway alignments.

The footbridges at Antrim, Ballymoney and Coleraine were taken out of use in early 1998 due to concerns about their safety. As an interim measure hideous looking temporary structures were erected supported by scaffolding. At Downshire the footbridge has been removed with pedestrian and wheelchair access now available on both platforms from the public road.

NIR indicated in December 1998 that they are proposing to appoint consultants to examine, amongst

other things, the potential of the Larne, Bangor and Londonderry lines as feeders into the Trans European Network (effectively the eastern corridor route to Dublin and beyond). The study will also be required to consider the desirability of a rail connection into the Belfast Harbour estate, to examine the likely future development of cross-border traffic, to consider the impact of proposed expansion at Belfast International Airport and the opportunities which may be presented by plans to relocate the passenger terminal at Belfast City Airport.

NIR sought tenders in March 1999 for a 120 tonne capacity vehicle/system for the transfer of rolling stock up to 23m long from the running lines at York Road depot into the workshops. At present such transfers are effected via a turntable which gives access to a traverser serving the various shops, the entrance to which generally lie at right-angles to the rest of the yard.

NIR have introduced an airport-style buggy at Central station in February 1999 to convey passengers with mobility difficulties between the concourse and platform. The buggy, which can convey three passengers and their luggage, is an interim measure pending the installation of lifts and escalators between the concourse and platforms.

NIR published a notice banning the carrying of intoxicating liquor onto trains destined for Portrush on 16th May 1998. Services affected were the 08:03, 09:00, 09:20, 09:31 and 11:00 from Belfast, the 08:55 ex Ballymena, the 08:00 and 11:00 ex Londonderry and the 07:55, 08:47 and 10:47 ex Portadown. In the evening alcohol was banned on all services leaving Portrush between 16:30 and 20:30 inclusive. This was the weekend of the North West 200 rally and is one of the busiest days of the year at Portrush.

Castle class sets 454 and 455 were reported as having been fitted with video surveillance units by April 1998 in order to deter anti-social behaviour.

The first anniversary of the revamped Dublin/Belfast service was marked on 1st September 1998 by serving passengers with complimentary tea and cakes. The De-Dietrich sets were decorated internally and discount vouchers were issued for redemption against future travel tickets.

In an effort to regain lost commuter business NIR offered a 25% reduction in season ticket prices for November 1998.

Translink raised its fares by an average of 4% with effect from Monday 29th March 1999.

071/111 class locomotives are now permitted to operate into the cement siding at Adelaide subject to a 5 mph restriction. This change, effective since December 1998, removes the operational constraint in working this siding which previously necessitated the use of either a Hunslet locomotive or an Irish Rail 121, 141 or 181 class Bo-Bo.

Most of the block telegraph route between the border and Portadown has been demolished although little of the material has been recovered.

Work is presently in hand on a runway extension at Eglinton Airport. It is understood that the extension will cross the Coleraine/Londonderry line on the level and that special signalling arrangements will be required to ensure safe operation. (*Incidentally signalling instruments were installed in the control tower at RAF Ballykelly in 1943 and were interlocked with a purpose built signal box opened by the NCC to control rail traffic. The main runway was extended over the railway to accommodate Liberator aircraft operating out of Ballykelly during World War 2.*)

Private Railways and Museums

Irish Traction Group

An ITG organised charter on 3rd October 1998 saw 131/123 + 6 Cr + DV visit Carrickfergus and Bangor during the course of a trip, which was disrupted by the closure of the Carrickfergus/Whitehead section due to a landslide some days previously. Further problems were caused by last minute restrictions imposed by NIR which included a prohibition on the train visiting Great Victoria Street.

This group has arranged appropriate insurance cover to allow it to operate its two preserved “A” class locomotives on railtours. In order to recoup the £10,400 premium and earn some funds for continued preservation efforts the group proposes to run four railtours in 1999. The first of these ran on Saturday 23rd January and saw A39 haul a seven-bogie formation consisting of six Cravens and a GSV from Heuston to Connolly and thence to Carrick on Suir via Islandbridge Junction, Cherryville Junction, Lavistown Loop and Waterford. The return trip saw the train travel to Dublin (Heuston) via Waterford, Rosslare Europort, Bray and Connolly. This tour ran under the “Silver cloud” banner, presumably a reference to the locomotive’s livery.

Isle of Man Railway

Ex CDRJC railcars 19 and 20 are presently being restored in Douglas at a cost of £100,000. The work involves the renewal of the timber framing and the replacement of much of the original aluminium cladding as well as a complete restoration of the interior of each vehicle. Following the dismantling of the cabs the Gardner 6-LW engines were returned to the original manufacturer for reconditioning.

Railway Preservation Society of Ireland

The 1998 two-day tour featured 171 and 461 and covered the lines from Limerick Junction to Bagenalstown (via Waterford) on 9th May before continuing to Dublin (via Rosslare and Arklow) the next day. 461 hauled the seven-coach train of RPSI stock from Waterford to Bagenalstown and back with 171 being used for the remainder of the tour. Participants travelled from Heuston to Limerick Junction on an 08:45 special which was formed by 224 + 6 Mk2s + EGV. The final leg of the tour took place on 11th May, and consisted primarily of a 10:25 special from Dublin to Belfast formed by 171 + GSV + 4 Cr. This train overtook 219 + 12 four-wheel bulk cement wagons at Howth Junction but was itself overtaken in Drogheda by the 11:00 to Belfast. A smart run followed to Dundalk, where a brief stop was made prior to an energetic departure which saw 41 mph being attained up the bank to Mountpleasant.

The Portrush Flyer planned for 18th July 1998 was cancelled due to lack of bookings and general uncertainty arising from disturbances relating to the Drumcree Orange march. Lack of support also resulted in the cancellation of a planned mid-summer steam operation from Belfast to Larne Harbour on 19th June 1998.

The 1999 “two day” tour took place over the weekend of 8th and 9th May. As last year the train started out from Heuston but on this occasion the departure was behind steam in the form of No.85. Tour participants transferred to RPSI stock at Ballybroy and continued behind 461 to Limerick and Ennis. Sunday’s programme was severely disrupted by engineering works between Limerick and Limerick Junction as a result of which passengers were obliged to transfer from Limerick to Limerick Junction by bus. Single line working between Limerick Junction and Charleville, together with unplanned additional trains and some operational confusion, resulted in congestion at Limerick Junction and a

delayed departure for Dublin. Consequently the tour train, now formed by No.85 + DV + 4 Cr, did not leave Limerick Junction until after 12:00 thus making the proposed 15:55 departure from Dublin impractical. The Belfast leg eventually followed the 18:30 ex Connolly, still formed by the original Cravens set which returned empty to Dublin around 22:20.



Ex GNR(I) 4-4-0 No.171 just west of Tipperary, 9/5/1998.

Downpatrick & Ardglass Railway

Amidst considerable media interest contractors engaged by the D&AR company reconstructed the River Quoile bridge over the weekend of 16th/17th January 1999. The four steel beams, which form the main components of the bridge, were lifted into position using two road cranes, one of which was capable of lifting up to 100 tons. The bridge links two segments of the former B&CDR alignment at a point a little on the Belfast side of the former Downpatrick North Junction and consists of two spans totalling about 140ft. The successful completion of this work means that the way is now clear for the extension of the line to Inch Abbey, which is about 1½ miles from Downpatrick and is the proposed northern terminus of the Downpatrick Railway Project.

Miscellaneous

Belturbet Community Development Association has been granted planning permission for the construction of fifty, four-bedroom accommodation units at the former GNR(I) station at Belturbet in County Cavan.

Bord Na Mona published a tender notice in March 1998 seeking proposals for the supply and installation of a rotary dumper system for milled peat wagons. The wagons are to be dumped in pairs, without uncoupling, and the system must be capable of discharging at least 80 wagons per hour, each weighing 12 tonnes gross and being 7m long, 2.3m wide and 1.8m high.

Bord Na Mona recently awarded contracts for the supply of 1,800 tonnes of rail together with fishplates, clips and fasteners. This material is sufficient for about 51km of track consisting of 17.4kg/m rail.

Locomotive 055 was delivered by road to the “Hell’s Kitchen” public house and restaurant at Castlerea on 7th July 1998 and will be preserved on the premises as a static exhibit.



CDRJC Railcars 12 and 18 at Foyle Road on 18th July 1998 along with No.4 Meenglas.