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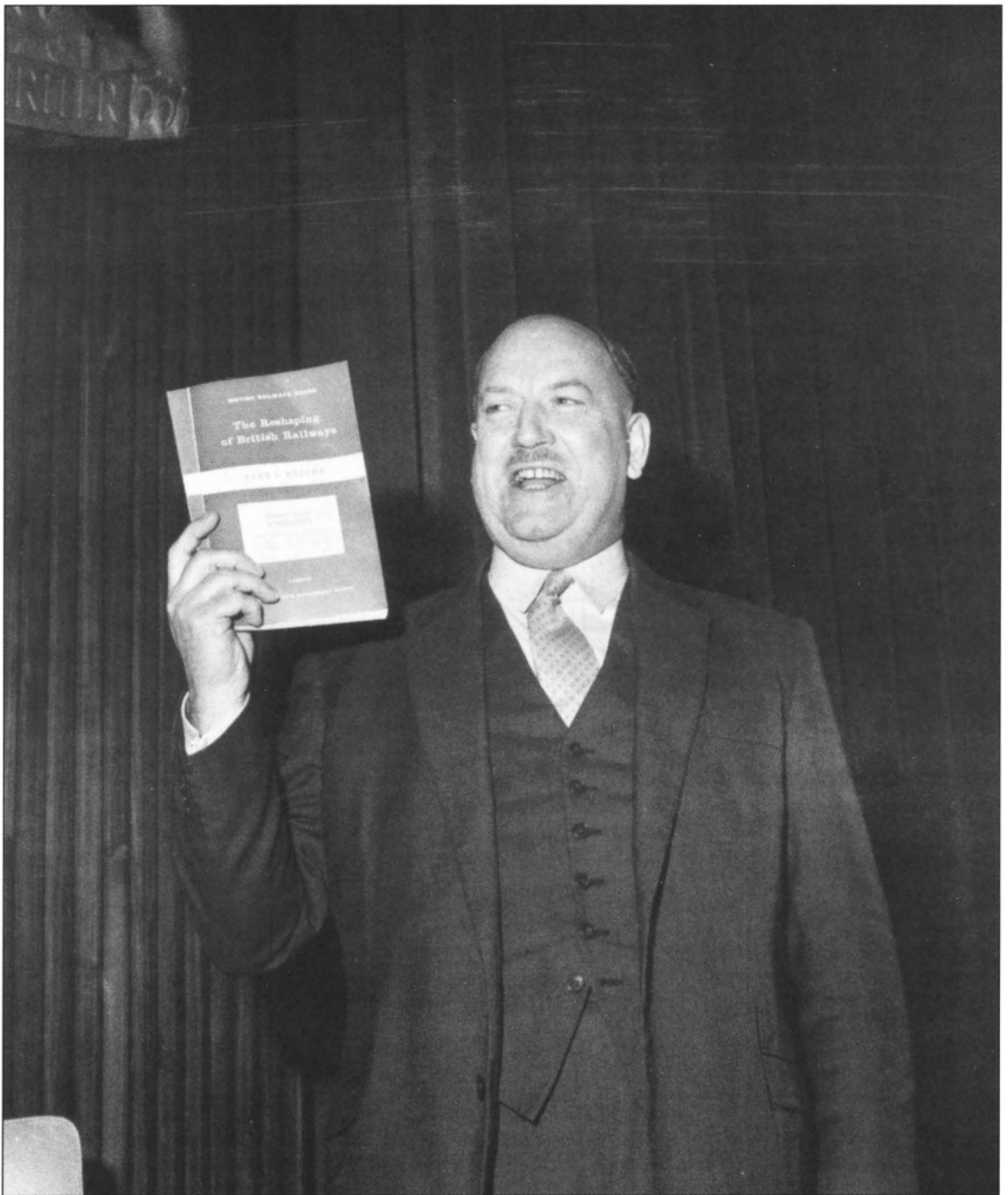
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back: (top) the 10.08 Alloa–Larbert train crosses 'the other Forth Bridge' on 27 January 1968,
the last day of passenger service on the line (Peter Cross-Rudkin) (see pages 7-20)

(bottom) an extract from Map No. 9 of 'The Reshaping of British Railways'
(the Beeching report) (see pages 3-32)



*Dr Richard Beeching presents 'The Reshaping of British Railways' to a press conference on 27 March 1963
(Daily Herald Archive / Science and Society Picture Library)*

Not on Beeching's List

Tim Edmonds

Published on 27 March 1963, the document known as the Beeching report proved to be a landmark in enabling the modernisation of the British railway system to meet the challenges of the motorway and mass car ownership. On 1 January 1963 Dr Richard Beeching had become the first chairman of the British Railways Board (BRB) when it replaced the British Transport Commission, of which he had been chairman since 1 June 1961. He stayed at BRB until 1 June 1965.

In spite of his considerable achievements in modernising the railways, Beeching's name will forever be associated with the recommendations for station and line closures included in that 1963 report, although his name does not appear anywhere therein. It was a ministerial decision to act on any BRB recommendations to withdraw services, whether in the report or not, but in the public eye and in the popular media Beeching is instinctively blamed for them. This blame has often been extended to include the closure of lines that were clearly nothing to do with Beeching, such as those that took place before publication of the report. This article documents a particular group of closures for which Beeching is sometimes wrongly blamed, but which is not so easy to identify. The group comprises closures that took place after publication of the report, but which were not recommended for closure in it. Included here are some observations on the circumstances of these closures, but a detailed analysis is not attempted.

The Beeching report comprises two parts. The first is a volume containing 60 pages of text and 88 pages of appendices, the latter including lists of all the recommendations for service withdrawals and station closures. The second part is a folder containing 13 supporting maps. Map 9 is a system map that marks in black those lines from which it was

proposed to withdraw all passenger services. Those from which all stopping passenger services were to be withdrawn, but other services retained, were marked in a pecked red line. The remaining lines, implicitly those on which passenger services were to continue, were marked in a solid red line. Map 10 is a map to the same scale that shows in green any lines that were to be retained, but on which services were proposed for modification; all other lines are



The Oxford–Cambridge line provided what should have been valuable interchanges with several main lines. Here a two-car DMU forming the 11.22 Cambridge–Bletchley service is about to cross the Great Northern line after its call at Sandy on 16 December 1967, less than two weeks before the service was withdrawn

shown in black. Map 9A is an enlarged map of the London area, on which services for withdrawal are shown in black and those on which stopping passenger services were to be modified are in green, with the remainder in red.

These three maps show a significant number of lines that were expected to remain open but which subsequently have been closed to passenger traffic. The table below is an attempt to list such closed lines from information on the Beeching maps, supplemented by part 1 of the report and other sources. Maps 9 and 10 were drawn to a small scale,

so that where there are dense networks it is sometimes difficult to identify which line is which. The central parts of London, Birmingham, Manchester and Glasgow have been blocked out completely, but of those cities only London has been provided with a separate, enlarged map. Both parts of the report also contain a few errors. For example, the section of the former Lancashire, Derbyshire & East Coast Railway between Shirebrook North and Lincoln Central is marked in red on map 9, and thus for retention in the passenger network, but services had already been withdrawn in 1955. Such lines have not been included in the table. Some closed lines have subsequently had passenger services restored in conventional, rapid transit or preserved form, but the initial withdrawal is documented here.

The first column of the table lists in chronological order the services withdrawn, identified either by the end points of the service or by stations at each extremity of the section of line affected. The second column shows the date of withdrawal of passenger services. Only two of these services were withdrawn before Beeching left BRB in June 1965, with three more following in the next two years. First to go was the Johnston–Neyland branch in Pembrokeshire which, with the surviving lines west of Carmarthen,

had been marked on map 10 for service modification. As far as Neyland was concerned, this meant a change from being a main-line terminus to being the end of a DMU shuttle from Johnston. Presumably this did not prove attractive to passengers. Second was the short line from Blackpool South to Blackpool Central, including closure of the latter station. Beeching recommended the closure of Blackpool North station and the concentration of services on Central, but the reverse decision was made on the back of a deal with the local authority to sell the site of Central for redevelopment. A consequence was the closure of the direct line from Kirkham to Blackpool South in 1967, with the remaining local services all routed via Lytham.

The former Great Northern route from Lincoln Central to Grantham was closed in 1965 when a new curve at Newark allowed the through London services to be sent via the Midland line from Lincoln St Marks, which Beeching had recommended for closure. There were two passenger services withdrawn the following year, both the consequence of external circumstances. Services on the former Totton, Hythe & Fawley Light Railway had latterly comprised a return trip morning and evening, which seems to have been busy carrying construction

workers for a number of major industrial development projects along the western side of Southampton Water. As these were completed the passenger traffic fell away, although the freight traffic has prospered. The Newport-on-Tay East to Tayport closure was a consequence of construction of the Tay road bridge.

The main period for service withdrawal was from 1968 to 1970, starting with the eastern and western parts of the former London & North Western line from Cambridge to Oxford, which had been run down rather than developed to its potential. This group of closures comprised a variety of main, secondary and branch lines and included some quite extensive networks, notably those radiating from Alloa (which lost all passenger services) and from Kings Lynn to Hunstanton,



After closure of the line between Bedford and Cambridge on 1 January 1968 there was little delay before most of the track was lifted. This was the scene at Old North Road Station on 22 August 1968, with demolition proceeding towards Cambridge



There was no shortage of goods traffic at Dereham when the last passenger service was withdrawn on 6 October 1969. On 24 September that year Brush type 2 D5661 has just arrived with a load of grain from North Elmham while a Cravens DMU departs for Norwich

to March via Wisbech, and to Norwich via Wymondham and Dereham. The main-line closures included the Matlock–Chinley section of the former Midland route to Manchester. To some extent this could be blamed on Beeching because it was one of the duplicate trans-Pennine lines which was not selected for development in his follow-up report on major trunk routes, published in February 1965 and often referred to as ‘Beeching 2’. However, this was followed by the complete withdrawal, less than two years later, of passenger services from the Hadfield–Penistone section of the Woodhead line, which had been selected for development. The Hope Valley line, proposed for closure in 1963, was retained instead.

A handful of withdrawals followed in the early 1970s, including the somewhat unusual transfer of the Paignton – Kingswear line to the private Dart Valley Railway at the end of October 1972. BRB continued to provide the service for the DVR until the end of the year, from when the company intended to operate a year-round regular service in addition to steam trains for the tourist market. This foundered in the first year and no regular off-season trains ran after the summer of 1973.

The nature of service withdrawals since the 1970s has followed a different pattern altogether, being related to network development rather than contraction. The direct services from March to Spalding and from Penistone to Sheffield were both diverted to longer routes with intermediate traffic potential, via Peterborough and Barnsley respectively. All the remaining closures were either the result, or a pre-requisite, of significant railway developments in Greater London, including the electrification of the Dalston Junction–North Woolwich line, the building of the Croydon Tramlink and extensions to the Docklands Light Railway.

The table presents a substantial list, which it is

hoped will go some way to removing unwarranted blame from Dr Beeching. However, the limitations of the source maps and the dependency on visual analysis to extract information from them means that it cannot claim to be definitive. The author welcomes additions and corrections.

Notes

I am grateful to staff at the Brunel University Library for access to resources in their Transport Collection.

The reports on which this article is based are: British Railways Board, *The Reshaping of British Railways*, 1963 and British Railways Board, *The Development of the Major Railway Trunk Routes*, 1965. Both these documents are available in scanned form as downloadable PDF files from www.railwaysarchive.co.uk (accessed 16 November 2012).

For information on closures I have relied on Michael Quick, *Passenger Stations in Great Britain – a chronology*, fourth edition 2009, various editions of *The Railway Magazine*, and miscellaneous online resources. Additionally, Colonel Michael H Cobb, *The Railways of Great Britain – a historical atlas*, second edition 2005, has proved particularly helpful in identifying lines marked on the various Beeching maps. Contemporary passenger timetables have helped to clarify some points.

Line or service	Date w/d	Notes
Johnston – Neyland	15/06/1964	Proposed for modification of services.
Blackpool South – Blackpool Central	02/11/1964	Proposed for modification of services. Central station sold for redevelopment. Kirkham – Blackpool North route retained instead.
Grantham – Lincoln Central	01/11/1965	Part 1 noted this as already under consideration for withdrawal, but it is marked on map 9 for withdrawal of all stopping services only.
Totton – Fawley	14/02/1966	
Newport-on-Tay East – Tayport	22/05/1966	Line closed due to building of Tay road bridge, but Tayport station remained open until 18/12/1967 served by bus link from Newport.
Kirkham – Blackpool South	12/02/1967	Direct (Marton) line. Proposed for modification of services.
Oxford – Bletchley and Bedford – Cambridge	01/01/1968	Bletchley – Bedford retained. The whole line had been proposed for modification of services.
Alnmouth – Alnwick	29/01/1968	Proposed for modification of services.
Falkirk Grahamston – Grangemouth	29/01/1968	
Larbert – Alloa	29/01/1968	
Scotswood – Prudhoe (North Wylam loop)	11/03/1968	North Wylam station was proposed for closure, but the line was marked for retention on map 9.
Cheltenham Spa – Honeybourne – Stratford-upon-Avon	25/03/1968	Stratford – Honeybourne listed for modification of services, but not so marked on map 10. Duplicate route not selected for development in Beeching 2. Some trains served Cheltenham Racecourse station 1971 – 1976.
Matlock – Chinley	01/07/1968	Duplicate route not selected for development in Beeching 2.
King's Lynn – Dereham	09/09/1968	Proposed for modification of services.
King's Lynn – Wisbech – March	09/09/1968	
Ayr – Heads of Ayr	14/09/1968	Summer Saturday holiday camp service.
Dunfermline Lower – Alloa – Stirling	07/10/1968	Alloa – Stirling marked on map 9 for withdrawal of stopping services only.
Leuchars – St Andrews	06/01/1969	Marked on map 9 for withdrawal of stopping services only. Part 1 lists the Thornton – Crail – Dundee service for withdrawal.
Eastleigh – Romsey	05/05/1969	Marked on map 9 for withdrawal of stopping services only.
King's Lynn – Hunstanton	05/05/1969	
Wormit – Newport-on-Tay East	05/05/1969	
Thornton Junction – Leven	06/10/1969	Marked on map 9 for withdrawal of stopping services only. Part 1 lists the Thornton – Crail – Dundee service for withdrawal.
Wymondham – Dereham	06/10/1969	Proposed for modification of services.
Cowdenbeath – Kinross – Perth	05/01/1970	
Hadfield – Penistone	05/01/1970	
Kidderminster – Bewdley	05/01/1970	
Colne – Skipton	02/02/1970	Proposed for modification of services.
High Wycombe – Bourne End	04/05/1970	
Poulton-le-Fylde – Fleetwood	01/06/1970	Proposed for modification of services. Fleetwood station listed for closure in Part 1. Wyre Dock – Fleetwood closed 18/04/1966 and Wyre Dock station renamed Fleetwood.
Bolton – Bury – Castleton	05/10/1970	Proposed for modification of services.
Wareham – Swanage	03/01/1972	
Birmingham Snow Hill – Wolverhampton Low Level	06/03/1972	Following withdrawal of main line services from 06/03/1967, local services from the north were diverted via Wolverhampton High Level. On 02/03/1968 local services from the south were diverted into Birmingham Moor Street.
Crediton – Okehampton	05/06/1972	Proposed for modification of services.
Paignton – Kingswear	30/10/1972	Proposed for modification of services. Transferred to Dart Valley Railway, but BRB continued to operate services for the DVR until 01/01/1973.
Morecambe – Heysham Harbour	06/10/1975	Proposed for modification of services. Belfast ferry service closed 04/1975.
March – Spalding	01/11/1982	Services diverted via Peterborough.
Sheffield – Penistone (via Wadsley Bridge)	16/05/1983	Services diverted via Barnsley.
Stratford – Tottenham Hale	06/07/1985	
Dalston Junction – Broad Street	30/06/1986	Stopping services marked on map 9A to be modified. Broad Street sold for development.
Elmers End – Addiscombe	01/06/1997	Replaced by Croydon Tramlink.
Wimbledon – West Croydon	01/06/1997	Replaced by Croydon Tramlink.
North Woolwich – Stratford Low Level	10/12/2006	Replaced by Docklands Light Railway.

A Review of the Beeching Era

Allan Brackenbury

It is fifty years since *The Reshaping of British Railways* was published in March 1963. Commonly known as the 'Beeching report', after its author Dr Richard Beeching, Chairman of the British Railways Board, it is remembered chiefly for its proposal to close 2363 passenger stations and withdraw all services from about 5000 route miles. Most of these closures took place during the succeeding decade. In fact the report proposed savings estimated at up to £147 million per annum, and withdrawal of passenger and local freight services would save only 28% of this figure. Some of the other activities that were planned to produce significant savings included continuing locomotive conversion from steam to diesel, introduction of 'Liner' trains, concentration of 'sundries traffic at about 100 main depots, and attracting extra freight traffic to rail. But it was the list of passenger closures that received most comment when the report was published, and subsequently. This is because there had been several leaks to the press while the report was being assembled, making people aware that mass closures were in prospect, so little attention was given to other aspects of the report.

When the railways were nationalised in 1948, to become one of the largest organisations in the country, with 648,740 staff, it was placed under the control of civil servants who had no experience of running a business and little knowledge of the rail industry. One result was that rail managers, who wanted to raise funds for new projects or for repairing war damage, had to obtain prior approval from the government which had many other demands on its finances. If consent was given, usually British Railways (BR) had to borrow the funds and thus pay interest whether it made a profit or loss on the projects. This is reminiscent of the outmoded method of financing turnpike trusts.

BR paid its way until 1952, but then losses arose, increasingly. Under the accountancy system in use, for 1961 there was an operating loss of £86.9m and a further £49m interest and central charges had to be paid. In order to reduce these losses and introduce modern management techniques into BR, Ernest Marples, the Minister of Transport, brought in Dr Beeching from outside the industry. His 'Reshaping' report showed how he intended to alter the rail

industry; it concluded 'If the whole plan is implemented with vigour, much of the Railways' deficit should be eliminated by 1970'. As soon as the report was issued, the government said that they accepted it. Perhaps in truth they accepted just its negative aspects, as they were more intent on developing the motorway network than in helping the rail industry. Indeed it may have been that it was government policy to reduce the railway system drastically. The Transport Act 1962 had already made it easier to close passenger railways and it was enacted in time for use with the Beeching proposals. As Dr Beeching was in charge of BR at the time, he has come to be regarded as wholly responsible for the reduction.

The Appendix to the Reshaping report listed 266 passenger services to be withdrawn and a further 71 to be 'modified'. Also 56 services were already under consideration for withdrawal before the formulation of the report. The total of 2363 stations and halts scheduled for closure included 435 already under consideration and 235 of these had closed already.

It is easy to criticise the detail of the report. For example, the map did not always agree with the narrative, odd stations were omitted, and in an inter-regional service one region listed its stations for closure, but the other region did not. But these are incidental and petty. More worthwhile criticism is of the choice of services to be withdrawn. Southport was to lose all but one of its services; the survivor was the line to Wigan, which included stations serving small rural communities. How could the busy Liverpool electric line make a loss yet not the line to Wigan? And how was it that the other electric line to Liverpool Exchange (from Ormskirk) was not also regarded as loss-making? It is possible that a line such as Liverpool-Southport was included in the list in order to hit the headlines, and divert people's attention from other lines of lower profile which could thus be closed with less opposition. A similar case is the electric service from Manchester to Bury, which was on the closure list, (where an awkward motorway bridge would have been avoided if it had closed) but the lesser route through Bury, from Bolton to Rochdale, was not. The former was reprieved due to the strength of the opposition; the latter was added to the list subsequently and indeed

closed in 1970. Afterwards no more was heard of the proposals to close the Liverpool–Southport line and two similar suburban services in London.

Under the Transport Act 1962 the only valid objection to a closure proposal was because of ‘hardship’. No one was allowed to question BR’s figures, or suggest economies (such as de-staffing stations, soon to become commonplace on the surviving railways), or complain about unsuitable train times. This produced a curious result in that few passengers from busy stations such as Didsbury, Mansfield or Cannock could claim ‘hardship’ as there were many local buses, yet isolated small rural villages without buses were more likely to save their infrequent trains. Even in these cases the Minister of Transport sometimes approved closure in spite of genuine hardship, because relatively few people would suffer. Generally ‘hardship’ seemed of lesser importance to the Ministry of Transport than the removal of obstacles in the way of new road schemes, and the potential new use of railway land for motor traffic.

A statement in the Reshaping report, which attracted little attention at the time, was ominous. ‘Reshaping ... must be a continuing process. ... Other services and stations will be added to the ... lists until a point is reached when what remains can be said to be viable.’ In fact one of the first lines to be proposed for closure by the Western Region was the Neyland branch which was not listed for closure in the report, and the Eastern Region had omitted from the report the stations due to close on its lines whose service was to be ‘modified’. Over 400 stations were added to the Reshaping proposals in the following decade, although about half of these have survived. But several closures which tend to be thought of now as ‘Beeching’ casualties were not listed as such in the Reshaping report — e.g. Oxford–Cambridge, Birmingham Snow Hill–Wolverhampton Low Level, Manchester Central–Matlock, and the Woodhead line.

The first detailed closure proposals were issued on 17 June 1963, with closure scheduled for 9 September 1963 unless there were objections. Of course there were objections — except curiously in one case, the service to Washington, Durham (one train a day each way), which duly closed on 9 September. (As a side issue, Washington was a New Town: why had BR not adapted its service to cater for changing demands?) Nearly 50 services were proposed for closure in the first tranche, and a steady

further procession of proposals over the ensuing months kept the Transport Users’ Consultative Committees busy. The first lines to pass through the TUCC system and receive MoT approval for closure were the lines serving Wetherby (to Leeds, Harrogate and Church Fenton), which closed on 6 January 1964. On 3 March 1964 the Minister of Transport announced 22 closure approvals and only two reprieves. One of the latter was Ayr–Kilmarnock, which appeared to have just a temporary let-off. It was indeed proposed again for closure in 1966 and the line closed on 3 March 1969. The other reprieve was one of the lines under consideration for closure before the Beeching report — the Central Wales line. Three years later this line was again proposed for closure — and it was again reprieved. It is the only survivor of the ‘under consideration’ lines. Two others were reprieved initially, but closed under later proposals — Haltwhistle–Alston (3 May 1976) and Woodside–Sanderstead (16 May 1983).

In the first six months about 150 closure proposals were made. Although the public had little opportunity for challenging the proposals, occasional adverse comments were recorded, such as BR omitting certain receipts from its figures — military traffic to Catterick on the Richmond branch, parcels traffic on passenger trains at Ossett, Yorkshire, and schoolchildren’s contracts in the Isle of Wight. Inevitably a backlog occurred at the MoT and for some lines it was three years before a closure decision was announced; in the case of the New Holland branches it was five years. In this particular case there were reprieves, but on many lines, as soon as a closure proposal was announced, regular passengers looked for alternative means of transport and did not return to the railway when a reprieve was granted.

A change of government in October 1964 was rumoured to have been responsible for Dr Beeching’s return to ICI in summer 1965, earlier than expected. But the new administration continued with the rail closure procedure, although by 1965 the number of fresh proposals was reducing. By 1967 there were hardly any remaining from the Reshaping report, so most proposals were either second attempts, or about fresh lines. But by then the political climate was changing and the Minister of Transport was Barbara Castle. One of her actions was to examine closure proposals before they were issued, and halt those with little chance of succeeding. Soon afterwards it was announced that she had ‘rejected’ closure proposals for Manchester–New Mills and Liverpool–

Ormskirk; as neither had been published, presumably these had been halted before issue, by her vetting procedure. The public did not hear about others.

The Transport Act 1968 was Barbara Castle's creation, and it did a great deal to reduce the network shrinkage. However it had its drawbacks, and one of these was that the Ministry/Department of Transport was given much greater control over British Railways. This worked well when the relevant Minister was sympathetic towards railways, but it was more often the case that the Minister was indifferent and his civil servants hostile towards the railway industry. This in turn led to an unexpected reaction within BR, and a more positive attitude towards the future. In March 1973 BR presented a report to the government — *The Future of British Railways* — arguing strongly against major cuts, exactly the opposite to its views just ten years earlier in the Beeching report.

By then effectively it was the government that was deciding how big the railway network should be, and telling BR which lines it should put forward for closure. This was because 'Social Grants' were introduced in 1968 under Mrs Castle's Transport Act, by which the MoT gave subsidies to uneconomic rail services deemed socially desirable. Initially a dozen such services were not grant-aided, so BR was obliged to propose these for closure. Potentially a similar situation existed each year as grants came up for renewal, but in practice only a few services were lost in this way. It was a curious operation: the MoT telling BR to put up for closure lines which BR did not want to close and the MoT giving the final verdict.

Local authorities were given powers in 1968 to support rail services financially, and they came to play an important role. In the case of the North Warwickshire line, whose closure had been approved, four local councils appealed against the adequacy of the replacement bus services: then they took BR to court, and obtained a temporary injunction, as BR had announced the closure date before the appeal case could be heard. Unexpectedly this action saved the line, still open today. The Liverpool Central–Gateacre service lasted four years longer than expected as Liverpool council postponed the introduction of alternative bus services, a condition

of the closure order. Difficulty in provision of buses kept Bletchley–Bedford going after the rest of the Oxford–Cambridge line closed. Both these lines were proposed for closure twice, because someone deemed that the approval of the first proposal had lapsed. Traffic Commissioners refused to authorise replacement bus licences for the Ashford–Hastings service until major road improvements had been made.

A change in atmosphere occurred in 1974 when the MoT refused six closures en bloc, including three which had previously been approved. Another indication of the change occurred the following year when Heysham lost its boats. BR was caught napping, and was compelled to continue to run its boat trains for several months as it forgot to initiate the closure procedure until after the boat service had ceased.

In Metropolitan areas Passenger Transport Authorities took over responsibility for rail services in 1972. Oldham–Rochdale was saved initially only by a six-month PTA subsidy. Fortunately, this was renewed. At first Glasgow, Birmingham and Liverpool were hostile to rail services, but they changed attitudes quickly and initiated reopening of closed lines. Beeching's hopes for attracting freight traffic from road to rail were frustrated by the growth of the motorway network and increases in the permitted size of lorries. But some success has occurred with the development of Freightliner trains carrying containers, especially international traffic.

Further results of the Beeching era have been de-staffing of stations, and pay-train operation, at one time unthinkable. Freight closures have been far more drastic than passenger closures, but they have received much less attention as they are out of the public eye.

Including those already 'under consideration for withdrawal' at the time of the Reshaping report, over 2000 passenger stations closed within ten years of its publication. But after 1970 the number rapidly declined, and it can be argued that the Newcastle Riverside loop on 23 July 1973 was the last closure of the Beeching era. There were no BR closures at all in 1974, but the following two years saw the demise of the Bridport and Alston branches. By this time however, there was a greater emphasis on new services with new and reopened stations. The Beeching age was truly over.

It would be tedious to list all the stations in the Beeching report that subsequently closed. Instead, the following are lists of services/stations that differed from the norm in some way:

1. Those that were added to the Reshaping plan after 1963 — and which closed.
2. Those that were included in the Reshaping plan, or were added later:
 - a) which were closed on the second application
 - b) which were approved for closure but remained open
 - c) which were reprieved by the Minister of Transport
 - d) which were not formally proposed for closure

Information has come from contemporary issues of *Branch Line News*. This appears to be the only publication that aimed to record closures and closure proposals with accuracy. There may well have been some proposals not reported to *BLN*, but probably not many. Re-openings since 1976 have been disregarded, as have minor renamings and altered spellings. 'Halt' suffixes have been ignored. Services are in roughly the same order as in the Beeching report — Scottish region first, then North Eastern, London Midland, Eastern, Western and Southern.

C: station closed or service withdrawn since 1976

N: not included in the Reshaping report; added later

P: partially included in the Reshaping report (for example, a closure application for the whole of a line which was included in the report only as one to be 'modified', or a line whose intermediate stations were not mentioned in the report)

R: station closed after 1976, but replaced by another one

W: closure proposal withdrawn or lapsed

Services or stations proposed for closure twice:

AA: first closure proposal approved, second proposal approved

RA: first closure proposal refused, second proposal approved

RR: first closure proposal refused, second proposal refused

WA: first closure proposal withdrawn, second proposal approved

WR: first closure proposal withdrawn, second proposal refused

1. Closures of services and stations not included in the initial Reshaping plan, but added later

Services, with relevant stations

(insubstantial lengths of track are ignored, as are lines used for seasonal and diverted traffic.

In some cases, intermediate stations were included in the Beeching report, and they closed at the same time that the service was withdrawn. In order to avoid giving a misleading impression, these stations are included below, but marked with *)

Glasgow–Renfrew Wharf

(Paisley Abercorn, Sandyford, South Renfrew, Renfrew Fulbar Street, Renfrew Wharf)

Perth–Aberdeen

(Coupar Angus*, Alyth Junction*, Forfar*, Bridge of Dun*)

Dundee–Tayport
 (Wormit, Newport on Tay West, Newport on Tay East, Tayport)

St Andrews–Leuchars Junction
 (St Andrews)

Leven–Thornton Junction–Kirkcaldy (locals)
 (Leven, Cameron Bridge, Thornton Junction, Dysart, Sinclairtown)

Perth–Cowdenbeath
 (Kinross Junction)

Dunfermline–Alloa–Stirling
 (Dunfermline Upper, Oakley, Alloa, Cambus)

Alloa–Larbert

Larbert–Falkirk–Grangemouth
 (Grangemouth)

Edinburgh–Corstorphine
 (Balgreen, Pinkhill, Corstorphine)

Oxford–Bletchley^P
 (Islip, Bicester London Road, Launton*, Marsh Gibbon & Poundon*, Claydon*, Verney Junction*, Winslow*, Swanbourne)

Kirkham–Blackpool South (direct)

Blackpool South–Blackpool Central (Blackpool Central)

Kirkham–Fleetwood
 (Thornton Cleveleys, Burn Naze, Fleetwood** (**: renamed from Wyre Dock in 1966)

Colne–Skipton
 (Earby, Thornton-in-Craven)

Denton–Stalybridge via Audenshaw

Manchester Piccadilly–Woodhead–Sheffield Victoria
 (Dunford Bridge, Sheffield Victoria)

Manchester Central–Guide Bridge

Manchester Central–Chinley–Matlock^P

Penistone–Barnsley–Mexborough

Lincoln–Grantham
 (Leadenham)

Bedford–Cambridge^P
 (Willington, Blunham, Sandy (LNWR), Pottton, Gamlingay, Old North Road, Lord's Bridge)

March–Wisbech–King's Lynn (Wisbech East, Emneth, Smeeth Road, Middle Drove)

King's Lynn–Hunstanton
 (North Wootton, Wolferton, Dersingham, Snettisham, Heacham, Hunstanton)

King's Lynn–Norwich^P
 (Middleton Towers, East Winch, Narborough & Pentney, Swaffham, Dunham, Fransham, Wendling, Dereham, Yaxham, Thuxton, Hardingham, Kimberley Park)

High Wycombe–Bourne End
 (Loudwater, Wooburn Green)

Paignton–Kingswear

(Goodrington Sands, Churston*, Britannia (unadvertised), Kingswear, Dartmouth*)

Bristol–Bath (locals)

(St Anne's Park, Saltford)

Bristol–Mangotsfield–Yate

Penarth–Cadoxton

(Alberta Place, Lavernock, Swanbridge, Sully)

Stratford-on-Avon–Gloucester

Kidderminster–Bewdley–Hartlebury

(Foley Park, Bewdley, Burlish, Stourport-on-Severn)

Oswestry–Gobowen

(Oswestry, Park Hall)

Southampton Terminus branch

(Northam, Southampton Terminus)

Totton–Fawley

(Marchwood, Hythe, Fawley)

Swanage–Wareham

(Swanage, Corfe Castle)

Exeter–Okehampton^P

(Bow*, North Tawton*, Sampford Courtenay*, Okehampton)

Other stations

(some of these were in services listed for 'modification' in the Reshaping report)

Admaston, Afonwen, Alnwick, Appleby (Lincs), Ardleigh, Ashchurch, Badminton, Bakewell, Barnby Dun, Barry Pier, Batley (GNR), Beal, Beattock, Belford, Bentley, Boscarne Exchange Platform, Boscombe, Bournemouth West, Bramley, Brighouse, Burston, Castle Bromwich, Cheltenham St James, Chislet Colliery, Coldham, Coleshill, Cresswell, Dudley Port Low Level, Dunstall Park, Ecclesfield West, Fairlie Pier, Ferrybridge, Finningham, Flamborough, Flordon, Folkestone East, Fordham, Forncett, Fulbourne, Gateshead West, Glasgow Central Low Level, Gloucester Eastgate, Grove Ferry & Upstreet, Hadley, Haughley, Heads of Ayr, Helsby & Alvanley (usually unadvertised), Hethersett, Heysham Harbour, Higham, Holton-le-Moor, Honeybourne, Horbury, Howsham, Ibrox, Kilnhurst Central, Kilnhurst West, Kingsbury, Kings Cross York Road, Knowle, Laisterdyke, Lando (unadvertised), Langworth, Leeds Central, Liverpool Riverside, Lostock Hall, Low Street, Magdalen Road, Manchester Exchange, Margam, Mellis, Monkwearmouth, Moortown, Needham, Neyland, North Kelsey, Nottingham London Road High Level, Nuneaton Abbey Street, Oldham Central, Parkeston Quay West, Parkgate & Rawmarsh, Peterborough East, Portobello, Reading (SECR), Reepham, Rockcliffe (unadvertised), Rotherham Central, St Leonards West, Saltley, Saxham & Risby, Scarborough Londesborough Road, Scawby & Hibaldstow, Shustoke, Six Mile Bottom, Snelland, Soham, South Aylesbury Halt, Southport St Luke's, Stanningley, Stockingford, Stonea, Sudbury (Staffs), Swinton Town, The Hawthorns (unadvertised), Tivetshall, Tutbury, Tyne Commission Quay, Upper Greenock, Upton Magna, Walcot, Wembley Stadium, Weston-super-Mare Locking Road, Whitacre, Wickenby, Woodhead

2a. Closures approved on the second application

Services, with relevant stations

Kilmarnock–Ayr^{RA}

(Gatehead, Drybridge)

Aberdeen–Keith^{WA}

(Kittybrewster, Dyce, Pitcaple, Oyne, Kennethmont, Gartly, Rothiemay, Cairnie Junction, Grange)

Keith–Elgin via coast^{WA}

(Knock, Glenbarry, Cornhill, Tillynaught, Portsoy, Cullen, Portknockie, Findochty, Portessie, Buckie, Portgordon, Spey Bay, Garmouth, Urquhart, Calcots)

Keith–Elgin via Dufftown^{WA}

(Keith Town, Auchindachy, Towiemore, Drummur, Dufftown, Craigellachie, Rothes, Longmorn)

Haltwhistle–Alston^{RA}

(Featherstone Park, Coanwood, Lambley, Slaggyford, Alston)

Darlington–Richmond^{RA}

(Croft Spa, Moulton, Scorton, Catterick Bridge, Richmond)

Newcastle–Riverside–Tynemouth^{RA}

(St Peters, Walker, Carville, Point Pleasant, Willington Quay)

Bangor–Caernarvon^{RA}

(Caernarvon)

Liverpool Lime Street–Runcorn–Chester^{RA}

Liverpool Central–Gateacre^{AA}

(Liverpool Central, St Michaels, Mersey Road & Aigburth, Cressington & Grassendale, Garston, Gateacre)

Liverpool Lime Street–Earlestown–Tyldesley–Manchester

(Leigh, Tyldesley, Worsley, Monton Green)

Bolton–Rochdale^{RA P}

(Bradley Fold^N, Radcliffe Black Lane^N, Bury Knowsley Street^N, Broadfield^N, Heywood^N)

Bury–Rawtenstall^{RA}

(Summerseat, Ramsbottom, Stubbins, Ewood Bridge & Edenfield, Rawtenstall)

Penrith–Keswick^{RA}

(Blencow, Penruddock, Troutbeck, Threlkeld, Keswick)

Settle–Carlisle (locals)^{RA}

(Horton-in-Ribblesdale, Ribbleshead, Dent, Garsdale, Kirkby Stephen West, Long Marton, New Bigger, Culgaith, Langwathby, Little Salkeld, Lazonby & Kirkoswald, Armthwaite)

Yarmouth South Town–Lowestoft^{RA}

(Yarmouth South Town, Gorleston-on-Sea, Gorleston Links, Hopton-on-Sea, Corton, Lowestoft North)

Cambridge–St Ives^{RA}

(Histon, Oakington, Long Stanton, Swavesey, St Ives)

Lincoln–Woodhall Junction–Firsby ^{WA}

(Bardney, Southrey, Stixwold, Woodhall Junction, Coningsby, Tumby Woodside, New Bolingbroke, Stickney, Midville)

Willoughby–Mablethorpe ^{RA}

(Mumby Road, Sutton-on-Sea, Mablethorpe)

Peterborough–Boston ^{RA}

Firsby–Grimsby ^{RA}

(Firsby, Burgh-le-Marsh, Willoughby, Alford Town, Louth, North Thoresby)

Birmingham Snow Hill–Wolverhampton Low Level ^{RA N}

(Birmingham Snow Hill, Hockley, Winson Green, Handsworth, West Bromwich, Swan Village, Wednesbury, Bilston Central, Priestfield, Wolverhampton Low Level)

Maiden Newton–Bridport ^{RA}

(Toller, Powerstock, Bridport)

Barnstaple Junction–Ilfracombe ^{WA}

(Barnstaple Town, Wrafton, Braunton, Mortehoe & Woolacombe, Ilfracombe)

Other stations

East Brixton^N, Stranraer Town

2b. Closures approved but not implemented

(in 1974 the Minister of Transport reversed his previous decision and rerieved three lines, marked with +)

Services, with relevant stations

Inverness–Kyle of Lochalsh ^{RA +}

(Garve, Lochluichart, Achanalt, Achnasheen, Glencarron (unadvertised), Achnashellach, Strathcarron, Attadale, Stromeferry, Duncraig, Plockton, Duirinish, Kyle of Lochalsh)

Shipley–Guiselley ^{WA}

Bletchley–Bedford ^{AA +}

(Fenny Stratford, Bow Brickhill, Woburn Sands, Aspley Guise, Ridgmont, Lidlington, Millbrook, Stewartby, Kempston Hardwick)

Oldham Mumps–Rochdale ^{RA P}

(Royton Junction^{N R}, Shaw & Crompton^N, New Hey^N, Milnrow^N)

Marks Tey–Sudbury ^{RA}

(Chappel & Wakes Colne, Bures, Sudbury)

Birmingham–Stratford-on-Avon^N

(Spring Road, Hall Green, Yardley Wood, Shirley, Whitlock's End, Grimes Hill & Wythall, Earlswood Lakes, The Lakes, Wood End, Danzey, Henley-in-Arden, Wootton Wawen)

Ashford–Hastings ⁺

(Ham Street & Orlestone, Appledore, Rye, Winchelsea, Doleham, Three Oaks & Guestling)

Other Stations

Bamford, Barrhill, Dore & Totley, Dullingham^N, Elmswell^N, Forsinard, Grindleford, Hathersage, Invershin, Kennett^N, Kildonan, Seaton Carew^N, Stonehouse^N, Thurston^N

2c. Closure applications refused by the Minister of Transport

Services, with relevant stations

Glasgow Central–Edinburgh via Shotts

(Holytown, Carfin, Cleland, Hartwood, Shotts, Fauldhouse North, Breich, Addiewell, West Calder, Midcalder (renamed Kirknewton), Slateford)

Fort William–Mallaig (locals)

(Banavie, Locheilside, Beasdale)

Georgemas Junction–Thurso

(Georgemas Junction, Thurso)

Glasgow–Kilmacolm ^C

(Corkerhill, Mossspark West, Crookston, Paisley Canal, Houston & Crosslee, Bridge of Weir, Kilmacolm)

Ayr–Stranraer

(Maybole, Girvan, Stranraer Harbour)

Inverness–Wick

(Dingwall, Invergordon, Fearn, Tain, Bonar Bridge (renamed Ardgay), Culrain, Lairg, Rogart, Golspie, Brora, Helmsdale, Kinbrace, Altnabreac, Scotsalder, Wick)

Edinburgh–North Berwick ^N

(Prestonpans, Longniddry, Drem, North Berwick)

Leeds/Wakefield–Knottingley–Goole

(Woodlesford, Pontefract Monkhill, Knottingley, Whitley Bridge, Hensall, Snaith, Rawcliffe)

Huddersfield–Penistone

(Lockwood, Honley, Brockholes, Stocksmoor, Shepley, Denby Dale)

Shepley–Clayton West

(Skelmanthorpe, Clayton West)

Leeds/Bradford–Ilkley ^{WR}

(Guiseley, Menston, Burley-in-Wharfedale, Ben Rhydding, Ilkley)

Bradford Forster Square–Shipley ^P

(Bradford Forster Square^{N R})

Middlesbrough–Whitby

(Ormesby (renamed Marton), Nunthorpe, Great Ayton, Battersby, Kildale, Comondale, Castleton, Danby, Lealholm, Glaisdale, Egton, Grosmont, Sleights, Ruswarp, Whitby Town)

York–Harrogate

(Poppleton, Hammerton, Cattal, Knaresborough, Starbeck)

Darlington–Bishop Auckland

(Darlington North Road, Heighington, Shildon, Bishop Auckland)

Hull–Scarborough ^P

(Cottingham^N, Beverley^N, Arram, Hutton Cranswick^N, Filey Holiday Camp^{N C}, Filey^N)

Crewe–Shrewsbury (locals)

(Nantwich, Wrenbury, Prees, Wem, Yorton)

Llandudno–Blaenau Ffestiniog

(Tal-y-Cafn & Eglwysbach, Llanrwst & Trefriw, Betws-y-Coed, Pont-y-Pant, Dolwyddelen, Roman Bridge, Blaenau Ffestiniog^R)

Wrexham Central–New Brighton

(Wrexham Central^{IRR NR}, Wrexham Exchange^{RR N}, Gwersyllt^N, Cefn-y-Bedd, Caergwrle Castle & Wells, Hope Village, Penyffordd, Buckley Junction, Hawarden, Shotton High Level, Hawarden Bridge, Neston North, Heswall Hills, Upton)

Stanlow & Thornton–Helsby

(Ince & Elton, Helsby)

Manchester Piccadilly–Buxton

(Davenport, Hazel Grove, Middlewood Lower, Disley, New Mills Newtown, Furness Vale, Whaley Bridge, Chapel-en-le-Frith South, Dove Holes, Buxton)

Stockport–Stalybridge ^{RR}

(Reddish South, Denton)

Liverpool Lime Street–Earlestown–Manchester (locals)

(Edge Hill, Broad Green, Roby, Huyton, Rainhill, Earlestown, Patricroft, Eccles)

Manchester Victoria–Wigan Wallgate ^P

(Swinton^N, Moorside & Wardley^N, Walkden High Level^N, Atherton Central^N, Daisy Hill^N, Westthroughton^N, Hindley North^N, Ince^N)

Wigan Wallgate–Southport ^P

(Gathurst^N, Appley Bridge^N, Hoscote^N, New Lane^N, Bescar Lane^N)

Wigan Wallgate–Liverpool Exchange

(Pemberton, Orrell, Upholland, Rainford Junction, Kirkby, Fazakerley, Preston Road (renamed Rice Lane))

Ormskirk–Preston ^P

(Burscough Junction^N, Rufford^N, Croston^N)

Oxenholme–Windermere ^{P W}

(Burneside^N, Staveley^N)

Derby–Matlock

(Duffield, Belper, Ambergate, Whatstandwell, Cromford)

Watford Junction–Croxley Green ^{RR C}

(Watford West, Croxley Green)

Birmingham–Worcester/Redditch (locals) ^P

(Selly Oak^N, Bournville^N, King's Norton^N, Northfield^N, Barnt Green^N, Bromsgrove^N, Alvechurch^{N R}, Redditch^{N R})

Liverpool Lime Street–St Helens–Wigan North Western

(Prescot, Eccleston Park, Thatto Heath, St Helens Shaw Street, Garswood, Bryn)

Manchester Victoria–Bury Bolton Street

(Woodlands Road, Crumpsall, Bowker Vale, Heaton Park, Prestwich, Besses-o'-th'-Barn, Whitefield, Radcliffe Central, Bury Bolton Street^R)

Manchester Victoria–Oldham Mumps ^P

(Dean Lane^N, Failsworth^N, Hollinwood^N, Oldham Werneth^N, Oldham Mumps^N)

Manchester Piccadilly–Glossop/Hadfield

(Ardwick, Ashburys, Gorton & Openshaw, Fairfield, Newton for Hyde, Godley Junction^R, Broadbottom, Dinting, Glossop Central)

Penistone–Sheffield ^{N C}

Ipswich–Lowestoft

(Woodbridge, Wickham Market, Saxmundham, Darsham, Halesworth, Brampton, Beccles, Oulton Broad South)

Norwich–Sheringham ^P

(Salhouse^N, Wroxham^N, Worstead^N, North Walsham^N, Gunton^N, Cromer Beach^N, West Runton^N, Sheringham^N)

Boston–Skegness

(Thorpe Culvert, Wainfleet, Havenhouse, Skegness)

Barton-on-Humber–New Holland Town

(Barton-on-Humber, Barrow Haven)

New Holland Pier–Cleethorpes (local)

(New Holland Pier^C, New Holland Town^R, Goxhill, Thornton Abbey, Ulceby)

Romfor–Upminster ^{RR}

(Emerson Park)

Northolt Junction–London Marylebone ^N

(Northolt Park, Sudbury Hill, Sudbury & Harrow Road, Wembley Hill)

Epping–Ongar (London Transport) ^{N C}

(North Weald, Blake Hall, Ongar)

Liskeard–Looe

(Coombe Junction, St Keyne, Causeland, Sandplace, Looe)

St Erth–St Ives

(Lelant, Carbis Bay, St Ives^R)

Cardiff–Coryton

(Heath Low Level, Birchgrove, Rhiwbina, Whitchurch, Coryton)

Whitland–Pembroke Dock ^P

(Narberth^{N RR}, Kilgetty, Saundersfoot, Tenby^N, Manorbier, Lamphey^{RR}, Pembroke^N, PembrokeDock^N)

Bristol–Severn Beach

(Montpelier, Redland, Clifton Down, Sea Mills, Shirehampton, Avonmouth Dock, St Andrew's Road, Severn Beach)

Craven Arms–Llanelli ^{RR}

(Broome, Hopton Heath, Bucknell, Knighton, Knucklas, Llangunllo, Llanbister Road, Dolau, Penybont, Llandrindod Wells, Builth Road High level, Cilmeri, Garth, Llangammarch Wells, Llanwrtyd Wells, Cynghordy, Llandovery, Llanwrda, Llangadog, Llandilo, Ffairfach, Llandebie, Ammanford & Tirydail, Pantyffynnon, Pontardulais, Llangennech, Bynea)

Pwllheli–Dovey Junction ^N

(Pwllheli, Abererch, Penychain, Criccieth, Black Rock^C, Portmadoc, Minffordd, Penrhyndeudraeth, Llandecwyn, Talsarnau, Tygwyn, Harlech, Llandanwg, Llanbedr & Pensarn (renamed Pensarn), Talwrn Bach (renamed Llanbedr), Dyffryn Ardudwy, Talybont, Llanaber, Barmouth, Morfa Mawddach, Fairbourne, Llwyngwril, Llangelynin^C, Tonfanau, Towyn, Aberdovey, Penhelig, Abertafol^C, Gogarth^C)

Woodside–Sanderstead ^C

(Bingham Road, Coombe Road, Selsdon)

Wimbledon–West Croydon ^N

(Merton Park, Morden Road, Mitcham, Beddington Lane, Waddon Marsh)

Tunbridge Wells Central–Eridge ^C

(Tunbridge Wells West, Groombridge)

Hurst Green–Uckfield ^P

(Edenbridge Town^N, Hever^N, Cowden^N, Ashurst^N, Eridge^N, Crowborough & Jarvis Brook^N, Buxted, Uckfield^R)

Ryde Esplanade–Shanklin

(Ryde St Johns Road, Brading, Sandown, Shanklin)

Other Stations

Altofts & Whitwood^C, Ascott-under-Wychwood, Avoncliff, Barassie^{RR}, Bardon Mill, Batley^N, Blaydon, Blythe Bridge^N, Bodorgan, Caersws, Caldicot^{RR}, Carr Bridge, Chetnole, Clarboston Road, Combe, Croy, Dalwhinnie, Deganwy, Edale, Entwhistle, Finstock, Freshford, Gowerton North, Grateley, Greenfield, Handborough, Hope (Derbyshire), Inch^{WR}, Inverurie^W, Keynsham & Somerdale^N, Kingham^N, Kirkconnel, Llanfairfechan, Lydney^N, Manea^N, Marsden, Morley Low^N, Mossley, Norton Bridge, Oldfield Park^N, Park (Manchester)^C, Pegswood, Penmaenmawr, Pershore^N, Queen's Road Peckham, Ravensthorpe^N, Rhosneigr, Rose Hill Marple, Shipton, Spital^N, Springfield, Stalybridge^N, Thornford Bridge, Ty Croes, Ulleskelf, Upton-by-Chester^{N R}, Water Orton^N, Westenhanger^N, Widdrington^N, Wilnecote^N, Wressle, Wylam, Yetminster

2d. Services and stations included in, or added to the Reshaping plan, but not formally approved for closure

Services, with relevant stations

(services shown in the Reshaping plan as 'to be modified', but where no stations were listed, are ignored)

Glasgow–Barrhead

(Crossmyloof, Pollokshaws West, Kennishead, Nitshill, Barrhead)

Skipton–Carnforth (locals)

(Gargrave, Hellifield, Long Preston, Giggleswick, Clapham, Bentham, Wennington)

Hooton–Stanlow & Thornton

(Little Sutton, Ellesmere Port, Stanlow & Thornton)

Blackpool North–Poulton-le-Fylde

(Blackpool North, Layton)

Preston–Colne (locals)

(Bamber Bridge^N, Pleasington, Cherry Tree^N, Mill Hill, Rishton^N, Church & Oswaldtwistle^N, Huncoat^N, Hapton^N, Burnley Barracks^N, Brierfield^N)

Barrow–Whitehaven

(Askam, Kirkby-in-Furness, Foxfield, Green Road, Millom, Silecroft, Bootle, Ravenglass, Drigg, Seascale, Sellafield, Braystones, Nethertown, St Bees, Corkickle)

London Broad Street–Richmond

(Gospel Oak, Hampstead Heath, Finchley Road & Frognal, West End Lane (renamed West Hampstead), Brondesbury, Brondesbury Park, Kensal Rise, Willesden Junction High Level, Acton Central, South Acton)

Watford Junction–St Albans Abbey

(Watford North, Bricket Wood, Park Street & Frogmore, St Albans Abbey)

Liverpool–Southport

(Bank Hall, Bootle Oriel Road, Marsh Lane & Strand Road (renamed Bootle New Strand), Seaforth & Litherland, Waterloo, Blundellsands & Crosby, Hall Road, Hightown, Formby, Freshfield, Ainsdale, Hillside, Birkdale)

London St Pancras–Barking

(Upper Holloway, Crouch Hill, Harringay Stadium, South Tottenham, Black Horse Road, Walthamstow, Leyton Midland Road, Leytonstone High Road, Wanstead Road, Woodgrange Park)

March–Sleaford ^{part C}

(Spalding Town)

Lincoln–Nottingham

(Lincoln St Marks^C, Hykeham, Swinderby, Collingham, Newark Castle, Rolleston Junction, Fiskerton, Bleasby, Thurgarton, Lowdham, Burton Joyce, Carlton & Netherfield)

Witham–Braintree

(White Notley, Cressing, Braintree & Bocking)

Reading–Bedwyn (locals)

(Aldermaston, Midgham, Kintbury, Bedwyn)

Truro–Falmouth ^N

(Perranwell, Penryn, Penmere, Falmouth)

Par–Newquay ^P

(Luxulyan, Bugle, Roche, St Columb Road, Quintrel Downs, Newquay^N)

Stourbridge Junction–Stourbridge Town ^N

(Stourbridge Town)

Greenford–West Ealing ^N

(South Greenford, Castle Bar Park, Drayton Green)

Haywards Heath–Seaford (locals)

(Plumpton, Cooksbridge, Southease & Rodmell, Bishopstone)

Plymouth–Bere Alston–Gunnislake

(St Budeaux Victoria Road, Bere Ferrers, Bere Alston, Calstock, Gunnislake)

Exeter Central–Exmouth

(St James Park, Polsloe Bridge, Topsham, Exton, Lympstone, Exmouth)

Reading–Tonbridge (locals)

(Shalford, Chilworth & Albury, Gomshall & Shere, Dorking Town, Deepdene, Betchworth, Nutfield, Godstone, Edenbridge, Penshurst, Leigh)

Clapham Junction–Kensington Olympia (unadvertised until 1969)

Tunbridge Wells–Hastings (locals)

(Frant, Wadhurst, Stonegate, Crowhurst)

Brighton–Ore (locals)

(Glynde, Berwick)

Exeter–Barnstaple ^P

(Newton St Cyres, Crediton^N, Yeoford, Copplestone, Morchard Road, Lapford^N, Eggesford^N, King's Nympton, Portsmouth Arms, Umberleigh, Chapelton)

Other stations

Abergele, Althorpe^N, Appleby, Ashton Charlestown, Balloch Pier^C, Bishopbriggs, Blackrod, Bordesley^N, Botley, Bowling, Brocklesbury^{N C}, Broomfleet, Bruton, Burscough Bridge^N, Charlbury, Chester-le-Street, Clynderwen, Corbridge, Cramlington^N, Cumbernauld, Dorchester West, Eastringham, Exeter St Thomas, Ferryside, Flint, Frodsham, Hayle, Heyford, Hyde Central, Hyde North, Kidwelly, King's Sutton, Kiveton Park^N, Lea Bridge ^{N C}, Lostwithiel, Maiden Newton, Melton Mowbray Town, Menheniot, Miles Platting^C, Newton-le-Willows, Oakham, Overton, Parbold^N, Pembrey & Burry Port, Pewsey, Polesworth^N, Prestatyn, Riding Mill, Saltmarshe, Salwick^N, Settle, Shireoaks^N, South Elmsall, Spondon, Stamford Town, Starcross, Strines, Tackley, Thorne South^N, Tisbury, Tiverton Junction^R, Whimple, Whitchurch North (Hants), Woodley, Yeovil Pen Mill



*On 7 March 1964, a month before closure on 6 April, railbus W79976 waits at the terminus of the Tetbury branch to return to Kemble
(Tony Jervis)*



*Bournemouth West was the southern terminus of the Somerset & Dorset Joint Railway, as well as for trains to/from London Waterloo. Local services were withdrawn in May 1964. On 4 September 1965, the last Saturday of working, 34018 and 73022 are on trains to Waterloo and Newcastle respectively. The station closed officially from 4 October, but for the last month its 'trains' were buses to/from Bournemouth Central
(Tony Jervis)*

Measuring the Impact of the Beeching Axe

John Kennedy

Introduction

The impacts of the *Reshaping of British Railways*, more frequently known as the 'Beeching report', are often discussed in terms of the scale of the changes it proposed and on the perceived impacts on the railways and the country. There are numerous books and maps covering the railways pre- and post-Beeching but few have compared the actual closures to the original proposals.

The impacts are not generally considered at a national level, but are often reported on the small scale for particular lines, stations or regions. When the impacts are considered at a national scale, they are only assessed at a high level; also assessments of the socio-economic impacts over time in a quantified way using census data have not been developed.

To assess whether the impacts of the 'Beeching Axe' can be seen in census data, it was necessary to map the railway network's railway stations, the Beeching proposals and the actual closures that took place; and then relate these to census data to identify whether the impacts were identifiable in the census returns.

This article provides a comparison of the proposed and actual closures; and a brief analysis of the data from a railway rather than a technical GIS point of view. There are interesting statistical and processing issues which the GIS and data techniques used raise; but this would perhaps be a diversion from the focus of this article.

Although an overview of GIS is provided, there is far more material available elsewhere should readers wish to investigate for their own research and some software publishers are now providing domestic licensing options.

The context

Although the Beeching report included proposals which led to successful developments and reinvigoration of parts of the railway, such as containerisation and the creation of Freightliner, it is often remembered in the popular perception for the 'Beeching Axe'. The rationalisation proposed by the Beeching report in isolation from other forms of transport is often seen with hindsight as a missed opportunity to integrate the transport systems of the country¹.

The combination of closures and withdrawal of services is often linked to the socio-economic decline in areas which suffered from the 'Beeching Axe', most notably at in the speeches of Lord Stonham at the time². However, others have defended Beeching as a champion of the railways and that the 'Axe' enabled them to survive³ and other schemes such as Freightliner were successful attempts at modernisation.

The 'Beeching Axe' was controversial in 1963 and still is today, often being used as a by-word for short-sighted government cost-cutting measures which do more harm than good. Literature and commentaries of the period are generally based on the issues for specific stations, lines or regions; when the issue is discussed at national levels it is often dealt with in terms of high level operational or financial statistics which were available to the general public.

The most detailed and mapped analysis of the proposals in circulation at the time was in John Allen Patmore's three 1960s papers^{4,5,6}. In three articles in different geographic journals, Patmore reviews the technical issues; commenting on the different closure types and the limited data available on non-passenger closures; noting also the future

Proposal Type	England	Wales	Scotland	Total
New Closure Proposals	1,303	190	435	1,928
Previous Proposals (Pending)	131	71	4	206
Previous Proposals (Closed)	117	97	15	229
Total	1,551	358	454	2,363

Table 1: Beeching report closure proposals¹⁰

connectivity problems from the loss of stations and lines. Even in retrospect the most detailed commercial analysis after the fact by T R Gourvish⁷ is limited to the aggregated published accounts.

The impacts of the large scale closures are generally discussed on a line-by-line or station-by-station basis, depending on an author's personal geographic or railway company interest. This was also the case at the time of publication of the report with Members of Parliament representing the interests of their constituencies and the Transport Users Consultative Committees considering the issues at a local level.

Although there is a wealth of public archive material information which can be used for investigations on a station or line basis; to go trawling back through archives to the raw accounts and ledgers for every station, line and local area, even if it existed in a suitable form and aggregate it to a national picture is likely to be more than a lifetime's work.

In cases where the ideal data for a problem are not available, the standard reaction is to find data which can be related to the item of interest and use those as a proxy. The national census is a national dataset which has statistics going back to the 1841 and apart from those of 1931 and 1941 provides a continual record of national changes.

The data are published at various levels of detail (e.g. Enumeration District (ED) level to Ward or regional levels) and can be used in a railway context if related to a dataset for station closures. The ability to associate the census data with geographic areas such as EDs (containing on average 200 households in the 2001 Census) gives access to a large dataset of socio-economic data over time and though the use of GIS enables a detailed analysis of the changes over time relative to the position of railway stations.

In effect, the changes in area 'performance' between censuses can be used as a proxy for the impact of railway closures. As with all proxy data, it is unlikely that the impact of changes to the railways is the only cause of change, but where effects are localised to areas immediately surrounding the stations and not elsewhere, the probability that changes to the railway are a significant cause increases.

Similar research

Other similar projects include two major studies using station locations and census data to look at

patterns and trends over time during the early development of the railways. Newton *et al.*⁸ are currently utilising GIS to reconstruct progression of the 'occupational structure' of Britain to the late 19th Century and the population up to 1911. They are building railway lines and stations datasets for 1851 to 1881 to investigate the impact of the transport access on the country's development.

Gregory *et al.*⁹ are undertaking a similar study, with the focus of their project being the growth of the railway network using parish level census population statistics to explore whether railway stations provided a development advantage over other areas where stations came later or not at all. Both studies look at the development of railways and potential correlations with socio-demographic data over time up to 1911.

Gregory *et al.* found that the impact of not being connected to a railway station became more severe over time; but acknowledge that this is not necessarily due to stagnation in these locations not connected by the railways; but that locations with railway stations grew more quickly; meaning the average growth rate of locations without a station fell behind. This is almost a mirror image of the assumed impact of the Beeching Axe; the work described here uses similar assumptions in reverse for the Beeching era.

What is GIS?

There is a wealth of information on the internet covering the uses of GIS (Geographic Information Systems), in its most basic visual form it is an electronic map with objects; where objects have properties, positions (co-ordinates, areas etc.) and relationships which can be analysed to evaluate spatial distributions, patterns or properties en masse.

For example, when a Satellite Navigation system plans a route, it uses the start point, a dataset for the road network and the position of the end point to plan a route using parameters set by the driver; or a 'nearest store finder' on a retailer's website matches home and store postcodes to give a selection of local stores within range of your home. These are both forms of GIS, where the geographic position is used with other data to find something out.

Similarly, there are other tools to create more complex forms of analysis, such as creating buffers to find specific features within say 500m of a railway station. The data layers in an analysis can come from many sources and an analysis can use many datasets.

In this case:

A point dataset for each station location, with opening and closure dates to identify when the station was operational relative to census data;

A boundary dataset at ED level with socioeconomic statistics associated with each small area, in each census year.

As part of the analysis, additional parameters are created, such as a matching between each ED area's proximity to station to represent the catchment of the station in a given census year.

The geography of the proposals and actual closures

The list of proposals in Section 3 of the *Reshaping of British Railways*¹⁰ lists the station closure proposals by country and includes 2,363 stations (see Table 1) which were mapped in the second part of the report. The station dataset created for this analysis includes the opening and closure dates for stations in a simple table, which can be analysed without GIS to show the scale of the proposals and the progression at which the closures took place. The table also includes national grid co-ordinates which enable the station locations to be plotted in relation to the census area boundaries.

Although every effort was made to compile a complete dataset, it is likely that some stations may have been missed; and some discrepancies on dates may remain; however the dataset should permit a reasonably robust analysis.



Figure 1: number of English railway stations (1820–2010)

Figure 1 shows the number of railway stations over the lifetime of the railways, showing the rapid increase in railway stations in the 1840s from the era of railway mania, to the peak number of stations in

the Edwardian era. From this peak, there is a gradual reduction to nationalisation in 1948; with a more pronounced decline between 1948, through the publication of the 1955 'Modernisation Plan' to 1963 with the publication of the *Reshaping of British Railways*.

From 1963 the number of railway stations rapidly declines from around 3,050 to 1,970 by 1973, which has remained relatively consistent through to the present day. Figure 2 provides a more detailed look at the 1940 to 1980 period, with an additional series showing the annual number of closures during the period.

The trend line for open stations through 1948 and 1963 provides a guide for the post-nationalisation rate of attrition of railway stations, with the trend suggesting that if pre-Beeching closure rate had continued over time, the post-Beeching levels would have been reached by around 1974.

Although the likelihood of this natural wastage of the network could be argued, the trend provides a benchmark against which to consider the volume and rate of closures of Beeching era. It can be seen that the number of station closures peaks in 1964 with the trend line rapidly descending, with the annual closures that year reaching 336 stations.

Figure 2 charts the actual closures that occurred, with the number of stations reducing by 1,081 between 1963 and 1973; which is approximately 46% of the 2,363 included in the report, showing that the Beeching closures if fully enacted would have had an even more significant impact.

The actual distribution of the closure proposals was mapped in the second part of the report and showed a great swathe of closures across the country. Figure 3 maps the distribution of the closures proposed by district; showing the proportion of the station open 1963 the closure proposals represent. Similarly

Figure 4 shows the actual closures which took place by district. Summaries of these by county are tabulated in Table 2 and Table 3.

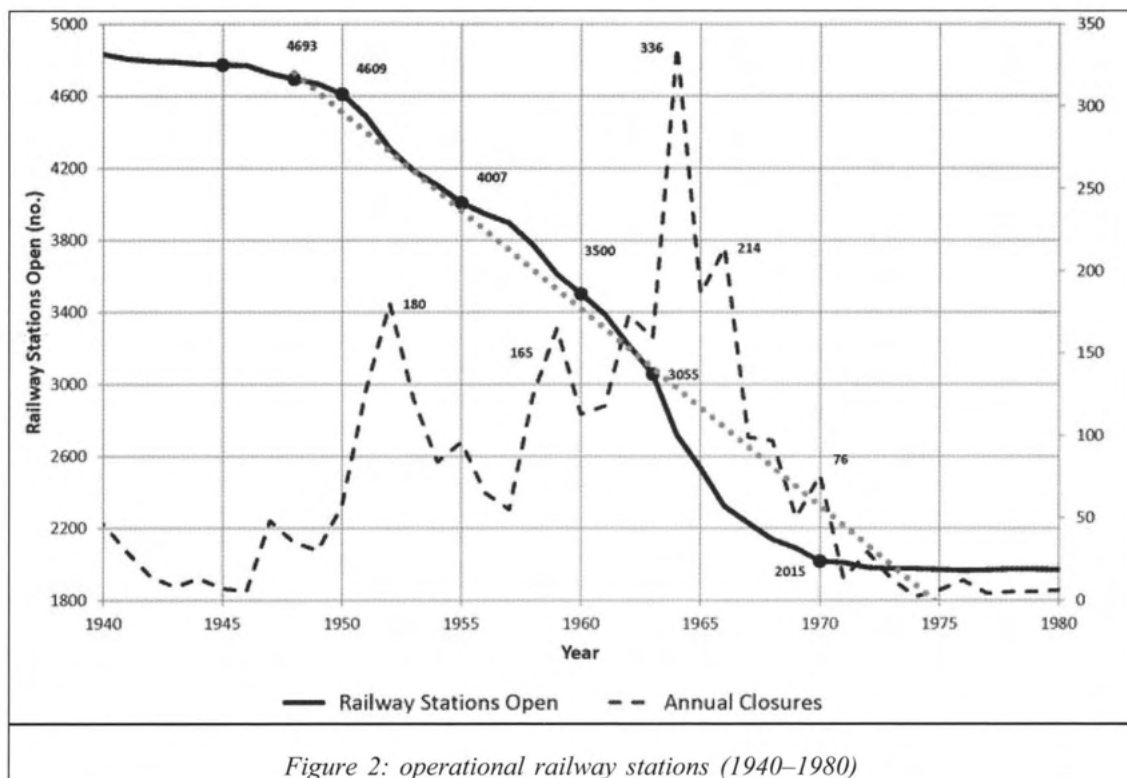


Figure 5 shows the closures that took place, those proposed in the Beeching report and the additional closures which were not included in the original report; and the locations where closure proposals were not completed.

Tables 2 and 3 show the summaries of the proposed and actual closures by county for the most significant levels of closures. Table 2 focuses on the counties with the greatest number of station closures based on the proposals. From this it can be seen that

County (1961 boundaries)	stations open in 1963	closures proposed	% stations	closures to 1973	% stations closed	% all closures
Lancashire	298	129	43%	77	26%	7%
West Riding	210	110	52%	82	39%	8%
Devon	135	90	67%	88	65%	8%
Somerset	94	67	71%	75	80%	7%
Gloucestershire	86	56	65%	58	67%	5%
Derbyshire	90	48	53%	49	54%	5%
Staffordshire	91	48	53%	52	57%	5%
Cornwall	71	47	66%	36	51%	3%
Cumberland	56	41	73%	28	50%	3%
Wiltshire	50	40	80%	36	72%	3%
London	135	7	5%	0	0%	0%
Rest of England	1,739	620	36%	499	29%	46%
Total	3,055	1,303*	43%	1,080	35%	100%

Table 2: proposed and actual station closures by county (greatest number)

County (1961 boundaries)	stations open in 1963	closures proposed	% stations	closures to 1973	% stations closed	% all closures
Wiltshire	50	40	80%	36	72%	3%
Rutland	8	6	75%	7	88%	1%
Cumberland	56	41	73%	28	50%	3%
Leicestershire	39	28	72%	29	74%	3%
Northamptonshire	28	20	71%	23	82%	2%
Somerset	94	67	71%	75	80%	7%
Isle Of Wight	17	12	71%	11	65%	1%
Devon	135	90	67%	88	65%	8%
Cornwall	71	47	66%	36	51%	3%
Gloucestershire	86	56	65%	58	67%	5%
Herefordshire	14	9	64%	10	71%	1%
North Riding	57	36	63%	27	47%	3%
East Riding	53	33	62%	29	55%	3%
Westmorland	15	9	60%	7	47%	1%
Suffolk East	31	17	55%	14	45%	1%
Dorset	43	23	53%	20	47%	2%
Derbyshire	90	48	53%	49	54%	5%
Staffordshire	91	48	53%	52	57%	5%
West Riding	210	110	52%	82	39%	8%
Lincolnshire Kesteven	14	7	50%	5	36%	0%
Suffolk West	14	7	50%	8	57%	1%
London	135	7	5%	0	0%	0%
Rest of England	1704	542	32%	386	23%	36%
Total	3055	1303	43%	1080	35%	100%

Table 3: proposed and actual closures by county (greatest proportion)

up to 1973, the proportion of stations closed in Cumberland (-23%), Lancashire (-17%), Cornwall (-15%), and the West Riding (-13%) were substantially lower than proposed by Beeching on a county basis; with Somerset suffering significantly higher proportion (+9%) of closures than envisaged.

Table 3 concentrates on the counties with the highest proportions of actual closures, showing that other areas such as the East Riding, Westmorland and the North Riding were less affected than proposed in the original report. However, the proportion of closures in other areas such as Rutland (+13%), Northamptonshire (+11%) and Herefordshire (+7%) were also much higher than proposed. The reverse was true in areas such as the North Riding (-16%), Westmorland (-13%) and Wiltshire (-8%).

When the proposals and actual closures are mapped in Figures 3 and 4 (pages 26 and 27) it can be seen that the highest proportion of station closures proposed by district was focussed in the south west, areas in central England and in corridors across the

north. The actual proportion of stations closing in the south east was lower than proposed, while in the south west the proportion of closures is similar to that proposed, but is much more focussed on particular corridors through the region. In addition the actual proportion of closures in the West Midlands, East Anglia and the north were much higher than the original Beeching proposals put forward.

Figure 5 (page 28) shows the distribution of the proposed station closure locations, providing a breakdown on whether the closure went ahead, the closure did not occur up to 1973; and identifying stations which closed in the Beeching era which were not included in the report.

Beyond the lines affected by closures from the Beeching proposals, it can be seen that many additional lines were closed throughout the country; notably in Norfolk, Shropshire and Lincolnshire.

It is also possible to categorise the areas affected by the closures by the census classification for the

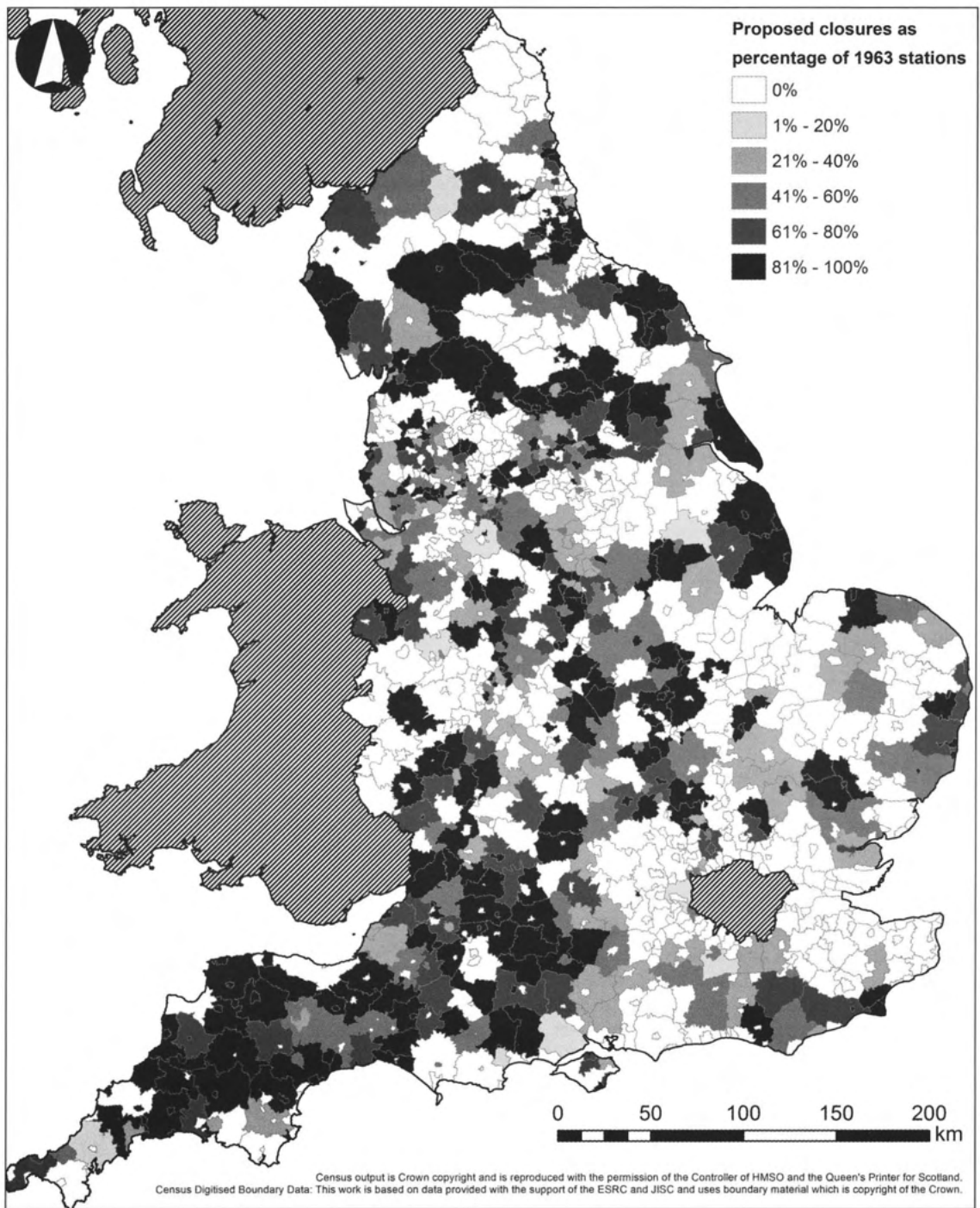


Figure 3: closure proposals as percentage of 1963 stations, by district

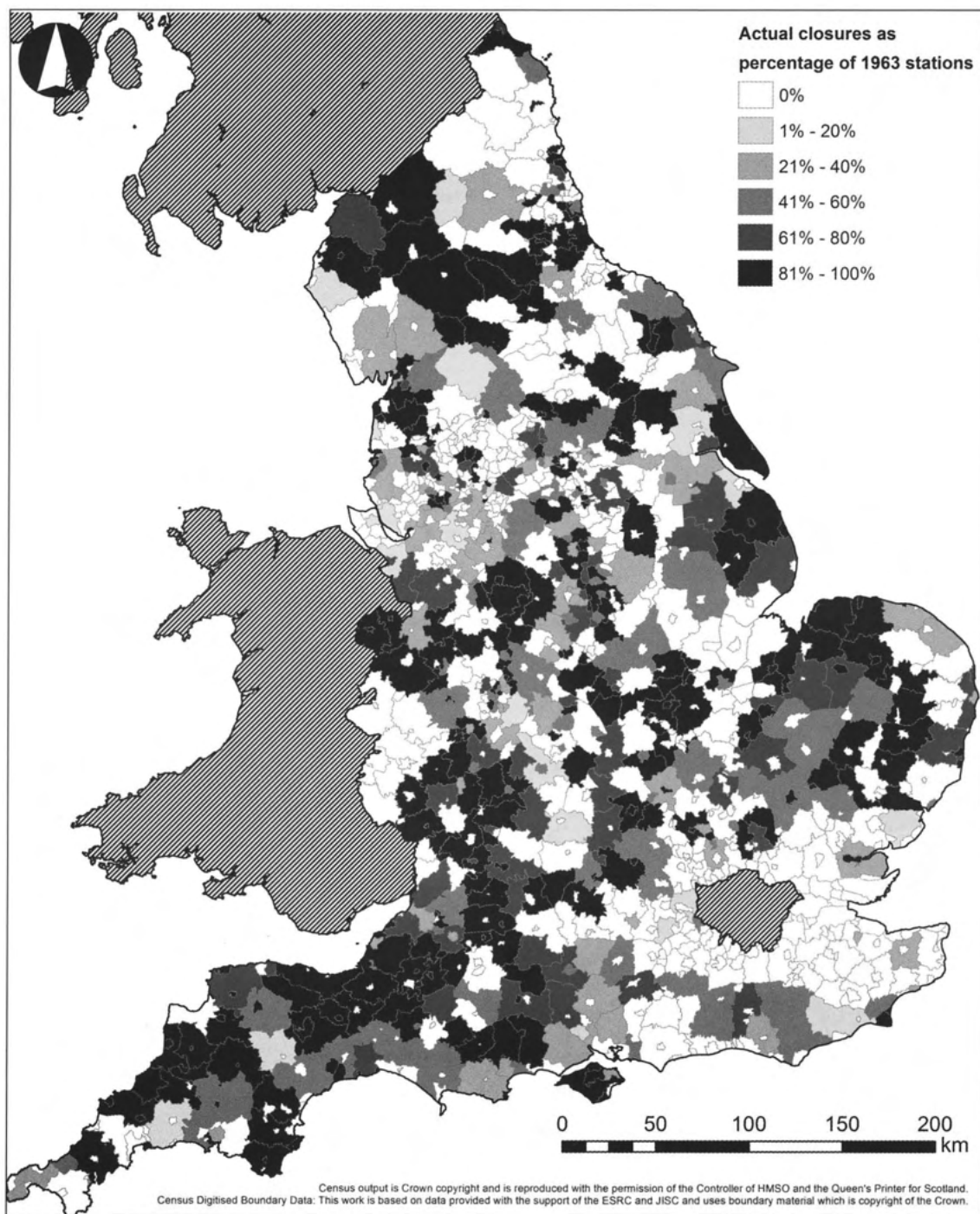
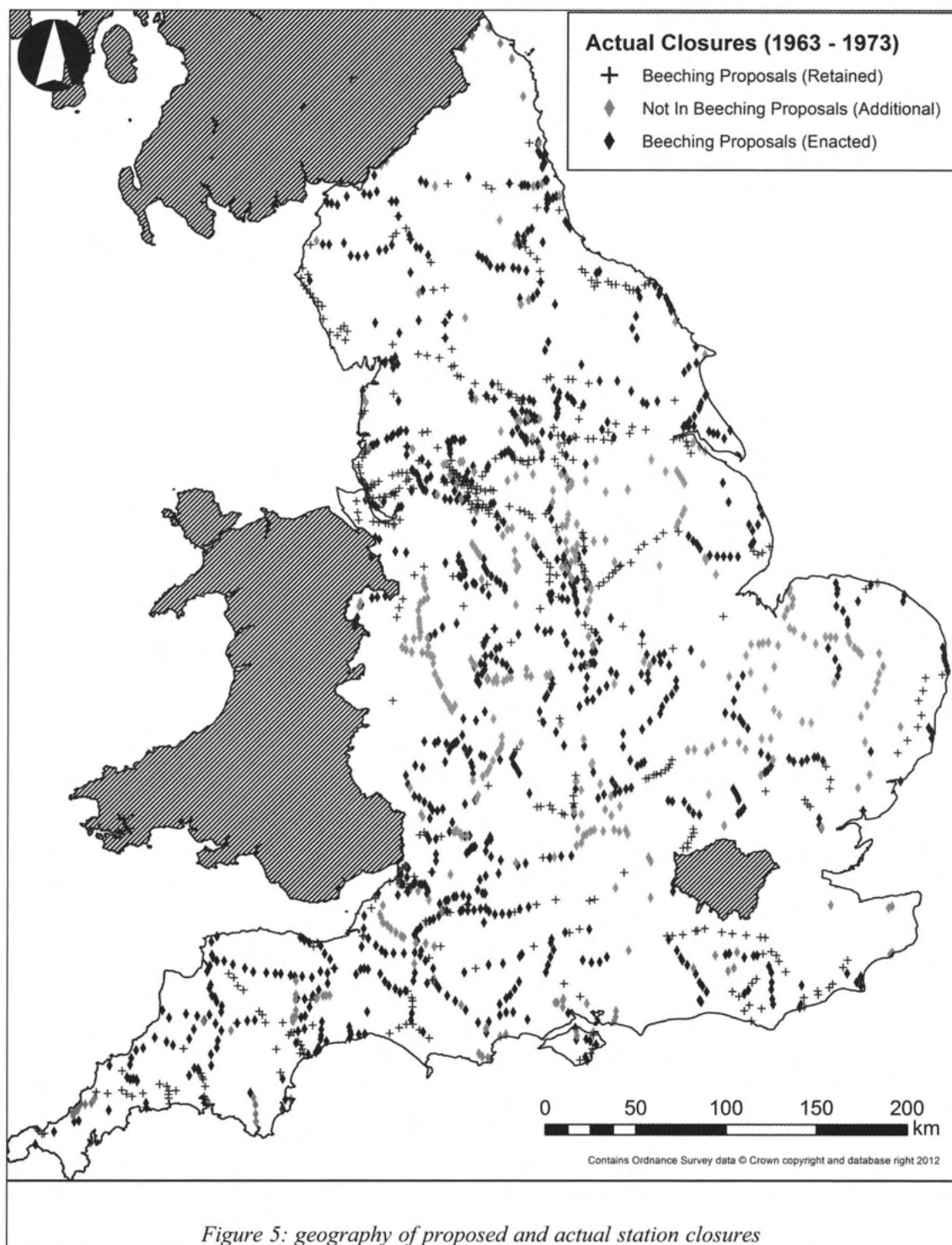


Figure 4: actual closures as percentage of 1963 stations, by district



affected EDs (rural, urban etc.). Figure 6 does this using the 2001 census classifications; and although this includes all the development and expansion since the 1960s, it gives an approximate profile of the areas affected over time by the closures. It shows that a high proportion of the earliest closures between 1961 and 1966 were those serving hamlets and villages (45%); which decreased over time, with the proportion of closures in urban areas of less than 10,000 people gradually increasing over time from 27% to 62% by 1981.

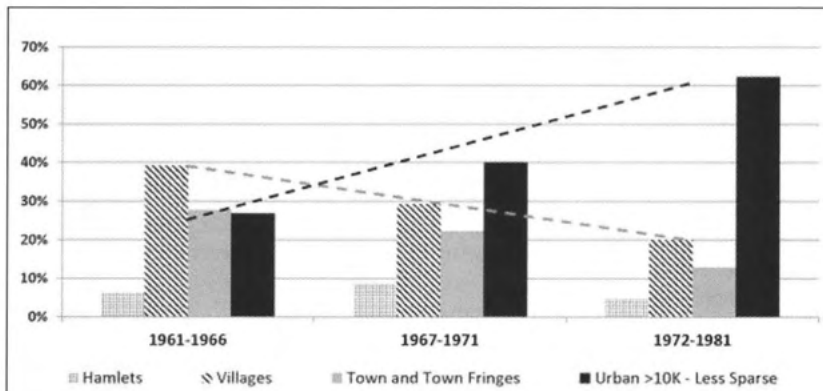


Figure 6: station closure rural/urban classifications

effect, the changes in area 'performance' between censuses can be used as a proxy for the impact of railway closures.

The Townsend Index

In this case a 'material deprivation' index, the Townsend Index (TI), is used as a proxy indicator. It is derived from four socio-economic variables and allows the comparison of different areas based on 'standardised' scores. The Townsend Index is based

on the area statistics' z-scores for each parameter which is related to material assets and economic participation. The four variables are unemployment, household overcrowding, car non-ownership and home non-ownership.

The z-scores are unitless values which are calculated using the mean and standard deviation of a set of observations. For example an ED's unemployment is calculated by taking the ratio of the difference between the ED's unemployment percentage and the mean of all the EDs' unemployment percentages; and the standard deviation of the parameter. The mean and standard deviation will be specific to the census year it comes from as the mean and standard deviations will vary from year to year.

A high positive value TI score represents areas with higher 'deprivation scores'; near zero scores indicate areas are near the national average; while a negative TI score indicate areas with low 'deprivation score'.

The variables which make up the TI have their own trends over time. For example, car and home

Measuring the impacts

As noted earlier, the impacts of the Beeching era closures are generally considered on a line-by-line basis and although the local issues may be explored, there have been few investigations into how these fit into a national picture. For example, it may be the case that the closure of railway line caused local industries to pass away: but is this true on a national scale? Can the relationship between the railway station closure and an area's relative decline be established across the board, given the national economic circumstances and patterns at the time?

For an accurate 'measurement' of the impacts, the assessment would need to include many statistical themes not easily dealt with on a national scale. In cases where national patterns are sought, proxy indicators are used and are often based on census data for national studies. For the 1960s to 1970s period there is also the opportunity to make use of the 1966 sample census that was undertaken just three years after the Beeching report was published. The results from the dissertation analysis on which this article is based show greater fluctuations in the fortunes of

ownership have been increasing since the 1960s, while household overcrowding has generally declined. Unemployment is the most volatile figure in this set, as the unemployment figures recorded in the census are for the night of the census, but these figures may not reflect the pattern of the preceding ten years. For example, unemployment in the 1981 census was reported at just over 10%; however there was a sharp increase from figures a few years previously, while in 1971, it was just a little over 4%.^{11 12}

It is not the absolute change in deprivation of individual areas which is of real interest, nor a comparison of the deprivation of 1961 to later years, but identifying whether any impacts of the railway closures are measureable and demonstrate long-term influence on development in an area, in comparison to that in other areas.

As noted earlier this is not possible with a standard TI, due to the way the z-scores are calculated, a TI score from the 1961 census is not directly comparable to a 1971 TI score, e.g. the average unemployment in 1961 is not the same as the average unemployment in 1971. For this reason, we look at the rate of change between census years, i.e. a 'Differential Townsend Index' (DTI) is examined, effectively using the percentage change from the previous census as a measure of 'performance'. Areas with negative DTI

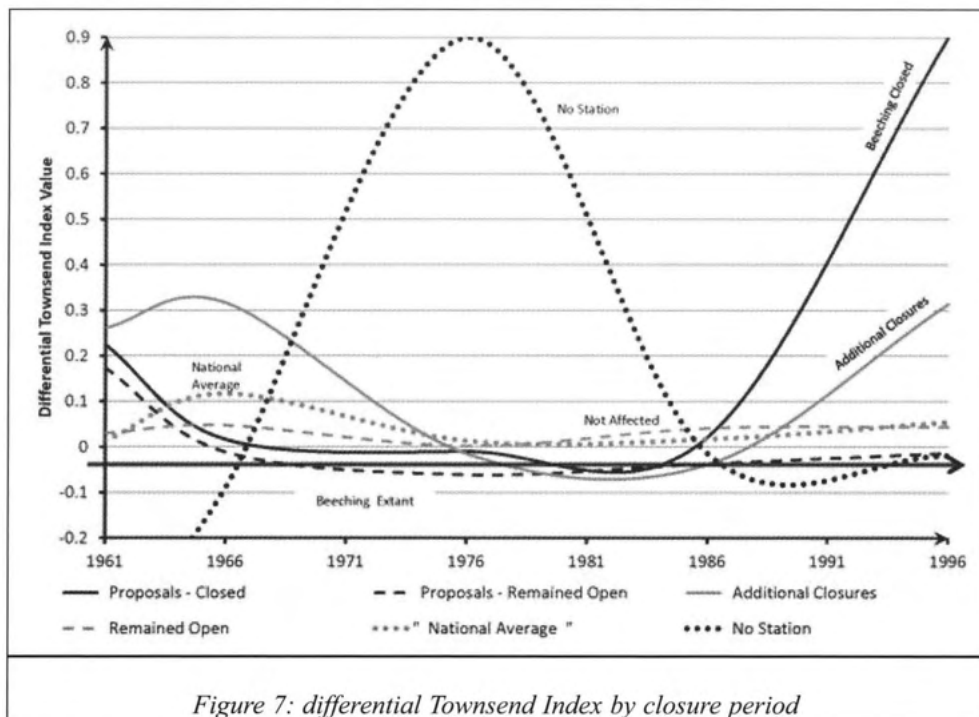
values are performing 'well' (e.g. unemployment reduces); while areas with positive DTI values are performing less well (unemployment increases). This also removes some of the statistical issues around comparisons of data between different census years.

Expectations

A variety of different responses from the census data would be expected, given that no two areas or communities are identical, for example, some areas subject to the closures may out-perform other similar areas in terms of improvement or decline; or show no appreciable difference, and so for simplicity an average of the data for each closure type is graphed.

In terms of the results, it would be expected that areas affected by railway station closures in the Beeching era would lead to a long-term decline in an area. This would be demonstrated by the DTI scores continuing to be positive over time (continued increase in TI) or a lower than average improvement compared with areas where stations remained open or no station was present given the underlying trends of increasing car and home ownership

In effect, for areas where railway stations and connections were permanently removed, this would lead to a continued lower level of 'performance' in



terms of long-term improvement of deprivation, relative to those areas which retained or never had railway stations.

Analysis

The change in the DTI values over time is shown in Figure 7 with the aggregated closure types shown as separate series; it should be noted that these series represent the aggregated changes and that individual areas and lines may have different responses based on their geographical distribution. The graph shows the national average and trend for areas with no access to a station over the period.

It should be remembered that unemployment increased sharply by the 1981 census, as noted earlier; this leads to a significant spike at the midpoint between 1971 and 1981 for areas with no station. It has been subsequently capped at a DTI of 0.9 for display purposes so that the earlier and later trends can be discussed.

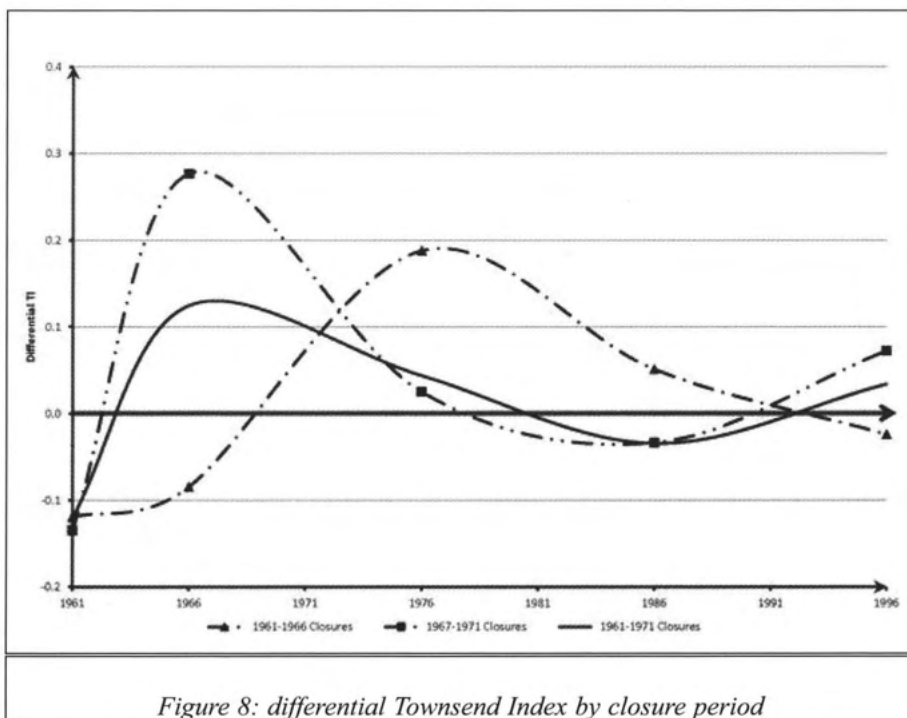
From Figure 7 it can be seen that the national average shows a worsening of conditions between 1961 and 1971 (positive gradient) and an improvement post 1971 (with the 1970s housing boom and initially low unemployment), with a marginal decline to 2001.

Nominally it would be expected that the national average would remain consistently at zero, however, issues with the level of census detail available for 1961 may lead to the slight peak between 1961 and 1971; while the variance in later years is likely to be due to the anonymisation incorporated into the most detailed levels of data and the variability of the dataset. This should be considered in the interpretation of the graphs.

In comparison, it can be seen that there is a near-zero rate of improvement with areas subject to the actual Beeching proposals compared to the national average and a lower level of performance against areas where the stations scheduled for closure remained open.

The areas where stations remained open appear to be marginally less materially deprived to begin with compared to those that closed. They also continue to remain slightly above the national average performance improve through the 1970s; while areas subject to the closures appear to stagnate (near-zero values) before being hit hard in the 1990s.

It is interesting to note that the areas subject to closures not included in the Beeching report initially appear more materially deprived and were subject to an immediately lower level of performance compared



with the national average at the time the closures were occurring, although they fared better through the 1970s than their counterparts. Similarly they also show a significant deterioration through the 1990s. Areas with stations which were not affected by the Beeching proposals closely followed the national average, with the rate of improvement being higher than the national average during the 1960s.

Figure 8 considers the same information by the period of closures of stations, considering those between 1961 and 1966, 1967 and 1971; and over the period 1961 to 1971. These series effectively represent the catchment of the stations, based on a radius of one mile.

For the catchments of stations closed between 1961 to 1966 (p) there appears to be an above average rate of improvement performance in these areas up until 1971 (negative DTI); but this then declines significantly to form a peak in between 1971 and 1981; performing less well than stations where closures occurred between 1967 to 1971 (n).

The catchments of areas closed between 1967 and 1971 (n) show a significant worsening between 1961 and 1971; but begin to recover by the mid-1970s, with the rate of improvement almost reaching the average (zero) between 1971 and 1981. When considered in aggregate, it can be seen that areas affected by the closures between 1961 and 1971 perform poorly unlike the late 1970s, with improvement in the 1980s and the beginnings of decline in the 1990s.

Conclusions

The analysis of the generated dataset provides some support to the premise that the railway closures of the 1960s had a measurable impact on deprivation changes in the medium and long-term. By the 1980s, nearly all categories of closure and no-closures were much more homogenous with a smaller range in performances, although the final deprivation level of each varied.

Areas subject to closures in the 1960s appear to have suffered from a lower level of performance to the 1990s than other areas. The data also suggests that the impacts of the earlier closures in the 1960s took a number of years to register in the census data; while areas subject to closures later in the decade were less affected in the long-term, potentially due to a decline in the reliance on the stations by the time they were closed.

Notes and References

I would like to take this opportunity to say thank you to Roy Lambeth, Nick Catford and Alan Young of 'disused-stations.org.uk' whose field-walking and information on closed stations helped fill a number of gaps left in the station dataset after using other published sources.

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The Whitby–Loftus line: ‘a more spectacular example of a loss-making branch would be hard to find’. Is this really the case?

Michael Aufrere Williams

The Whitby–Loftus line opened on 3 December 1883 and closed on 5 May 1958 (the last trains having run on 3 May 1958). Construction commenced on 25 May 1871; the line being directly under the control of the Whitby, Redcar & Middlesbrough Union Railway company (WR&MUR) until 1875. After an agreement with the North Eastern Railway in that year it remained nominally in control, although *de facto* the line was under the aegis of the NER. It was this company which, after buying the line outright from the WR&MUR in 1889, remained in control until 1923. Then, until 1947, it was in the hands of the LNER and, after nationalisation in 1948 until closure in 1958, it became part of British Railways. Throughout this article the line is referred to as ‘The Whitby–Loftus line’. The line ran from Loftus (an end-on junction with the North Eastern Railway) to Bog Hall Junction, Whitby.

It formed an integral part of the railways of Cleveland, its completion providing (in theory at least) an important link connecting the Humber and Teesside.

The history of the Whitby–Loftus line is a fascinating one,¹ but the purpose of this article is not to understand its general history, but to perceive how the line played its part in issues which concern present railway historians; these being: firstly, what extent the financial problems of British branch-lines played in the serious decline in the fortunes of British Railways in the 1950s and 1960s? secondly, whether many of these lines should have been closed much earlier than they were, and thirdly whether some of the more spectacular failures should have been built at all. Among modern historians the most scathing criticism of the Whitby–Loftus line has been made

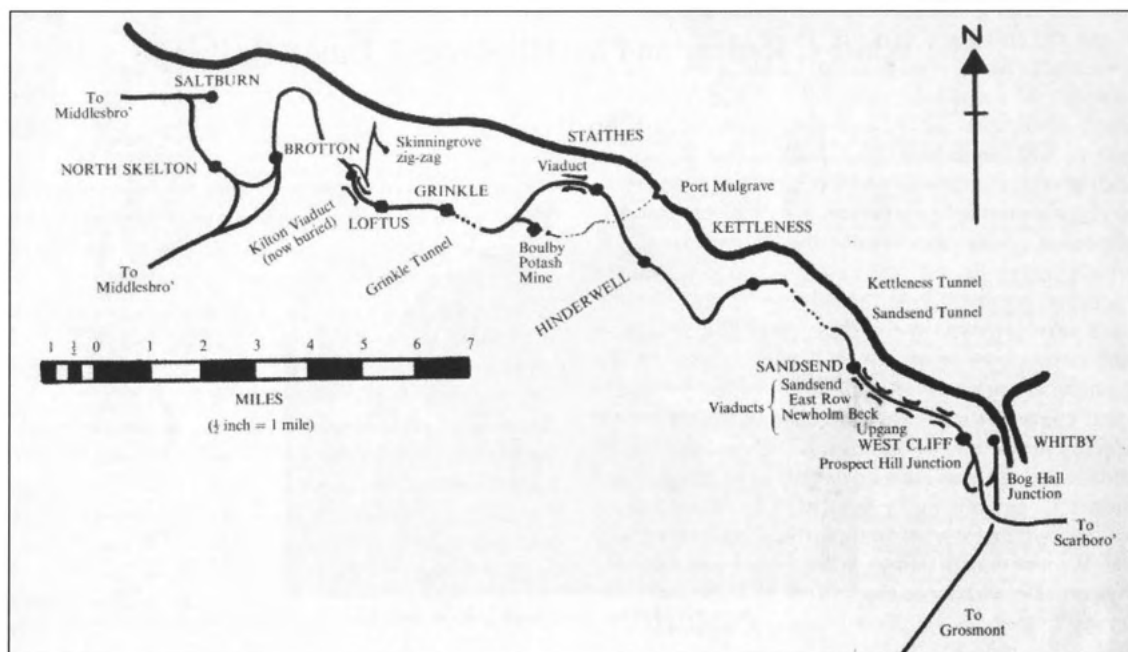


Figure 1: The Whitby–Loftus line (K Hoole)

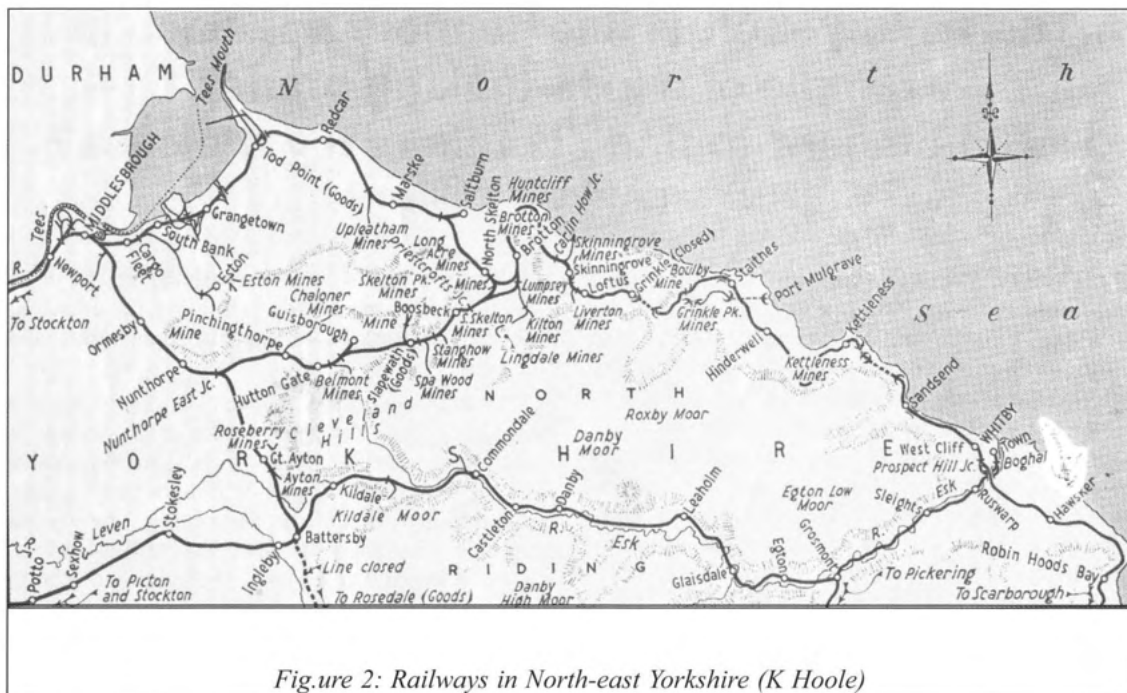


Figure 2: Railways in North-east Yorkshire (K Hoole)

by R J Irving, who concluded that all three of these issues are exemplified by the financial history of the line. For Irving, the line was 'a financial disaster of some magnitude', 'one of the poorer railway investment decisions', and that 'a more spectacular example of a loss-making branch would be hard to find', leading to the serious consideration that the line should never have been built in the first place and, seeing that it was, should have been closed as early as possible.² Irving also addressed the important questions of social utility and rural mobility which branch lines offered although in this case not specifically considering the Whitby–Loftus line: 'in cash terms losses were small and the financial implications of them limited, particularly as the branch network provided a much-needed service to local communities before the days of the motor car and the motor bus'. Although it seems almost to be stating the obvious, this comment explains perhaps more than any other why, even in years of continuous losses, the closures of branch lines (and especially the Whitby–Loftus line) were never considered.³ Nevertheless the conclusion that is drawn from Irving's analysis of the fortunes of the Whitby–Loftus line was that if any line deserved to be closed as early as 1897 this was the one. Yet, although that conclusion is based on the losses incurred by the

line, Irving admitted that 'the branches were not moving handfuls of people. They moved large numbers, thus reminding us of the social function performed by railways for isolated communities'.⁴ Statistical evidence for the Whitby–Loftus line backs up this statement, especially from the years c.1900–21 which shows large numbers of passengers using the line.⁵

Irving's voice is not a solitary one; of the many historians who perceived the myriad of unprofitable branch-lines to be at the root of the railways' problems in the 1950s and 1960s perhaps the sourest is that of S Joy. His *The Train That Ran Away*, written at, arguably, the nadir in the fortunes of Britain's railways, reflected the pessimism and even perhaps the bitterness of that time.⁶ Like other modern historians, he traced the genesis of the railways' problems back to the late nineteenth century and saw the branch lines as a major problem. They were 'profitless appendages' built in the main by 'weak and unprofitable railway companies' and that the main problem was that Britain's railways were overbuilt — the excess capacity was too great.⁷ This article, while agreeing in the main with Irving and Joy (while appreciating that the latter was writing at a time when the future of most of Britain's railways seemed in doubt), nevertheless attempts to modify Irving's

rather extreme position by the detailed use of the most important primary sources available for a study of the line, the traffic returns of the NER and LNER companies.

Why was the line built in the first place? The two prospectuses issued by the WR&MUR are perhaps the best evidence at hand for answering this question.⁸ Although it will be understood that prospectuses are designed to show the future line in as rosy a light as possible, and thus by their nature contain hyperbole, once that is stripped away the descriptions given in a prospectus may be very useful. The main motivation for the construction of the line was the belief in potential mineral traffic. The 1871 prospectus makes this clear. After observing that the line, once built, will complete 'a much required link in the Coast communication of this important system' (the NER), three major reasons for the line's construction are given. Firstly,

The district through which the line passes forms one of the richest portions of the well-known Cleveland iron field, and only awaits opening up by railway communication to equal any other part of the north-east district in mining and smelting operations. It also abounds in building and cement stone, and alum and Petroleum shale.

This was not entirely true, for the 'richest portions' of the Cleveland ironstone deposits were not in this district. There were deposits near Grinkle (which were exploited) and Kettleness (which were not), but the initial promotion of the line as above all a mineral carrying line was unfounded. The second selling point of the prospectus was far more pertinent,

As the line will complete the communication between the rich and populous iron district near Middlesbrough and the watering-places along the coast to Whitby, a considerable passenger traffic may be counted upon, which, on the opening of a projected line from Whitby to Scarborough, will be further increased.

This statement was prescient, as the line from Whitby to Scarborough was completed and opened in 1885, while the population of Middlesbrough grew dramatically, from 7,431 in 1851 to 55,934 in 1881 and 91,302 in 1901.⁹ Unfortunately this potentially vast travelling public was not fully exploited by the line until 1933, for in the first fifty years of the line's existence the northern terminus was the small town of Saltburn where the trains had to reverse. The third of the proposed line's selling points in 1871 was transportation of fish,

there are numerous fishing stations along the coast, such as Runswick Bay, Port Mulgrave, and Staithes, from which a large and highly profitable fish traffic

will pass over this line to the Midland and manufacturing districts.

On 1 February 1881 the directors of the WR&MUR sent a long and detailed prospectus (which they described as a circular) to their shareholders and, perhaps more importantly, those of the NER. Industry and, by implication and to a much lesser degree, tourism and greater rural mobility were the selling points which the directors wished to emphasise. It is useful to compare the 1881 prospectus with that of 1871. The former is more detailed but the basic benefits of the line remain: they are those of mineral transportation, with secondary emphasis given to fish traffic and tourism. It is clearly the financial benefits to be obtained from freight, and not from passengers, that concerned the directors, for they further emphasise that 'the neighbourhood abounds in ironstone of good quality, and is daily despatched in large quantities to the numerous furnaces on the Tees'. Looking at the traffic returns from 1883-9 it appears that hardly any of these hopes materialised and, in fact, it was to be the passenger market which turned out to be the most important.

Economic motives have been mentioned above, but the building of the line was not necessarily entirely due to the desire for profit. Although the periods of railway 'mania' were now in the past, the formation of new companies and the construction of new lines were still commonplace. New lines were, perhaps, *par excellence*, the visual evidence of a growing and dynamic economy. Towns which perhaps in the past had been resistant to the incursion of the railway now realised the benefits that a line could bring. The benefits of being the first industrial nation, which included expansion of international trade, the growth of the Empire, and the dominance of Britain politically in world affairs were a source of pride to the British middle class who formed the majority of investors to new railway companies. This pride was manifested locally in a desire to promote railways which might increase the wealth and status, not only of those who promoted and invested in a new railway company, but of the towns (and perhaps even villages) through which the line might shortly run. The expression of wealth and status, though an abstract concept in the sense that it cannot quantitatively be measured, is one which should not be overlooked when considering the motives for the promotion and construction of a new line, especially one which might be considered rural, even remote. Although local people invested because of the hope of profit, those profits from

operating railways were fairly low. A list of the occupations of debenture holders in the Whitby, Redcar & Middlesbrough Union Railway Company in the late 1870s shows that they were a typical cross-section of provincial life (included were those who described themselves as farmer, builder, butcher, painter, clothier, and solicitor). However, the majority described themselves as 'gentlemen'.¹⁰ Moreover, such investors were by no means entirely local and individual holdings were often quite small; average holdings in most companies were under £1500.¹¹ Bigger speculators calculated the wider economic advantages that would accrue. They perceived that spin-offs from a new line might be beneficial, for example, the railway could help exploit iron ore workings and delivery with cheaper traffic movements, as might be the case with agriculture and fish produce. This may very well explain the involvement of the Cleveland ironmaster, coal owner, and shipbuilder Charles Mark Palmer (1822-1907)¹² in the line from the beginning. He had interests in the exploited and unexploited iron ore deposits in East Cleveland, which a new line might very well serve.

Should the line have been built at all? This line must have been one of the most difficult in the entire British Isles to construct and maintain. Although short in distance it passed through very challenging terrain, the greatest problems being bridging steep ravines, which necessitated the construction of five viaducts, and the formidable cliffs between Sandsend and Kettleness, which eventually had to be tunnelled through, whose geology (Dogger sandstone) was inimical to the building of a permanent line around,

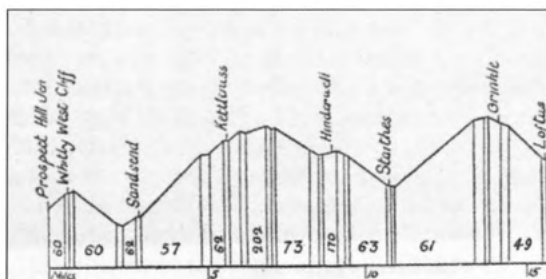


Figure 3: gradients between Whitby (Prospect Hill Junction) and Loftus



Figure 4: Staithes Viaduct (N E Stead)

rather than through, the cliff. Further inland, considerable difficulties were encountered during the construction of the tunnel between Boulby and Grinkle (the Easington tunnel).

Without any doubt at all, the decision to construct the line initially *around* the cliffs between Sandsend and Kettleness was not only a major mistake, but arguably the cause of the line's almost constant failure. For the majority of railway promoters in the 19th century wishing to construct new lines the first step was to engage an engineer to establish a possible route. It is likely that this was done for the WR&MUR by George Gordon Page, who was the engineer who submitted the cost schedule for the earliest proposed routes of the line in 1863 and 1866. The plans for the line between Sandsend and Kettleness were astonishing. The idea was to round the cliffs via a series of two viaducts and six tunnels, the former 60 and 106 yards long and the latter from 40 to 154 yards.

By 1874 the WR&MUR was in dire straits. The original contractor, John Dickson, who did not have



Figure 5: the nature of the terrain through which the line passed between Sandsend and Kettleness (J W Armstrong Trust)

a particularly impressive track record having been made bankrupt twice in the previous fifteen years, had been sacked, the work completed being of an appalling standard. In the words of the chief engineer of the NER 'It would be difficult to find anywhere a work so thoroughly scamped from end to end as this was when taken possession of by this company.' So it was the disastrous financial situation of the company and the inadequacies of the works that led them to coming to an agreement with the NER in 1875. The NER was aware of the problems surrounding the current route and thus demanded a major deviation. This deviation line had two main elements: the abandonment of the cliff-top section and the construction of an inland line. In the end the inland route was not built; instead two tunnels, one almost a mile in length, were bored through the cliffs. The line was arguably one of the costliest to build in England for its length, its final cost being £655,077.¹³ In today's money this is equivalent to approximately £30 million. Thus its cost per mile was an astonishing £40,942, or in today's (2012) money £1.8 million.

Is it then possible to demur at all from Irving's conclusion that 'the line was a financial disaster of some magnitude' and 'a more spectacular example of a loss-making branch would be hard to find'? Irving argues that this was 'because the capital cost of the line was twice that envisaged and the iron trade, for whose business it was in part promoted, was in

decline by 1883. The iron ore deposits lay untouched in their beds and traffic receipts on opening were sufficient to generate only 1% on capital employed'. There would have to be a dramatic improvement in the income if the line were to be ever considered more than a 'profitless appendage'.¹⁴ Indeed, so great was the expense of construction, and how small the income over the early years that, by the turn of the century, the line was indeed a 'spectacular failure'. Income from the line in its earliest years was very poor indeed. Once again the primary sources provide a detailed picture.¹⁵

It is not entirely clear whether or not these figures refer to the entire receipts of the line or those due to the WR&MUR after the clauses of the 1875 agreement had been implemented. However, looking at the passenger receipts for this time it is likely that the figures on the graph were for moneys due to the Whitby company.¹⁶ Even by the first summer of the line's existence it was noticeable that much of the income came from passenger (probably holiday) traffic. Given the poor returns, it is not surprising that the WR&MUR was more or less forced to sell the line to the NER in 1889 for £25,000. The former company had spent around £300,000 on the construction of the line, and thus for every £100 of initial investment the line's ordinary shareholders received under £10. Thus it is hard to disagree with Irving's analysis up to 1889, when the NER took full

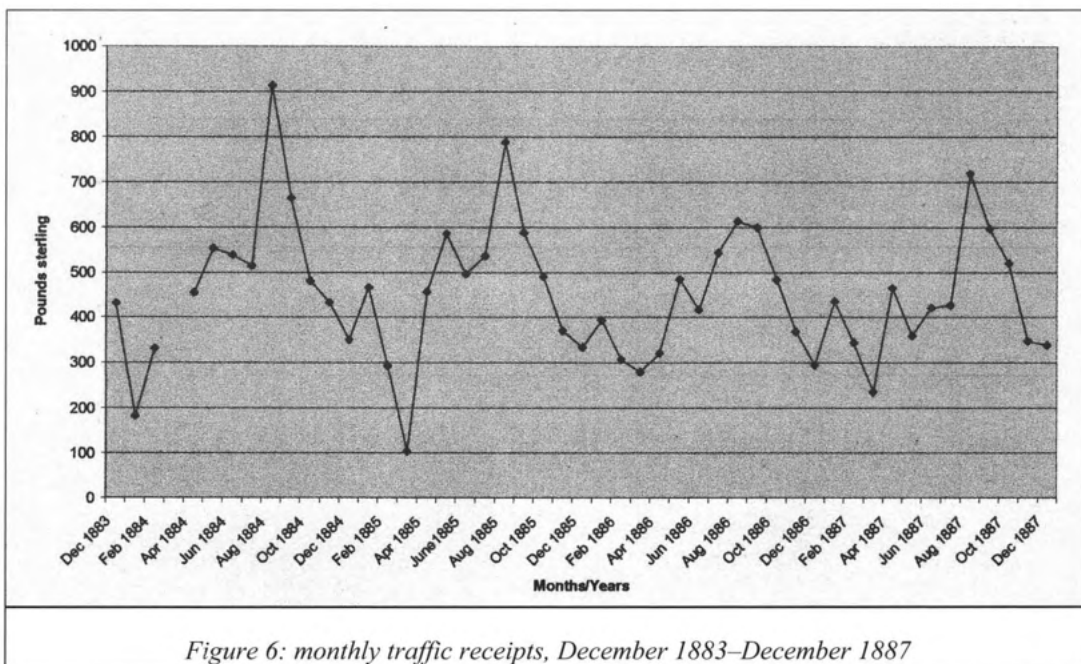


Figure 6: monthly traffic receipts, December 1883–December 1887

control of the line. Should the line have been closed as early as this? Having just opened, and having had so much spent upon it, this was impossible. The NER, whose decision it would have been, had spent over £355,000 on the line. Irving considered a further reason: 'We suggest that the view of the railways' obligations taken by late-Victorian society was of fundamental importance: it led to the provision of a wide range of services, both on and off the line ...'¹⁷ Even so, if the line was not to become an early failure then its fortunes would have to improve, and improve quickly. Remarkably, it is possible to argue that this happened, at first slowly, then at a faster pace, until by 1920 figures for income and expenditure suggest that, perhaps while not making a profit, it was at least able to cover running expenses.

The article will now briefly consider the financial history of the line. With the opening of the line between Whitby (Prospect Hill Junction) and Scarborough in 1885 it was possible to run trains from the Teesside conurbation along the coast to Scarborough, yet the NER and, after 1923, the LNER did not consider running through trains from Middlesbrough; instead passenger trains ran from Saltburn. It is not clear why this was so, but the increasing passenger traffic on the line may have persuaded the companies that any change was unnecessary. This meant that, apart from Whitby, the line passed through no towns with population of over 3000. Thus was a major opportunity missed. Timetabling for the line, initially poor, had not improved much by 1910. In that year, as may be seen, six trains in each direction passed over the line. Was

SALTBURN, WHITBY, and SCARBOROUGH.—North Eastern.																							
Week Days.																							
Miles.		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
1	Saltburn.....dep.	6 40																					
2 1/2	North Skelton.....	6 51																					
4 1/2	Brotton.....	7 5																					
8	Skillingrove.....	7 15																					
9	Loftus.....	7 15																					
10 1/2	Grinkle.....	7 43																					
13 1/2	Staithes.....[wick Bay	7 51																					
15 1/2	Hinderwell, for Runs	7 57																					
18 1/2	Kettlewell.....	8 4																					
21 1/2	Sandsend.....	8 11																					
23 1/2	Whitby (West Cliff) arr.	8 18																					
25 1/2	Whitby (Town) { arr.	8 26																					
	Sta. 712, 720 { dep.	8 10																					
27 1/2	Whitby (West Cliff) dep.	8 26																					
31 1/2	Hawsker.....	8 36																					
30 1/2	Robin Hood's Bay.....	8 45																					
32 1/2	Fyling Hall.....	8 50																					
35 1/2	Ravenscar.....	9 3																					
37 1/2	Staintondale.....	9 9																					
38 1/2	Hayburn Wyke.....	9 12																					
40 1/2	Cloughton.....	7 47 8 30																					
42 1/2	Scalby.....[717	7 52 8 55																					
45 1/2	Scarbro' 705, 715, arr.	8 59 7																					
47 1/2	Whitby (Town) { arr.	8 26																					
	Sta. 712, 720 { dep.	8 10																					
23 1/2	Whitby (West Cliff) dep.	8 22																					
21 1/2	Sandsend.....	8 29																					
20 1/2	Kettlewell.....[wick Bay	8 38																					
30 1/2	Hinderwell, for Runs	8 45																					
31 1/2	Staithes.....	8 50																					
35 1/2	Grinkle.....	9 0																					
36 1/2	Loftus.....	7 25 9 4																					
37 1/2	Skillingrove.....	7 29 9 8																					
41 1/2	Brotton 703.....	7 38 9 17																					
42 1/2	North Skelton.....	7 42 9 21																					
45 1/2	Saltburn 707.....arr.	7 54 9 34																					

Change at
Brotton.

Saturdays
only.

Except Thursdays
and Saturdays.

Thursdays and
Saturdays.

Except Thursdays
and Saturdays.

Thursdays and
Saturdays.

NOTES.
 a Change at Brotton.
 m Auto-car.
**For other
Trains**
 BETWEEN PAGE
 Saltburn & Brotton
 706 and 707
**For Local
Trains**
 BETWEEN PAGE
 Whitby (Town) and
 Whitby (West Cliff) 710

Figure 7: April 1910 timetable, Saltburn-Whitby-Scarborough and return

this service adequate? The example of Hinderwell provides an answer. Hinderwell station was a typical rural branch-line station on the coast of north-east Yorkshire. Its fortunes reflect those of the line as a whole during the period 1897-1940. In 1910 the number of passengers booking from Hinderwell station was 21,024.¹⁸ Working on the principle that the timetable was operated for 317 days in the year (that is, not Sundays), this would mean that an average of 66.7 passengers booked at Hinderwell on any given day. There were, in the April of 1910, 12 trains a day (six each way) which stopped at

But, as may be seen in the following table 1, progress was slow and by 1910, given the immense costs of construction and these limited returns, the line can only be called a failure, if not a spectacular one. Station receipts and expenses are given, but it is not clear from the statistical source whether or not the total station receipts take account of the station expenses. (It should be noted that Loftus is not included. Loftus dealt with large, but fluctuating amounts of heavy goods from nearby mines to Teesside and thus inflate and distort the figures for the line proper)

	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
A	8852	9246	9478	9540	9868	9741	10300	10188	10043	10662	10695
B	1351	1393	1417	1390	1423	1377	1336	1368	1333	1300	1363

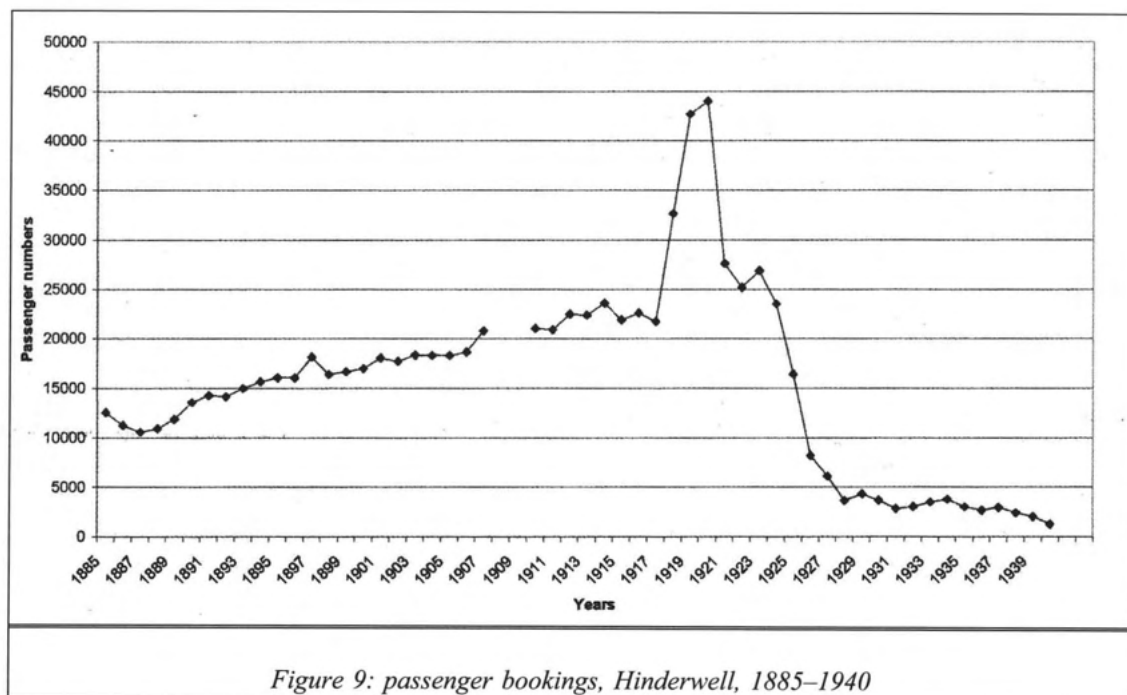
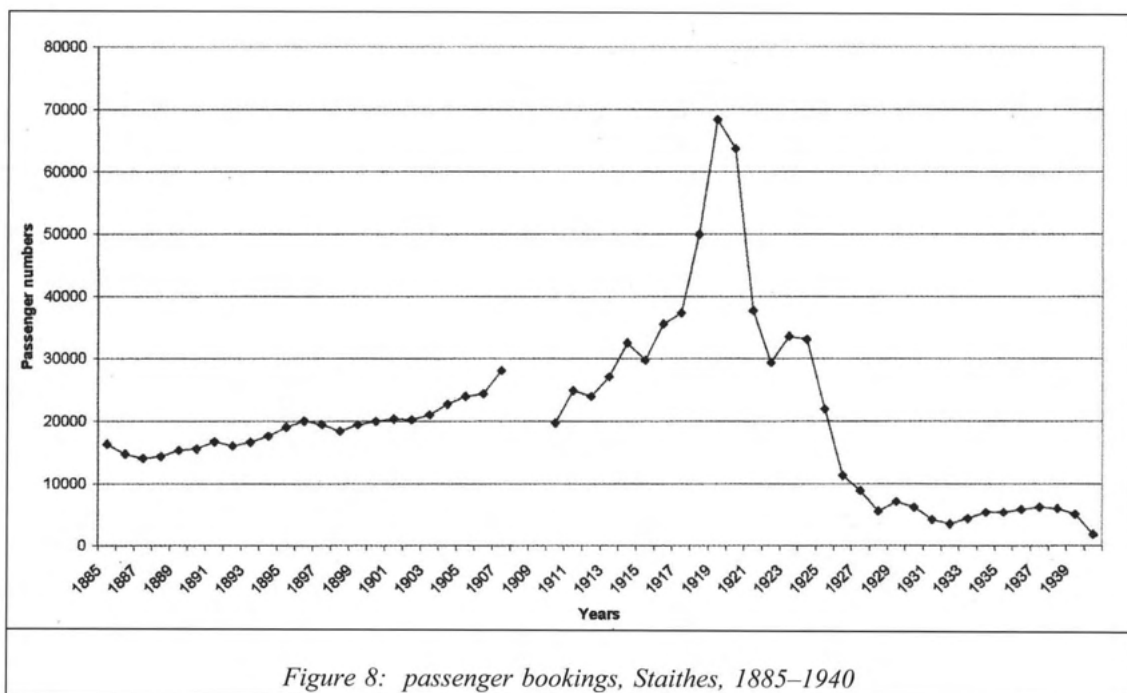
Table 1: station receipts in pounds sterling (A) and station expenses in pounds sterling (B) for 1897-1907 (excluding Loftus)

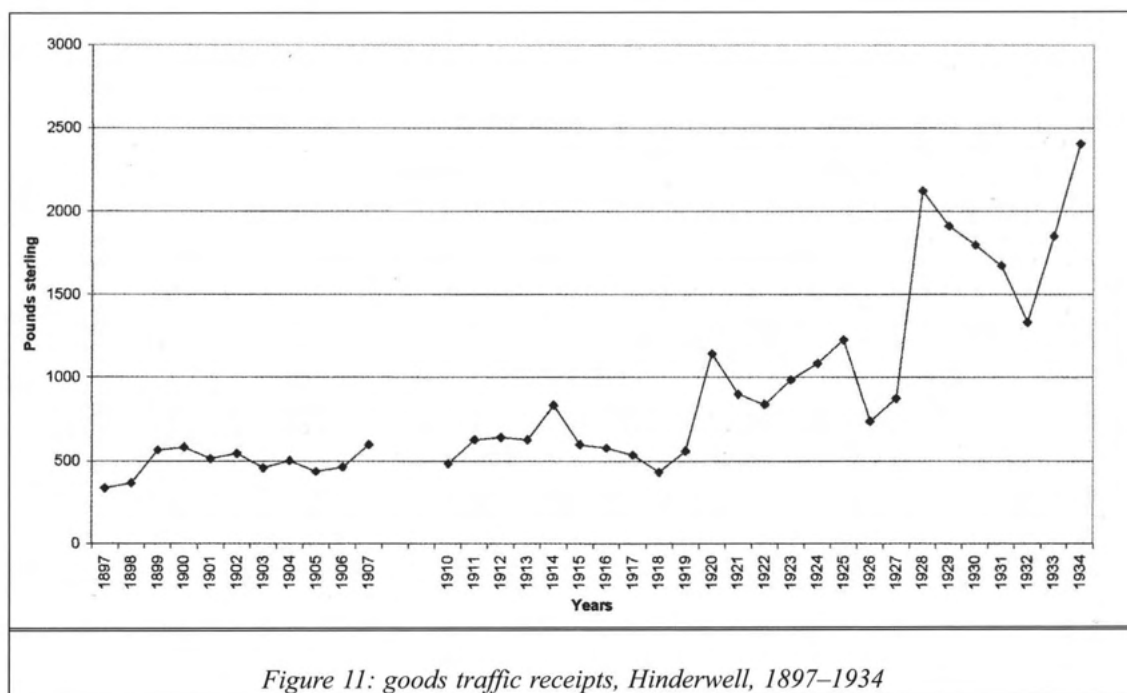
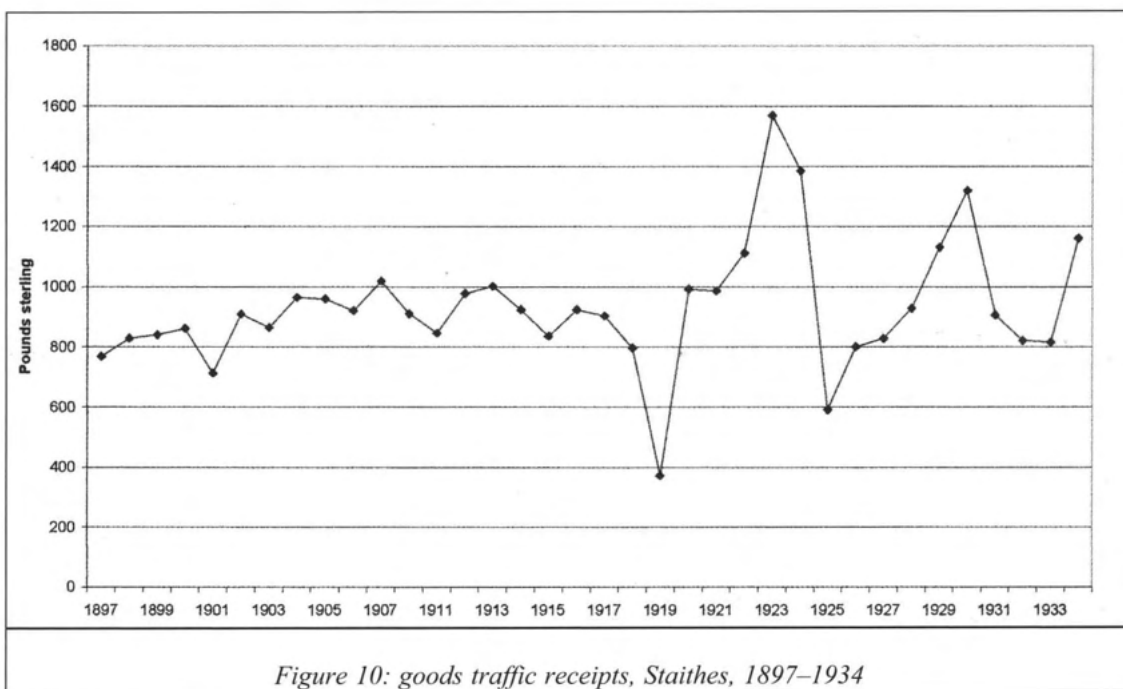
Hinderwell. Of these, four terminated at Whitby (Town), two went all the way to Scarborough while, in the other direction, all six went to Saltburn. On average, then, about six passengers would take each train from Hinderwell. The service, then, at this time, seems perfectly adequate for the wants of the people of Hinderwell. Do these figures mean the line and the station was 'marginal and unprofitable'? Clearly these passenger bookings are small and could very well be adduced to Irving's argument. Nevertheless, as will be seen the line was about to enter its (admittedly very short-lived) period of maximum profitability. However, it would be wrong to consider the passenger bookings in isolation, for these do not represent the total use made of a station. There was considerable parcel traffic: 6094 being either forwarded or received that year. The other main sources of income for the station were mineral traffic (1971 tons of coal, coke, lime, limestone, and ironstone being received) and other goods received (2126 tons). This receiving of heavy freight far exceeded its forwarding (only 312 tons). Thus Hinderwell was a busy working station whose total receipts that year came to £1548, of which the passenger receipts came to £1064, clearly the most lucrative element in the station's generated income. However, the working of a country station like Hinderwell, though, was very labour intensive. The station expenses for Hinderwell in 1905 were £197.¹⁹

However, the next fifteen years were to see a dramatic improvement in the line's fortunes, so much so that it is possible to argue that for a short time it was running at a profit. No more vivid impression of the line's fortunes over 55 years of its history is apparent than that of graphs which show the rise and fall of the numbers of passengers booking at each station on the line. For the purposes of this article two examples are used: that of Staithes and Hinderwell. These graphs (Figures 8 and 9) are central to understanding the rise and fall of the line's fortunes and go some way to answering the three questions posed at the beginning of the article. It should be noted that there are no figures available for the years 1908 and 1909.

The slow improvement in passenger numbers continued after 1907 with certain fluctuations possibly caused by war, but after 1918 numbers increased dramatically, so that by 1920 (the line's best year) it was, as will be seen shortly, not only running at a profit, but confounding the later pronouncements of Irving, Joy and others. Figures 10 and 11 also show that goods traffic, while falling briefly in the mid 1920s, by 1934 (when detailed figures end) seemed to be showing an improvement.

A comparison may therefore be made in order to consider the importance of passenger traffic compared with goods traffic. It is clear that before the mid 1920s and especially during the line's halcyon





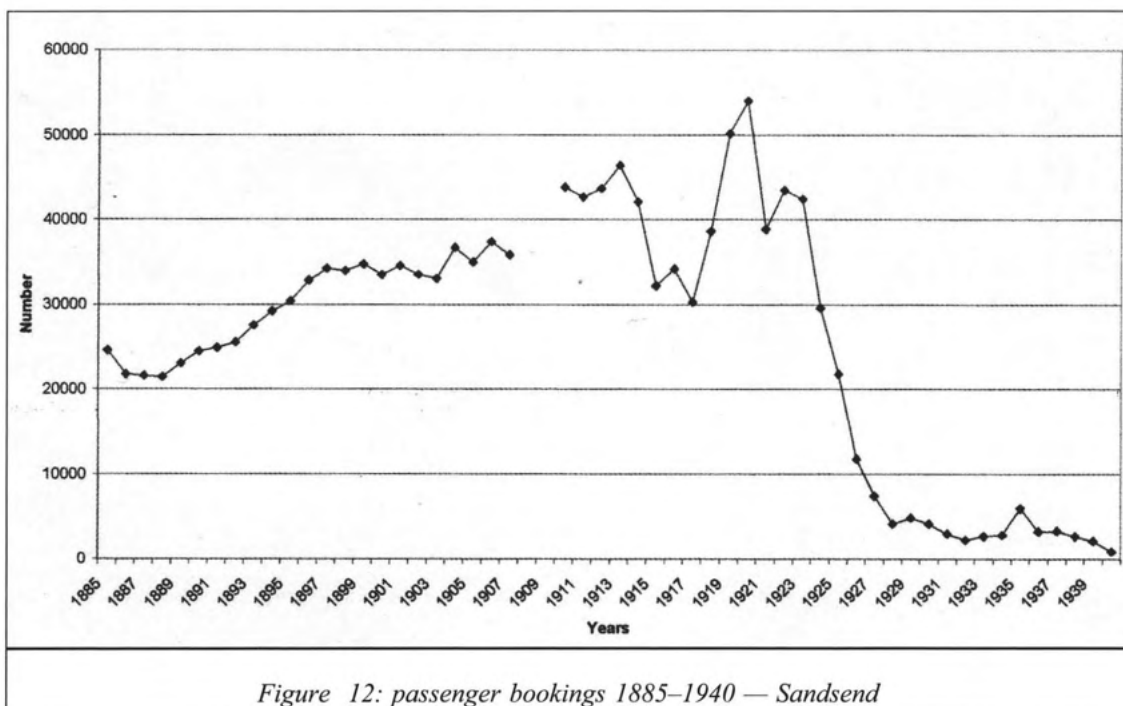
days, passenger traffic accounted for a major percentage of the line's income.

Using a number of criteria, it is possible to argue that, given a specific year, the line was at last operating successfully. Taking the year 1920, the line's best year, and bearing in mind wages, maintenance of all aspects of the line, the cost of headquarters staff, the price of coal, overall station by station income, and station by station expenses it is possible to conclude that the line (excluding Loftus) made a profit that year of £11,734.²⁰ It is not clear why there was such a surge in passenger travel on the line — and elsewhere in the country — although the ending of the war, an improving economy, rising incomes and a lack of opportunity for other types of leisure activity might very well explain this startling rise in local travel and local tourism evident in the passenger figures. Thus, in 1920 Irving's analysis of the line clearly needs modification. We can agree with his somewhat bleak view up to perhaps the turn of the century but then the steady rise in passenger (but not goods) income grows to the point where the line can no longer be called a 'spectacular failure'.

However, this relative prosperity was not to last. As the graphs showing passenger bookings and goods receipts show, there was a disastrous decline

in the line's fortunes from c.1925 onwards. This was almost entirely due to bus competition, exacerbated by the fact that the Loftus to Whitby road ran through the villages on the line (with the exception of Kettleless whose passenger bookings held up) and provided a much more convenient and frequent service. Arguably the worst station to suffer from this shift from rail to road was Sandsend. A graph (Figure 12) showing passenger bookings at Sandsend 1885-1940 vividly illustrates that station's — and the line's — decline.

Sandsend presents a spectacular, but by no means exceptional, example of the changes in passenger numbers, goods forwarded, and total annual receipts which occurred during the period immediately after the boom years of the early 1920s. There are two major factors which caused this change. Firstly, the building in 1925 of a new, straight, and fast road between the east of the village (Eastrow) and Whitby, thus eliminating the old, winding, steep, tortuous and very slow toll road which had existed beforehand, and the concomitant introduction of a regular bus service between Whitby and Sandsend, as well as the introduction of further bus services, calling at Sandsend, from Middlesbrough, Redcar, and Saltburn. The bus service to Whitby ran through the village, providing a convenience which the



railway station (placed someway up a hill above the western part of the village) could not match. Before the outbreak of the First World War, passenger bookings were consistently above 42,000 per annum. During the war years bookings fell away to a certain extent, but never fell below 30,000. Then came the two boom years: in 1919 the figure for passenger bookings at the little station was 50,172, whereas in 1920 this figure (along with all other stations on the line) reached its apogee of 54,043. After a fall to 38,883 in 1921 the figures again rise above 42,000 for the next two years before their dramatic fall, which sees an almost complete transfer of passengers from rail to road by 1934 (the low point being 1932, when only 2264 bookings were made). The numbers of passengers arriving at Sandsend fell dramatically, too, indicating that perhaps a large percentage came from Whitby and, after the opening of the new, toll-free road in 1925, preferred the convenience of the bus. Photographs showing the old road indicate that travel from Whitby to Sandsend by rail was far quicker and probably cheaper. In 1922, for example, 44,819 tickets were collected from passengers arriving at the station (compared with 43,455 booking from Sandsend). Only ten years later the comparable figures were 3504 arriving and 2264 booking.

However, the Whitby–Loftus line was not an exception, for branch lines throughout the LNER region experienced a similar (if not so spectacular) fall in income after c.1925.²¹ As such, the line is typical of unremunerative branches and, emphasising that the decline does not really reach its florid stage before c.1925, it is possible to conclude that the first of our three propositions may very well be correct after that date in that the finances of the line from this time on may very well have contributed to the growing problems of the railways which became evident in the 1950s.²² Should the line have been closed at this time (the second of our three propositions)? So dramatic was the decline, and so little-used were the trains, that it might seem that, even at this early stage, that the line could be a candidate for closure. Yet the line did not close for another 25 years. This was because of a welcome (and long-overdue) decision by the LNER to change the northern terminus from Saltburn to Middlesbrough. This immediately offered those living in the Tees conurbation (and in the summer those from the conurbations immediately to the south of the Wear) opportunities for daily, cheap, and relatively quick travel to Whitby and Scarborough without having to change. This change was spectacularly successful, especially in the

summer holidays and particularly on summer Saturdays and Sundays. A document issued by the North Eastern area of the LNER²³ began by stating that ‘the figures in respect of passengers conveyed in the summer of 1933 had exceeded all records up to that time’.²⁴ This meant that the importance of the line was increased considerably, although the huge increase in passenger traffic was not reflected on those booking at the village stations on the Whitby–Loftus line. In 1933, in the summer season between June and September 273,098 journeys were made and during the same period in 1934, 294,855 journeys were made. Of these, in 1933, 168,848 tickets were collected at intermediate stations (almost certainly the majority being at Whitby (West Cliff)), while in 1934 during the season 178,054 tickets were collected at intermediate stations (again, with Whitby (West Cliff) being the most likely destination). Total receipts from the line for these summer months were equally spectacular. Including holiday season tickets, total receipts for the June–September 1933 season were £12,112, and for the same period in 1934, £16,475.²⁵ However, the operating improvement in 1934 was at some cost. In 1933 the line had been almost overwhelmed with traffic. Many trains ran late and there was a certain amount of chaos. It was the necessity to prevent further chaos in 1934, and, in doing so, to attract more people to the line, that many improvements were authorised, at considerable expense, such as the construction of the new Platform 1a at Scarborough (a dead-end platform solely for use by Coast Line trains) which made it possible to deal with the increased service in a much more satisfactory manner than before. These improvements indicate that the LNER considered that the line was worth such heavy investment and, indeed, right up to the end in 1958 summer traffic remained heavy.

The rail timetables for the summer season of 1938 indicate how busy the line was, although it should be noted that these public timetables would not have included some relief trains. At the season’s height there were seventeen trains from Middlesbrough to Scarborough on weekdays and eleven trains on Sundays. In the opposite direction there were eighteen trains on weekdays and thirteen trains on Sundays. Leaving from Middlesbrough most trains departed between half past six and half past one, ten of which stopped at Hinderwell (a passing place) and three ran through non-stop. Returning from Scarborough, the majority of trains were in the evening, with ten trains stopping at Hinderwell

between six and eleven o'clock. In addition there were three non-stop trains.²⁶

So just when it seemed that the line was in danger these changed circumstances ensured its survival; yet for all the success line in summer, income remained limited in the winter months and the Whitby–Loftus line itself continued to decline for after 1933 its main, and arguably its only, value was to provide the means of relatively quick transportation from city to coast, thus proving its superiority in terms of speed and comfort over the bus.

It is unfortunate that there are no detailed figures for station by station income after 1940. Nevertheless the line continued to prove its worth after the end of the war but, it must be emphasised, only in the summer months. Its closure was not considered, income from holiday traffic was acceptable and, at the beginning of the 1950s, the line's future seemed secure. Yet within eight years the line had closed and all Middlesbrough–Whitby–Scarborough traffic transferred to the Esk Valley branch. Three major factors were responsible for this: the demands of the 1955 Modernisation Plan, the winter takings on the line which, always poor, had become almost non-existent and, arguably the most important, the low level of maintenance since before the war which had left the viaducts and tunnels needing (in today's money) almost a million pounds of remedial work done upon them. The beginning of the end for the line was marked by the publication of the Modernisation Plan of 1955. Increased investment and greater efficiency were to be at the cost of unremunerative services. Thus there was a growing realisation of the need to accelerate the pruning of unprofitable branch lines. Things now began to move at a faster pace. A passenger census taken on 5 October 1955 indicated that loadings were worse than those noted in a similar census taken in 1952. As in 1952, eight trains were used in the census, showing an average number of passengers per train of 10. The 1955 census provided more details, estimating movement costs at £473, while giving receipts of £47.²⁷ Coming so soon after the publication of the Modernisation Plan these were disastrous figures.



Figure 13: the last summer of the line. A Scarborough bound train passes Eastrow (Sandsend). (M Mensing)

Closure was inevitable. Despite commendable efforts by the Clerk of the Whitby Rural District Council, there was little opposition to the closing of the line and relatively few people turned out to see the last trains go by their stations, although on the final day the trains themselves were full to bursting. Yet in the last summer of the line's operation (1957) the trains had been full, and the timetable busy. In contrast the last winter timetables were sparse to say the least: see Figure 14. The last trains ran on Saturday 3 May, 1958.

The Whitby–Loftus line was never a success in financial terms. Perhaps for a few years in the early 1920s it paid its way. However, moving the northern terminus to Middlesbrough in 1933 ensured the line's survival, but only as part of a through route. The coming of the buses marked the end of any hope the line might have had of keeping its head above water. So, was Irving right? Was the line 'a spectacular failure'? Was it, in Joy's words 'a profitless appendage'? Was this a branch line which, among others, was at the root of the railways' problems in the 1950s? While the railways' problems were multifarious and deep-seated, historians do agree that the expensive and unremunerative branch lines were a major part of the problem. It would be difficult to disagree. And yet ... the line was relatively well-used for a few years just after the first world war and

Should it have been built in the first place? Even with hindsight the answer to this can only be 'yes'. In the 1870s and even into the 1880s new lines were opening fairly frequently, opening up areas of the country to new opportunities. So what is a railway for? Merely to provide profits for a company and its shareholders? Or also to provide a social service to its locality and, if it connects with a main line, the

Figure 14: winter 1957-8 timetable (last before closure), Scarborough–Whitby–Middlesbrough

country as a whole? The Whitby-Loftus line certainly failed in the former but, after the final takeover by the NER in 1889, it became part of the wider NER network and, mainly through cross-subsidisation, was able not only to survive but to grow at least until c.1925. As a project for an independent company and its shareholders, yes, it failed, but it may be suggested that it played an important — or fairly important — rôle in the history of both railway and society in the north-east of England, its existence being based more on its social function than any other element.

Should the line have been closed earlier? Probably not, for it provided a useful service to the end. It was certainly an early candidate for closure, for relatively few lines closed before the Beeching holocaust. Line closures had begun to increase since the end of the war but numbers were small: route mileage closed to passenger traffic was 343 miles in 1948-50, but by 1951-3 this had increased to 1077 miles.²⁸ Doubtless if it had lasted beyond 1958 it would have suffered the fate of the Whitby-Scarborough and Whitby-Malton lines, both of which closed in March 1965, for by then the motor car was ubiquitous and foreign holidays were beginning to become popular, freight had transferred to road, and the *raison d'être* of the line was lost.



Figure 15: last train at Kettleness, 3 May 1958
(K Hoole)

Notes and references

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15. TNA, RAIL 743/14. These figures are compiled from weekly traffic receipts. There are occasional gaps in the evidence (two weeks in January 1884; all of March 1884; one week in February 1885; three weeks in March 1885; one week in March 1887; one week in July 1887)
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18. TNA, RAIL 527/1167
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20. For a full analysis of the line's profit/loss in the years 1910, 1920 and 1933 see Williams, *Whitby-Loftus Line*, pp.109-23
21. TNA, RAIL 398/293; RAIL 398/427; RAIL 398/428; RAIL 398/429
22. See above p.34
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24. *ibid*
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Ughtred Kay-Shuttleworth and Waterways Development

Joseph Boughey

On 20 January 1938 Leslie Burgin, Minister of Transport, left Euston Station at 2 p.m., bound for Lancaster Station, where he arrived at 6.19 p.m. He then travelled by road for 20 miles, to spend the night at Barbon Manor, near Kirby Lonsdale. He talked with the elderly lord who owned Barbon Manor for three hours that evening and the following morning, before returning to Euston at 2.6 p.m. from Lancaster. He reported that his host was '93 years of age and has for some years been confined to his bed, is a very remarkable man', enjoying 'over three hours of intimate, detailed, accurate conversation.' Burgin found him to be

a gentleman of very considerable intellectual attainment, with a very striking grasp of finance — he was for five years Chairman of the Public Accounts Committee of the House of Commons — and speaks as if still on the Treasury bench. In spite of his failing health conversation with him on this subject, on which he is an acknowledged expert, is an intellectual treat and it is beyond all doubt clear that his views are valuable and instructive.

He left for Euston keen to follow up many of the points made in that meeting.¹

Why would the Minister of Transport spend so much time with an elderly ex-politician living at such a distance? His host was Lord Shuttleworth, who had chaired the Royal Commission on Canals and Inland Waterways 30 years earlier, and Burgin travelled at the behest of the Prime Minister, Neville Chamberlain, who had been one of the most fervent proponents of waterways development in the 1920s and 1930s. On 24 January Burgin wrote to Chamberlain that 'The visit was well worth while and I think it pleased the old gentleman to be sought out in this way', but there was clearly a common agenda between all three men.

This article will attempt to set the meeting with Shuttleworth in context. It is noteworthy that, if files relating to this meeting had not been kept, it is unlikely that Lord Shuttleworth would be regarded as much more than the formal Chair of the Royal Commission. The files thus provide a curious postscript to earlier events. A further witness is provided by the 1934 memoirs of another Commission member, Philip Snowden (1864-1937), in which he paid

tribute to Shuttleworth:

I have sat on many Royal Commissions, but I have never known a chairman more whole-heartedly devoted to this work than Lord Shuttleworth. Even now, though in his ninetieth year, he is still interested in the subject of our enquiry. I hear from him occasionally, and he has not yet abandoned all hope that something practical may result from his arduous labours.²

Kay-Shuttleworth and waterways development to 1912

Little in the earlier life of Ughtred Kay-Shuttleworth (1844-1939) would suggest his later enthusiasm for waterways. He was born in Lancashire and became Liberal M.P. for Hastings in 1869, until he lost this seat in 1880. From 1885 until his ennoblement in 1902, he was M.P. for Clitheroe in Lancashire, living at Gawthorpe Hall, Padiham. This constituency then included settlements along the Leeds & Liverpool Canal, including Padiham, Nelson and Colne, and was located near Blackburn and Burnley, in which he took an interest. Parliamentary records do not suggest any particular interest in waterways, or indeed any major involvement, after his first speech in 1870. Issues in his election address of October 1885 did not include waterways, and he was said in 1886 to have written about chemistry and water supply to working-class dwellings, but not on transport. When Parliamentary questions were asked on 6 May 1886 about the railway ownership of canals, Kay-Shuttleworth answered these as Chancellor to the Duchy of Lancaster, a position that he held briefly. In 1890 he was part of a deputation seeking the rating of canals on the same basis as railways. However, his longest governmental position was as Financial Secretary to the Admiralty, from 1892.³

He seems to have had little direct involvement with waterways, although he later suggested that the Leeds & Liverpool Canal Company was somewhat subservient to the Lancashire & Yorkshire Railway and its successors. As the railway company had leased the canal between 1850 and 1874, this had some validity, but subsequently the canal competed successfully.⁴ He will also have been aware, during his time in the Commons, of the development of the

Manchester Ship Canal. Waterways do not seem to have been mentioned in speeches that he made on domestic policies, as with that at Nelson in 1897.⁵ Although he would later espouse public ownership of most inland waterways, in 1892 he had expressed opposition to the idea of nationalisation, including the railways, mines or even mining royalties.⁶

Having become ill during his last term as M.P., he was given a Coronation peerage in 1902, as Lord Shuttleworth; by this time he was living in Barbon Manor. At the time, he expressed 'the hope that I may still be able to do some public service in the less trying atmosphere of the other House'.⁷ Presumably, his Commons experience, and his continuing commitment to the Liberal Party, secured his appointment to chair the Royal Commission on Canals and Waterways early in 1906. The minutes of evidence provide little about his personal views, his role being to lead witnesses to give their evidence.

The first sitting of the Royal Commission, formally appointed on 5 March 1906, was on 21 March, and by 31 July 1906 22 meetings had been held, with 54 witnesses examined. By the time of the last meeting, on 28 April 1909, a total of 266 witnesses had been examined. Commissioners did visit waterways; that to the Aire & Calder Navigation on 11 June provided the best example of the proposed size of improved waterways.

An inquiry into Continental waterways was formally ordered by the Royal Commission on 31 July 1906, and William Heerlein Lindley (1853-1917) was appointed to undertake it; he had experience in engineering on the Continent, notably in Poland, but not in inland waterways. Lindley's formal report was submitted on 8 December 1908. Members of the Royal Commission, including Shuttleworth, visited French, Belgian and German waterways in 1907 (between 11 May and 4 June) and waterways in Holland from 30 May to 6 June 1908.

The Commission produced its final report in 1911, but there were dissenting voices. Out of 19 members, three members declined to sign at all, and five more signed subject to notes of dissent. Shuttleworth's later comment was revealing — he blamed Lloyd George, who had been President of the Board of Trade in 1906, for appointing 'a few persons who were steeped in prejudices against any form of transport other than railways.' This almost certainly referred to James C Inglis (1851-1911), who chaired the Great Western Railway Company, the London engineer Robert C H Davison, and the Conservative M.P. James Remnant (1862-1933). Shuttleworth's later

involvement seems to have been very limited. After the formation of the Waterways Association, which aimed to foster the implementation of the Royal Commission, Neville Chamberlain visited Shuttleworth in February 1912 to seek assistance, but found that 'he proved to be well-meaning but utterly incapable of making any suggestion'.⁸ Shuttleworth's paper to a British Association meeting in Birmingham in 1913, was read out by Chamberlain, but while papers at the same meeting were produced by Sir John Griffith, R B Dunwoody and Frank Durham of the Royal Commission, they seem to have played no further part.⁹ It is clear that Shuttleworth became ill and suffered personal tragedies — both his sons died in the 1914 war, and his wife in 1924. He formally retired from public life in 1928, and by 1937 he had been bed-ridden for three years.¹⁰

Shuttleworth's later concerns

Shuttleworth's precise motives for his continued interest in waterways development are unclear; he had been receiving press cuttings about Continental waterways since 1909. Burgin asserted that for him, canals had 'become so familiar that is almost the sole topic of conversation and risks, therefore, becoming an obsession'. One public intervention can be traced, in a letter to *The Times* on 24 October 1927, responding to complaints about the slow average speed of railways. Shuttleworth stressed the work of the Royal Commission, commended the enlargement of the Trent, recently completed, and suggested that traders should visit waterways in northern France and southern Belgium, where similar terrain to that in England had been served by improved waterways. He asserted that 'the canal-barge tortoise can compete successfully with the rail-truck hare...owing to delays in stations and in sidings'. This was attacked by the geographer L W Lyde, who argued that English midland geography was very different from Continental Europe and water supplies scarce. It was R B Dunwoody, who had been secretary and engineer to the Commission, who subsequently defended Shuttleworth.¹¹

It may have been that the elevation of Neville Chamberlain to Prime Minister in May 1937 spurred Shuttleworth to one final attempt, and the sequences of writings in the Ministry file suggests that his first letter, on 11 September 1937, may have provided reminders to Chamberlain. That first letter does not seem to have survived, but on 21 September Burgin received a note stating that 'The Prime Minister confesses as a Local Government representative and

former Lord Mayor of Birmingham to having a very strong love for internal waterways'. Oddly, this omitted Chamberlain's keen Parliamentary involvement with waterways development in the 1920s. Chamberlain drew Burgin's attention to the Royal Commission and later developments, and asked him to familiarise himself with waterways.

In his fourth letter to Chamberlain, Shuttleworth suggested the need for more information about waterways development in the north of France since 1907. He quoted the *Yorkshire Post* of 9 September 1937, indicating that schemes of electrification were being considered there, and suggested that this could be considered in Britain. In 1907, he had viewed electrification in Douai both for traction and lock operation. He suggested that a group should investigate the subsequent fate of this and other improvements, and the neighbourhood of Mons in Belgium.

His second suggestion was for the transfer of important railway-owned canals to waterways interests. This had been recommended by the 1930 Royal Commission on Transport, and Shuttleworth advocated a statutory authority to acquire such waterways. He asserted that 'It is really quite absurd that our roads should be worn out at great cost in rates and taxes by heavy traffic which could be much better and more cheaply carried on inland waterways'. He felt that the compensation involved would be minimal, given their limited value; to his knowledge, only the (railway-dominated) Birmingham Canal Navigation had been profitable, and others were a financial burden.

Before the visit, Burgin's civil service advisers had ascertained that while much of what Shuttleworth had seen had been destroyed in wartime, it had been rebuilt between 1919 and 1925. Between 1932 and 1935 electric traction had been developed further, so that 680 miles of canal now featured electrified traction, with many lock operations electrified.

Chamberlain suggested that Burgin should make direct contact with Shuttleworth, and so he wrote on 6 December 1937. Shuttleworth's reply, two days later, stressed his view that waterways in northern France and southern Belgium should be examined prior to any improvements to waterways and boats in Britain. He suggested that a 'body of competent people' should be sent to visit the Continent, and that this should be led by Colonel Durham, who had visited with the Royal Commission.

Two days before the meeting with Shuttleworth, Burgin met representatives of the Grand Union Canal

company, Trent Navigation, Lee Conservancy Board and the Sharpness New Docks company. While E J Woolley from the Grand Union stated that traffic increases were being held back by shortages of skilled crews, with 160 men needed to crew idle boats, others suggested that this was only a problem on narrow boats. All favoured improvements but insisted that these could not be financed without government assistance.

At Barbon Manor, Shuttleworth reiterated the need for a foreign visit, and for the acquisition of railway properties; against the latter, Burgin had been briefed to point out that the lines from Birmingham to London and the Bristol Channel were free of railway control. He gained the strong impression that Shuttleworth was more knowledgeable about the 1906-9 era than later developments.

Shuttleworth had also made suggestions, drawing on his Admiralty experience, about the design of future barges, and the need for further research. He suggested that propellers caused so much damage to the channel and banks that, although it was slower and expensive, electric traction had been introduced on Continental waterways. He was suspicious of the bank protection works carried out on the Grand Union Canal enlargement, and felt that money had been wasted. There remained much potential for heavy traffic for which low speed was not a problem. He also suggested that waterways were less vulnerable to aerial bombing 'except with an occasional direct hit on a lock'. Although there were analogies with the modernisation of railways, for which the ultimate goal was seen as electrification, this did not prove true for waterways. The widespread system of electric traction on the Freycinet standard canals in France lasted only until the end of 1968.¹²

By now Lord Southborough and Sir John P Griffith of Dublin were the only survivors from the Royal Commission itself. Shuttleworth persisted in recommending Colonel Durham, in his letter of 21 March. 'It is very remarkable how our insular self-sufficiency often keeps England unaware of developments on the Continent...', he remarked. The chairman of any committee must have a good command of French, and Durham could speak both this and German. In a short postscript, Shuttleworth suggested that Colonel Durham would need some sort of payment, and 'he will probably deserve a knighthood!'. He suggested that Sir John P Griffith of Dublin could also be helpful, as he was very knowledgeable, 'but I rather fear that his advancing years may prevent this.'

These suggestions may now be seen as unrealistic in the circumstances. Sir John Purser Griffith (1848-1938) was 89 when Shuttleworth made his suggestion. He had been mainly involved in the Port of Dublin until retirement in 1913, when his paper at the British Association meeting had advocated the state improvement of waterways. Griffith would be President of the Institution of Civil Engineers in 1919-20, when he would suggest for Ireland that

It is not economy to allow our waterways to become obsolete and derelict, when, if unified, controlled, improved, and standardised, they could advantageously supplement our railways in the transport of certain classes of traffic.¹³

He would also become involved in draining the bog at Turraun, from which peat was transported to Dublin along the Grand Canal. However, the case for waterways development in Ireland was weaker than that in England and Wales.¹⁴

Others cited by Shuttleworth could not have helped. Southborough (1860-1947) told Burgin in March 1938 that he had had little interest in waterways for 30 years. Not long after his Royal Commission work, Colonel Frank Rogers Durham (1872-1947), had been forced to retire through ill-health, and he had then taken up gardening. He was Secretary of the Royal Horticultural Society for 20 years from 1926. While he had worked for the practice of W H Lindley in continental Europe, this was mostly on water supply and sewerage schemes rather than waterways transport.¹⁵

Burgin was partly bound by the somewhat restrictive views of Chamberlain, with whom he met on 27 January 1938. Chamberlain had opposed the sending of experts to the Continent, preferring to rely on information from transport ministers sought through embassies. He now opposed the compulsory acquisition of railway-owned canals, but thought that powers for canal companies to acquire adjacent routes could be considered. Development was favoured on the basis of government guarantee of loans. Chamberlain thought that the ability to develop traffic over through routes was essential. The Grand Union had succeeded with this, but the Trent less so, as railway obstruction, including the ownership of feeder waterways, may have inhibited development. While Chamberlain indicated that he would favour Treasury support for some improvements, his approach seemed cautious. It may have been influenced by his reported distaste for almost all colleagues in the National government, or perhaps for Burgin himself.¹⁶

Studies of successive Ministers of Transport, after this Ministry was formed in 1919, would be instructive, although this must await later work. Leslie Burgin (1887-1945), from a legal background, had been elected as a Liberal M.P. in 1929 (after, previously, opposing his successor Euan Wallace at Hornsey), but became a Liberal National in 1931.¹⁷ He was one of only two new appointments by Chamberlain when he assumed office in 1937. Much of Burgin's work as Minister was related to trunk roads and the regulation of road transport; he viewed the route of the Great North Road from an aeroplane in 1937.¹⁸ In January 1938, just before visiting Shuttleworth, he had visited Germany, and inspected the Reich's autobahnen, driving at 85 m.p.h. on one of these in icy conditions. He commented that such special roads could not be built in the more densely populated areas of Britain like Lancashire, but could be built in Scotland; there was pressure in both regions at the time.¹⁹ However, he did not report any inspections or views of German waterways.

Pressed in February 1939 by Alan Herbert M.P. to consider the Royal Commission recommendations and to state waterways policy, Burgin replied that 'I will gladly examine any proposals put before me which would encourage the profitable use of the canals but, as at present advised, am not disposed to introduce legislation'.²⁰ Earlier, other Parliamentary questions had been parried off, including an extraordinary suggestion by the Stoke M.P. Ellis Smith that the government should investigate 'the desirability of deepening, widening, and extending the Manchester Ship Canal to meet the River Humber'. Burgin responded that this would involve a ship canal through the Pennines, whereas 'Manchester is connected with the Humber by canals and barges.'. Smith nevertheless urged study of other countries' achievements.²¹

Subsequent events may be rapidly summarised. A final letter from Shuttleworth, on 26 April 1938, urged action on the Bristol Channel-Birmingham route, with unification of ownership and studies of electric traction. Nothing more was heard from him, and he died in December 1939. However, enquiries were raised with the Canal Association, and reports were received about Continental waterways in October 1938. By July 1939 it was clear that circumstances had changed, and the prospect of canal improvement was deferred until later in the war.

Burgin ceased to be Minister of Transport in April 1939, and he was succeeded by Euan Wallace. It seems that Shuttleworth's queries brought forward

the question of Continental waterway development, and approaches to the Canal Association over possible improvement schemes.

Some conclusions

By itself, the account of Lord Shuttleworth is a curiosity; people who chair Commissions do not always follow their subject further. This file presents the main evidence of Shuttleworth's continuing interest in waterways development. It also supplies evidence of Neville Chamberlain's views of waterways development, on which his private papers seem to be silent after the 1920s.

What is surprising is that the United Kingdom government, and indeed waterways interests, were so insular from 1909 into the 1930s. As Burgin put it

It seems to be the literal fact that, since 1909, when the result of that foreign enquiry was published, little contact has been had by English interests with Continental canal managers.

It would be interesting to determine how far this was true, and perhaps what opportunities were lost thereby. In order to advise Burgin, his civil servants had to rely on enquiries from embassies, and clearly there was little knowledge within a Ministry that had been in existence for nearly 20 years. There was some knowledge of Continental waterways: the Permanent International Association of Navigation Congresses had been formed in 1885, whilst articles had appeared in journals like *The Engineer* and *Modern Transport*, alongside books on transport. It seems that none of this was absorbed into the work of the Ministry. It is instructive that Burgin wrote to Southborough on 26 January 1938 that the main problem was 'the real advice to tender to the Treasury as to the advisability or otherwise of any canal development'. The Grand Union was seen as a limited example of development. Over fifty years later, the South Yorkshire navigation enlargement, which had been carried out too late and to inadequate dimensions, would be cited in similar manner. What might have been achieved, if the Ministry had been better-informed, can only be the subject of speculation.

Notes and references

1. Much material in this article has been drawn from a Ministry of Transport file in the National Archives, MT52/42; unattributed quotations come from letters and notes in this file. I am grateful to Peter Cleasby's disinterment of this file for his article about the Canal Association
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3. *The Standard*, 7 October 1885; *The Times*, 24 July 1886, 7 May 1886, 14 Feb.1890, 18 August 1892
4. Mike Clarke, *The Leeds & Liverpool Canal*, Carnegie Press, Preston, 1990
5. *Manchester Guardian*, 14 December 1897
6. *Manchester Guardian*, 2 May 1892
7. *Manchester Guardian*, 13 February 1901; 28 June 1902
8. Chamberlain Papers, Letter, 18 February 1913
9. *The Economic Journal*, Vol. 23, No. 92 (Dec., 1913), pp.639-640
10. *Manchester Guardian*, 22 December 1939; *The Economic Journal*, Vol. 23, No. 90 (Jun., 1913), p.316 for the September 1913 meeting
11. *The Times*, 24 October 1927, 25 October 1927, 26 October 1927, 2 November 1927. L W Lyde (1863-1947) had been Professor of Economic Geography since 1903, although transport was not his specialism. *The Times*, 30 January 1947
12. Charles Hadfield, *World Canals*, David & Charles, Newton Abbot, 1986, p.200
13. Presidential Address of 4 November 1919, reported in *The Engineer*, 7 November 1919, p.459
14. <http://www.loughbooraparklands.com/parklands/turraun/32-turraun>, accessed 1 December 2012
15. For basic biographical information about Durham, see <http://plants.jstor.org/person/bm000043899>, accessed 1 December 2012
16. According to Robert Self, Burgin's elevation to Minister of Supply reflected solely Chamberlain's desire to have 'yes-men' in his Cabinet. Self described Burgin as 'a complete non-entity' whose appointment caused 'real dismay'. Robert Self, *Neville Chamberlain: a biography*, Ashgate Publishing, Aldershot, 2006, p.363
17. *Manchester Guardian*, 17 August 1945
18. *ibid.*
19. *Manchester Guardian*, 15 January 1938
20. *Hansard*, 15 February 1939
21. *Hansard*, 23 February 1938. The most direct route to the Humber, the Rochdale Canal, had been recommended for development by the Commission, but by 1938 this was disused as a through route, something about which Burgin seems not to have been informed. Ellis Smith (1896-1969) had a special interest in the Manchester Ship Canal, continuing to advocate its development in the 1940s

Eric Sutherland Lomax (member no. 120)

The remarkable story of Eric's life has been well told in the substantial obituaries contained in several national broadsheet newspapers on 10 October 2012, just two days after his death in his home town of Berwick-upon-Tweed. He was 93 years of age and had been a member of the Society since 1956.

Eric was brought up outside Edinburgh, where he witnessed the operations of the LNER and LMS and the industrial systems of Scotland and further afield as opportunity allowed. He joined the Royal Corps of Signals and in 1939 was deployed to India and Singapore as the signals officer attached to a unit of the Royal Artillery. His capture when Singapore fell to the Japanese in 1942 led to dreadful experiences, particularly during the time spent on the infamous 'Burma Railway'.

Eric kept himself mentally alert by remembering as much as he could about the details of the railway, including the numbers of each locomotive he saw. This mental strength remained with him throughout the remainder of his life, his remarkable recall of railway facts never failed to amaze all those who knew him. The very moving story of his wartime experiences, and the remarkable reconciliation with his one-time Japanese torturer, was told in his book *The Railway Man*, first published in 1995, and since re-printed several times.

Eric's interests included a passion for collecting railway books, maps and memorabilia. I met him nearly forty years ago and first visited him at his home in the 'New Town' of Edinburgh. After a pleasant lunch he invited me to see his collection in his 'other' house in the next road where everything was stored. This was an Aladdin's cave bursting with railwayana as well as books, and included his '3-ton room' full to bursting with the contents of the former Caledonian Railway headquarters building in Glasgow which had a 'turn-out' after nationalisation back in 1948. He saved from the disposal bin not only books, but historic plans and maps, and a wealth of memorabilia.

Eric later concentrated on acquiring antiquarian railway books at auction, and was a frequent bidder for railway lots. In particular he built up a major collection of maps, timetables and other publications from the Bradshaw publishing house, including a number that were extremely rare. He thus became well-known in the book-trade, although some dealers found him difficult to deal with. His horrific war-time experiences had left him with a stubborn resistance to authority or over-forceful correspondence.

With the passing of the years, he felt obliged to sell the bulk of his collection at a major auction held at Hendon Museum a decade or so ago. Even so, he continued to track down rare Bradshaws, but his ambition to write a comprehensive history of the publisher was never fulfilled.

His remarkable story told in 'The Railway Man' touched the emotions of countless readers. The book has now been adapted as a major feature film due to be released in 2013. Eric as a young man is played by Jeremy Irvine, and as an older man by Colin Firth. Eric's wife, Patti, who played such a crucial role in Eric's rehabilitation and reconciliation, is played by Nicole Kidman.

In spite of all he had been through, I have such happy memories of a man with a wonderful sense of humour. Many are the days we spent swapping railway anecdotes and concluding in fits of laughter. Although his health prevented him from participating in RCHS affairs for several years, he maintained his interest in the Society and enjoyed reading the *Journal*. While, understandably, the world will largely recall his extraordinary war story and the reconciliation, we have lost in addition a close colleague. I was privileged to give one of the eulogies at his memorial service on 15 October at Berwick Parish Church, during which I was able to pass on the condolences of the Society and its members to Patti, his daughter Charmaine, and to his step-sons and step-daughter and their families. Eric will for ever be 'The Railway Man'.
MRB

Correspondence

Early locomotives on American banknotes

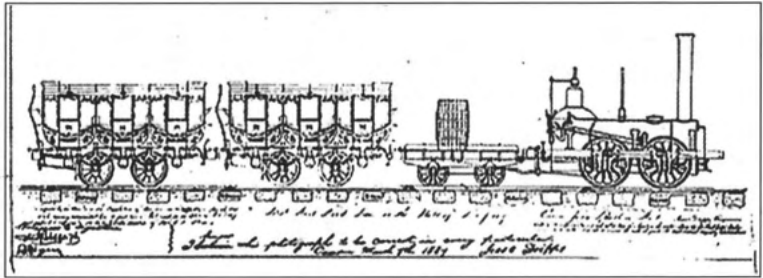
(*RCHS Journal*, November 2012, 31-42)

I greatly enjoyed Alan Levitt's description of his interesting and attractive banknotes. I would, however, question his identification of the locomotives shown on some of the notes (figs. 2-5) with Brunton's 'Mechanical Traveller'.

There are indeed some similarities between the 'Mechanical Traveller' and these locomotives but equally there are clear dissimilarities. Brunton's feet have been replaced with wheels; the chimney has been placed on top of a smokebox and not extending from the front of the boiler; the mechanism that controls the legs has been greatly simplified and its relation to the boiler and the frame of the locomotive completely altered. On Brunton's engine they are completely unconnected to the frame whereas on the banknote they are clearly attached to it. If the artist whose work was the source for the engravings had simply copied an illustration of the 'Mechanical Traveller' one would have expected him to have made a closer copy without introducing these extensive modifications.

I would suggest, therefore, that the model for these locomotives was not the 'Mechanical Traveller' of 1813 but rather locomotives that the artist had actually seen on the Camden & Amboy Railroad which provided the first railway connection between Philadelphia and New York. Camden is on the east bank of the Delaware river opposite Philadelphia and Amboy is on the north coast of New Jersey opposite Staten Island. The journey was completed by steam boat across the bay from South Amboy to New York city.

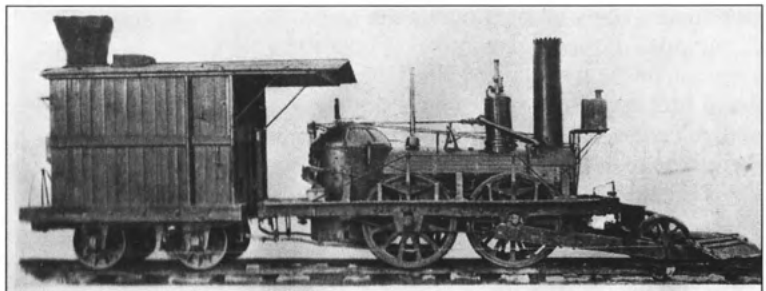
The first locomotive on the C&ARR, the *John Bull*, was built by Robert Stephenson & Co. in 1831. It was based on the Liverpool & Manchester Railway's *Samson*; in other



words it was a four-coupled version of the *Planet* type. It was delivered in kit form in September 1831. After it had been re-assembled and tested it was put into store for eighteen months pending the completion of the railway. Its original appearance is shown in a drawing made in 1887 by Isaac Dripps who, as a young man, was the mechanic who had been responsible for its re-assembly.

The railway was completed in part in 1833 and *John Bull* was taken out of storage and put to work but it was subject to frequent derailments owing to the sharp curves of the line. To remedy this the company's engineer, Robert Stevens, designed a leading two-wheeled truck which was attached to the front of the engine. It was intended not so much as a cow-catcher to clear obstructions off the line but rather as a guidance system to steer the locomotive through the curves. The modification was carried out in 1833 and Stevens reported it in the company's annual report for that year. Between 1833 and 1837 a further fifteen further locomotives were built locally. All were fitted with a leading truck similar to that fitted to *John Bull*.

The illustration of *John Bull* below is taken from J G H Warren, *A Century of Locomotive Building* by Robert Stephenson & Co (Newcastle, 1923),



p 303. It clearly shows Stevens' leading truck in the same position as the 'legs' that appear on locomotives shown on the banknotes. The truck incorporates a cowcatcher which is not present on the banknotes but this can easily be explained. The photograph was taken at the end of *John Bull*'s active life; the banknote illustration shows it as it was many years earlier. Stevens and Dripps continued to make many further modifications to the locomotive and it can reasonably be supposed that the cowcatcher was among these.

Stevens also equipped *John Bull* and his other locomotives with a highly distinctive tender of his own design which was intended to carry a large upright water tank. He fitted it to all Camden & Amboy locomotives and the design continued in use until the 1860s. It incorporated a backward-facing superstructure which is shown in fig. 5 as the 'strange fitting atop the tender'. This in fact was a shelter to protect a brakeman who perched on top of the tender and operated its brakes as required: the locomotive itself was completely without brakes. The fact that this type of tender is shown on the banknotes lends strong support to the suggestion that the artist drew from life. Illustrations of the 'Mechanical Traveller' never show it with a tender and even assuming that the artist knew that a locomotive should have a tender, the type of tender he would have found in the printed sources would have been a flat truck with a barrel on it.

The locomotives on the Rawdon, Wright & Hatch notes (figs 3-4) are quite different from that in fig. 5 which was produced in Philadelphia. The locomotive shown on the Philadelphia note must be the original *John Bull* as is indicated by the high domed firebox which the artist has attempted to reproduce. I would suggest that the RW&H notes illustrate the locomotives which were built locally between 1833 and 1837. Because Stevens had come to believe that *John Bull* was too heavy for the track they were of a lighter construction and this is clearly brought out on the notes. No illustrations of these locomotives appear to be known apart from a very simplified drawing from a much later date. But apart from the sloping firebox and, of course, the pilot wheel (as it is described) there is no real similarity to the locomotives on the RW&H banknotes.

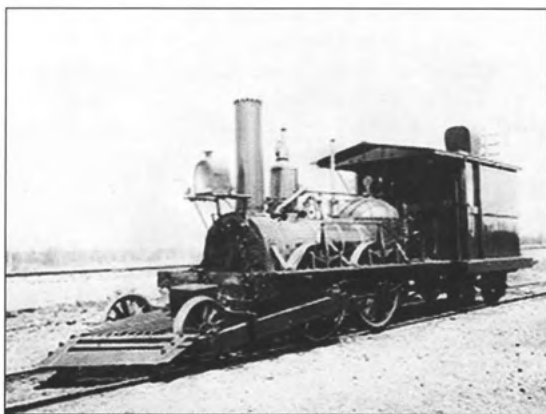
It would seem that the artists on whose work these banknotes were based did not take their locomotives from a half understood drawing of an obsolete design which they happened to have stumbled across. Rather they worked from life and depicted locomotives that were currently operating on a railway from Philadelphia (the home of Draper, Toppan, Longacre & Co. who produced the note shown in fig. 5) to a point just across the bay from New York where Rawdon, Wright & Hatch (figs 3-4) were based. The steamship and the ferry in the background (fig. 4) may even represent the scene at South Amboy where passengers changed from the railway to a steam ferry for the final stage to New York city.

Allowing for the small scale of the vignette, there is every reason to believe that the depiction of the locomotives is accurate. I could even go further and say that they serve as evidence for the development of locomotive design on the Camden & Amboy RR in its earliest years. They show the original state of Stevens' leading truck before the addition of a cowcatcher and the evolution of his tender. They also give some indication of the design of the locally built locomotives that immediately followed *John Bull*.

In this case the engravers did get it right.

John Bull remained in active service until 1866. It was acquired by the Smithsonian Institution in 1884 and refurbished, as shown in the photograph below which dates from c.1893. It was moved to its current home, the National Museum of American History, in Washington in 1964. A full account of its history is given by John H White, *The John Bull: 150 years a locomotive* (Smithsonian Institution Press, 1981).

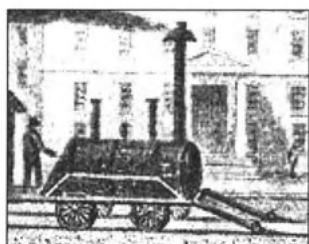
Paul Reynolds



Alan Levitt replies:

I welcome and appreciate Paul Reynolds' observations and comments on my article, 'Early Locomotives on American Banknotes'.

In the course of my research into printers' trains, I came upon the Rawdon, Wright & Hatch's 1837 engravings for the Champlain & St. Lawrence Rail Road currency. I was quite surprised by the three different vignettes in which the locomotive was characterised by two separate 'legs', each ostensibly riding on a rail. Although clearly discernable when viewing the engravings themselves, this, unfortunately, is not overly apparent in the reproductions in the *Journal*. That the 'legs' are separate and not connected to each other is unquestionably evident on the 1 ecu/3 francs/2 shillings 6 pence/half a dollar note shown in Fig. 3, and an enlargement of it:



Also discernable are the 'feet'.

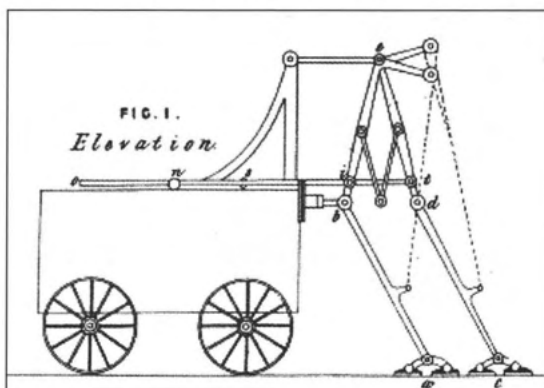
The 'legs' configuration is apparently unique to Brunton's 'Mechanical Traveller'; the literature has yet failed to reveal any other locomotive with such construction. Thus, my conclusion that the 'Mechanical Traveller' is pictured.

Whether Brunton's 'Mechanical Traveller' was actually the 'sitter' for Rawdon, Wright & Hatch's 1837 engravings is unknown, and is likely to remain so unless some startling not-previously-known reliable bit of contemporary information surfaces. It is also possible — but not too likely — that the locomotive pictured was an 'invention' of the RW&H artist or engraver.

It was most improbable that it was *not* the unknown engraver who conceived of the image,

but rather an anonymous artist. Here, there are 'opportunities' for error: the artist may not have correctly recorded what he saw, which in and of itself may not have been a proper representation. Then too, the engraver may have added his own 'touches' to the artwork.

Brunton's patent drawing was available in New York. It seems to imply that the locomotive is travelling from left to right, with the 'legs' at the front. Although there is no chimney shown in the



drawing, the artist or engraver may have seen other locomotive drawings with the chimney at the leading end, so-placed one on the 'Mechanical Traveller'.

Had the RW&H artist or engraver chosen an image of *John Bull* as the 'sitter' why was not the 'Mechanical Traveller's' 'front extension' shown as supported by a truck, and rendered extending from rail to rail (and then some)? That the RW&H engraving shows the 'legs' attached to the frame might be dismissed as 'artistic license'.

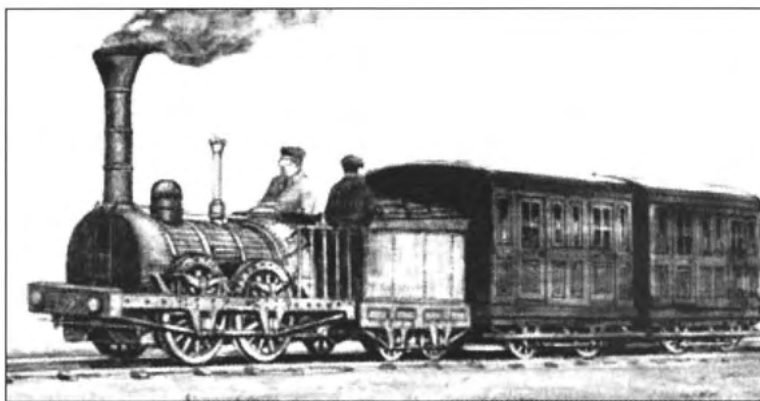
The 'shed-like' tender, as pictured on the C&StL notes, lacks the protective footplate covering fitted to *John Bull*. The structure on the rear of *John Bull's* tender appears only in one C&StL vignette.

The C&StL's first locomotive — *Dorchester* — appears in three contemporary drawings. Details in each vary quite widely, but none show the characteristics of *John Bull*. Clear, too, is the fact that a 'Mechanical Traveller' did not run on the C&StL!

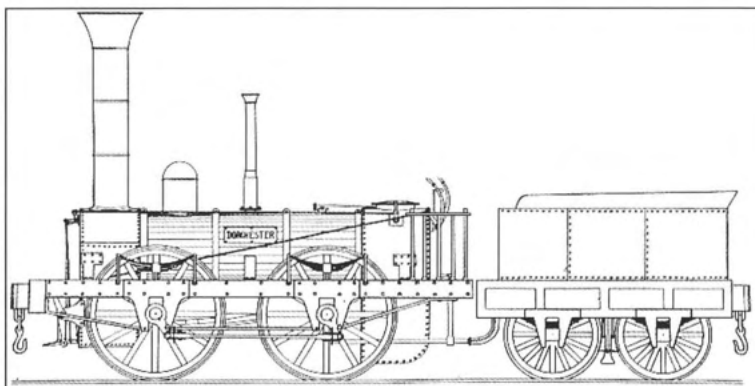
There are examples of amazingly accurate representations of railways in early engravings: Pendleton's 1826 images of the Quincy Granite Rail-Way, most likely engraved by David Claypool Johnston (before the Rail-Way was built!), and the numerous engineering-drawing-like engravings in William Strickland's 1826 *Reports Upon Canals, Rail-ways, Roads, and Other Subjects On a Tour Through Great Britain for the 'Pennsylvania Society of the Promotion of Internal Improvements'* are but two examples. RW&H's engravers could have got it right if the C&StL or the firm so-wished!

A century later engravers added 'their own touch' to artists' creations that themselves were not always accurate representation of a railway scene, or to actual photographs. The Baltimore & Ohio Railroad used, for decades, an image of Braithwaite and Ericsson's *Novelty* on its share certificates deeming it to be 'Tom Thumb'. Numerous major (and minor!) railways used a particular 'stock' vignette that incorporated several engineering impossibilities and significant safety transgressions, while others used a station scene that was a composite of images none of which represented their lines!

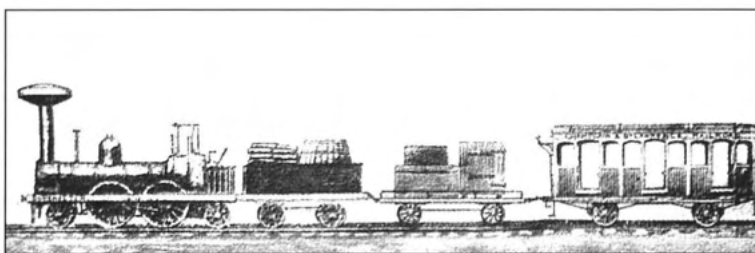
In viewing all the locomotives (as well as the carriages and the goods waggons) on early American banknotes, those images which can be identified with certainty as to manufacturer are in penny numbers. That the C&StL locomotives have 'legs' offers a better-than-usual association with their origin, Brunton's 'Mechanical Traveller'.



The opening of the C&StL as captured in an engraving by John Loye. Two of the four passenger carriages built in the U.S. are shown



An engineering drawing of 'Dorchester' indicates the accuracy of Loye's drawing



An 1837 'interpretation' of an early C&StL train. The locomotive frame is lettered 'Dorchester' and the passenger carriage (which lacks compartment doors but has a guard's seat) 'Champlain & St. Lawrence Railroad' (sic). The print is on display at the Chateau de Ramezay, Montreal

Reviews

***The Peak Forest Canal and Railway: an engineering and business history* — Grahame Boyes & Brian Lamb**

220pp, 250x170mm, 113 pictures (8 are coloured), 14 diagrams, 19 maps, 24 tables, 9 appendices, hardback, Railway & Canal Historical Society, 2012, ISBN 978 0 901461 59 9, RCHS Sales Officer, 4 Broadway, Lincoln LN2 1SH, £30 (post free)

Many persons are acknowledged as contributing to this book, but it chiefly stems from the pioneering work of Brian Lamb, who died in 2007. In the early 1960s, Brian made a study of the canal and particularly the Bugsworth Basin, taking many photographs, a number of which have been reproduced in this book. His texts and maps are today of great historical interest and constantly referred to. Brian is therefore included, unusually, as a posthumous author and quite correctly so.

The book is profusely illustrated with previously unpublished or little seen illustrative material including old and new photographs, modern and historic maps and plans and some coloured 19th century prints. Particularly, the cartography is outstanding in its layout and colour coding. The text is highlighted by informative sub-headings and the use of bold type face, while the extended captions to the photographs and maps are particularly to be commended. There are also various supporting tables and graphs. There is an attractive two column format varied by half or full page photographs, maps and diagrams, and further variety is given with inserts of coloured text boxes with details of some of the leading persons involved in the establishment and operation of the canal.

The thirteen chapters are carefully referenced by endnotes (there are 430) many of which are extended beyond the usual bare source details (useful for future researchers) and there are additional footnotes

of more general interest. The range and quality of the source material is impressive.

The chapters covers all the aspects of the financing, building, operation and maintenance of the canal, the limestone and stone trade, the principal features of the canal including eight pages on the Todd Brook and Combs reservoirs, the impact of railways, Bugsworth Basin and the operation of the Peak Forest Railway. Boyes explains the use of the term 'railway' instead of the more commonly used 'tramway', which is still used in certain circumstances. The chapters end with a consideration of the canal's decline and revival in the last century.

The many books on the canal and railway going back to the 1920s are recognised in the bibliography. These include the recent successful three volumes by the late Olive Bowyer of New Mills Local History Society. But the most important new research will be found in websites (many have picture galleries) and publications such as *Archive*, the *Derbyshire Archaeological Journal*, the *RCHS Journal* (thirteen articles by Lamb), and particularly in *174* (formerly *Onward*) the outstanding newsletter of the Inland Waterways Protection Society whose members have spent over forty years restoring the Bugsworth Basin.

This book is a triumph of writing, editing and publication and many will wish it to grace their bookshelves.

DEREK BRUMHEAD

***Inclined Planes in the South West* — Martin Bodman**

128pp, 198x215mm, 56 maps, 78 b&w photographs, 8 diagrams and illustrations, paperback, Twelveheads Press, PO Box 59, Chacewater, Truro TR4 8ZJ, 2012, ISBN 978 0 906294 75 8, £15 (post free)

Here is a subject that has long deserved a good book and has now secured a fine one. Though inclined planes were not unique to the South West, many of the world's most interesting ones were found here, their remains still attracting many tourists, who especially flock to the hinterland of Bude to trace what still exists of that most extraordinary engineering work, the Bude Canal. Sections of meandering canal

were linked with a series of planes where the boats (which had wheels under them) were lifted out of the water. Built in 1819–25 mainly to carry sea sand rich in lime to improve the soil, it suffered many practical problems especially in the operation of the planes. On the 'great plane' lifting the canal high above Bude, the chain routinely broke sending a full and an empty bucket crashing down.

As Martin Bodman vividly describes and illustrates, there were planes of many kinds, the book (though there is a good introduction) being described as a gazetteer of over 200 rope- and chain-worked sites. Great was the ingenuity of their design and construction, with counter-balancing (the weight of descending 'trains' helping to draw up empty ones) supplemented where necessary with stationary power.

Two images especially stand out: of the lengthy ascent at a steady one in four up to Brendon Hill on the West Somerset Mineral Railway, and the inclines

from the Tavistock Canal and Devon Great Consols Mine leading to Morwellham Quay in its heyday with sailing ships at two quays when it was the most important inland port in Queen Victoria's Empire.

If you are heading to the South West on holiday, take a copy of the book with you. Indeed it could be your guide for a great thematic holiday opening up great scenery and offering a unique insight into aspects of economic and social history. It is a great book on a fascinating subject and is likely to become the standard work. Strongly recommended.

DAVID ST JOHN THOMAS

Bradshaw's Continental Railway Guide and General Handbook, May 1913

1651pp, 180x130mm, hardback, Old House Books, Midland House, West Way, Botley, Oxford OX2 0PH, 2012, ISBN 978 1 90840 247 9, £25

Bradshaw's Continental Guide, July 1913

1424pp, 208x147mm, paperback, Middleton Press, Easebourne Lane, Midhurst GU29 9AZ, 2012, ISBN 978 1 908174 24 6, £24.95

To coincide with Michael Portillo's latest BBC2 series and hard on the heels of their editions of the 1860s Bradshaw's *Handbook* (or *Guide*) to the UK reviewed in July 2012, Old House and Middleton Press have published *Continental Guides* for 1913 (and with the same uncertainty as before regarding the exact title). Middleton's is the 'Standard' edition (originally retailing at two shillings), Old House's the 'Special' (three shillings & sixpence), a price difference not reflected in the reprints.

Although they look very different — Middleton's version has an enlarged typeface — about 85% of the content is common to both. An introductory section, 'General Instructions to Continental Travelers', includes guidance on where passports should be carried (advisable in Denmark, for example, for music hall artistes). Sixty-four pages of routes and timings from London and some major European cities to various destinations are given, followed by comprehensive railway timetables for all European countries (plus Egypt, the Sudan, Algeria and Tunisia) and for steamer and 'Diligence and Motor Car' services. The 'Standard' version has the advantage of including some seasonal river and lake services (such as Namur to Dinant by Meuse steamer).

The remaining text consists of 'Descriptive Notices' of each country, its major cities and watering places. The 'Standard' version confines itself to Western Europe, the 'Special' adds Eastern Europe, the Balkans, the Middle East and Scandinavia, and

also has descriptions of 30 'most frequented routes' and an itinerary of the Italian lakes. Both have 360 pages of steamer and hotel advertisements (and Aertex underwear, Keating's Powders and Eno's Fruit Salts, 'without which no prudent traveller should leave these shores').

There can be no doubt of the *Guide's* value and interest: but which to buy? The 'Special' is cloth-bound and imitates Portillo's copy. It has the advantage of two detailed general maps of Europe (available from Middleton for an additional £28) and of the Rhine and Switzerland. It does not, however, include the 29 town plans referred to in the text. As there is little difference in price between the two versions, Old House would seem better value for money: more content, more substantially-bound, and printed on better quality paper. The typeface is smaller, but perfectly legible; Middleton's enlargement has resulted in occasional blurring. Sadly, neither reprint has any additional editorial matter putting the *Guide* in context or exploring its strengths and limitations as a historical source.

The use to which readers intend to put the volume may dictate which they prefer. For armchair travellers, probably Old House. But if venturing abroad for 'then and now' comparisons, Middleton is far more portable; Old House (which tips the scales at 1.45 kg, twice Middleton, and is nearly 8 cm thick) is only for those whose gentleman's gentleman will carry it for them.

TONY KIRBY

***The London and North Western Railway around Preston: A History of the 'North Union' at Preston Station and the lines to Bolton, Fleetwood, Lancashire, Longridge and Wigan, including the Dock Branch and Lancaster Canal* — Bob Gregson**

182pp, A4, paperback, 33 maps & diagrams, 7 tables, 205 illustrations, Atkinson Publications, PO Box 688, Preston PR3 8AX, 2012, ISBN 978 1 90913 402 7, £18.95

***The Railways of Preston: Half a Century of Change* — Andrew Fowler**

190pp, A4, paperback, 2 maps, 291 illustrations (most in full colour), Atkinson Publications, PO Box 688, Preston PR3 8AX, 2012, ISBN 978 0 95651 849 1, £23.95.

These are two complementary volumes based on considerable research which is presented clearly, logically and in an easy to assimilate style. Both are filled with a large number of interesting and rare photographs. In his acknowledgements Andrew Fowler speaks of having 15,000 to select from and it is easy to see that this might be so. Even if the original picture quality, especially in the Fowler book, is occasionally lacking, their rarity and evocative subject matter justifies their reproduction. Neither book has an index; in view of their potential usefulness for reference purposes this is an unfortunate omission. Only Gregson's book has a bibliography, and that is short.

Turning to the individual books, that by Bob Gregson does very much what it says on its rather wordy cover. There are seven substantial chapters each giving a clear history of its topic and supported by useful footnotes and well chosen maps, tables and illustrations. The chapters cover: Arrival of Railways, Lancaster Canal and Dock Street, the Dock Branch, Central Station, the Engine Shed (this includes some interesting reminiscences), Maudland, Green Bank and Oxheys, and finally Miscellaneous, which is predominately the North Union Railway rule book, a valuable reprint. A requirement for the bookshelf of anyone interested in the railways of North West England.

One map and a few photographs appear in both of these volumes but the remit of the book by Andrew Fowler is very different from that reviewed above. This is to record the changes that have taken place in railway traffic and infrastructure in the Preston area from 1950s onward. It is much more focussed on Preston and its immediate environs than Gregson but covers an under-recorded and under-published era comprehensively.

Each chapter is effectively an extended essay with large number of photographs identified by extensive captions. There are nine chapters and four interludes (one between chapters 2 and 3, two between 4 and 5,

and one, curiously, at the end of the book — they deal with the station remodelling, visits by prototypes, etc., signalling changes and the shed). The chapters concern the station North side, its East Lancs side, southern approaches, northern lines, the Longridge branch, the Preston Dock branch, Fylde lines, East Lancashire and Liverpool, and the West Lancashire line. One caveat: some may find the large, colour blocked, page numbers and vertical chapter headings on each page a distraction, but this is still a good value and interesting book.

The reviewer cannot, however, comment either on the quality of reproduction of the illustrations in the published volumes or on their physical attributes since the review copies were provided as computer pdf files. Some animadversion maybe useful, therefore, on this medium for review. The size of the files, 170 and 420 megabytes respectively, could be a problem, and certainly cannot easily be sent by e-mail. As well as the impossibility of judging the final printed result it is restrictive if the reviewer is debarred from in any way printing some or all of the files due to security restrictions. This is especially irritating where illustrations, maps or diagrams spread across more than one page since screen limitations make seeing the detail difficult. Some illustrations appear to have bled over the edges of the pages but this might have been necessary for printing, and pictures at 90 degrees to the horizontal will put a crick into any reviewer's neck!

WILLIAM FEATHERSTONE

[Review Editor's note: The cost of review copies (and their postage) is a significant problem, especially for specialist publishers with small print runs. I therefore agreed to have the review copy electronically on this occasion as an experiment, but as is explained above, it gives the problems for the reviewer (to whom I'm grateful for acting as 'guinea-pig') and means that little can be said about the quality of presentation and production. However, the reviewer of these particular books and I agree that it is better to have a pdf copy of this type of book than to have no review at all.]

***The Struggle for the Cornwall Railway: fated decisions* — Hugh Howes**

240pp, 170x246mm, 68 b&w illustrations, paperback, Twelveheads Press, PO Box 59, Chacewater, Truro TR4 8ZJ, 2012, ISBN 978 0 906294 74 1, £ 16.50 (incl. p&p)

The Cornwall Railway was first mooted as a serious proposition in 1833 in response to the threatened loss of the Atlantic packet traffic from Falmouth, and a first substantive submission for a line through the county was made to Parliament in 1836. The next ten years saw a number of applications to Parliament from two rival groups of promoters, one, favoured by Falmouth, for a direct line through the centre of the county to Exeter, the other more southerly, through more industrialised areas to Plymouth. The central route foundered each time through lack of finance, and the southern one, with substantial backing from the South Devon and Bristol & Exeter Railways, was at last successful in obtaining its Act in 1846. Even so, financial stringency and the problem of crossing the Tamar put off completion of a line from Plymouth to Penzance until 1859 and to Falmouth, by now effectively relegated to a branch line, in 1862.

The first half of the book deals at length with the struggles of the two groups to gain Parliamentary approval for their lines, one ultimately successful, the other not. The second half describes the problems of construction and then of operation that were consequences of the earlier contests. The description of the promotion of the railway uses extensive quotations from local newspapers and, particularly, verbatim evidence to the Parliamentary committees examining the companies' bills. Quite a

lot of this might have been presented better in the author's own words, but there are some wonderful examples of obfuscation that seem to have baffled the parliamentarians quite satisfactorily. The ten chapters of the book are arranged thematically, which means unfortunately that we go back and forward chronologically, sometimes covering ground that has been treated previously. The West Cornwall Railway is introduced quite casually, and the reasons why it was able to construct its line from Truro to Penzance (opened in 1852) while the Cornwall Railway was struggling to make much progress are not considered.

How often when reading the history of a railway company do we arrive at the opening ceremony after a few short pages, having learnt not much more than the date of the Act of Parliament and the name of the consulting engineer? This book reminds us powerfully that railways were built for a purpose, and that what was built was not necessarily what was desired at first. It is well illustrated, mostly with images from the 19th century; there are ten appendices, a bibliography and an index. It is also well researched. Although it might have been a more satisfying read if it had been subject to more vigorous editing, it is important in tackling its theme at length and in its extensive use of the Parliamentary Archives, a sadly under-used resource in much published railway history.

PETER CROSS-RUDKIN

***200 Years of Clyde Paddle Steamers* – Alistair Deayton & Iain Quinn**

160pp, 232x160mm, 154 illustrations, paperback, Amberley Publishing, The Hill, Merrywalks, Stroud GL5 4EP, 2012, ISBN 978 1 4456 0255 4, £14.99

One might have anticipated a flood of books on steamboats in order to mark the two hundredth anniversary of the first commercial steamboat service in Europe, namely that of Henry Bell's *Comet* in 1812 between Glasgow and Helensburgh. This lavishly-illustrated volume might fall into that category.

This book is a thoroughly competent history of steam navigation on the Clyde, in the tradition of Williamson, McQueen and Davies. It has a number of thematic 'chapters', such as 'racing', 'Sunday breakers', 'blockade runners', 'boiler explosions' and 'accidents and losses'. These are rather short, but give the essentials of the topic. About a quarter of the volume is devoted to 'significant steamers', with

an illustration on one page and a ship biography on the facing page. These are useful, though obviously they can deal with only a small fraction of the total. Also the earliest example of the 'significant steamers' dates from 1864, so they have ignored the first half century of the industry, which is frustrating for those interested in the early steamboats.

What do we make of this volume? It is reasonable value for money, especially given the quantity and quality of the illustrations, some in colour. There is a bibliography with about 100 items which will please the academics, but no index or referencing system, which will not.

JOHN ARMSTRONG

***Sail and Storm: the Aylsham Navigation* — Sarah Spooner (Editor)**

218pp, 240x170mm, 82 illustrations (many in colour), 23 maps, 5 charts, paperback, Aylsham Local History Society, 2012, ISBN 978 0 9521564 5 1, obtainable via the Society's website www.aylsham-history.co.uk, £15 (plus £2.50 p&p)

The 9½ miles of the River Bure from the Norfolk market town of Aylsham down to below Coltishall Mill were made navigable following an Act passed in 1773. The enterprise was organised like a turnpike; unlike a canal, there were no shareholders bearing the risks in the hope of profits, instead it was run by Commissioners with the money borrowed at 5%. (The one weakness of the book is that the implications of this financing method have not been explored.) The Navigation was viable until the railway from Wroxham opened in 1880. However, unlike many rural waterways, the Aylsham Navigation did not gradually fall into decay: its works were largely destroyed on 26 August 1912 by a spectacular flood when some eight inches of rain fell in just 18 hours.

This book opens with the planning and construction, describes the mills and their associated locks, then has chapters dealing in detail with the four lengths of the waterway, before going on to the canal people, the trade, the wherries and maintenance. The final chapters deal with the flood and its consequences, and what can be seen today.

Fortunately, the minutes and account books of the Navigation have survived, giving the foundations of the story. The special strength of this book

compared with so many transport histories is that it is firmly grounded in local history. The people — landowners, farmers, professionals, entrepreneurs, tradesmen, artisans and labourers — are at the centre, and the activity of the navigation is intimately linked with the area's economy — its agriculture, industries and trade.

Fifteen people are credited with contributing through research, writing text or providing photographs. One would not guess that the book has multiple authors, the editor having done an excellent job in making the whole stylistically seamless. Extracts from old maps are reproduced clearly, and the specially drawn detailed plans are excellent, though a map of the whole Navigation and its environs would have been useful for people less familiar with the area. Special mention must be made of a rainfall distribution map which shows dramatically why this part of Norfolk suffered so badly in the 1912 flood. The historic photographs are well chosen. It is fully referenced, and has a helpful bibliography and a good index.

This beautifully produced book is a credit to everybody concerned.

PETER BROWN

***London Underground Maps: Art, Design and Cartography* — Claire Dobbin**

136pp, 260x280mm, 115 colour and 25 b&w illustrations, hardback, Lund Humphries in Association with London Transport Museum, Wey Court East, Farnham GU9 7PT, 2011, ISBN 978 1 84822 104 8, £29.99

Published in connection with the 2012 *Mind the Map* exhibition at the London Transport Museum (LTM) in Covent Garden, this book revisits territory previously explored by many writers, as demonstrated by its considerable bibliography (listed under Further Reading). It is prefaced with an introduction provided by Peter Barker, the British Library's Head of Map Collections and a four page illustrated Timeline, both of which assist in placing the subject into context.

LTM Senior Curator, Claire Dobbin has produced an impressive and reasonably comprehensive overview of the subject. She has undoubtedly taken the opportunity to fully examine which maps from the LTM's collection of 4,000, plus other relevant printed materials, would best enhance her considered and informative history of the development and related topics of LT maps to the present day.

Additionally featured are maps commissioned from six artists especially for the Exhibition. Arguably, those maps and a number of others included only serve to provide an attractive diversion from the core subject.

Attention is generally focussed on the artists and designers of the maps and related posters, with considerable detailed analysis of their contributions to the genre. Notes concerning sources encourage and support wider study of the subject.

Design, layout and reproduction are exemplary and a three-page index facilitates rapid research of the contents.

In summary, a very attractive read that will appeal to a wide readership, many of whom may be encouraged to investigate the subject further.

BRIAN A L JONES

***Early Railway Chemistry and its Legacy* — Colin A Russell & John A Hudson**

206pp, A5, 47 illustrations, 1 table, paperback, Royal Society of Chemistry, 2012, obtainable from RSC Books, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, ISBN 978 1 84973 326 7, £29.99 (for postage see website www.rsc.org/books)

The association of railways with chemistry may not strike the reader as obvious, but this book, published by the Royal Society of Chemistry, makes the connection clear. The authors commenced their research work with the discovery of a number of historic documents at a railway laboratory in Crewe. (The documents are now at the NRM in York.) The theme of the book is the contribution of chemistry to the development of railways in areas such as analysis, metallurgy, lubrication, water treatment, paint, safe transport of freight, indelible inks (for Clearing House spotters in rainy transfer yards!) and many others. The illustrations mostly relate to events in the 19th century; some have been published previously while the others are mainly portraits of officials in professional dress, the latter changing in interesting ways as fashions dictated.

The first four chapters outline the development of chemistry and railways in general during the time of the early railways. Chapter Four describes how it was necessary to use consultants to tackle problems such as the supply of water for the locomotives of

the Liverpool & Manchester and other railways. Chapter Five continues the work of consultants on fuel, timber and ventilation of tunnels. By 1860 (Chapter Six) the position of the chemist in the industry had become well established. The next two chapters review the work of railway chemists in numerous relevant fields which today would be covered by specialists in analysis, materials science, metallurgy and so on.

The final chapters bring the situation up to the present. Readers will often need to refer back to the earlier parts of the to obtain a joined up account of work on such items as the composition of rails, water treatment, and so on.

Great credit is due to the very extensive research done by the authors leading to 358 end-of-chapter references which will be of great value to future researchers in railway history. For many readers knowledge of chemistry to school level will suffice, but some of the more advanced techniques mentioned will require more knowledge of chemistry yet are significant in the history of science.

RICHARD TYSON

***Skinningrove Iron and Steel Works* — Cliff Shepherd**

200pp, 280x215mm, 221 photographs, 45 maps & diagrams, hardback, Industrial Railway Society, 24 Dulverton Road, Melton Mowbray LE13 0SF, 2012, ISBN 978 1 901556 80 3, £24.95

This is a very good and detailed history of the Skinningrove works and their intimate connection with the railways, superbly produced with excellent maps and diagrams and beautifully reproduced photographs.

It tells the story of the genesis of the works with ironstone mining in the 1840s served by an isolated tramway. The Cleveland Railway, soon taken over by the North Eastern Railway, arrived from Middlesbrough in 1867, followed by a rapid development which gave rail connections by two routes to the west and eastwards to Whitby. A feature of the railways were the famous Zig Zag line down to sea level and Kilton Viaduct, which was later in 1912 converted into an embankment due to mining subsidence. The works also necessitated the provision of an engine shed at Carlin How. The book gives a detailed account of the extensive internal railway networks of the works, and the locomotives that worked them.

The Loftus Iron Company established two blast furnaces in 1874, aided by the ready availability of local ironstone and coal brought in by the railway. However by the 1900s it became apparent that the production of pig iron alone could not sustain the works, so a move was made in 1906 to steel manufacture, particularly of specialist steel sections and rails. In the event this enabled the works to continue operating in a changing world. The Skinningrove Iron Company was incorporated into British Steel in 1967; iron making was discontinued in 1970, when the Works ceased to be an integrated iron and steel works. Its future lay as a producer of specialist profiles, which is what it remains to this day. It is still served by a remnant of its internal rail network and with some traffic using the main line rail connections.

A remarkable tale of growth, decline, transformation and survival.

WARWICK BURTON

***Grand Central's Engineer: William J Wilgus and the Planning of Modern Manhattan* — Kurt C Schlichting**

xiii+278 pp, 250x175mm, 28 b&w illustrations, 24 maps & diagrams, hardback, John Hopkins University Press, 2715 North Charles Street, Baltimore MD21218-4363, USA, 2012, ISBN 978 1 4214 0302 1, £26 (via Amazon)

In 1903 a collision between two passenger trains occurred in the New York Central Railroad's smoky and congested tunnel beneath Park Avenue, New York City. Many fatalities resulted and the public outcry was such that the city ordered the company to electrify the line within five years. William J Wilgus, the Railroad's Chief Engineer, put forward a bold plan not only to do this but to widen the line, erect an iconic new bi-level terminal (Grand Central) and finance the whole scheme by selling the air rights above the tracks — a concept then almost unknown.

The plan was adopted and became a outstanding success, but it brought about the end of Wilgus's railway career. In 1907 one of the new electric locomotives was derailed, again with a heavy death toll. Opinion was divided as to whether track or locomotive was to blame, but the ultimate result was Wilgus's resignation. He never worked for a railroad again, and today his name is almost forgotten.

Instead he took up a second career as a consulting engineer. As well as advising on numerous projects across the USA — including, perhaps surprisingly, the Holland road tunnel under the Hudson — Wilgus

was awarded the Légion d'Honneur for his work on the movement by rail of US troops and matériel across France during World War I. He was also a ceaseless advocate of the improvement of the railroads around New York, and four of the book's seven chapters are devoted to his ingenious proposals to this end. They included an underground freight network; a belt line linking all the railroads on the west side of the Hudson River; and a rail tunnel connecting the Bronx with Staten Island and New Jersey. It was widely agreed that his proposals were desirable and well thought-out, but despite prolonged lobbying by Wilgus, all were defeated by vested interests and the unwillingness of the railroads to co-operate.

This book, largely based on Wilgus's voluminous private papers, tells the story fully and clearly. It offers much more than a history of Grand Central (already penned by the same author in 2001) and will be of interest to anyone familiar with the topography and railroad systems of New York. There is a good index but no formal bibliography, although all references are mentioned in the endnotes to the chapters.

GRAHAM BIRD

Britain's Railways at War 1941–6

DVD, 12 films, total playing time 3hrs 21mins, Strike Force Entertainment, Cherry Red Films, North Barn, Featherbed Court, Mixbury, Northamptonshire, NN13 5RN, 2012, DVD reference SN6714, £15.99 (plus 99p p&p)

All of these wartime propaganda films, bar one which covers only the GWR, mainly or entirely feature the Southern Railway. Several films have no railway relevance other than that the activities (such as recycling or military boat building) are happening on railway premises. The whole gamut is covered in other, mainly documentary, productions.

One laborious training film shows how to deal with a gas attack. You called up both a repair and a de-contamination train. Presumably none of this was ever needed — which is just as well, as not only was anything touched by liquid gas to be de-contaminated, but then had to be removed and replaced. This included rails, sleepers, and even telegraph poles.

Snippets of more specialist interest occur, including GWR delivery vehicles, railway horses, a Southern diesel shunter and an early road/rail container. Even the most extensive bomb damage to running lines

was generally repaired within 12 hours — not something they would manage today. Given the desperate circumstances, some activities, such as painting bridges and de-barking tree trunks for telegraph poles, seem unnecessary. Chronology enthusiasts may note that sapper railway training centres were all said to provide local goods and passenger services. Timetable specialists may note that 'for security reasons' no schedules or notices to staff were given for trains taking away the troops arriving from Dunkirk.

Some scenes do not create the impression intended at the time. In one film, for example, you see a line of railwaywomen each pushing a single sack on a sack cart, whereas in another a single American soldier moves large loads by fork-lift truck.

There is quite a bit of good nostalgia in this DVD but little of specific use to the transport historian.

DAVID PEDLEY

The Lynton & Barnstaple Railway Measured and Drawn: the railway and its archaeology

— Stephen D Philips

262pp, 310x240mm, 250 pages of diagrams & plans, 45 b&w photos, hardback, SD Publications, 27 Waresley Park, Hartlebury, Worcestershire DY11 7XF, 2012, ISBN 978 0 9572101 0 3, £65

The Lynton and Barnstaple was a well engineered, picturesque failure of an enterprise that has commanded considerable literature over the years. The 19¼ mile narrow gauge line was built in 1898 to the highest contemporary standards. Uneconomic from the first, it reluctantly conceded its independence just prior to Grouping and was upgraded by the Southern Railway, only to succumb in the last months of Sir Herbert Walker's pragmatic regime. It closed in 1935 to an outpouring of sentimentality that was later to save far less worthy candidates.

Sometimes one can be surprised by the contents of a book after reading its title, but this one delivers what it says on the cover with rare style and panache. The author argues from his love of the art that our understanding of the past owes much to the draughtsman and his work in a way not possible by photography alone. He modestly claims that his work is a collection of drawings but this book surpasses this expectation. The depth of research and the draughtsmanship of the huge number of drawings and diagrams are outstanding and his artist's eye

bring a charm to its presentation that equals the railway it celebrates.

Conventional histories cover the usual legal, political and economic aspects of the railway and often add drawings to meet modeller's needs. This one turns this concept on its head to become a definitive physical history of the line. Indeed if you wished to reconstruct the railway in its entirety, and some do, it is all here. Not only the rolling stock and buildings, but the esoteric detail. Where else would you find such beautifully rendered drawings of, amongst many other items, the wrought iron platform gates at Barnstaple Town, a carriage compartment interior (a sorely neglected area of railway research), a three-dimensional locomotive backplate, rail bearing plates, a weir bridge and a headlamp maker's plate?

Self designed and published by the author, and printed to the highest standards by the Amadeus Press, it is expensive. This is, though, one of the most enterprising, innovative and thoroughly researched books on any railway that one could wish to have.

BRIAN JANES

An Illustrated History of the Port of King's Lynn and its railways — Mike G Fell

112pp, A4, 175 illustrations, 13 maps and plans, paperback, Irwell Press, 59A High Street, Claphill, Bedfordshire MK45 4BE, 2012, ISBN 978 1 906919 52 8, £15.95

Although in his Preface the author disclaims any intention of writing a definitive history of the port of Lynn, his book goes a long way towards providing this.

The main focus is on the docks (the Alexandra of 1869 and the Bentinck of 1883) and their associated rail connections, but these are well-placed in the context of the earlier 'Harbour Quays' on the River Ouse and the deleterious effect on the port's trade of the arrival of the railway in 1846/7. But in the end the railways proved Lynn's salvation: the GER, although eventually responsible for operation of the Docks branch, was not greatly interested (it already had access to the Harbour), but for the MR and GNR the port offered a much-needed East Coast outlet via the M&GN and gave Lynn a new hinterland in the East Midlands to replace that it had lost in the Ouse basin.

The book concentrates on the port's infrastructure: the dock basins themselves, crantage, warehousing

and dredging. It benefits from the author's managerial experience as Assistant Docks Manager 1979–83 and Port Manager 1984–87. Trade is less fully covered, other than in the post-war years, although much information on earlier trade patterns can be gained from the lengthy and informative captions that accompany a splendid and well-reproduced selection of photographs (although that on page 34 is of Lowestoft station, not Lynn). There is also a useful selection of biographies of the men involved in creating and developing the docks.

The book ends on a rather sad note, with the withdrawal of the railway from involvement in the docks in 1993, in spite of the author's efforts to encourage rail traffic, even to the extent of hiring wagons from the German firm VTG for new freight flows when BR were reluctant to do so.

Excellent value and thoroughly recommended.

TONY KIRBY

***Shelford and the Railways: the railways in the life of a Cambridgeshire village* — Helen Harwood**

236pp, 250x173mm, 122 b&w illustrations (including photographs, sketch map, map reproductions and facsimile documents), paperback, author, 28 High Street, Great Shelford CB22 5EH, helensshelfordhistory@gmail.com, 2012, no ISBN, £10.50 (plus £2.60 p&p)

Shelford lies just south of the junction between the railway lines from Cambridge to King's Cross and to Liverpool Street, and is served by a station on the latter. This book has been written and published by a local resident who describes herself aptly in the introduction as 'a historian-storyteller'. Using a wide range of primary, secondary and oral source materials she weaves a tale that tells the history and impact of the railways on Shelford, focusing on the people and their everyday lives. It covers some themes that rarely get more than a sentence or two in the typical railway history, including the frequency of injury and death on level crossings and through trespass, the day-to-day life of railway staff and their families, and changing train services and traffic seen from a local level. The latter is supplemented by a chapter from Tony Kirby with a systematic survey of traffic through Shelford. The book is weaker on some general railway

matters — for example steam locomotives, signalling and Dr Beeching all suffer from a somewhat simplistic treatment.

The chapters follow a part chronological, part thematic, approach in which sources are duly referenced by endnotes. There is a bibliography but no index, and a clear base map of the vicinity is lacking. Some of the illustrations have reproduced poorly but otherwise the design is adequate and production good.

Although intended for a local audience, this interesting and well-researched book deserves a wider readership. It ably brings home the extent to which the railways influenced the everyday lives of ordinary people in a rural community, always with an eye to the broader context of social, political and economic change. It is a good read, written in a lively and direct style, and sells at a bargain price.

TIM EDMONDS

***History's Most Dangerous Jobs: Navvies* — Anthony Burton**

160pp, 230x155mm, 12 b&w photographs, 3 line illustrations, paperback, History Press, The Mill, Brimscombe Port, Stroud GL5 2QG, 2012, ISBN 978 0 7524 7961 3, £12.99

The head title of this book indicates a series, of which this is the first. (A second, about miners, has been announced.) Anthony Burton has previously written a novel about railway navvies and three books which include the story of navvies: *The Canal Builders*, *The Railway Builders* and *The Railway Empire*. Acknowledging the influence of Terry Coleman's *The Railway Navvies*, he has drawn the coverage of navvies in his books into this new book. While parts do summarise coverage in the previous books, there are new details.

The author sets the use of the term 'navvies' — a shortened form of 'navigators' — from the manual workers who cut the earlier canals. This is followed through the canal and main railway era to the Manchester Ship Canal and Great Central Railway, leaving the story in 1899. The involvement of British navvies in the Crimea and later in France, India and North America is covered. Problems between promoters, engineers and contractors are discussed, and the hardships and dangers involved in living

and working conditions are stressed. Relations between these mobile workers and local communities are detailed, from the 'tommy shops' and 'truck' whereby many were cheated out of wages, to the riots — minor and major — that sometimes erupted through drink and anger. A vivid picture is constructed, which shows how far many impressive engineering works relied upon dangerous and dirty, but increasingly skilled, labour.

Illustrations show later canal maintenance work in two instances. The Manchester Ship Canal and the Great Central tend to dominate photographs.

There are some omissions. There were surely 'navvies' working on roads like the Holyhead Road improvement, on later projects like the East Lancashire Road, on reservoir construction and indeed peripatetic workforces into the present day. There may be scope for further work, building on the useful discussions of contracting, working and living conditions, manual construction methods and the impact and development of mechanisation.

JOSEPH BOUGHEY

The Cotswold Canals Towpath Guide: The Stroudwater Navigation — Michael Handford
128pp, 235x165mm, 163 photographs & maps, paperback, Amberley Publishing, The Hill, Stroud GL5 4EP, 2nd edition 2012, ISBN 978 1 84868 843 8, £12.99

The eight-mile long 1779 Stroudwater Navigation ran from the navigable river Severn at Framilode to Wallbridge, Stroud. It delivered coal from the Midlands and the Forest of Dean to fuel a prosperous woollen industry. The stretch to Stroud from where the Gloucester & Sharpness Canal crosses the abandoned Stroudwater, together with the whole of the 1789 Thames & Severn Canal, has been the subject of restoration schemes since 1972. An excellent combined towpath guide for both canals was published in 1984, written by Michael Handford and David Viner. Viner published his re-worked Thames & Severn section in 2002. Now we have Handford's of the Stroudwater.

The strength of this edition is the inclusion of many 2012 photographs (taken by the publisher's Campbell McCutcheon) that illustrate restoration and are compared with the author's 1972 photographs. Yet none of these changes since 1984 (not even of replacement bridges) is noted in the minimally-revised text. To accommodate these new photographs effortlessly the publishers have stripped the text of all illustrations and grouped them, out of context, at the end of each chapter. This adversely affects the guide's usability in the field especially where the towpath maps are shrunk to an unreadable three to a page. The publishers seem to have lost sight of the book's purpose.

STEPHEN ROWSON

Britain's Bizarre Railways — Robin Jones

144pp, 214x214mm, 255 photographs (mainly colour), hardback, Halsgrove, Halsgrove House, Ryelands Industrial Estate, Bagley Road, Wellington, Somerset TA21 9PZ, 2010, ISBN 978 0 85704 022 0, £16.95

The 34 short chapters that make up this book are aimed directly at the general reader, and the serious student of railway history will find much familiar territory is covered in its pages. The latter will have to admit, however, that the stories told are succinct and with very few obvious faults. Unless they have a universal knowledge they will also find one or more aspects of this country's railway history with which they are not familiar, and, who knows, be spurred to further research? All readers will find pleasure in the quality and interest of the many photographs, and these alone would make it worth an addition to the bookshelf.

What is, or is not, a 'bizarre' railway has to be a matter of subjective judgement. Few readers of this *Journal* would use that word in connection with Broad Gauge, Fairlie locomotives or the railways of the Isle of Man, but more might include the St Michael's Mount railway, motor car conversions to rail, the Freiston Prison railway, and the Dungeness fish railways in that definition. Where the book is useful is not in terms of what is bizarre but what is overlooked or little known, and chapters on the Haytor tramway, the Listowel & Ballybunion, Clifton Rocks, Hoo Ness, Flat Holm and Steep Holm railways, and others make it a worthwhile read.

WILLIAM FEATHERSTONE

Bell's Comet: How a Paddle Steamer Changed the Course of History — P J G Ransom

190pp, 240x170mm, 38 illustrations, paperback, Amberley Publishing, The Hill, Stroud GL5 4EP, ISBN 978 1 4456 0349 0, £16.99

Aside from the rather hyperbolic title, this is a calm and measured tale of early steam boat pioneering with a focus on the activity around Scotland in particular. Bell's first *Comet* ran from 1812 until 1820 when it was shipwrecked. After taming the Clyde estuary, in a manner of speaking, Bell aimed for steam navigation to Inverness. Bell built another, which we might call *Comet II*, which went down with serious loss of life after a collision in 1825. After this Bell

seems to have lost his passion, but he was rewarded in later life with a pension and the widespread adoption of his ideas especially on his home estuary, the Clyde. Ransom brings the story to its conclusion by looking at the remains of the *Comet* and attempts to celebrate Bell's achievements.

But the story of Bell and his two boats is barely half of this book. Ransom provides balanced coverage of the American and Scottish pioneers who

came before Bell and the more commercially successful ones after him. Later chapters provide a summary of the spread of steam navigation but make its development sound overly smooth; in the period 1837–40 there were serious questions being asked about the safety of steamers after a succession of disasters that no doubt caused many to rush enthusiastically to the comparative safety of the railway train where, at least, boilers did not tend to

explode beneath you. Ransom reports himself as ‘surprised’ that a boiler explosion at Norwich took place just after leaving the quayside, but it would seem from other sources that this was a common pattern often with some human causation.

This enjoyable book is well illustrated in its middle section and has a handsome colour cover. It is well written, and explains significant technical steps briefly but clearly.

ADRIAN GRAY

***The Great Western Railway: how it grew* — Ken Gibbs**

156pp, 247x172mm, 86 illustrations, 3 maps, paperback, Amberley Publishing, The Hill, Stroud GL5 4EP, 2012, ISBN 978 1 4456 0450 3, £18.99

The book sets out to examine how the GWR grew, by considering the GWR’s relationship with the canals, tramroads and the other railways it took over or dominated. It is based entirely on unnamed second-

ary sources, evidently not always reliable, and has little to say about the economic and financial issues or about the strategic motives.

PETER BROWN

***Trains on the Border: The Railways of Llanymynech & Pant* — Neil Rhodes**

144pp, 240x165, 161photos (of which 30 in colour) plus plans, paperback, Neil Rhodes Books, Well Cottage, Wern, Llanymynech SY22 6PF, 2012, ISBN 978 0 95555573 2, £9.99 post paid (order through website www.neilrhodesbooks.com)

The author/publisher’s blurb reads: ‘Llanymynech ... was a fascinating railway place, with some of the strangest and most remarkable lines in Britain. They’ve all gone now, but this sequel to *On the border* [a general history of the area from the same stable] gives an intriguing account of how the railways of Llanymynech and Pant flourished, as well as telling the interesting stories of the people who built them and worked on them.’ The Oswestry & Newtown Railway, later part of the Cambrian main line, opened through Llanymynech in 1860 and the branch to Llanfyllin in 1863, followed later in the decade by what became to be known as the ‘Potts’.

Rhodes quotes extensively from the *Oswestry & Border Counties Advertiser* so it’s not just ‘rivet counting’ stuff, although the chronologists will find the occasional questionable ‘fact’. For example, the reopening date of the ‘Potts’ between Shrewsbury Abbey and Llanymynech was Saturday 14 November 1868, as attested by that and other local papers.

Nevertheless, this is an entertaining and well illustrated book for the general reader that delivers on its author’s claims.

RICHARD MAUND

One of the many colourful stories in the book concerns the secret marriage of Dolly Hopton, ‘the Pant heiress’ and Tom Jones, a railway porter



***Exploring Hill's Tramroad: A Remarkable Feat of Engineering* — Chris Barber**

52pp, A5, 46 b&w illustrations, map, plan, paperback, Blorenge Books, Blorenge Cottage, Church Lane, Llanfoist, Abergavenny NP7 9NG, 2012, ISBN 978 1 872730 45 5, £4.95 (plus £2 p&p)

Hill's Tramroad opened in 1817 and connected the Blaenavon Ironworks with a forge and rolling mill at Garnddyrys where the pig iron was converted into wrought iron bars and rails. The finished products were then carried across the bleak Monmouthshire uplands before descending three inclines to a wharf at Llanfoist on the Brecon & Abergavenny Canal. It included a tunnel at Pwll-du which at 2km long is claimed to have been the longest in the world on any horse-drawn tramroad.

This book is intended to guide walkers along the

route of the tramroad and describes the remains that can be seen along the way, but it also provides a brief history of the ironworks, forge and some of the communities which have now been abandoned. It is illustrated by modern photographs and local artist Michael Blakemore's distinctive drawings which recreate the scene of almost two hundred years ago. Anyone interested in early railways will find this a worthwhile purchase although a more detailed route map would have been helpful.

RICHARD COULTHURST

***Railway Maps of Great Britain 1924* — introduced by Geoffrey Kitchenside**

4 maps, each map 895x620mm folded into an individual paper slipcase, brought together in a card box, 217x152mm overall, Old House, West Way, Botley, Oxford OX2 0PH, 2012, ISBN 978 1 90840 231 8, £27.50

This is a package of four strip maps, one for each Grouping company, taking the user on one of each company's major express routes: Paddington – Penzance; Waterloo – Padstow and Ilfracombe; Euston – Inverness; and Kings Cross – Mallaig. The journey is accomplished in six strips for the first two maps but needs eight for the third and fourth, rather cramping these.

Each slipcase has a two page introduction and text on each map by Geoffrey Kitchenside, but neither the author of the map text nor the cartographer is acknowledged. Each map is littered with text boxes mainly describing features near (but not necessarily visible) from the lines in 1924, and written in a cod 1920s style. There are additional text boxes describing changes since 1924 but these are somewhat arbitrary as is their differentiation from other text — some italic, some not, for example —

plus random boxes, on locomotive wheel arrangements for instance. No two maps have the same key to guide the user, who is not helped by rivers being delineated in a line of the same colour and width as other railway routes. The maps are obviously not intended to reproduce everything that might be seen from a train — the LMSR map shows the Oxford Canal but not the Grand Union, for example — and there are some factual errors to trap the unwary in the map text.

On first sight this is a handsome and stylish production but although the maps are on good quality paper they tear easily, which is unfortunate since it is hard to get them back into their slipcases. They are too large to use comfortably on a train journey and it is not easy to see what other use they might enjoy. An expensive present, perhaps, that might not become a lasting pleasure?

WILLIAM FEATHERSTONE

***A Guide to the Industrial Archaeology of Essex* — Tony Crosby**

68pp, A5, 85 illustrations, 12 maps, paperback, Association for Industrial Archaeology, 2012, ISBN 978 0 9560251 1 1, obtainable from Roger Ford, AIA Sales Officer, Barn Cottage, Bridge Street, Bridgnorth WV15 6AF, £5.50 (plus £1.10 p&p)

Each year the AIA produces a gazetteer for the area of its annual conference, which in 2012 was held at Chelmsford. For some 275 sites, this book gives the map reference, access information, brief historical details and a description of what can now be seen. About a tenth relate to railways and a further tenth

to other forms of transport such as roads, canals and docks. In size the sites vary from a roadside coal boundary marker at Nazeing to the 32-arch Chappel Viaduct. There is a useful list of publications for further reading.

PETER BROWN

***King's Cross Station Through Time* — John Christopher**

96pp, 235x165mm, 165 sepia & colour photographs and diagrams, paperback, Amberley Publishing, The Hill, Stroud GL5 4EP, 2012, ISBN 978 1 4456 0530 2, £14.99

This book is one of the author's series on London stations and seeks to describe through photographs the history and development of King's Cross Station and its environs. There are very brief historical essays giving background to that which the author describes, with some justice, 'as the most unspoilt and finest of London's Termini', but otherwise the book is intended to be devoted to pictures of the station, its surroundings and activities. The photos are largely from the 20th century; more recent times, including the superb 2012 concourse, are also well covered.

The King's Cross area is rich in historical and topical interest, particularly during its redevelopment, and merits a concise pictorial description. Unfortunately the author too readily allows himself to be diverted away from his principal subject with many simple portraits of locomotives and photos of Newcastle, York and, perhaps more understandably, St Pancras stations. As a photo album it unfortunately suffers from the publisher's use of 'perfect binding' which does not open sufficiently to appreciate the many well printed half-page postcard size photos.

BRIAN JANES

***Euston Station Though Time* — John Christopher**

96pp, 235x165mm, 180 illustrations, 3 maps, paperback, Amberley Publishing, The Hill, Stroud GL5 4EP, 2012, ISBN 978 1 4456 0529 6, £14.99

It must be a challenge to any historian of a London railway station to encompass its operational, architectural and business history. John Christopher succeeds to a degree. Many of the photographs he has used have not been published before. It is correct to include photographs to illustrate the diversity of the railway but in this case there may be too many. Perhaps more drawings of the station should have been included. The author may not be an architect but more effort should have been made to explain

the architectural history of the station.

As for the business dimension, his chapter on the LMS period is a little disappointing in that he seems to have made no effort to capture the atmosphere of what was a very big company. At least there could have been a photograph of the board room with a meeting of directors — there is one in the LMS papers in the National Archives at Kew. This is a good introduction to the history of a major London station, but the definitive work remains to be written.

JOHN KING

***British Railways in the 1950s and 60s* — Greg Morse**

56pp, A5, 66 illustrations (45 in colour), paperback, Shire Publications, Midland House, West Way, Botley, Oxford OX2 0PH, 2012, ISBN 978 0 74781 168 8, £6.99

In recent years Shire Books has issued several volumes on aspects of railway history which have been models of conciseness, well-written and appositely illustrated. This latest one explores the era 1950 to 1969, a transitional period now far enough in the past to be seen in perspective. And Mr Morse's story has shape to it, concise though it is, one that can be readily digested at a sitting.

The story starts in downbeat fashion with the railways in a depressed state after wartime achievements and struggling to cope with the problems of nationalisation which nevertheless offered chances for change. Not that change came as swiftly as some would have liked; for several years steam retained its pre-eminence with new British Railways designs

being built until 1960. Electricity was expensive, to instal anyway; diesel had technical problems. The principal problems were however economic with road, even air, competition. And so to Beeching, who is treated with balance and fairness. His closures had negative aspects, though, and were quickly followed by an 'Indian summer' of steam in the mid 1960s, accorded a chapter to itself here, but balanced with positive developments like the APT and HST foreshadowed at the end of the period.

The book's illustrations convey the spirit of that period; not only is there an index but an annotated bibliography (including DVDs) and a list of places to visit, museums and heritage railways. I recommend it warmly: Shire has done it again.

PHILIP L SCOWCROFT

***Peerless Powell Duffryn of the South Wales Coalfield* — Leslie M Shore**

240pp, 275x215mm, 195 illustrations, hardback, Lightmoor Press, 144b Lydney Industrial Estate, Harbour Road, Lydney GL15 4EJ, 2012, ISBN 978 1 899889 67 9, £24.99

Prior to nationalisation in 1947 Powell Duffryn (PD) was the dominant coal mining company in South Wales with over 60 pits in operation. It had its origins in a timber company in Newport in the late 18th century but the then owner, Thomas Powell, saw an opportunity in the new coal industry and after some experience with small scale operations in Monmouthshire the company focussed on the mining of steam coal from the Aberdare (or Cynon) valley which was particularly sought after by the Royal Navy and shipping companies. The Aberdare area remained a key part of the company's operation but it also developed important mines in the Rhymney valley.

This book covers the continual development of the PD company through the sinking of its own pits, the acquisition of mines and mining companies as well as mergers such as that with Welsh Associated Collieries so that eventually it had a presence throughout most of South Wales. Apart from Thomas

Powell, the author concentrates on two other key figures in the development of the company, Sir George Elliott and Edmund Mills Hann. Technical aspects of coal mining are well covered including the sinking of pits, winding engines, ventilation and lesser known aspects such as the washeries. Safety matters and mining accidents are not ignored.

The Powell Duffryn company was obviously a major customer of the railways and had a fleet of some 40,000 wagons as well as a very significant mileage of their own tracks including the Cwmaman & Abercwmboi Railway in the Aberdare valley which linked many of their facilities and must have saved them a considerable amount on charges on the Taff Vale and Great Western Railways. It is surprising therefore that the railway content of the book is not larger but the excellent period photographs are very interesting and include some of PD's Private Owner wagons and other railway infrastructure.

RICHARD COULTHURST

***Discovering Britain's First Railways; a guide to horse-drawn tramroads and waggonways* — Mark Jones.**

142pp, 220x120mm, 82 b&w images, 8 colour photographs, 1 map (tiny), paperback, History Press, The Mill, Brimscombe Port, Stroud GL5 2OG, 2012 ISBN 978 0 7524 6273 8, £9.99

In his introduction, the author states that his objective is twofold: a brief history of the development of early tramroads and plateways, their construction and operation together with the evolution of rails, wagons etc, followed by a gazetteer of the relics of 40 selected examples across the country. The first sections (up to page 48) take the form of a series of lectures for a general readership that make a fair introduction to those unfamiliar with the period, though RCHS members will find better treatments elsewhere.

The second part is much more worthwhile. For the chosen locations, which omit the important Stratford

& Moreton tramway, it is an up-date and expansion on the gazetteer in the classic book *Stone Blocks and Iron Rails* by Bertram Baxter (1966), now quite a rarity. The author had access to the Baxter Collection held by the RCHS from which several illustrations are reproduced, rather 'muddily', supplemented by his own recent photographs. These pages make an excellent exploration guide for walkers, provided they also have local Ordnance Survey maps since start points and other locations are indicated by grid references only. The accompanying historical notes are clear, concise and informative, and the published format fits neatly into a coat pocket.

MILES MACNAIR

Short Reviews

Steam Trails: Scottish Lowlands and Borders — Michael Clemens

96pp, 184x240mm, 109 colour and 43 b&w photographs, hardback, Ian Allan, Riverdene Business Park, Hersham KT12 4RG, 2012, ISBN 978 0 7110 3646 8, £16.99

After a seven page introduction which serves as a 'Contents' list, this book consists of photographs taken by the author, his father and a friend Alan Maund, mainly between 1958 and 1966. The area covered is between Stirling, Carlisle and Tyneside, including many out of the way spots. Each illustration is accompanied by extended captions which often include pertinent comments about the relevant lines or locomotive history. Fifty views were taken on railtours and thirty were at engine sheds. This is a pleasant reminder of railway scenes in southern Scotland in the 1960s. Unfortunately it lacks a map.

Canal Pioneers — Chris Morris

168pp, 168x240mm, 240 colour photographs, 1 map, paperback, Tanners Yard Press, Church Road, Longhope GL17 0LA, 2012, ISBN 978 0 9564358 3 5, £13.00

This book will be bought for its attractive colour photographs, taken in the last couple of decades, showing Britain's canals at their sunny best. Morris has a good eye for composition, and the publisher has done him justice. About a third of the pictures are reproduced full page. Despite the title, all periods of canal construction are depicted, from Brindley's early works to the Falkirk Wheel. Each of the six sections has a brief introduction, regrettably not error-free, but this is not a book for the historian but for someone who enjoys our beautiful canal heritage.

The Book of the Black Five 4-6-0s, Part 2, 45075-45224 — Ian Sixsmith

200pp, 300x215mm, 197 illustrations, hardback, Irwell Press, 59A High Street, Claphill MK45 4BE, 2012, ISBN 978 1 906919 50 4, £24.95

The second of a five part series describes batches built at the Vulcan Foundry and by Armstrong Whitworth. The author acknowledges that the approach adopted will lead to some duplication in the preliminary texts. Each locomotive is illustrated (but not in every manifestation of external style) with an inevitable preponderance of late views. No. 5155 *Queens Edinburgh* remains an enigma as to whether the name was ever carried.

East Yorkshire Railway Stations from Airmyn to Yapham Gate — Peter Tuffrey

128pp, 248x172mm, 201 illustrations, 5 maps, paperback, Amberley Publishing, The Hill, Stroud GL5 4EP, 2012, ISBN 978 1 4456 0502 9, £14.99

An alphabetical survey of passenger stations in East Yorkshire: this format has the advantage of making for easy reference, the disadvantage that information is repeated between captions for stations on the same line and also prevents any overall thematic or chronological approach. All, other than Southcoates, Wilmington and some short-lived stations and ticket platforms, are illustrated at various stages in their existence. The maps are useful, although the general one of the region fails to identify some of the stations listed. 'East Yorkshire', incidentally, is the modern administrative county, not the former East Riding.

The following seven books: 96pp, 236x166mm, about 120 photographs plus maps, timetables, tickets etc, hardback, Middleton Press, Easebourne Lane, Midhurst GU29 9AZ, £16.95 (post free)

Chester to Birkenhead — Vic Mitchell & Keith Smith

ISBN 978 1 908174 21 5

This covers the routes from Chester to several stations in Birkenhead, and the branch from Hooton to Helsby. As usual, views of stations predominate. Much of the surviving routes form part of Merseyrail, and a significant proportion of photographs illustrate the changes made as electrification to Ellesmere Port and Chester proceeded. The main termini at Woodside and Chester are well-covered, as are freight and the steam era.

Ffestiniog in Colour 1955-82 — Hugh Ballantyne

ISBN 978 1 908174 25 3

This covers the period between the first reopening and the completion of the route through to Blaenau Ffestiniog. In that time, colour photography became commonplace, and there are many views from the 1950s and 1960s, albeit not always sharp. Interesting views of both old and new Moelwyn Tunnels are covered along with the construction of the spiral deviation and the rebuilding of the line to Tanygrisiau and the new station in Blaenau Ffestiniog.

Branch Lines around Denbigh from Saltney Ferry, Rhyl, Corwen and Brymbo — Vic Mitchell & Keith Smith

ISBN 978 1 908174 32 1

The branch lines centred on Denbigh served a large part of rural North East Wales but did not feature in the Beeching Report as they had all closed to passenger traffic by 1962. The Corwen line had closed as early as 1953 but still saw the occasional passenger train such as the popular 'North Wales Land Cruise'. The photographs show that the stations were often some way from the communities they were meant to serve, and although a few stations survive as private dwellings others, including those at Ruthin and Denbigh, were demolished before such architectural delights were fully appreciated.

Eastern Main Lines: York to Scarborough — Vic Mitchell & Keith Smith

ISBN 978 1 908174 23 9

In spite of its title, a quarter of this album's content is devoted to York, which leaves rather limited space for developments over the years at Malton, Seamer (especially) and Scarborough. (The smaller stations changed little.) It contains an interesting selection of maps and photographs. Castle Howard station is not mapped, although nearby Crambeck is but not illustrated; more seriously, there is no plan of Scarborough Central. Captions are occasionally misleading and in one case (Plate 69) simply wrong. The more modern (digital) images have reproduced less well.

Branch Lines around Wroxham — Richard Adderson & Graham Kenworthy

ISBN 978 1 908174 31 4

The book is an excellent portrait of past and present railways serving the 'capital' of the Norfolk Broads. The main line still conveys freight, and the passenger service is well used. A branch used to serve Aylsham and was extended to provide a circuitous route to

Dereham. This continued to convey freight and a spur was constructed to convey residual freight off the M&GNR. This ended in the 1980s and the section from Aylsham to Wroxham became the route of the Bure Valley 15-inch gauge railway. All is well covered with maps, old photographs and contemporary views. The bridge over the Bure in Wroxham deserves greater coverage, however.

Branch Lines to Pembroke and Cardigan — Vic Mitchell & Keith Smith

ISBN 978 1 908174 29 1

The isolated Pembroke & Tenby Railway was extended from a new Tenby station to join the GWR at Whitland in 1866. This line still operates. Station by station coverage here into recent years also includes Pembroke Dock and the independent Saundersfoot Railway that served that arm of the Pembrokeshire anthracite coalfield. The Whitland & Taf Vale Railway to Crymmych Arms was extended to Cardigan in 1886; it closed in 1963. The many delightful and varied images portraying this GWR backwater in its final years typically include a prairie tank and train in the composition.

Branch Lines to Bartlow: from the Colne Valley, Shelford and Audley End — Vic Mitchell

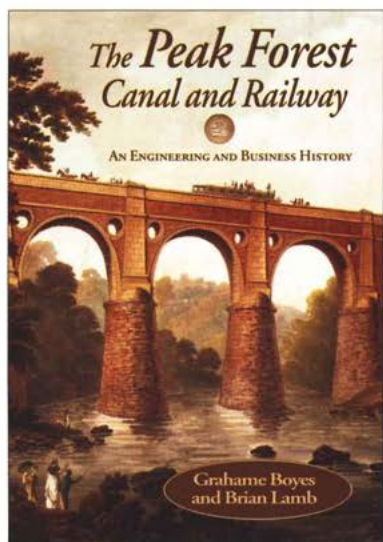
ISBN 978 1 908174 27 7

This covers a group of lines that served the rural borderland of Essex, Suffolk and Cambridgeshire. The Colne Valley & Halstead remained independent until the grouping, while two were absorbed into the Great Eastern: part of the Stour Valley line from Shelford to Haverhill and the Saffron Walden branch from Audley End to Bartlow. Also included are the Colne Valley Railway preservation operation at Castle Hedingham and the Audley End Miniature Railway. A short historical overview is followed by briefly captioned photographs and map extracts describing each station, including the junctions with neighbouring lines.

Erratum (November 2012)

The Forth & Clyde Canal – Conflict and its Motto

as noted on page 14, Kirkman Finlay became Governor of the company on 20 March 1816. The date three lines from the bottom of the right-hand column on page 13 should be '14 March 1823'



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Although conceived as a purely local enterprise, in 1831 the Peak Forest Canal became part of not one, but two rival, trunk routes from Manchester to the Midlands and London. Today it forms part of the Cheshire Ring, a popular itinerary for waterway *aficionados*. It owes its survival to a crucial, but little known, intervention by the Minister of Public Buildings & Works which ensured the repair of the Marple Aqueduct after its partial collapse in 1961. This proved to be a key event which helped to unlock obstructions to re-opening the Peak Forest and Ashton Canals, which in turn was the model for restoration schemes elsewhere on the narrow canal network.

The authors

In the early 1960s Brian Lamb was the first to make a special study of the Peak Forest Canal and Railway. He continued to research them for the rest of his life and became the acknowledged doyen of this corner of canal history. He was also much involved in recording the industrial heritage of Manchester and received an award from the Association of Industrial Archaeology for his outstanding work in this field.

As a native of Doncaster, Grahame Boyes received an early introduction to railways and railway history. Following an engineering degree at Cambridge, he then pursued a varied career with British Railways. His vision was widened to include canals – and later other modes of transport – through membership of the Railway & Canal Historical Society, which he has served successively as chairman, president and vice-president. He has written on a wide variety of themes in transport history.

