

1. Introduction

The General Manager (GM) was responsible to the Board of Directors for management of all activities of the Midland Railway, but I am here concerned only with operational aspects and documents. That is, how the train service was planned and organised, how instructions were issued and controlled, and how those aspects changed over the life of the company.

The GM was at the apex of the Midland organisation but obviously many matters were delegated to others – Locomotives, Goods Manager, and in later years many operational responsibilities. However, documents such as the Working Time Table (WTT) always went out with the name and title of the General Manager on the cover. The GM also nominally issued many supplementary timetables and notices, particularly in the earlier years, although from the 1870s the Superintendent of the Line became responsible for much of this, as will be described. There were also operating publications other than timetables that went out officially in the GM's name but that were prepared by the Superintendent's office and required returns of information to be sent to the Superintendent.

Documents that were regularly issued, such as working timetables and regular amendments, did not need to be issued in a "controlled" manner, that is to say there was no system of recording receipt, and users were expected to see that they had the necessary documents. This was helped by the logical way in which regular circulars were issued, having consecutive page numbers through several different kinds of publication. It was therefore possible for recipients to check, via the page numbering, that they had received all the relevant ordinary notices. There was also a recognised system whereby certain notices were published at regular intervals. If they were not received on time then potential recipients had to advise head office.

The General Manager was, of course, responsible for Stationmasters, along with all the other ranks of officer and servant. However, the relationship appeared particularly direct in that there were many orders and instructions issued to Stationmasters that required action and acknowledgement. This process involved both numbered and un-numbered instructions although officially the numbered instructions were always known as Orders. While many such instructions or Orders involved operating matters, this was not necessarily the case, and there were increasingly many commercial matters dealt with in the same way. This process accelerated from the 1870s with the new responsibilities for the Superintendent of the Line, until eventually GM's Orders became virtually all about commercial matters. The Superintendent of the Line also issued

numbered instructions, although in this case the instructions were classified as Circulars; these all dealt with operating matters.

For special instructions, special notices, GM's instructions, etc., (whatever the official name), that by their nature were not regular or known about in advance, there were requirements for ensuring that they were received and recorded by appropriate recipients. GM numbered notices had a tear-off slip or separate page, to be filled in by the recipient and returned to head office, together with an instruction in the body of the notice along the following lines. "Keep this Order, affix it in your Order Book, and acknowledge Receipt of it on annexed form". Special notices, particularly those for early action, might have an instruction such as "Advise all concerned, and acknowledge receipt by wire".

For the first 30 or 40 years of the Midland's existence, working timetables were issued on a monthly basis, although generally with the phrase "until further notice" included. As time went on, and as the additional timetable information required to be published grew in size, so there was greater emphasis on supplementary publications. By the late 19th century, it appeared to be the practice that the WTT was usually issued about three times per year, in January or February, then July for the summer months, then finally October. Finally, for the last few years before the grouping, there were just two issues per year, in May and October. There were also other very significant changes in that period that I shall discuss later. I should also point out that in discussing working timetables I am as much concerned with their arrangement and appearance as with their actual content, although I also give some examples of train services where these appear unusual, or otherwise caught my eye.

There was a very wide range of instructions and circulars issued to control the running of the railway, and necessarily that grew with the growth in complexity and size of the system, and as legislation and the force of circumstances required greater control. Although many of the different methods of promulgating instructions will be considered, it is worthwhile pointing out at this stage that the same or similar instructions might well be issued over time in several different formats and publications. Thus, an instruction might first come from say the GM, then be picked up by the Superintendent and maybe modified, or be featured in some of the notes at the rear of the WTT. Almost certainly, any significant instructions would eventually find their way into the Appendix to the WTT.

2. Working timetables

The first Midland working timetable in the Derby Study Centre collection, dated September 1852, is actually described as “general Time-tables” rather than a working timetable, and was in a format that would not last much longer. It consisted of 76 small pages in a limp red cloth cover, 6” wide by 4¼” deep. There were wide margins, and with the small size of page it was possible to cover only quite short sections of line at a time. That may have been by design or merely incidental but it made it quite difficult to track the progress of a train through the different sections.

Train timing columns were numbered, and divided vertically into two, the left hand being for arrivals at locations and for passing times; the other column was just for departures. There was no distinction in the typeface between arrival and passing times, the user had to determine from the context which was correct. Distances were shown from the start point but these were simply in miles and fractions rather than chains.

The first section of line was Derby to Leeds and return, four pages for each direction on weekdays, plus one page each for Sundays. Most passenger trains were described simply as Passenger, but there were Mail trains and the occasional Express. The northbound Mail was the 2.15 a.m. from Derby, into Leeds at 5.20 a.m. after calling at Chesterfield, Masbro (later Masboro), the station for Rotherham, “Barnsley” (later Cudworth), Oakenshaw and Normanton. There was, however, an Express leaving at 12.45 p.m., calling at Chesterfield, Masboro and Normanton, which arrived at Leeds in just two hours from Derby. In the southbound direction, there was a Mail at 2.35 a.m. from Leeds, into Derby at 5.20 a.m., calling at Belper in addition to those on the northbound Mail. There was an Express at 4.15 p.m. from Leeds, taking two hours five mins to Derby with the three usual stops, but there was also a train merely described as Passenger that left at 10.15 a.m., called at Oakenshaw additionally, and arrived Derby in two hours ten mins. Most through goods trains took four to five hours for the journey, usually with three or four calling points. There were more trains scheduled than actually shown in the train columns, since it appeared to be standard practice to show one or two local services as footnotes.

An example is “Pass. train leaves Derby at 12.55, Duffield 1.7, Belper 1.12., p.m., and arrives at Ambergate at 1.20 p.m.” This was in fact a through train to Rowsley, shown also in the Derby to Ambergate and Rowsley pages, and may have been shown thus in the main-line pages to avoid having to use an extra page, since all the columns had already been used. Later on, it became the practice to include blank columns to allow for flexibility, but clearly the timetables at this time were still rather basic.

Following on from the Derby-Leeds pages were the Leeds to Bradford, Skipton and Colne timetables, again four pages in each direction plus Sunday pages, and then the Lancaster, Sheffield and Doncaster lines. The next main section was that covering Derby and Nottingham to Rugby and return, and this section also had four pages for each direction and a separate Sunday page. As in other sections, there was no clear distinction between trains described as passenger and trains described as express – although the one might be calling at similar points and running at the same speeds as the other. The 12.35 p.m. Passenger from Derby to Rugby called at Kegworth, Loughboro and Leicester, whilst the 6.25 p.m. Express called at Trent Junction and Leicester, both taking one hour 25 mins for the journey. Both trains were shown with a Nottingham portion but as this was included in the same column it was not possible to show the precise times at the point of joining, in one case Kegworth, the other Trent Junction (no station there yet, of course). The latter train had a highly ambitious schedule, with the passing time at Sawley being 6.35, arrival at Trent Junction being 6.39, and the departure time from Trent Junction being 6.40 after attaching the Nottingham portion; the latter was shown to pass Long Eaton Jn at 6.35 so would probably arrive at the junction at say 6.37 or 6.38.

After the Rugby pages, the remaining sections of line simply had one or two pages to cover all the trains, including any Sunday services if they ran. The west route was divided into Derby to Birmingham, Birmingham to Gloucester and Gloucester to Bristol sections, although there was a separate pair of pages covering the Worcester loop, and that included the times at Birmingham, Bromsgrove and Gloucester.

[Passenger and Goods] DERBY TO												BIRMINGHAM. [Passenger and Goods]																								
Distance Mls.	STATIONS.	1		2		3		4		5		6		7		STATIONS.	8		9		10		11		12		13		1 SUNDAY TRAINS.							
		Cattle and Passenger Goods		Goods		Passenger		Goods		Passenger		Passenger		Goods			Cattle, Goods and Minerals		Express.		Minerals		Passenger		Mail		Goods		Passenger		Passenger		Mail			
		ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.		ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.	ARR.	DEP.		
0	DERBY	..	3 0	..	8 0	..	9 6	..	11 5	..	11 40	..	2 0	..	6 6	DERBY	..	4 45	..	6 50	..	7 0	..	8 10	..	11 17	..	11 25	..	8 14	8 17	14 7	15 11	28	..	11 17
64	Willington	..	3 20	..	8 18	..	9 20	..	11 10	..	11 20	..	11 58	..	12 22	Willington	..	5 8	..	6 43	..	7 26	..	8 22	..	11 28	..	11 55	..	8 14	8 17	14 7	15 11	28	..	11 17
11	Burton	..	3 31	..	8 29	..	9 31	..	11 20	..	11 30	..	12 16	..	12 24	Burton	..	5 19	..	6 48	..	7 44	..	8 53	..	11 31	..	12 0	..	8 25	8 27	14 7	15 11	28	..	11 37
15	Barton	..	3 4	..	8 41	..	9 43	..	11 30	..	11 40	..	12 26	..	12 34	Barton	..	5 52	..	6 57	..	7 53	..	9 0	..	11 43	..	12 20	..	8 29	8 31	14 7	15 11	28	..	11 43
174	Oakley	..	4 15	..	8 48	..	9 50	..	11 40	..	11 50	..	12 36	..	12 44	Oakley	..	6 6	..	7 3	..	8 30	..	9 37	..	11 46	..	12 14	..	8 40	8 42	14 7	15 11	28	..	11 48
194	Haseleour	..	4 21	..	8 53	..	9 55	..	11 50	..	12 0	..	12 46	..	12 54	Haseleour	..	6 12	..	7 6	..	8 30	..	9 37	..	11 51	..	12 49	..	8 48	8 50	14 7	15 11	28	..	11 51
204	Tanworth	..	4 34	..	9 0	..	10 0	..	11 50	..	12 0	..	12 52	..	13 0	Tanworth	..	6 23	..	7 17	..	8 30	..	9 37	..	11 51	..	12 49	..	8 58	9 0	14 7	15 11	28	..	11 51
248	Glascote	..	4 54	..	9 7	..	10 45	..	12 20	..	12 30	..	13 16	..	13 24	Glascote	..	6 45	..	7 19	..	8 30	..	9 37	..	11 51	..	12 5	..	9 0	9 2	14 7	15 11	28	..	11 51
248	Wilsnecote	..	5 0	..	9 9	..	10 48	..	12 22	..	12 32	..	13 18	..	13 26	Wilsnecote	..	6 51	..	7 20	..	8 30	..	9 37	..	11 51	..	12 5	..	9 0	9 2	14 7	15 11	28	..	11 51
291	Kingsbury	..	5 12	..	9 19	..	20 11	..	12 33	..	12 43	..	13 29	..	13 37	Kingsbury	..	7 8	..	7 24	..	8 30	..	9 37	..	11 51	..	12 5	..	9 19	9 21	14 7	15 11	28	..	11 51
314	Whitnere	..	5 17	..	9 24	..	25 11	..	12 39	..	12 49	..	13 35	..	13 43	Whitnere	..	7 15	..	7 30	..	8 30	..	9 37	..	11 51	..	12 5	..	9 24	9 26	14 7	15 11	28	..	11 51
329	Forge Mills	..	5 22	..	9 29	..	30 11	..	12 46	..	12 56	..	13 42	..	13 50	Forge Mills	..	7 22	..	7 37	..	8 30	..	9 37	..	11 51	..	12 5	..	9 29	9 31	14 7	15 11	28	..	11 51
344	Water Orton	..	5 27	..	9 34	..	35 11	..	12 51	..	13 01	..	13 47	..	13 55	Water Orton	..	7 29	..	7 44	..	8 30	..	9 37	..	11 51	..	12 5	..	9 34	9 36	14 7	15 11	28	..	11 51
37	Castle Bromwich	..	5 45	..	9 39	..	40 11	..	12 59	..	1 0	..	2 27	..	2 35	Castle Bromwich	..	7 41	..	7 56	..	8 30	..	9 37	..	11 51	..	12 5	..	9 39	9 41	14 7	15 11	28	..	11 51
411	BIRMINGHAM	..	6 0	..	10 0	..	11 35	..	1 20	..	2 45	..	4 10	..	4 6	BIRMINGHAM	..	7 50	..	8 10	..	9 30	..	10 37	..	11 51	..	12 5	..	10 0	10 2	14 7	15 11	28	..	11 51

Figure 1: Derby to Birmingham 1852 general Time-table

It was not long before this type of WTT was superseded. By 1854, the new format was much more similar to a modern timetable, in size and to a large extent in appearance, with a page size of $9\frac{1}{2} \times 6$ ins, more than double the size. As a result of the much larger page size and content, the number of pages had now been reduced to 36, initially with blue paper covers although later this changed to self-coloured; the timetable was issued every month, and was only valid for that month. The train timing columns were no longer divided vertically into arrival and departure columns, but the distinction was made by having separate arrival and departure rows for the more important stations and junctions.

There was now a different, smaller, typeface for passing times, but these were still shown on the arrival rows rather than the later practice of using departure rows; there was an entry on the index page stating that "Trains do not STOP at the Stations Marked with SMALL Figures." There were still some local trains shown simply as footnotes rather than in columns. After the index page, the first timing pages covered the section Rugby to Nottingham, Derby and Leeds, and return, with six pages for each direction including the Sunday trains. Derby to Bristol was now covered in one section, with three pages for each direction inclusive of Sundays. The only other section with more than a pair of pages was the Leeds, Bradford and Lancaster section, which had six to cover both directions including Sundays.

Whilst I shall not look in detail at the 1854 timetable, there is one aspect that is worthy of note. On the Derby – Bristol route, there are some interesting workings in the Worcester area that featured only in these early timetables. The majority of the passenger trains called at Bromsgrove, and were shown to divide there, with portions going forward via both the original route via Dunhampstead and the later route via Worcester. Taking the 8.0 a.m. Derby to Bristol passenger as an example, it is allowed 35 minutes in Birmingham (during which time it would reverse) leaving there at 10.45. Calling at Blackwell only, it is due into Bromsgrove at 11.23, where it divides into the Worcester portion, leaving at 11.25, and the Dunhampstead route portion leaving at 11.28. The Worcester portion then makes the usual calls for that route, and is shown to arrive Abbots Wood Junction at 11.58. The other portion makes a call at Stoke Works, then at Droitwich Road, and is shown to arrive at Abbots Wood Junction also at 11.58. (Note that the 'old road' portion calls at a location shown as Stoke Works, whereas that via Worcester the location is simply Stoke, the GW station.) The combined train is then shown to depart for points west at 12.0 noon, with just a 2 min. allowance to perform the manoeuvre. This is in fact the standard allowance for all trains rejoining here; given that portions would be small, and junction and signalling arrangements primitive, it is nevertheless a very sharp allowance indeed, and staff would have to be on their toes not to lose time. The train goes on to Gloucester,

arriving at 1.3, and after a 15-min. allowance, to include another reversal, eventually arrives at Bristol at 2.45.

In the other direction, there are similar arrangements, and similarly tight timings. The 8.0 a.m. train from Bristol to Derby (Gloucester 9.20 – 9.35) arrives Abbots Wood Jn at 10.19, and both portions are shown to depart at 10.21, a physical and practical impossibility, of course. Nevertheless, that is what the WTT shows! In this instance, the Dunhampstead route portion is non-stop to Bromsgrove, arriving there at 10.52, whilst the Worcester portion, with calls at Worcester and Droitwich, but not Stoke, arrives Bromsgrove at 10.57. The train, combined once more, leaves at 11.0 and without an intermediate call arrives Birmingham at 11.40. With two further calls, it arrives Derby at 1.0 p.m. Interestingly, this train is described as an Express, one of the very few with this description. Indeed, there are no others on the route, apart from the 6.45 p.m. Derby to Gloucester, although there are Mail trains in each direction that are, to all intents, expresses. In the whole of the WTT at that time, there are only four passenger services described as express, the two mentioned, and one in each direction between Rugby and Leeds.

By 1862, WTTs were being issued on a monthly basis, but with the phrase "until further notice" added; if needed, the timetable could therefore remain in use for a longer period, although at first this appeared rare. The issue of May 1862 saw, for the first time, a London to Derby table featuring at the front of the book; admittedly, only from Kings Cross but showing all the through trains the Midland was then running from London. Hitherto, the initial section had covered Rugby to Leeds via Derby, with Kings Cross to Leicester appearing only at page 71 in the April issue. The new format included the Rugby line, and the Nottingham branch, with six weekday pages in each direction, plus another each way for Sundays. The new Leeds and Derby to Trent pages included in the one table the lines via Ambergate and via Pye Bridge, also covering the line from Trent to Nottingham. There was no need for significant changes to the other main pages, Derby to Bristol, Leeds to Lancaster but there were of course additional pages. There had been substantial additions since 1854, as lines had opened, and the May 1862 book had increased in size to 84 pages.

The Kings Cross table was mentioned earlier, and it is interesting to see what provision the Midland made. The first passenger train of the day was a slow, leaving at 7.20 a.m., calling at Hatfield and Hitchin on the GN, then most stations to Leicester, where it arrived at 11.10 a.m., waited for 23 minutes and left after the next London train. It was followed by a 9.10 a.m. passenger, which was actually an express although not so described. This called only at Bedford, (61 minutes for the $47\frac{1}{2}$ miles – note over two miles shorter than from St. Pancras) then non-stop to Leicester, arriving at 11.20, only 10 minutes after the early stopping train.

LONDON TO TRENT,

Distance Miles	STATIONS.	26	27	28	29	30	31	32	33	34	35	36	37
		Empty Coal Wagons a.m.	Stately Empty wagons &c. a.m.	Goods a.m.	Empty Coal Wagons p.m.	Empty Wagons for Clay Cress a.m.	Empty wagons a.m.	Goods and Empties. a.m.			Empty Coal Wagons. a.m.	Passenger a.m.	Iron ore. a.m.	Passenger a.m.
..	LONDON (K. C.)	..	..	..	..	..	..	..	..	6 0	7 20	..	9 10
17 1/2	Holloway .....	..	..	..	..	..	..	..	..	6 49	7 48	..	..
22	Hatfield .....	..	..	..	..	..	..	..	..	7 31	7 54	..	..
32	Welwyn .....	..	..	..	..	..	..	..	..	7 41	8 15	..	..
32	HITCHIN { arr. dep.	..	..	..	..	..	..	..	..	8 23	8 18	..	..
36	Henlow .....	..	..	..	..	..	..	..	..	8 35	8 29	..	..
38	Sheffield { arr. dep.	..	..	..	..	..	..	..	..	8 43	8 35	..	..
40 3/4	Southill { arr. dep.	..	..	..	..	..	..	..	..	8 49	..	..	..
45	Cardington .....	..	..	..	..	..	..	..	..	9 2	8 40	..	..
47 1/2	Bedford { arr. dep.	..	..	..	..	..	..	..	..	9 10	8 50	..	..
51 1/4	Oakley .....	..	..	..	..	..	..	..	..	9 24	8 59	..	..
55	Sharnbrook { arr. dep.	..	..	..	..	..	..	..	..	9 37	9 6	..	..
61	Irchester .....	..	..	..	..	..	..	..	..	9 47	9 19	..	..
63	Wellingbro' { arr. dep.	..	..	..	..	..	..	..	..	10 5	9 33	..	..
67	Finedon .....	..	..	..	..	..	..	..	..	10 11	..	..	..
68	Isham & Bur. Lat.	..	..	..	..	..	..	..	..	10 36	9 39	..	..
70 1/2	Kettering .. { arr. dep.	..	..	..	..	..	..	..	..	10 48	9 48	..	..
73 1/2	Glendon Siding ..	..	..	..	..	..	..	..	..	10 51	9 51	..	..
74	Rushton { arr. dep.	..	..	..	..	..	..	..	..	10 57	9 57	..	..
76 1/4	Desboro' .. { arr. dep.	..	..	..	..	..	..	..	..	11 17	10 11	..	..
81 1/4	Market Harboro' { arr. dep.	..	..	..	..	..	..	..	..	11 38	10 11	..	..
87 1/4	Kibworth .. { arr. dep.	..	..	..	..	..	..	..	..	11 52	10 20	..	..
89 3/4	Glen .....	..	..	..	..	..	..	..	..	12 10	9 0	..	..
93 1/4	Wigston Station ..	..	..	..	..	..	..	..	..	12 18	10 35	..	..
94 1/4	Wigston Junction ..	..	..	..	..	..	..	..	..	12 25	10 42	..	..
96 1/4	Knighton Junction ..	..	..	..	..	..	..	..	..	12 34	10 54	..	..
97 1/2	LEICESTER arr.	..	..	..	..	..	..	..	..	12 45	11 10	..	..
..	RUGBY .....	..	..	8 35	9 0	9 30	9 40	..	..	..	10 20	..	..
7 1/2	Rugby Wharf .....	..	..	8 38	9 0	9 33	9 44	..	..	..	10 24	..	..
11	Ullesthorpe .....	..	..	9 4	9 3	9 33	9 43	..	..	..	10 40	..	..
14 1/4	Broughton .....	..	..	9 14	9 3	9 33	9 43	..	..	..	10 49	..	..
16 1/4	Countesthorpe .....	..	..	9 24	9 4	9 33	9 43	..	..	..	10 58	..	..
18 1/2	Wigston .....	..	..	9 30	9 4	9 33	9 43	..	..	..	11 4	..	..
18 1/2	Knighton Junction ..	..	..	9 36	9 59	10 19	10 35	..	..	..	11 10	..	..
20	Leicester .. { arr. dep.	..	..	9 40	9 50	10 29	10 39	..	..	..	11 15	..	..
24 1/4	Syston .....	..	..	10 5	10 13	10 43	10 53	..	..	..	11 33	..	11 23
27 1/4	Sileby .....	..	..	10 13	10 29	10 51	11 1	..	..	..	11 46	..	11 39
29 1/4	Mount Sorrel Junc.	..	..	10 19	10 38	10 51	11 1	..	..	..	11 55	..	11 34
30	Barrow .....	..	..	10 19	10 45	10 58	11 8	..	..	..	12 2	..	11 37
32 1/4	Loughboro' { arr. dep.	..	..	10 27	10 57	11 4	11 14	..	..	..	12 10	..	11 40
37 1/4	Kegworth .. { arr. dep.	..	..	11 10	11 50	11 17	11 27	..	..	..	12 22	..	11 46
40 1/4	Trent Junc. ....	..	..	12 11	12 33	11 33	11 35	..	..	..	12 30	..	11 50
..	40 1/4 Trent .. { arr. dep.	10 45	..	..	..	..	11 38	..	..	..	12 32	..	11 51
..	44 1/4 Beeston .....	..	..	..	..	..	..	..	..	..	12 36	..	12 1
..	47 1/4 Nottingham ..	..	..	..	..	..	..	..	..	..	12 45	..	12 9
42 1/4	Sawley .....	..	..	12 24	..	11 40	..	..	..	..	12 41	..	..
43 1/4	Draycott .....	..	..	12 27	..	11 48	..	..	..	..	12 44	..	..
45 1/4	Borrowash .....	..	..	12 34	..	11 48	..	..	..	..	12 49	..	..
46 1/4	Spondon .....	..	..	12 39	..	11 53	..	..	..	..	12 53	..	..
49 1/4	Chaddeasden Sidings DERBY North Junc arr. Station .....	..	..	12 50	..	..	..	..	..	..	1 0	..	..
..	..	..	..	12 55	..	..	..	..	..	..	1 5	..	..

34 Train shunts at Hitchin for 35, at Wellingboro' for 38, and at Desboro for 39 Passenger Trains, and stops at Holloway to attach Empty Coal Wagons, and at Sheffield, Bedford, Kettering, and Market Harboro' to leave Fish when required.

28 Train stops at Barrow Lime-Works, and at Sheet Stores when required, and Shunts at Kegworth for 30 and 31 Empty Wagon and 40 Passenger Trains.

32 Train stops at Howard's Siding, shunts at Desboro' for 36, at Harboro' for 37, and at Wigston Junction for 33 Passenger Trains.

Figure 2: London to Trent, Nottingham and Derby table, May 1862.

After a three-minute stop at Leicester, the train was then scheduled non-stop to Trent station, newly opened that very month, in 28 minutes for the 20¼ miles. Ten minutes were allowed at Trent, (11.51 – 12.1) and the main part of the train then travelled via the Erewash Valley line to Leeds, calling at Masbro and Oakenshaw Junction only, with a Leeds arrival at 1.55 p.m., or 4 hours 45 mins from London.

There was a Lincoln to Derby train scheduled at Trent for three minutes, 11.55–11.58, which may have had through carriages added from London, although three minutes is tight for such an operation, even with the elementary signalling and operations then in vogue. This was shown to arrive Derby at 12.20 p.m.

As can be seen from the accompanying illustration, there was also a Nottingham portion, shown to leave Trent at 12.1, at an identical time to the Leeds train departure. This was theoretically not possible from the one platform, of course, whilst the other platform was in any case involved with the Derby train. It shows perhaps that timetables were still somewhat simplistic, or the officers concerned were unsure of what might be possible at the new station. Or indeed that timetable clerks were not sufficiently aware of what went on out on the ground – a perennial problem! Arrival time at Nottingham was at 12.20 p.m., thus both Derby and Nottingham had a service taking three hours ten minutes from London.

There was only a short gap until the next service left Kings Cross, at 9.20 a.m. This was a semi-fast service, calling only at Shefford, Southill, Bedford, Sharnbrook and Wellingboro, Kettering, Market Harboro and Kibworth to Leicester, arr. 12.11, then Loughboro, Trent and Beeston to Nottingham (1.15) with a Derby portion arriving at 1.25 p.m. Following this, there was a gap of two hours, with the 11.30 forming quite a fast service, 2 hrs 23 mins to Leicester with four stops, then Loughboro and Kegworth to Trent, where the train divided into Nottingham, Derby and Leeds portions. The latter called at Chesterfield, Eckington, Masbro, Oakenshaw Junction and Normanton, arriving Leeds at 5.15 p.m. To our eyes, some of the calling points appear unusual for fast trains – Kegworth and Eckington, for example, and the Oakenshaw calls are clearly for the benefit of Wakefield passengers – but there is no connecting service shown for any calls here, so it is not possible to say from the timetable whether these were to the L&Y or GN station in Wakefield, or if they were worked by the Midland. Also, the fact that trains stopped at the junction (no station, and for four or five minutes per train) would tend to support the view that there were through carriages rather than connecting services.

After the 11.30 departure, there was nothing from Kings Cross until 3.40, and even this was a slow service, calling at every Midland station, and taking 3 hrs 50 mins to Leicester. It was not until 5.35 p.m. that there was another fast service, still however not described as express, taking 2¼ hours to Leicester with just the

Bedford stop. There is reference in contemporary documents that the GN would not allow an earlier fast service, giving preference to their own trains, but it is clear that this was not a satisfactory outcome, and was obviously one of the influences over the decision to build to St. Pancras. To complete the record, there was one further passenger train, the 6.45 Leicester slow, taking nearly 3½ hours for the journey.

It is noteworthy that the aforementioned 5.35 train was quite tightly timed, and would have needed exemplary operating to give a punctual arrival. It was due into Trent station at 8.22, after a 27-min. run from Leicester, and as usual the Nottingham portion was shown to have a 10-minute call. However, one of the idiosyncrasies of the timetable methods then being used was that there was no separate departure time shown for the Derby & North section. It is nevertheless possible to determine that this portion must have stopped for only one or at most two minutes, since it is shown to pass Sawley (old) station at 8.27, and that is over two miles from Trent with a very sharp curve involved. To make matters worse, there was a quite complicated move before getting to Derby, since the train was shown to run via Derby North Junction, arriving at 8.40, with an arrival at Derby station shown as 8.50.

The reason for this move was clear; the Chaddesden route was still the only route into Derby, and there was a train to the north leaving Derby at 8.35, calling at Derby North Jn (dep. 8.45) to attach the London portion, and thence to Chesterfield, Masboro, Oakenshaw Jn, Normanton, Woodlesford and Leeds, the latter arrival being due at 10.50. It is not clear whether the London portion was attached to the Derby portion, or vice versa. Nevertheless, it is still quite a high-risk schedule. Bear in mind the circumstances, of minimal signalling, small locomotives, four-wheel carriages, no continuous braking, and (outside the summer period) much of the route in darkness. In hindsight, therefore, it is fair to conclude that it was in fact asking a great deal of the operating staff at that time.

Before moving on, it is also clear from the timetable that indeed the majority of trains from the south were routed via Derby North Jn., and probably propelling from North Jn into Derby station, in view of the limited time scheduled. Typical is the 11.20 p.m. Mail from Rugby, shown to pass Spondon at 12.45, the Derby North Jn time as 12.50 (for reversal) and arrive Derby at 12.55 a.m.

As an aside, it is quite interesting to look at the times for the 12.1 p.m. train from Trent northwards up the Erewash Valley in 1862, and compare it with later times. In 1862, the train took 30 minutes after **departing** Trent to passing Clay Cross Jn. In the high summer of Midland expresses, the 1913 timetable allowed the comparable train (the 9.45 a.m. St. Pancras Scotch Express) 32 minutes from **passing** Trent. In 1957, the equivalent BR service, the Thames-Clyde Express took 34 minutes from passing Trent.

So much for the march of progress or perhaps (more fairly) the progress of mining underneath the railway. Nowadays of course, things are very different – there are no trains from St. Pancras that use the route but those few Voyagers or HSTs that traverse it do so in 18 or 19 minutes, excluding recovery allowances.

Another aspect of the London route in 1862 worth considering is the southward goods service provided. Here, no doubt due to the GN route limitations, much of the traffic still passed via Rugby. Nevertheless, the GN route via Hitchin took two mineral trains, four goods trains and two express goods trains in the 24 hours. There were also eight coal trains arriving at Peterboro in the 24 hours, the traffic of some of which doubtless would have gone forward to the London area. Rugby also saw five goods trains and two express goods trains in the day, but no fewer than 16 coal trains in the same period; at times these arrived at the rate of one every 20 or 25 minutes.

In the northbound direction, I think it is illuminating to consider the complete list of departures from Rugby on a normal weekday. There were trains at 12.40 a.m., 1.0, 2.25, 2.55, 4.15, 5.35, 6.35, 6.50, then the first passenger (P) at 8.30, 8.35, 9.0, 9.40, 10.20 (P), 11.30 (P), 12.10 p.m., 12.20, 1.25 (P), 2.5 (P), 2.10, 2.15, 2.45, 3.15, 3.45, 4.0, 4.45, 5.20 (P), 6.45, 7.15 (P), 8.30, 9.0, and finally the Mail at 11.20. In any circumstances that is an extraordinarily busy stretch of line, and one can but wonder just what was involved in keeping things running adequately in the circumstances that then existed.

As time passed, and still more lines opened and the train service itself grew, the number of pages in the WTT increased substantially, so that by 1876 there were some 278 timing pages in the book, plus a number of pages giving traffic instructions. There was also a change in the way the book was put together, probably due to the size of the task now, but it led to an arrangement that lasted for most of the Midland's remaining years. In 1862 the book had essentially been divided into three main sections, London to Leeds, Derby to Bristol, and Leeds to Morecambe, each with its own section cover such that it could be issued separately. There were also short sections that could be issued separately, Derby to Nottingham and Lincoln, Nottingham to Codnor Park and Mansfield, and Peterboro to Leicester and Burton. There was clearly some inconsistency with this, in that the London to Leeds section ran to 36 pages, the Peterboro to Burton section to eight pages, and the Derby to Lincoln section to just four pages.

The February 1876 version was much more organised, with 11 sections identified by letters (A to L but no section J for some reason) starting with the northernmost lines. This became the standard approach from then on. There was a more even spread of pages, with most sections having between 20 and 40 pages; each section had a comprehensive cover page,

with a good selection of instructions included, both of a general nature and for that specific section.

Sections were carefully arranged so that the cover page was always a right-hand page, and thus could form the outer cover to that section when issued individually. That of course was the key to the matter, ensuring that the necessary timetable information could be issued in smaller chunks, so that most signalmen and station staff had to be issued with only one WTT of 30 or 40 pages rather than the book as a whole. For a book of nearly 300 pages, still issued on a monthly basis, there were clearly savings in printing costs to be had from such a move.

The sections then being used were as follows:

- p.3 Section A - Leeds Bradford Carnforth Carlisle & Morecambe
- p.35 Section B - Leeds & Derby
- p.71 Section C - Liverpool Manchester & Derby
- p.83 Section D - Erewash Valley (Nottingham – Chesterfield etc)
- p.115 Section E - Derby Nottingham Toton & Leicester
- p.139 Section F - Derby Birmingham & Bristol
- p.179 Section G - Swansea Brecon Hereford & Worcester
- p.187 Section H - Burton & Leicester
- p.195 Section I - Leicester Peterboro Lynn Whitacre & Rugby
- p.207 Section K - Leicester & London
- p.231 Section L - London, City & Suburbs
- p.279 Traffic instructions (16 pages) applicable to all sections.

Taking the Section F cover page as an example, it was numbered as page 139, with “Midland Railway – *For the information of the Company's Servants only*” at the top of the page, which was identified by a large capital F. The title of the section was, in full, Derby & Birmingham, and Birmingham & Bath & Bristol, and branch lines, with an applicable date of February 1st 1876 until further notice. This is reproduced on the rear cover, together with its detailed instructions.

There are a few things about the 1876 timetabled services that are worthy of note. In the first section, the first table was headed Leeds, Bradford, Skipton, Colne, Ingleton and Carnforth, and thus the Carnforth route was seen as more important now than the Lancaster route, which was covered by its own small table, Wennington, Lancaster and Morecambe. The Settle and Carlisle had just opened, but only to goods traffic, and Hellifield was still a small country station without a junction; L&Y line traffic was therefore still shown routed via Skipton. What is striking on this route is the makeup of the service. Out of the 13 goods trains departing Skipton for Carlisle on Tuesdays to Saturdays, no fewer than nine were described as express goods, taking around 4¼ hours for the 86 miles; most trains, express or ordinary, were through from Leeds Hunslet. Even on a Sunday, there were three express and four ordinary goods, and unlike on most of the company's routes, these were spread through the day.

All goods trains were shown to call at Settle, Kirkby Stephen and Appleby for water, and interestingly, most (but not all) of these stops at Settle and Appleby had an allowance of 10 minutes. Given that there was a standard note that trains were allowed only five mins for water where a water stop is shown, that strongly implies that services were anticipated to be double-headed on a regular basis. Incidentally, at this time there were two locations shown as Settle, the new and the old, the latter to become Giggleswick shortly. No doubt railwaymen were expected to realise which was which, so that until passenger trains started there should not have been a problem.

One final interesting point on the Carlisle route is a timetable note reading, "The Line between Rise Hill and Hawes Junction is worked as a Single Line, in accordance with special instructions, which must be strictly observed", so clearly, the route was not completely finished. From the mileages shown, the timing point of Rise Hill was in the vicinity of Dent station-to-be, about 3½ miles from Hawes Jn. When one considers the times shown, however, it is also clear that there must be more to it than is apparent, because the running time between the two locations is 20 mins in each direction, yet two trains are shown to follow each other with only a ten-minute gap! The opposing trains are carefully timed, however, with no clashes shown on the single line yet half a dozen examples of crossings at each location with identical times. The most vivid example is between 7 a.m. and 8.30 a.m.; a southbound train occupies the single line from 7.7 to 7.27, a northbound from 7.27 to 7.47, a southbound 7.47 to 8.7, another southbound 8.7 to 8.27, and yet another southbound from 8.25 to 8.45. I suspect that things did not often work out so precisely!

I commented previously on the London mineral traffic, and it is interesting to compare what the situation was now that the Midland's own route had been in existence for some years. In February 1876 there were 24 mineral trains arriving in London on a normal weekday, plus a substantial number of ordinary and express goods trains. There were also four mineral trains terminating at Leagrave, obviously for the Luton traffic, and rather surprisingly there were no fewer than 10 finishing at Bedford. Quite where all the wagons went is unclear,

since there were now minimal freight movements on the Hitchin line, just one each way, plus two shown as passenger and goods. Equally surprising is that the number of mineral trains arriving at Peterboro was now 21 daily compared with the previous eight; not all those would have been destined for London, of course. On the Rugby line, the number of mineral trains had dropped from the very high figure a few years before, but there were still nine arriving Rugby daily, plus three goods trains for through traffic. (As an aside, intermediate locations on the Rugby line were served only by northbound goods trains.)

For the remaining years of the 19th century, and into the 20th, the Midland WTT continued to grow in size, within the fixed page size, and was generally organised in the same way. By 1884, it had reached 430 pages, nearly 50% up on eight years before, whilst the number of sections had also increased by 50%, to 15 instead of 10, mainly in the north of England. By 1893, whilst the overall sections remained constant, the combined book had now grown to 526 pages. Whereas in 1876 the line between Carlisle and Derby needed 69 pages in two sections, now there were 152 pages in four sections. The Derby to Bristol section had now been split at Birmingham, whilst the Leicester to Whitacre and Rugby pages now had their own section separate from the route via Melton and Manton. The final pages of the combined book were still given over to traffic arrangements, but had grown somewhat and now they clearly formed a lettered section that could be, and was, issued separately as required.

The type of traffic arrangements covered had also grown, with several pages devoted to requirements for London coal traffic. In some ways this was not surprising, given the sheer extent of the traffic, but examples show how the system was straining to cope. For instance, originating points in the Midlands such as Westhouses, Toton, and Nottingham were categorically prohibited from forwarding London coal traffic to Wellingboro between 1 p.m. and 9 p.m. or midnight daily, and between 6 a.m. Saturday and 6 p.m. Sunday. There was a note that after 6 p.m. Sunday, trains should afterwards be worked at hourly intervals unless otherwise instructed.

Mineral Trains to and from the Leicester and London Line.		
The Stations shown below must, between the hours given, not despatch to Wellingboro', London Coal, as follows:—		
Stations.	Mondays to Fridays only.	Saturday and Sunday.
	West End and Kentish Town Coal, as particularised on this page.	All London Coal, except that for L. & S. W., L. C. & D., L. B. & S. C., and S. E.
	Between	
Westhouses	10. 0 a.m. and 7. 0 p.m.	6. 0 a.m. Saturday and 6. 0 p.m. Sunday.
Toton	1. 0 p.m. " 3. 0 p.m.	Do. Do.
Nottingham	1. 0 p.m. " 9. 0 p.m.	Do. Do.
Leicester	1. 0 p.m. " 12. 0 night.	Do. Do.
Wigston	1. 0 p.m. " 12. 0 night.	Do. Do.
Coalville	11. 0 a.m. " 10. 0 p.m.	Do. Do.
		The Trains to be afterwards worked at hourly intervals, unless otherwise ordered by Superintendent of the Line.
Finedon Sidings are used for marshalling London Coal as follows:		
UP (North End of Sidings).		
Nos. 1 and 2.—Reception Sidings for trains to back into off Main Line.		
No. 3.....—Wagons which are marshalled at Wellingboro'.		
" 4.....—Wagons for West End.		
" 5.....—Wagons for Finedon New Sidings, High St. Kensington, Brent, Hendon Proper.		
" 6.....—Wagons for South of Thames, L. C. & D., S. E., and workable traffic.		
" 7.....—Wagons for Child's Hill New Sidings, re-labelling, and West Kensington.		
DOWN (South End of Sidings).		
No. 1.—Shunting Line.		
All wagons arriving at FINEDON Sidings for Brent (L. & S. W.), Battersea (L. B. & S. C.), Hendon Old Sidings, and Kentish Town, mixed with other wagons, must be shunted into No. 3 Up Siding, and worked through to Wellingboro' for re-shunting. When, however, trains from North Stations to Wellingboro', are loaded fully with this traffic it will be worked direct to Wellingboro'.		
Engines working Up from North Stations must take properly marshalled wagons, or traffic requiring re-shunting, as may be seen from Finedon side, to Welling, when this will not entail the men making too much time.		

Figure 3: Example of 1893 restrictions on despatch of Mineral traffic.

Double-framed Engines running to Wellingboro' to turn, will work a full Train of 38 wagons of Coal, from Finedon Sidings to Wellingboro'.

Mineral Trains, must, as far as possible, be so marshalled from the starting point or at Finedon Sidings on Wellingboro' that they will be able to work full trains, either to Hendon, Brent, Child's Hill Sidings, or West End.

Wagons must be marshalled at Wellingboro' as under:—

- For Battersea viz., all wagons for L. B. & S. C.
- " Brent viz., all wagons for L. & S. W.
- " West Kensington, Kew, Acton, Acton Tip, Hammersmith, Dudding Hill, Child's Hill, and Child's Hill Loco.
- " Walworth Road

The above traffic must be shntd at Wellingboro' by the Train Engines working it before being liberated. Trains to London must be fully loaded from Wellingboro' for either Hendon, Brent, Child's Hill New or West End.

All Mineral Trains booked to run to Wellingboro' via Syston and Manton, and Nottingham and Manton, must convey 32 wagons with a double, and 38 wagons with a single-framed Engine, for London and beyond. If there is not full loading of London traffic, wagons for Wellingboro' only may be sent, but these must be marshalled together in all cases. When full Trains of London and Wellingboro' wagons cannot be obtained, the Trains must be loaded to best advantage, and sent via Wigston—each case to be reported to Messrs. Mugliston and Briddon by the Station working the Train. Wagons for via Brent, and Battersea (L. B. & S. C.) must be marshalled together as far as practicable, viz.—Brent wagons together, Battersea (L. B. & S. C.) wagons together.

All Mineral Trains to London worked by Hasland must be provided with single-framed Engines, and convey 38 wagons throughout. Wagons for L. & S. W. via Brent to be marshalled together, also wagons for the following Midland Depôts must be marshalled together:—Kew, Acton, Hammersmith, Acton Tip, Kensington (High Street) Dudding Hill, Child's Hill, Brent proper, and Hendon. The Clay Cross to London Trains to start from Avenue when required.

The Derby and Burton Trains to Wellingboro' must take wagons for L. & S. W. via Brent together, and Battersea (L. B. & S. C.) wagons together; from Burton to London wagons for L. & S. W. via Brent must be marshalled together, also for the following Midland Depôts must be marshalled together:—Kew, Acton, Hammersmith, Acton Tip, Kensington (High St.), Dudding H., Child's H., Brent proper, & Hendon.

Mineral Trains, Hasland and Burton to London, must take full Trains from Wellingboro' to London.

Trains for Hendon New Sidings must consist of Wagons for St. Pancras Wharf, Kensington (High Street), Kentish Town Loco., Brent relabelling, Hendon proper, and Cameron's Coal from Cussal for Walworth Road and Peckham Rye, which is worked by one of the trip engines to Child's Hill New Sidings.

Trains for Brent Down Extension Sidings must consist of wagons for West Kensington, Kew, Acton, Acton Tip, Hammersmith, Stonebridge Park, Dudding Hill, Child's Hill Loco., Brent Gas Works.

Trains for Child's Hill must consist of wagons for S. E., via London Bridge; for Stewart's Lane, and L. C. and D., via Herne Hill; Walworth; surplus of 250 wagons for L. B. and S. C. sent via Brent and L. and S. W.; for Beckenham, Bickley, Bromley, Penge, Clapham, Clapham Road, Nunhead, Honor Oak, Crystal Palace, Brixton, and all re-labelling coal for Child's Hill. The wagons to be sorted at Child's H.

Trains for West End must consist of wagons for West End Coal Wharf, Finchley Road, Tottenham Branch, Bow, Poplar, Victoria Docks, St. Pancras Rd. Bays, St. Pancras Coal Sids., Brewer St Bays, Cambridge Street New and Old Bays, and rough Goods for S. Pancras. The wagons to be sorted at West End.

Mineral Trains must, as far as possible, be so marshalled from the starting point or Finedon Sds. or Wellingboro' that they will be able to work full Trains, either to Hendon, Brent, Child's Hill Sidings, or West End. Should there be any difficulty in obtaining full loads, it is desirable that the loading for Child's Hill New Sidings more especially, should consist of traffic for Hendon and Child's Hill New Sidings in preference—or for Child's Hill New Sidings and Brent, wagons for Child's Hill to be detached first.

All Mineral Trains booked to run via Wigston from the Leicester and Burton Branch, Burton, and Stations North of Leicester to Kettering and beyond, must be marshalled with regulation load to destination, and detach surplus wagons at Wigston. Trains for Wellingboro' must take wagons for L. & S. W. via Brent together and Battersea wagons together.

Down Mineral and Empty Wagon Trains from Wellingboro' and Kettering to Stanton Gate, Derby, Staveley, and Eckington, via Wigston, must take the necessary load to Wigston, thence with full load for places where booked to stop.

Figure 4: 1893 requirements for London coal traffic

By 1913, the book was largely unchanged in its organisation, the number of sections remaining constant at 15, but the number of pages inexorably increasing. The combined book had now reached a total of 662 pages, a very substantial volume, with even individual sections often exceeding 60 pages. The largest, the London to Kettering, now had 128 pages, on its own 50% bigger than the book covering the whole railway in 1862. Perhaps a rather more meaningful comparison is

the growth of well over 100% in the four decades since 1876, when the system had largely reached its full size.

There was one very noticeable change to the WTT, it no longer contained any references to Midland goods trains; instead there had been a change to the American term *freight*, at least for its own trains. Other railways still ran goods trains, though, according to the timetable, whether they were NE, GN, GC, GW or LNW.

There is one other systemic change to record, applicable to express passenger trains, and following on from the recent introduction of power classification for engines. It was now Midland policy to show a column note for all expresses, giving the maximum loadings for various classes of engine. Thus, a typical note would read Load 170, 200, 220, 260 tons, applicable to power classes 1 to 4 but without actually denoting them. There were standard loads set for the different sections of line, which varied according to the gradients involved and the applicable schedules. Where a section of line involved heavy gradients, and appeared on the same timetable pages as a flatter section, this required a double note. It looked and was rather untidy and did not last initially for very long, due to the start of the war. It did however reappear after the war, and I will comment on it further when considering the post-war timetables.

There is another visual aspect of Midland timetabling practice that I want to comment on, taking the 1913 book as a prime example. Customarily in a timetable there is a column of stations, depots and junctions on the left, with timing columns to the right of this; the station column is then repeated on each following page for the same section. Over the years, the practice had grown, when space was tight on a particular page, of slightly abbreviating location names. This was

acceptable when it was done on an occasional basis, and without too severely abbreviating the names. However, by 1913, the practice was endemic on the busiest sections, with some quite extreme examples, asking a lot from operating staff.

One of the worst cases was in the Section C pages, where the Barrow Hill to Elmtton & Creswell and Pleasley pages in one direction had three location columns, all of which were abbreviated. (See below for an example.)

One needed more than a passing knowledge of the line to know that Pn & Sn referred to Palterton & Sutton, or that Rn & Hk meant Rowthorn & Hardwick. One could take a stab at BHSW being Barrow Hill and Staveley Works, because that appeared in the table title, but overall the appearance was not conducive to easily accessing information. Doubtless the justification for this was to avoid having an extra page added to the book, because there were no spare columns available in this table, but elsewhere in the book there were similar examples where there was plenty of space. I think it was just bad practice or sloppy editing and could not really be justified. It is very noticeable in the changes shortly to be introduced that such practices were completely avoided.

PLEASLEY COLLIERY WEST & BARROW HILL & STAVELEY WORKS (via Bolsover) and ELMTON and CRESWELL, and SEYMOUR JUNCTION—Weekdays.																			
Single Line between Pleasley Colliery West, Elmtton and Creswell Junction, & Staveley Junction, Tablet Stations, Pleasley Colliery West, Glapwell Colly. Sidings, Bolsover Station, Markham Colly. Sids., Elmtton & Creswell Junct., Barboro' Coll. Sid., Oxcroft Junct., Seymour Junct., Hall Lane Junct, and Staveley Junction.																			
STA'NS	1	2	3	4	6	8	9	10	11	12	13	14	14a	15	16	16a	17	18	19
	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	Mineral.	G C. Minl Empties.	Workmen.	Workmen to Chesterfield.	Workmen to Chesterfield.	Mineral.	Mineral.	Passenger to Chesterfield.	Mineral.
	B Y	B	B	F	BY	B	D	B	B	B	B	G C. Minl Empties.	Workmen.	Workmen to Chesterfield.	Workmen to Chesterfield.	F	B	Passenger to Chesterfield.	Mineral.
	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.
PC W. d	M	M	M	M	M	M	M	M	M	M	M	...	...	...	...	M	M	...	M
Rn & Hk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glapwell	..	..	..	..	2 0	..	..	..	..	..	..	..	..	..	6 20	6 40	..	..	..
Pn & Sn	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BrS (ar	..	..	..	..	2 8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coll (dp	..	..	..	..	2 15	..	..	..	..	..	..	..	..	..	6 26	..	..	..	..
Mm Cly	..	..	..	..	2*19	..	..	..	..	..	..	..	..	..	6 30	6*49	..	..	..
E&Cl	..	..	..	..	..	..	..	2 25	..	..	..	..	..	..	..	..	..	..	..
Clm { a	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clm { d	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barl { d	..	..	..	..	..	..	..	2 35	..	..	..	..	..	..	..	..	..	..	..
C. Sd { a	..	..	..	..	..	..	..	2 50	..	..	..	..	..	..	..	..	..	..	..
O. Cy.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
O. Jct...	..	..	..	..	..	..	..	2*57	..	..	..	..	..	..	..	..	..	..	..
Syr Coll	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sym { a	..	..	..	..	2 23	..	..	3 0	..	..	..	..	..	..	..	..	..	..	..
Jn { d	12 10	12 50	1 0	1 30	..	2 0	2 55	3 10	3 40	4 28	5 0	5 56	6 8	6 10	6 32	6*52	..	..	..
Ireld { d	12 12	..	..	..	..	2 2	..	..	..	..	..	..	..	..	..	..	..	..	..
Clley { a	12 25	..	..	..	..	2 8	..	..	..	..	..	..	..	..	..	..	..	..	..
Stavly T	..	..	..	..	..	..	..	..	..	..	..	..	..	6 18	6 37	..	..	7 42	..
B H Sds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hgn Coll	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
H L Jun	12*28	12*58	1* 8	1*38	..	2*13	3* 3	3*18	3*48	4*36	5* 8	6* 4	..	6*21	6*40	9* 0	7*20	7*44	8* 4
Sy S. S.	12 30	..	1 10	1 40	..	2 15	3 5	..	3 50	4 38	5 10	6 6	..	..	..	9 27	22	..	..
BHS.W.	..	1 0	..	..	..	..	..	3 20	..	..	..	..	..	6 23	6 42	..	..	7 46	8 6

Figure 5: 1913 WTT Section C

As before, I have recorded the London coal traffic, as represented by trains to London via the Midland, to Rugby and to Peterboro. As it happens, there were precisely the same number of mineral trains timetabled to London in 1913 as in 1893, a total of 24 on an ordinary weekday. They were, however, more concentrated at certain times of the day than others and hence with some quite large gaps in between. That also often had the effect that there were only very small gaps between trains. One train was shown to start from Wellingboro only five minutes after the departure of a through mineral train from Coalville and also arrived at Brent only five minutes later.

It was evident that there had been a major change in the way these mineral trains were timed. A Wellingboro to Brent train had a departure time from Wellingboro, generally (but not always) with a column note indicating run on Goods Line, and an arrival time at Brent. There were no intermediate times shown whatsoever, which was a great change from what had gone before. In earlier WTTs, it was the practice to show passing times at all principal locations, effectively meaning every station. No doubt with this new system there was a lot less work involved for the timetable clerks, but I suspect it was not viewed kindly out on the system. In later books, the older practice was resumed, albeit with not quite as many timing points as before.

On the Rugby line, there were now only four Midland mineral trains, and two of these were shown as Suspended; there are, however, also several through LNW mineral trains from Leicester Knighton Jn, noted as having LNW engines and men. The number of mineral trains on the Peterboro line had fallen from 21 to 15, but there were another four trains timed in the WTT noted as Suspended. This implies a relatively short-term reduction in traffic, which would not justify removing the train completely, though there was perhaps a slight recession in the economy with less coal being burnt. Another reason may be simply the usual reduction in coal traffic in the summer, because this was the July book.

As in so many other matters, the Edwardian period was the end of an era on the Midland. Not so much because of the First World War, though that undoubtedly had huge effects on the railway, but because of organisational changes in how the railway was operated and controlled. The changes in working timetables were but one result of this, but nevertheless resulted in changes in scope and appearance that lasted virtually to the present day. First, the system of WTTs used by the Midland ever since 1854 was changed fundamentally in 1917. With the exception of the local London area section, all express passenger, passenger, parcels and empty stock trains were removed from the hitherto standard WTT, which henceforth became freight only. A new passenger working timetable (PWTT) was introduced, with a much larger format having a page size of 7¼ ins wide by 11½ ins deep. The content was

completely rearranged and the book had many fewer sections, although still arranged such that individual sections could stand alone and be issued to local staff at stations and signalboxes without the need for the whole book to be issued.

The sections used in the PWTT were as follows:

- Section 1 - Carlisle & Leeds
- Section 2 - Leeds & Trent
- Section 3 - Derby, Nottingham & London
- Section 4 - Shoeburyness, Southend, Tilbury & London
- Section 5 - Liverpool, Manchester & Derby
- Section 6 - Derby & Bristol

For some reason, the Swansea line was excluded, and a note was added to the map on the front inner cover "See separate time table for train service between Swansea & Worcester".

The initial issues of the new timetable were on poor quality paper, as a direct result of wartime conditions, but not long after the war ended, the quality improved considerably. From the October 1919 issue, all editions were on glossy paper, possibly even with some linen content, and were issued just twice yearly in May and October. It is evident that the book was intended as a quality production; with the winter book now being used for around eight months on a daily basis, this was highly desirable. Some of the older versions became very worn, as evidenced by the condition of some timetables in the Study Centre. It is noteworthy that this format, appearance and content remained largely identical, not only for the remainder of the Midland, but all through the LMS period (for all lines, not just the Midland) and well into BR, only being superseded when the standard BR timetables were introduced in about 1953.

The opportunity was clearly taken to clarify standard information on the initial cover and index page for each section, thus all the standard references for days of the week were shown (capital M for Mondays excepted, MO for Mondays only, right through to S and SO) together with symbols such as FL, SL, GL (fast line, slow line, goods line), W for engine takes water (five mins allowed), and symbols for a tablet or staff station on a single line, for empty carriages, and stopping to shunt for or follow other trains.

I mentioned earlier that although engine loadings for expresses had been shown for a period pre-war, these had been suspended for the duration of the war. However, it did not take very long for these to be reintroduced, and during 1919 the practice returned, initially on the London to Derby and Derby to Manchester sections only, although at first on a very limited scale and in a patchy manner. By the following year, perhaps half of the principal expresses from St Pancras had load limits shown, now even extending through to Carlisle, but there were virtually no instances on the Bristol route.

The gradual improvement continued, until by the October 1922 PWTT, most expresses had load limits, although the Bristol route still lagged behind the others. Also in that book, there was a significant change in the way that the load limits were expressed. Hitherto, the pre-war method had been used, that is, with the typical column note reading **Load 170, 200, 220, 260 tons**. Now, the expression **Limited Load** was used instead, again as a column note in heavy type. Such usage was apparently quite arbitrary at first, however, with (for example) the 1.25 p.m. St Pancras to Manchester Vic. being classed as Limited Load, whilst the 2.25 p.m. to Central conformed to the earlier rule. Similarly, of the first three expresses from Bristol, the 7.45 a.m. Sheffield was Limited Load, the 9.10 York & Leeds had no limits, whilst the 10.25 York had limits defined in tonnages.

The change to Limited Load gradually became more prevalent and it is not difficult to see why. Apart from the greater clarity, the load limits took up more vertical space in the timetable column, and were therefore more difficult to fit in. Indeed, for a train such as the 10.0 a.m. Leeds to St Pancras, the entry read "Load 150, 180, 205, 235 tons Leeds to Sheffield, and Chesterfield to Trent, 130, 160, 180, 210 tons, Sheffield to Chesterfield". In fact, the entry was so large that not

only could it not be in heavy type but also it had to be in a smaller font than most other column notes.

I referred to the apparently arbitrary nature of the limits. In fact, this was not really the case, as became apparent in the first LMS timetable. The trains that had retained tonnage limits in the PWTT were now referred to by the new term **Special Limit**, again as a column note in heavy type in just the same way as Limited Load. They ran at a higher average speed than the Limited Load trains, and that of course was the purpose – to allow acceleration of express services whilst ensuring the typical Midland control of train loads. I have commented on this in some detail, because it was a most significant change, introducing as it did another practice which continued through to the BR period, and then became standard BR practice and terminology on all but the Western and Southern Regions.

The later LMS and BR had a further category of schedules introduced, running at 60 mph average, that were given the title of XL Limit. Again, however, this was introduced only when there was a step-change in speeds, following the introduction of the Stanier 4-6-0s in the 1930s but it was a logical extension of Midland practice.



Figure 6: 530 on Up Express at Knighton North Jn [Ian Howard collection]

Whilst this is a satisfactory method, it does require greater clarity across the two pages to be fully effective; the new PWTTs employed the same principle. Like the passenger books, the freight books were printed on quality paper once the post-war situation permitted, and again were issued now just twice annually.

There was one exception to the new principle of separate passenger and freight working timetables, and that was for the London suburban area. Due to the intensive working, particularly into St. Pancras, Section 9 – Hendon and London – contained both passenger and freight services for that specific section of the main line. However, the book also covered freight services (only) on the South Tottenham and Acton lines, thus confirming it was the complex terminal working that was the cause of the different approach.

The Hendon – London pages showed for all trains at St. Pancras passenger station the booked platform, the time the outward train departed, and the destination of the outward train. In effect, it was the precursor to later carriage working and empty stock working booklets in BR days.

I will not comment in detail on services in the 1922 books, apart from just a final brief look at the London coal traffic. In May 1922, there were 29 weekday trains arriving at Brent with mineral traffic. The WTT now showed which trains were scheduled to be double-headed, so it is possible to determine some meaningful statistics. Of the 29 services, just two were shown to be a single engine, and eight were to be double-headed when required. The balance of 19 trains were all double-headed. Double-headed coal trains could be made up to some 80 wagons, so a reasonably conservative calculation is that there were some 11,000 wagons of coal arriving weekly, or perhaps around 5½ million tons of coal annually. (See Appendix)

The extract from the October 1920 train graph (below) helps to show how the Midland planned its timetables for the intensive traffic in the last few miles into London. Construction of the graph was of course an early stage of producing the working timetable.

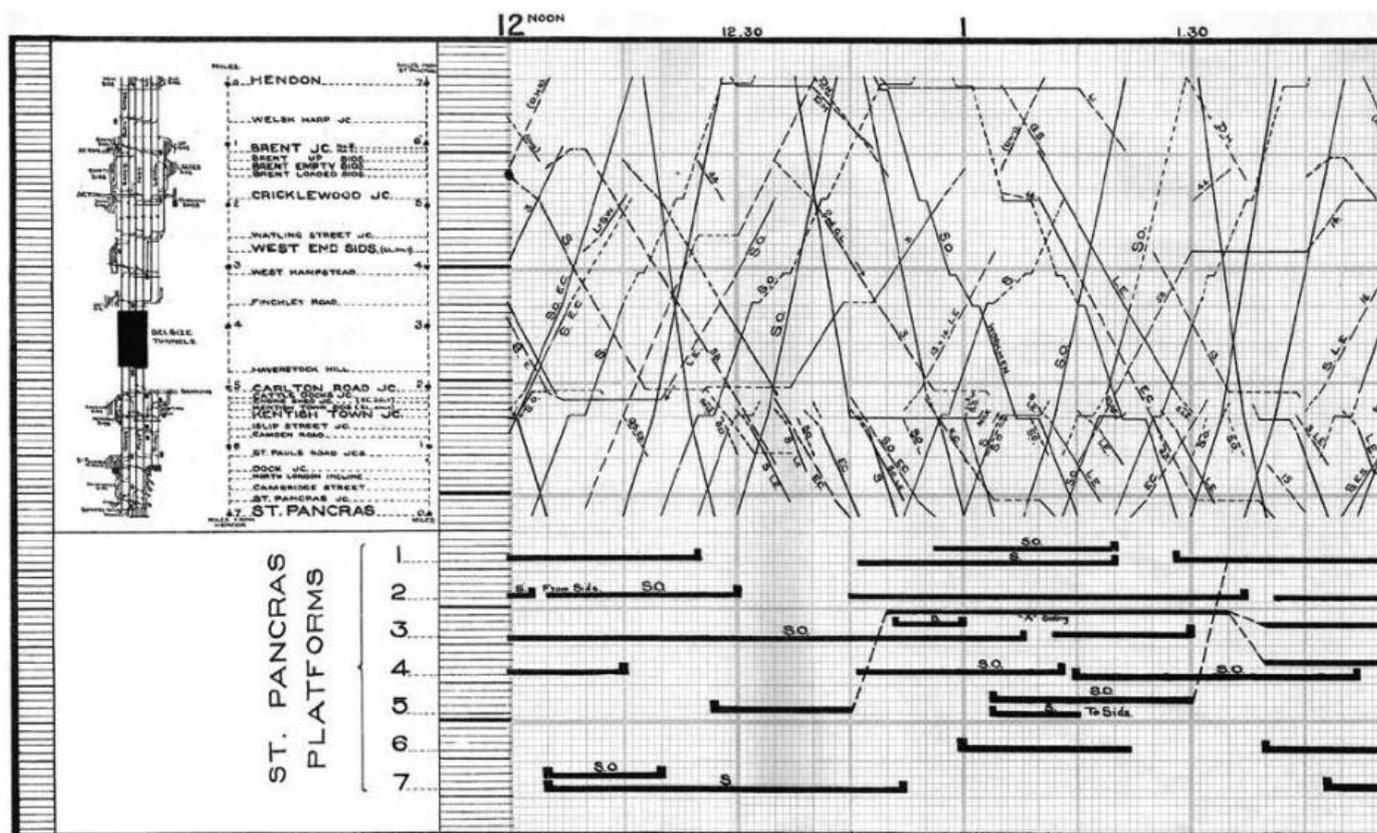


Figure 8: Extract of Midland Railway train graph October 1920

I hope I have shown in this detailed consideration of Midland timetable practice how it developed, both in content, style and extent, from a small, rather parochial production into something that although of a very

considerable size was modern, effective and had long-lasting influences on the Midland's successors. It is, however, only part of the story and that is what I come to now.

3. Timetable amendment notices

The nature of the railways was such that there was a continuing need to change what trains needed to run, sometimes almost on a day-to-day basis for goods traffic but also from time to time for passenger trains. Once issued, working timetables were intended to run for a period such as a calendar month, but in the later Midland period often for a longer duration. Eventually, at the end of its existence, there were only two issues per annum. When timetables ran for just a month, clearly there was scope to introduce changes in the monthly cycle. Once timetables, for whatever reason, were retained in use for longer periods from around the 1880s, changes to the planned service had to become more structured, and it became the practice for a monthly timetable notice to be issued.

The format of this was unchanged for many years. Except for the last years, it was always issued above the name and title of the General Manager, even though the detailed work had been done by the Superintendent's office. The document was officially the Working Timetable Notice for the specified calendar month, and I will take September 1895 as an example. On the cover page it was ordered that the service of trains shown in the WTT for July 1895 should remain in use during September, subject to the alterations and additions shown in the notice. It also stipulated that "One of these Notices must be supplied to each Servant of the Company who has been furnished with a Working Time-Table or any of the Sections for JULY 1895", and that the notice was to be attached to the July WTT.

The length of the notice varied according to need, but was often of the order of 15 – 20 pages. Where the notice continued a WTT in operation for more than one month, that notice had more content, so that for September 1895 referred to had 39 pages. First of all in the notice came alterations to passenger trains, and these were grouped into sections reflecting those used in the WTT. Thus, the first group was that for Skipton, Colne, Morecambe, Carnforth, Carlisle and branches (described in parentheses as "Working Book, Section A"). This was followed by the section B details (Skipton, Bradford & Normanton and branches) that, after the Midland train alterations, included a table described as Great Northern Passenger Trains arriving at and departing from Keighley (Worth Valley platforms) and giving the complete service including light engines and empty carriage trains. The next section, Normanton & Clay Cross, section C, in the same way included a table of Manchester Sheffield & Lincolnshire passenger trains at Barnsley Court House, from and to Penistone.

After the passenger section there was a single brief entry giving detailed times for what were described as new Coaching Fish Trains, to run as required. One was from York to St. Pancras, departing 10.30 p.m., calling for 24 mins at Sheffield Queen's Road for traffic, then 10 mins at Nottingham and 6 mins at Bedford, both water stops. There was a stop permitted at Luton, when required to put off fish, and the time into St. Pancras was 5.10 a.m. The other train was a 1.30 a.m. Derby to Bristol, calling at Birmingham, Cheltenham, Gloucester and Mangotsfield for traffic, plus a 19 min stop at Blackwell to shunt for the 3.10 a.m. Birmingham – Bristol express. There was a note though that if the latter were running late, then the fish must precede it, and then be shunted "where practicable" for the express to pass.

Next came a substantial section dealing with goods train alterations, again grouped by timetable section, and again including details of other companies goods trains. Then, a table gave details of altered loads for engines (goods) throughout the system, including one interesting note indicating why it was considered necessary. "The loads for the section Swansea Yard to North Dock and return, for the Swansea Dock Engines of 2061 class, are to be cancelled as the 2061 class of engine has been removed from the District."

Finally, on the last page, came several temporary changes to goods trains, in consequence of altered passenger trains on specific dates. Thus for Skipton Agricultural Show on August 30th, the 9.55 a.m. Skipton to Colne, and return at 6.30 p.m. must not run on that date. (Interesting that this is shown, despite the notice being for September!) Resulting from excursion trains on the Manchester line, on 2nd September, there is a long list of some 20 goods train alterations or special instructions. The majority involve re-timings but several show the relative importance granted to some goods trains compared with excursions. The 11.0 p.m. Rowsley to Birmingham "must take its turn with the Excursions", be limited to 25 wagons and run class A. Similarly, the 9.15 p.m. Heaton Mersey to Leicester was to be limited to 17 wagons, was also to take its turn with the Excursions, and "will be allowed 1 hour to run from Marple to Rowsley".

In addition to the monthly Working Timetable Notices, there were supplementary Working Timetable notices issued during the currency of the monthly notices, sometimes several in a month, where changes were needed prior to the next notice being issued, or when there was a particular event to be covered. Supplementary Notice No. 2, issued 8th December 1892, carried the usual crop of trains discontinued, additional trains, amended times, trains stopping short or being extended, but there was also a particular note (below) that might help explain its use.

OPENING OF WATER ORTON SIDINGS.

The New Sidings at Water Orton will be brought into use on Monday, December 12th, and the arrangements shewn on Pages 48, 49, 50, and 51 of the December Notice, must come into operation on and from the date named.

Figure 9:

So, the necessary train arrangements were dealt with in detail in the December monthly WTT notice but the actual date of implementation was given in the supplementary notice. That said, there were six pages of train alterations, the small note about Water Orton, and one page of alterations to dimensions of permitted loads on other railways, the latter being a change to the dimensions shown in the Appendix to the WTT.

Most months saw supplementary timetables issued; the majority seemed to consist of around half a dozen pages of straightforward alterations system-wide. On occasion, however, there were special events covered in this way. Supplementary WTT No. 2 of June 1902 dealt solely with the arrangements for the Coronation of H.M. King Edward VII on June 26th. The supplement consisted in the main of train cancellations or services that would run as for Sundays, plus some emphasis on the uncertainty of traffic levels. Anyone consigning livestock on the following Friday and Saturday was to be warned that transit times would be greater than usual, because the ordinary goods services on both the Midland and other lines had been so modified and reduced, and that such traffic was only to be accepted if the circumstances had been explained, in the presence of a witness and with a note being made on the consignment ticket.

The next series of supplementary timetables to consider was the rather mixed series of Excursion Timetables, Supplementary Excursion TTs, and the General Programme of Notices, Ordinary Train Arrangements, etc. This consisted of regular weekly or fortnightly notices, giving detailed timings for excursion and other special passenger trains, or an indication that such and such a special train would run but with no timings. Instead, a note was included, typically – “For times see No.21 Standard Special”. Included were specials to/from other lines, and it was usual to give details of the carriages and train crews involved. Thus, on

Monday February 5th 1912, there were special trains from Sheffield, Leicester and Birmingham to Rolleston Junction for the Southwell Steeplechases, for which times were shown both out and return, plus the note Sheffield, Leicester and Birmingham C, G & P, RL. This somewhat laconic note indicated that carriages, guard and power (loco and crew) were to be provided by the originating stations. The codes R & L indicate respectively that a return was to be made to the Superintendent about the bookings taken, and that the train was to be labelled; both of which could be considered as commercial rather than operating matters.

As might be expected, the Supplementary Excursion TTs dealt with more of the same, generally over a shorter period of two or three days. On the other hand, the General Programme mainly carried commercial information, notices, tickets lost and so on, but also carried train times – in this case the times when passenger trains departed from (or returned to) stations, rather than intermediate passing times. Clearly therefore this was intended as a commercial rather than an operating document, yet all these documents were consecutively numbered in a single series, issued above the name and title of the General Manager; in addition, each booklet cover carried a consecutive issue number. A note on the cover of the Excursion TT states that the Excursion TT and the General Notice should not be acknowledged, but that if these booklets have not been received by Thursday and Friday respectively, the Superintendent must be advised by wire, i.e., by telegraph message. There is also another note stating that the General Notice is not issued to the Locomotive, Engineer, Telegraph and Carriage & Wagon Departments, thus making it fairly clear that this Notice is not seen as essential for operating purposes.

To give an idea of the scale of operations involved in these additional timetable notices, I will summarise the issues for January 1912.

Excursion TT	Jan 1st – 12th	p1-10	No.1
General Programme of Notices	Jan 1st – 13th	p11-21	No.2
Supplementary Excursion TT	Jan 4th – 7th	p22-23	No.3
Excursion TT	Jan 11th – 19th	p24-35	No.4
General Programme of Notices	Jan 13th – 20th	p36-39	No.5
Supplementary Excursion TT	Jan 11th – 18th	p40-41	No.6
Excursion TT	Jan 17th – 26th	p42-49	No.7
General Programme of Notices	Jan 18th – 27th	p50-55	No.8
Supplementary Excursion TT	Jan 20th – 26th	p56-57	No.9
Excursion TT	Jan 24th – Feb 2nd	p58-65	No.10
General Programme of Notices	Jan 26th – Feb 3rd	p66-69	No.11
Supplementary Excursion TT	Jan 27th – Feb 2nd	p70-71	No.12

For the month of January, therefore, (not usually a busy time) four each of Excursion Timetables, General Notices and Supplementary Excursion Timetables were issued, with 71 pages of alterations. For the half-year January to July 1912, there were 945 pages issued in 79 documents, varying from single-sheet notices to

substantial booklets; the Excursion TT for June 20th – 28th, for instance, being 36 pages in length. All in all, this was a very substantial programme of events, producing plenty of work for the timetable clerks and the printers.

To add further complexity, there was potentially another document that had to be referred to, namely the Standard Times for Excursion Trains. This did not appear to have been issued during the 1912 period being considered but was certainly issued in 1910 and some other years (see below). It set out what were standardised arrangements, without dates, but with trains identified with individual consecutive numbers, so that in the ordinary Excursion TT, a note could be

made to the effect that (say) Standard Excursion no. 26 would run, Birmingham to Bradford. All of the intermediate timings, the power and guard requirements, the notes about any conflicting trains, and even collection of tickets, could therefore be specified once, and the subsequent notices could be that much simpler. When issued, the notice was numbered in the same series as the ordinary and supplementary Excursion TTs.

441 . No. 37.

MIDLAND RAILWAY.

STANDARD TIMES

FOR

EXCURSION TRAINS, &c.

APRIL, MAY, & JUNE, 1910.

For the information of the Company's servants only.

EXPLANATION OF REFERENCES.

<p>"C"—Provide carriages (or other stock). "D"—Extra time allowed to recover delays. "E"—Stop for examination purposes. "G"—Provide guard. "L"—Train to be labelled. "O"—Time allowed for engineering operations. "P"—Loco. provide power.</p>	<p>"R"—Return of bookings to be sent the District Secy. "S"—Return of tickets collected "T"—Tickets to be collected. "W"—Trains stop for water. "X"—Tickets to be examined. "Z"—Time allowed for refreshments and lavatory purposes.</p>
--	---

This Notice must be supplied to each person to whom a copy of the Excursion Time Table is supplied and retained for reference.

This publication is supplementary to the Excursion Time Table, and contains particulars of Special Trains which will be run frequently. Notice will appear in Excursion Time Table when trains shown herein will run.

LABELLING OF TRAINS.

Each excursion marked L must, before starting, have side lights of carriages labelled showing principal stations to which train will run on return, and time train is due to return. Two large labels, giving similar information, pasted on boards supplied for the purpose, must be placed in the front and rear vans at the starting point for use at destination. These boards must be fixed on the vans on arrival at destination, and remain until train is on the point of leaving on return, when the boards must be placed in the vans. The head guard will be held responsible for the carrying out of these instructions.

BULLION SPECIALS, LIVERPOOL TO LONDON.

Special trains, dealt with as express passenger trains, run when required from Liverpool to St. Pancras with bullion traffic. Liverpool to advise line and all concerned when trains run and time leaving Liverpool.

	From Liverpool to Cheadle Heath ...	45 minutes.
The approximate times of running will be—	" " Cheadle Heath to Peak Forest ...	30 "
	" " Peak Forest to Chaddesden ...	45 "
	" " Chaddesden to Leicester ...	35 "
	" " Leicester to Bedford ...	58 "
	" " Bedford to St. Pancras ...	58 " = 4 hrs. 31 mins.

All concerned must see that everything possible is done to ensure the trains having a good run.

No. 1. APPLEBY TO CARLISLE AND BACK.

	Ordinary train bookings.			Empty Carriages.			
	a.m.	p.m.	p.m.				
APPLEBY .. dep.	9 30	1 27	5 40	....	12 35		
LONG MARTON	9 36	1 34	6 46	....	....
NEW BIGGIN ..	9 42	1 40	6 52	....	....
CULGAITH ..	9 48	1 46	6 58	....	....
LAN+WATHBY	9 53	1 52	6 3	....	....
LITTLE SALK'LD	9 57	1 56	6 7	....	....
LAZONBY	10 3	2 3	6 13	....	....
ARMATHWAITE	10 13	2 14	6 23	....	....
COTEHILL	10 19	2 20	6 29	....	....
CARLISLE arr.	10 35	2 37	6 45	....	1 40		

CARLISLE dep. 11 3 p.m.
 CUMWHINTON 11 11 ..
 COTEHILL 11 19 ..
 ARMATHWAITE 11 24 ..
 LAZONBY 11 34 ..
 LITTLE SALK'LD 11 40 ..
 LANWATHBY 11 45 ..
 CULGAITH 11 51 ..
 NEW BIGGIN 11 55 ..
 LONG MARTON 12 3 a.m.
 APPLEBY arr. 12 8 ..

Passengers may be booked at ordinary fares by the return train. S

Skip: on to attach extra third to 11.15 a.m. ex Skipton. Carlisle C, G, & P for return special.

Figure 10:

In hindsight, it is a rather confusing state of affairs; doubtless well understood at the time by the issuers and the recipients, but nevertheless unnecessarily complicated, with overlapping content between operating and commercial, overlapping dates, multiple documents to consider for any one date. From the issues for January 1912, for example, January 18th had

five notices applicable for special trains, two Excursion TTs, two General Notices and one Supplementary Excursion Timetable. This was, of course, in addition to the ordinary WTT notices, any supplementary WTT notices, and any Standard Times for Excursions, and the whole system was obviously in need of some rationalisation.

4. Appendices

The early Midland appendices were very simple affairs compared with the later ones. The earliest in the Silk Mill collection dates from October 1872, is not numbered in a series, and is just 35 pages in length. The first and longest section gives information primarily for drivers, and shows in 17 pages what signal whistles are

to be given by drivers on approaching junctions, etc. There are also requirements for lights and discs to be carried by engines, particularly in the London area, to and from other lines via Ludgate Hill, and also ECS trains between Kentish Town and St. Pancras. There is a copy of a recently issued instruction from the General Manager dealing with the same issue.

“In order that Station-masters, Pointsmen, Platelayers, Porters, and all other Servants of the Company may be able in the night to distinguish the kind of train that is approaching by the Head Lights fixed on the Engine, it has been decided to adopt the following arrangement of Head Lights, and on and from September 2nd, [and that was 1872, just a month prior to the date of the Appendix] Engines will carry Head Lights as under:

Fast passenger trains, also break down vans,	2 white lights, one over the LH buffer and one at the foot of the chimney;
Slow passenger trains	a white light over the LH buffer;
Special passenger trains	2 white lights, one over the RH buffer and one at the foot of the chimney;
Light engines, and engines of express goods or cattle trains	2 white lights, one over each buffer;
Engines of through goods or mineral trains	2 white lights at the foot of the chimney;
Shunting engines, and engines of stopping goods, mineral or ballast trains	2 white lights side by side, over LH buffer;

Between Derby, Buxton and Manchester, engines of passenger trains must carry a white light over the LH buffer, and a purple light at the foot of the chimney. Between Barnsley and Manchester, and between Chapel-en-le-Frith and Manchester, engines of express goods trains must carry a purple light over the LH buffer, and a white light at the foot of the chimney.

No change to Midland Railway engines running over other companies' lines, except as above.”

The instruction was dated August 26th 1872, and was shown as issued by James Allport, General Manager.

The appendix next features what appears to modern eyes as a quaint instruction concerning distant signals. The preamble states that it is to increase the efficiency of the distant signals in use, by altering the shape of the

Disc. The signal will now consist of a high side and a low side, arranged so that when “turned on” against an approaching train, the high side will always show on the LH side of the post. Thus drivers will be able more easily to determine whether the signal applies to the line on which they are running. All distant signals to be newly erected or replaced will be of this pattern.

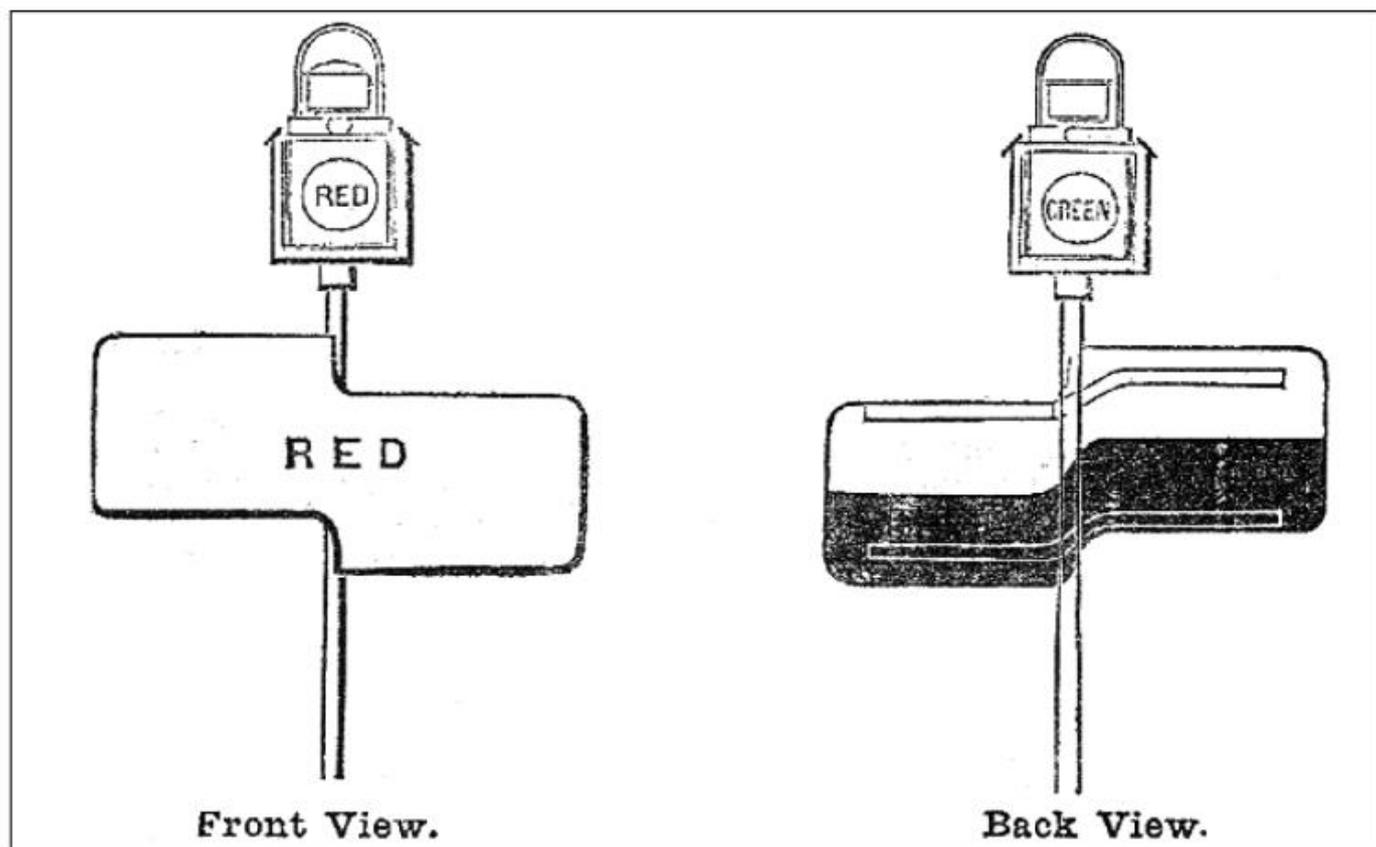


Figure 11: Midland Railway distant signal, 1872

There now follows a section advising drivers and others which lines are to be considered up and which down, and against which all lines are listed. The information is subdivided into three geographic sections:

North and Manchester District, covering everything north of Derby;

West District, for everything southwest of Derby, including Whitacre to Wigston;

South and East District, covering the lines south of Derby, but also including Clay Cross to Trent, Nottingham to Lincoln, and Burton to Leicester.

There is a brief section covering signalling arrangements, quite minimal compared with the later instructions on the subject. There is but one page covering the regulations for working a single line by means of a train staff, including a list of the lines involved. There are just two pages covering signalling by the block telegraph system, whereas later many pages would be devoted to the subject.

The next section defines where breakdown vans are located, and the extent of coverage provided by each set of vans. There are 15 locations in total.

Location	Covers
Derby	Tamworth to Chesterfield, Derby to Loughboro, Buxton and New Mills, and branches
Birmingham	Birmingham to Barnt Green, Tamworth and Nuneaton, and Barnt Green to Ashchurch via Evesham
Bromsgrove	Barnt Green to Ashchurch, both direct and via Worcester
Brecon	Brecon to Hereford
Gloucester	Ashchurch to Dursley and branches
Bristol	Bristol to Dursley, Bath and Frampton
Leicester	Loughboro to Market Harboro, and Syston to Ashwell Crossing, also the Rugby, Nuneaton, Coalville and West Bridge lines
Wellingboro	Market Harboro to Ampthill, plus the Hitchin, Northampton and Cambridge lines
Kentish Town	Ampthill to London St Pancras, and also to the Metropolitan system
Peterboro	Ashwell Crossing to Spalding and Lynn
Nottingham	Lines to Lincoln, Southwell, Mansfield, Trent and Long Eaton, also the Kirkby to Pye Bridge line
Toton	Clay Cross to Trent and Sawley Junction
Sheffield	Chesterfield to Rotherham, via the new route and the old, thence to West Riding Jn, Mexboro Jn, Doncaster, Cudworth and Barnsley
Leeds	West Riding Jn to Skipton and Colne, also the Wakefield branch, Oxenhope, Bradford, Ilkley and Otley lines
Lancaster	Morecambe to Skipton, plus the Carnforth and Ingleton lines

There are then three pages dealing with the working of tariff wagons and vans. These were a Midland speciality involving an early form of registered goods service, with control over acceptance, loading, invoicing and positioning in the actual vehicles. The vehicles are all listed individually, showing for each wagon the locations served, the train by which it is to be conveyed, together with any connecting services. Thus, a typical entry is for a van from Chapel-en-le-Frith, Buxton and Belper to be conveyed on the 12.20 p.m. Ancoats to Derby, thence on the 8.45 p.m. Derby to Wellingboro, and forward on the 10.0 p.m. Nottingham to St. Pancras.

The workings are not limited to just the Midland routes; there are several instances of quite extended workings over connecting routes. Examples are:

(1) the 10.50 p.m. St. Pancras to Burton conveys vans from St. Pancras to Tutbury and the Churnet Valley, also from St. Pancras to Uttoxeter and stations to Stoke, and a further one from St. Pancras to Dudley and stations in the South Stafford District, the latter going forward from Burton to Walsall on the 3.40 a.m. Derby to Dudley.

(2) the 10.10 p.m. St. Pancras to Leeds conveys a van between St. Pancras and Oakenshaw, destined for Wakefield & Manchester, L&Y.

Finally, in the 1872 Appendix there are a couple of pages showing the maximum dimensions for a carriage or wagon load which will travel safely over other companies' lines. The list is a comprehensive one, appearing to cover the whole of the UK, including all the Irish lines. It also includes the Midland and Cheshire Lines routes.

The 1875 version of the Midland Appendix is essentially similar to the earlier version, but has 54 pages rather than 35, and is now shown as issue no. 7. The signal whistles section is expanded slightly and now shows some speed restrictions, but the format is the same. So far as speed restrictions are concerned, they now appear to be considered more important since, in addition to the information shown in the whistle section, there is a separate page giving specific restrictions at specified locations.

Thus,
 through Normanton station on the passenger line – 5 mph
 over Clay Cross South Jn - 10 mph
 Sheffield passenger station, when entering from either end - 4 mph
 through Ludgate Hill station, goods trains - 4 mph
 over curve at Whitacre - 15 mph
 over railway crossing at Ashchurch - 20 mph

Various instructions have been added, covering subjects such as:

- working of slip carriages;
- regulations for working the Ripley branch by Pilot Guard;
- regulations for the fixing and repair of signals;
- starting passenger trains from stations;
- the number of guards to be used on long passenger trains;
- attaching and detaching goods vehicles where the line is not level.

Signalling is now becoming more important, and consequently more pages are devoted to the subject. There is a list given in the Appendix stating locations between which the absolute block telegraph system is in operation; it is as usual divided into three sections – North & Manchester, West, and East & South Districts.

It is obviously a case of work ongoing, as the first entry refers to Arkholme and Melling, on the Up Line only. There is nothing between Morecambe and Keighley, or in the immediate Leeds and Bradford station areas but there are few other gaps north of Derby. Similarly in the West District, nothing is provided between Horninglow Bridge and Leicester Junction (Burton station area) but more significant is the lack of provision between Stoke Jn (i.e., Stoke Works) and Abbots Wood Jn. There are no other significant omissions on the west road though. At the start of the East and South District, it is clear that much of the Derby station area still has no absolute block working, ceasing at North Jn and only commencing again at London Road Jn. Similarly, and unsurprisingly, Nottingham and Leicester stations do not show in the list. Obvious gaps in the list are from Melton to Oakham, Stamford to Peterboro, Wigston to Ullesthorpe, and most of the Hitchin branch, although Cardington to Southill is provided for, on the up line only.

One more instance of the increased importance of signalling matters is the introduction of a list of opening and closing times for “Signal Posts” – note, not yet boxes. Although quite extensive, taking up five pages of the Appendix, it is not yet comprehensive, as the list specifically excludes those locations where the boxes are open continuously. There is a note appended to the effect that the closing times are often dependent on the running of trains, and should therefore only be considered approximate times.

From about this time on, the Appendix started to be reissued on a regular basis, in a numbered series. For a short time, it appeared almost as if it was to become an annual issue but it settled down to be approximately three years between issues. As an example, after no.7 was issued in June 1875, nine more were issued to 1885, so that with a three-year gap, no.17 was issued in December 1888. Compared with earlier issues, this was a very substantial book of 246 pages. In spite of the more than four-fold increase in pages, the same kind of information and instructions are given, although much expanded.

The list of lines with signal whistles defined now includes the Settle & Carlisle, plus a section covering Hellfield to Manchester via the L&Y line, and also the line to Liverpool Exchange. In Wales, the line from Hereford to Swansea and Brynamman now appears, and the number of pages devoted to this subject now exceed 60, nearly double the size of the whole of the 1872 Appendix.

The Regulations for Train Signalling by the Block Telegraph System are much expanded, and now take a form recognisable to modern-era signalmen. Reference is now to Block Posts and signalmen rather than signal posts, and the term pointsman is no longer used.

The section dealing with Engine headlamps has been considerably expanded, with many more exceptions to the norm. There are many examples quoted for foreign-company trains having their own system of lamps, including such information that “the Foxhole Co’s engine running between Swansea and Six Pit Junction, carries two purple head lights – one over each buffer”. For the first time, tail- and side-light arrangements are specified, including differentiation between passenger lines and goods lines, and between ordinary traffic and specials.

Another subject covered for the first time is instructions for and descriptions of the automatic vacuum brake and the Westinghouse air brake. In addition to the expected scope, there are several short instructions for particular circumstances or locations, ranging from the position of the release cord on G&SW vehicles, to exhortations to carriage washers “not to allow wet to remain on the hose pipes or stop plugs when washing vehicles”, in order to avoid inconvenience and delay. An interesting note instructs guards on Scotch Expresses to ascertain any vehicles with one brake only, where engines are fitted with both Westinghouse and vacuum systems. Guards were to determine which brake system could be used on the greatest number of vehicles, and instruct drivers accordingly on which system to use.

There had been several changes to the location of Breakdown vans since 1875. As might be expected, Carlisle had been added to the list of locations, but Carnforth had taken over from Lancaster. In the Manchester area, Belle Vue now covered the line north of Peak Forest, and vans at Allerton covered the Bootle branch. Bedford had vans suitable to cover the Northampton branch, and also light accidents between Luton and Oakley Jn, but they were instructed to call out Wellingboro or Kentish Town in the case of serious accidents.

There are now numerous instructions relating to the working of sidings at awkward places, or remote from signal boxes, or where trains should NOT be shunted to allow other trains to pass, all obviously consequent on the spread of signalling systems. That spread involved both the block system itself and the control of points and signals from a central point such as a signal box. A list of locations is given where runaway catch-points are provided, and a note if worked from a signal box. That kind of information is needed by drivers and guards for the better operation of trains and by pilotmen where single-line working is introduced.

There now follows a lengthy and rather disorganised section of operating instructions, both generic and location-specific. Examples taken at random will illustrate the arbitrary nature of the information, which has clearly just developed as required, and without any particular structure in the way it is displayed.

Goods brake vans working on passenger trains
Working of empty carriage trains to & from
Birmingham New St (not to exceed 20 vehicles)
Gangways between Parlour Cars and Dining Room
Cars
Guards timepieces
Refreshments for the Company's servants obtainable at
the Co's refreshment rooms (with prices)
Payment of wages to platelayers
Marshalling of goods trains
Cord communication on slip carriages
Labelling of carriages with destination boards
Covering of gas meters in frosty weather
Special passenger trains via Godley
Prize cattle vans
Automatic weighing machines at stations
Carriages on / to Whitby line restricted
Long couplings on L&SWR wagons.

There are perhaps 150 of such instructions in nearly 30 pages, with one subject following another with no regard as to what has gone before. From time to time there are rather more substantial instructions interspersed, such as those for signalmen concerned with electric repeaters and light indicators; quite advanced for this early date, one might think. At the end of this section, but without any apparent break, there now follow specific location instructions. As has become normal by now in many Midland instructions, these start from the most northerly point on the system and work their way south and west. As an illustration, the first three such instructions refer to:

Carlisle Joint Goods Lines – accidents or emergencies
Appleby – working to/from the NER station
Kildwick – ballast siding only to be used for engineering
purposes.

These location instructions (or local instructions, as they later became known) continue for about nine pages, then there is a quite arbitrary change to the Regulations for Working Single Lines by Train Staff & Ticket; the following four pages give details of the sections of line so worked, defining the shape and colour of the train staff, and who is authorised to deliver to and collect the staff from drivers. Then, without further ado, the geographic local instructions are resumed, covering the Snydale and Killamarsh branches!

A further seven pages follow, then there is another break, this time to allow the Regulations for Working Single Lines by Train Tablet to be given in full, with locations where permitted. A short section on working by Pilot Guards is again followed by the permitted locations, plus supplementary instructions for each of the Blackwell, Mapperley and Holwell branches.

The next few pages list the current occupants of posts such as Inspectors, Permanent Way Superintendents, Signal Inspectors, Telegraph Inspectors and linemen, their districts, and where these are stationed.

The Appendix now moves to a major section, dealing with signalling details over the whole system. Starting at Carlisle, and initially covering the main line Carlisle to London, all stations and "Signal Posts" (generally not boxes yet, although the term is used occasionally) are shown in order, with distances in miles and chains from that preceding, plus details of up or down Lie Bye Sidings, and the general extent (but not times) of opening and closing. By various indications, locations are shown where the block system is in operation, where bell-only or station working applies, and where Posts are not Block, Telegraph Bell or Train Tablet Signal Posts. Also shown are indications where "speaking telegraphs" or telephone instruments are provided. Readers are carefully reminded that 22 yards make one chain, and 80 chains one mile! In all, some 36 pages contain the whole system information set out in detailed tabular form, main line by main line, then groups of branch lines according to geographic location. Finally in this section is a list of locations, mainly the larger stations and goods depots, where additional telegraph instruments are provided.

The next section of the Appendix, some 15 pages in length, deals with loads and times for engines working trains. A couple of pages show outline schedules for express goods trains (subject to specific requirements or limits) between Carlisle and London (via Leicester or Nottingham), Clay Cross and Bristol, and Rowsley and Trent, and vice versa. Thus, a total of 10 hrs 55 mins is required for a train with 25% less than the standard load, from Carlisle to London via Sheffield and Leicester. If the load was restricted further, to only 50% of the prescribed standard load, the total running time could come down to 9 hrs 53 mins. These times were, of course, exclusive of time for operating purposes, such as taking water, changing engines, etc.

The section dealing with loads for goods trains first gives a number of rules for calculating engine loads. Thus, three empty wagons could be reckoned as equal to two loaded goods or mineral wagons. Goods trains could be formed of 1-3 more wagons than mineral trains. Single-framed engines could take 1-5 more wagons than double-framed engines, but subject to conditions concerning the number and weight of brake vans.

The actual table of loads now differentiated between double- and single-framed engines, as well as the previous distinction between wagons of minerals, goods and empty wagons. There were a significant number of local variations, by means of side-column notes. For example, from Oxenhope to Keighley, a train with more than 15 wagons must have every fifth wagon brake pinned down, and no more than 40 wagons conveyed at one time.

The final section of this Appendix gave details of special instructions to be observed by Midland employees when working over other companies' lines. Starting with the Brecon & Merthyr (the gong for shunting purposes in Tallylyn Tunnel) one proceeds alphabetically via the Cambrian, Cheshire Joint and Furness, to the North & South West Junction, Severn & Wye and Severn Bridge, and finally to the South Eastern. Four pages (the largest single section) were devoted to the LNW, and three pages to the L&Y. Included in this part, at the very end of the book, were brief details of emergency arrangements agreed with various other companies, in the event of accidents occurring.

There is no longer a section dealing with the working of tariff wagons, and this was in fact transferred to the back of the all-section working timetable, and capable of being issued separately, as required.

It is worth mentioning that there was a very specific instruction issued in the working timetables at this time, to the effect that "Each Station-master, Engine driver, Guard, Signalman, and other Servant of the Company who is in any way concerned in the observance of the instructions contained in the Appendix to the Working Timetable must be supplied with, and always have in his possession, when on duty, a copy of the last issue."

The appendices continued to be reissued on a fairly regular basis, with issues in 1893, 1896, 1899, 1904, 1905, 1908, 1911 and 1913, and these still grew appreciably in size and complexity. Issue no. 23, from June 1908, had 590 pages applying to the Midland proper, with some 90 additional pages giving exceptions or additions applicable when working over other companies' lines. As previously, these are given alphabetically. There was a simple note that anyone working over the Cheshire Lines must be supplied with copies of the current CL Appendix. On the other hand, the Severn & Wye Joint had ten pages of comprehensive instructions. The pages dealing with agreed emergency arrangements had been considerably expanded by this time, covering matters such as clearing the line in case of accidents, MR train failure on foreign lines, and also how fog-signalling requirements were dealt with at specified locations or junctions.

I do not think it is necessary to look in detail at most of these remaining appendices, but one aspect of the June 1911 appendix (no. 24) caught my eye, and indeed it is the same question of identifying arrangements for working over foreign lines. The previous total of some 90 pages has now increased to around 200, and it was now clearly starting to become an organisational and economic issue, since all this information was now placed into separate sections that could be issued individually. The Midland information proper was nominally classified as Section A, but not shown as such in the book; the page count for this had reduced slightly from 590 to 560. In the rear part of the book, various geographic groupings of foreign railways had their own sections of information for "working over" purposes,

and it is quite useful to compare the extent of coverage required.

Section B, covering the Brecon & Merthyr, Cambrian and Neath & Brecon, had 8 pages.

Section C, for the Caledonian, Maryport & Carlisle, and North British, had a mere 2 pages, mainly covering engine whistles.

Section D, for the Great Central, and the Sheffield District Railway, had 12 pages.

Section E, for the Great Eastern, and the GN & GE Joint line, also had 12 pages.

Section F, covering the Great Northern, also the West Riding & Grimsby Joint line, and working to and from Wakefield Joint station, needed 14 pages.

Section G, for the Great Western, and the GW & LNW Joint line, had 13 pages.

Section H, the largest in the group, covering the L&Y, needed no less than 35 pages.

Section I, the LNW, had 30 pages.

Section J was a complex section of lines in London and south thereof. It included the complicated areas around Neasden (GC) and Acton (GW), the LNW North London lines, the three southern companies (LSWR, LBSCR, and SE&CR) and the Metropolitan, Metropolitan District and the North & South Western Junction, and dealt with this in 23 pages, rather less than one might have thought necessary for such an area.

Section K covered the LT&SR in 6 pages.

Section L, for the North Eastern Railway, had 16 pages.

Section M, for the North Staffordshire Railway, took 14 pages, and finally

Section N covered the Severn & Wye Joint with 12 pages.

There were no full appendices issued between No. 25 in July 1913 and No. 26 in January 1922, although there were several supplements; I imagine this was, at least in part, due to the war and government control. The 1913 book in fact covered Midland lines only, in 274 pages, as Section A, but there was a note at the back that sections B to N of the previous appendix, dated June 1911, would remain in force with certain alterations and additions.

I now want to look in some detail at the 1922 book, because it was a clear improvement on what had gone before. Like its immediate predecessor, it was organised in sections. The Midland proper was Section A, covering everything north of Hendon, plus the main lines between Hendon and St. Pancras; this section had 287 pages. Section B covered the Midland suburban lines in the London area, including the former LT&S lines but it also provided details for other companies' lines in the London area, with a total of 30 pages. There was a note on the cover that Section B need not be issued to "Servants" who do not work over Midland branch lines south of Hendon, or over other companies' lines south of Hendon, and who are supplied with the main appendix, Section A.

As before, there are sections covering other railways requirements for “working over”, not that dissimilar from the 1913 book, so I shall not repeat the statistics. The only real change there, other than the LT&S becoming a Midland section, was the disappearance for some reason of the North Staffordshire section. It had not been included elsewhere, so I can only presume this was due to Midland men no longer working onto that company’s lines, which I find slightly surprising, in the Burton area, for instance.

The main book is now well organised, with an initial index of sections of line, of local instructions, and of general instructions. The table showing the different sections of lines is preceded by two pages of generic instructions relating to all lines. There are sections on:

- Signalling of trains on running lines
- Closing of signalboxes on Sundays
- Keeping open of signalboxes in connection with relaying and other operations during the time they are usually closed
- Signalling of trains at signalboxes when opened other than as shown in the table of signalboxes
- Signal whistles to be given by engine drivers on approaching junctions
- Maximum rates of speed
- Runaway catch points

There then follow the usual lists of main lines and branches, starting at Carlisle and proceeding south and west. The tables are now very comprehensive, extending from page four to page 132, and having headings for:

- Additional running lines
- Stations and signalboxes
- Opening and closing (but without actual times)
- Up line (shows direction by vertical arrow)
- Lie-by Sidings and holding capacity (up side and down side shown separately)
- Runaway catch points – where situated, which line, and the gradient
- Speed restrictions in mph, with separate up and down columns.

In the Stations and signalboxes column, every individual location has its own row; locations with a passenger station are identified by heavy type, and the extent of responsibility by the Stationmaster based there is shown by the various locations being bracketed together by means of a brace }. The additional running lines column displays a small solid black circle (a ‘bullet’ in today’s terminology) against signalboxes controlling the line or lines, plus a vertical line connecting the two locations, the line having an arrow to indicate the permitted direction of travel, and in most circumstances a description of the signalling method and/or the name of the line. Thus, at Skipton, for example, there is an additional down line from Skipton South Jn to Skipton North Jn, with an intermediate controlling point at Skipton Station North Jn, represented in the appendix by a northwards pointing line with circles at the three locations, with a description ‘No Block’ or ‘Bell’. In

addition, there is another line from Station South to Station North Jn, again with a north arrow, and a name of Back Platform Line. This system allowed quite complex track layouts to be represented without actual track diagrams, and yet gave drivers the information they needed.

The engine whistles columns differentiate between up and down, and between main, fast or passenger lines and slow or goods lines. The reason for whistles is of course to ensure signalmen correctly set the route at junctions, but unlike in some earlier appendices, it is now generally the case that most whistles are shown to be given at locations away from the actual point of divergence. Thus, at Snaygill SB, the next box south of Skipton South Jn, trains are required to whistle 2 for “Fast line and going to Settle”, or 3 for “Fast Line and going to Colne”, or 4 for “Slow line”. This routing information will then be passed on to the Skipton South signalman with the train entering section bell signal.

The new section of Local Instructions, which now follows, extends from page 133 to page 206. It is organised geographically, again from the north, initially commencing with “Carlisle and Leeds, and branches”. This is followed by a section of General Instructions, each entry being separated from the next by a horizontal line, and each having a corresponding entry in the index. One extensive instruction that, although generic in nature, refers to particular sections of line, is that for “Assisting trains by engine in rear”. Each applicable section of line is listed, together with any specific instructions or limitations. Thus from “Midland Ancoats Jn to Belle Vue Engine Shed Box, up goods trains [may be assisted] except during foggy weather or falling snow.”

A particular note is given where passenger trains are allowed to be assisted in rear, although it is a rare occurrence. There are only five such locations:

- Lancaster South box to North box, on the down main.
- Birmingham New St to Church Road Jn, from No. 4 down line (No. 6 platform) only.
- Bromsgrove Station to Blackwell, up ML.
- Bath Station to Bath Jn, up ML.
- Bristol Engine Shed Sdgs and Barrow Lane to Fishponds on the up ML. (Limited to those trains not calling at Mangotsfield, with a note that assistance for trains calling there must have the assisting engine attached front, detached whilst at the Mangotsfield platform.)

There are 23 locations where the engine of a second freight train, queuing on a goods line, can be used to assist a train in front. The accompanying instructions require the guard of the first train to apply a sufficient number of wagon brakes at the front of the second train, and for the fireman of the returning second train engine, after assisting the front train to start, to release those brakes. In bad weather (fog and snow) this arrangement can be adopted only under the “supervision of a competent person appointed for the purpose”..

There is a substantial table of locations (five pages in length) where propelling is allowed on main lines outside station limits, showing for which line or lines this is permitted, and giving restrictions on length or other limitation – the use of the continuous brake, for example. Finally, as in previous appendices, there is a comprehensive table showing maximum dimensions for vehicles that will travel safely over other companies' lines. Unlike in previous appendices, however, there are no Train Signalling Regulations included as such. Instead, on the final pages, there are several extracts given for "Engine Drivers, Firemen, Guards and others not supplied with copies of the Regulations". These are, however, quite brief except in the case of the electric train token or train staff methods of signalling, where

significant portions are quoted. In future, train-signalling regulations were considered sufficiently important as to be published in a separate book; these regulations did not change significantly from year to year and therefore such books remained in use for many years without being reissued.

There was a similar change where train loads were concerned. Hitherto, most loadings for passenger and freight trains were included in the various Appendices. However, this now came to an end, and the last Appendix did not carry this information. Instead, a new separate booklet, *Loading of Passenger and Freight Trains*, came into use from July 1921. (See Figure 12 below.)

2

LOADING OF PASSENGER TRAINS WORKING ON MAIN LINE.

The following Table of Loads for Passenger Engines supersedes all others.

BOTH UP AND DOWN TRAINS.	LOAD IN TONS.				WITH
	CLASS OF PASSENGER ENGINE.				
	1	2	3	4	
Carlisle and Hellfield	150	180	205	235	Limited trains.
	160	190	220	250	Full load trains.
Morecambe, Carnforth, and Hellfield	160	190	220	—	Limited trains.
	180	215	250	—	Full load trains.
Manchester (Victoria) and Hellfield	150	180	205	235	Full load trains.
Liverpool and Blackburn	170	205	—	—	Full load trains.
Hellfield, Bradford, and Leeds					
Leeds and Trent or Nottingham (via Eckington)	170	205	235	265	Limited trains.
Cudworth and Wincobank Junc. (via Chapelton)	190	230	260	295	Full load trains.
Masboro' and Sheffield					
York and Sheffield					
Sheffield and Chesterfield	150	180	205	235	Limited trains.
Sheffield and Manchester	160	190	220	250	Full load trains.
Clay Cross and Derby	180	215	250	280	Limited trains.
	200	240	270	310	Full load trains.
Liverpool and Manchester	180	215	250	280	Full load trains.
Liverpool and Stockport or Cheadle Heath.....					
Manchester (Victoria) and Romiley.....	150	180	205	235	Full load trains.
Romiley and Manchester (Victoria).....	180	215	250	280	Full load trains.
Manchester and Ambergate	150	180	205	235	Limited trains.
	160	190	220	250	Full load trains.
Nottingham and Lincoln	150	180	205	—	Limited trains.
	180	215	250	—	Full load trains.
Derby and Nottingham and Leicester	180	215	250	280	Limited trains.
	210	250	290	325	Full load trains.
Nottingham and Kettering	160	190	220	250	Limited trains.
	180	215	250	280	Full load trains.
Leicester and London.....	170	205	235	265	Limited trains.
	190	230	260	295	Full load trains.
Derby and Birmingham	180	215	250	280	Limited trains.
	220	265	305	345	Full load trains.
Birmingham and Bristol	170	205	235	265	Limited trains.
	180†	260†	300†	335†	Full load trains.

Mail and Parcel Trains allowed the full load times, but convey the limited loading.
 † For loading of local trains between Birmingham (New Street) and King's Norton, see page 6.

Figure 12:

5. General Manager's notices

I want now to look at the General Manager's numbered notices, officially called Orders, and give some examples of those relating to operating matters. As I said earlier, these were primarily in the first decades of the Midland, with the Superintendent assuming this role from about 1871.

Order no. 19, issued in 1854, dealt with the shunting of trains at stations where scheduled to shunt for another train to pass, and where the telegraph is working. It stipulated that guards of trains should, on arrival at these stations, inquire of the 'Station-clerk' (not yet Stationmaster) if the following train was late. The Clerk was to ascertain and instruct the guard accordingly. The train should only be ordered to proceed if there is ample time, not only to reach a subsequent station but also to shunt clear of the line. If the Clerk does order it to proceed, he must take care to inform the driver of the subsequent train when the preceding train departed.

The subject of shunting trains or vehicles was a regular subject of GM Orders until detailed regulations for signalling became the norm. Another Order of 1854, no. 32, gave procedures for a through goods train overtaking a stopping goods at a station, requiring the stopping goods to shunt clear of the line and not follow until five mins after the through goods has departed. An Order of 1855 prohibited the use of whistles to indicate that a train had been shunted clear, and instead required that the guard give proper notice. Order no. 190 of August 1864 reminded all concerned that no engine or vehicles should be shunted onto the main line from sidings without permission of signalmen, etc., by hand signal, in accordance with the Company's rules. The justification for this was by reference to the "serious accident recently occurred at Nottingham".

As time went on, there was a growth in the number of Orders dealing with signals and signalling systems. Order no. 70, from January 1856, gave regulations for working semaphore signals, addressed to Stationmasters, Drivers, Pointsmen, Signal Porters, Gatemen and others. It was felt necessary to begin the instruction by warning that such signals, unless otherwise specified, applied to trains running in the right direction on the main lines only, and must not be lowered for any other purpose. Trains running in the wrong direction (!) on either line, or shunting from one main line to the other, or into or out of sidings, should be signalled past the semaphore by hand lamp or flag as required.

The same Order also dealt with a perennial problem, that of starting trains from platforms, in this case from a ticket platform. Drivers were reminded that the signal to start, from the guard, merely meant that the collection of tickets had been completed, and that the driver must then ensure the line is clear and any signals show proceed. Over the years, that process has from time to time been taken for granted by drivers, even in the 21st century, and it is interesting to see its appearance at such an early period. Another order of the same period gave

instructions about the working of distant signals, to be undertaken with extreme care. "It is not sufficient merely to pull on the handle; but care must be taken to watch the signal at the same time, so as to ascertain that it obeys the handle and is turned full on." The signals should occasionally be tried, and the wires regulated as necessary so as to compensate for variations in temperature. For stopping trains, the signal should be returned to caution as soon as the train engine has passed it. This and some other orders were seen as sufficiently important as to require that Stationmasters, etc., gave a copy of the document to all staff whose duties required it, and to obtain and retain an acknowledgement of receipt. The Stationmaster himself of course was required to give a similar acknowledgement, but he had to return that to headquarters.

Order no. 160, May 1860, gives detailed instructions for the use of "Detonating fog signals", as well as instances of where they are to be used; as might be expected, these fall into the categories of fog, breakdown and obstruction. Reference is given to the applicable rule, and an indication of who has the responsibility to place the detonators. The notice states that one of the chief objects in placing detonators is that in case a driver does not see the signals exhibited he has an additional caution from the detonators, and that it was therefore important that they were used in every case where special hand signals were employed, so that there would be two modes of conveying a warning to the drivers.

A very interesting Order was that relating to the observance of standard time, no. 203 of June 1865. Every guard was to be supplied with a watch or timepiece, and he must carry it with him at all times, and ensure it is properly regulated and repaired when necessary. He must check it against a terminal station clock before every journey. Terminal stations were to have their clocks corrected by reference to "Greenwich time", given by telegraph over the line each morning at 10 a.m.

It was stipulated that as from 12th June, the regulations defined in the Order must be brought into use. The guard of specified main-line stopping passenger trains, or in the case of branch lines the first down passenger train (or in some specified instances the first up train) must give the Stationmaster or other person in charge at each station the precise time, so that the station clock can be regulated. In case of discrepancy, the guard's time must be adopted.

Of course, the observance of standard or 'railway' time predated this instruction by some years, having been first introduced in 1847, but this was apparently the occasion on which the Midland introduced a carefully controlled method of ensuring its accuracy. As a side note, the 10 a.m. time signal was still a feature of railway telegraph office operations in the 1960s, relied on by signalmen in outlying boxes to correct their clocks.

Another early order, no. 192 of November 1864, deals with another perennial issue, that of complaints about engines whistling unnecessarily. This was still happening over 100 years later, for whatever reason. The 1864 Order was as follows:

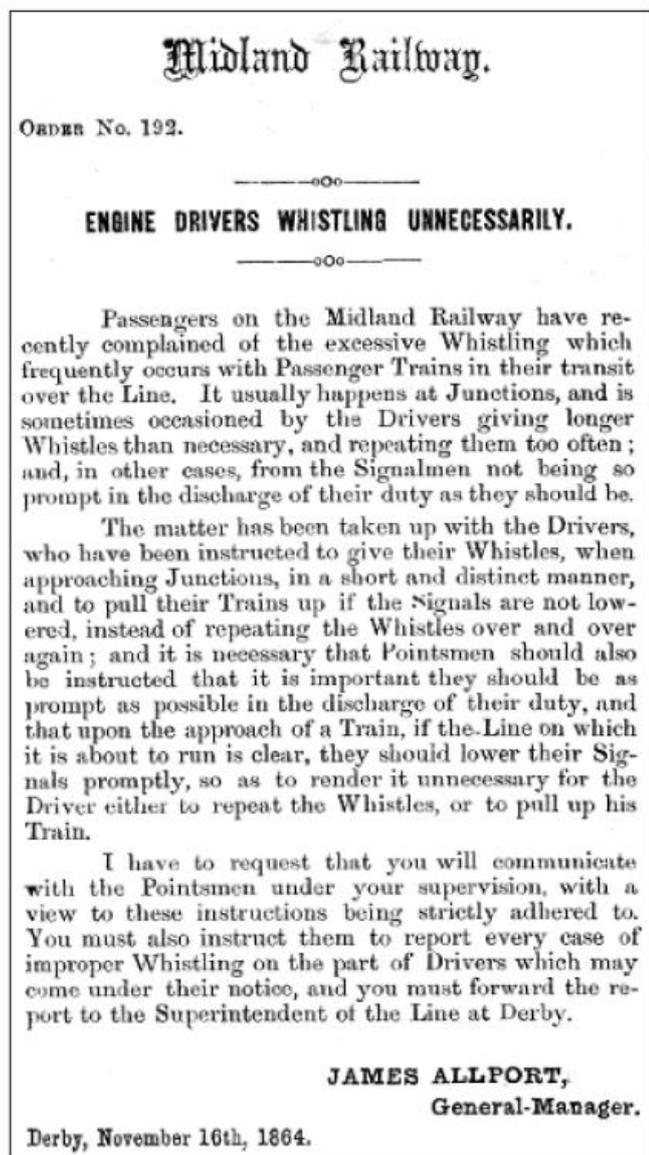


Figure 13:

Order no. 221 was issued in November 1866, and dealt with engine headlamps to be displayed on express goods trains. In order to minimise delay, the order stated it had been arranged that the engine of such trains should display a coloured lamp on the 'buffer plank' in place of the white headlamp currently displayed. Strangely, it does not define what colour the lamp should be!

Order no. 229 was concerned with the coupling of carriages, stating that in order to give smooth and safe running of passenger trains, all the vehicles must be coupled tightly together, in order to resist oscillation. "It is not sufficient that the Carriage Buffers be brought together, but the Vehicles should be coupled tightly so as to put sufficient strain on the drawbars to ensure the Buffers being brought so firmly together as not to be separated by any change of gradient, or by the jerk occasioned in starting the Train." The document asserted that insufficient care had been taken, and

required Stationmasters and others, including during the journey, to see that couplings were and remained properly adjusted.

I mentioned before that the Superintendent of the Line became responsible for more operational matters in 1871. Order no. 288, of January 31st, dealt with this matter, and indicated that as from February 1st, the following day, the Superintendent would become responsible for the working of goods and mineral trains, including all communications involved. The Goods Manager would retain control of goods trains within main goods yards, but the Superintendent was to take over responsibility as soon as they left. The goods guards would be transferred to the staff of the Coaching Department. All this on one day's notice!

Thereafter there were few other GM Orders on operating matters, but there was just one other to note. On March 1st 1902 the control of goods trains in goods yards, just referred to, was transferred away from the Goods Manager to the Superintendent. Order no. 422 of February 25th set this out (giving a couple of days extra notice this time!) and included in the transfer all working and staff in marshalling yards, and the ordering of engines for all trains, special or otherwise. Some staff such as inspectors and foremen in goods yards would remain with the Goods Manager, but ordinary shunters would become controlled by the Superintendent, although supervised by the Goods Manager's remaining staff. There were various other odds and ends tied up in the Order, but henceforth the Superintendent was the sole officer responsible to the General Manager for operating matters.

As indicated, some GM notices were issued without reference numbers or acknowledgement being required. These fell mainly into three categories – instructions to signalmen (otherwise known as special or signalbox instructions), requirements as a result of Acts of Parliament or other government involvement, and those where other external parties were involved.

Signalmen's instructions were initially quite simple, a typical example being that issued to the Stationmaster at Melling, on the Furness & Midland Joint.



Figure 14:

Other examples covered the use of a bell to warn station staff of the approach of a train, or the requirement for signalmen to pass on information received by engine whistles such as a goods train requiring to stop at some point ahead for traffic purposes. One notice relating to Nottingham Centre was for the signalman to operate bells fixed in the Dining and Refreshment Rooms, in which it was made clear that this was always to be done only two mins before departure time; if the train was delayed, the bells should be rung only two mins before the actual departure time.

Government intervention was generally fairly infrequent in the 19th century. However, when it did occur there was a need to communicate any requirements to operating staff, and this was carried out by the GM's organisation, whether or not the subject was a devolved operating responsibility. Two instances will serve to show the range of action required.

Firstly, there were government requirements for the transit of animals by rail, possibly in consequence of disease, and in 1894 the GM issued instructions that the cleansing of cattle trucks and pens, etc., was to be carried out within strict timescales, in order to comply with the Board of Agriculture requirements. At other times, there might be specific actions or prohibitions required in some locations in consequence of outbreaks of swine fever or foot and mouth disease.

The second instance I want to mention is that resulting from the *Regulation of Railways Act* in 1889, as a consequence of that year's Armagh accident. The GM notice sets out the requirements to come into force on May 20th 1889.

All passenger trains must be worked with the continuous brake in use by the company. There were exceptions provided for to facilitate working and these were described. A quarter of vehicles may be piped (without continuous brakes), for trains not exceeding 10 miles between stops. One sixth of vehicles may be piped when such distance exceeds 10 miles. However, foreign carriages (i.e. non-Midland) must be fitted with the vacuum brake, or with the Westinghouse brake plus a through vacuum pipe. The last vehicle must be fitted with the continuous brake, although there were limited exceptions to avoid delay.

Details are given of other companies' arrangements where the Westinghouse brake is in use. Any interchange vehicles with these lines should have both brake systems fitted, and the vacuum brake plus a through Westinghouse pipe. The other companies (using the Westinghouse system) would provide a number of vehicles fitted suitable for interchange with the Midland. Instructions are given for when unsuitable vehicles arrive at junction points, involving either transshipment of the contents, or working the vehicle under special arrangements according to circumstances, unless other arrangements were made by the Superintendent of the Line.

The notice also sets out requirements for Mixed trains, namely, that goods vehicles may be conveyed only by a train carrying passengers in those circumstances where the WTT shows the train as Mixed. There is an exception, described as in case of urgency, where a goods or cattle vehicle fitted with the vacuum brake may be conveyed behind the brake on sections of line permitted by the Company's regulations. The notice states that the engine, tender and passenger vehicles of Mixed trains must have the automatic brake fitted; goods wagons were to be placed behind the rear brake of the passenger vehicles, with a brake van (with guard) in the rear of the wagons.

No Mixed train must exceed 22 vehicles (passenger plus goods) and no more than 10 goods vehicles (including a brake) may be conveyed on any Mixed train. Finally, the speed of Mixed trains was not to exceed 25 mph, the speed at which (according to the notice) such trains are booked in the WTT.

The notice gives details of the lines over which Mixed trains are permitted. These are:

The Hawes, Ingleton, Barnoldswick and Oxenhope branches, Sandal & Walton – Wakefield, Masboro – Doncaster, Derby to Wirksworth, Melbourne and Ashby, Derby to Trent via Castle Donington, Mansfield to Newark and to Pye Bridge, the Southwell branch, Ashby to Nuneaton, Halesowen to Kings Norton, Ashchurch to Malvern and Tewkesbury, the Stroud, Nailsworth and Coaley branches, Berkeley Road to Sharpness, and the Thornbury, Hitchin and Hemel Hempstead branches.

The third category of GM notice concerns where there is some external organisation actively involved, and whose activities might affect the line. Clearly one such is where blasting is to be carried out adjacent to the railway, and in such circumstances the GM was careful to lay down precise requirements. There are instances at Bell Busk, and Delaney's Sidings, Gargrave but I want to use the Monsal Dale situation as an example. Derbyshire County Council had a quarry where blasting took place, near to Monsal Dale station, and in 1921 the then GM, Frank Tatlow, issued a typical notice covering the circumstances. It was a fairly lengthy document in two parts and essentially required the signalman to grant permission by handing over to a competent quarry employee a red staff lettered "Monsal Dale, Fire the Shot". Permission would only be granted if it was daylight, good visibility, there were no trains approaching and no passenger trains due within 15 minutes. On completion of blasting, which was to be completed as quickly as possible, the red staff was to be returned to the signalman provided no damage had occurred to the railway. If there was damage, the signalman and Stationmaster at Monsal Dale were immediately to be informed.

The second part of the document specifically sought to bring to the attention of "Quarrymen and Servants in the employment of Derbyshire County Council" the

relevant railway legislation, and quoted at length from various Acts of Parliament. Pity the poor semi-literate quarryman being told that:

"Section 35 of 24 and 25 Vic. C. 97.—Whosoever shall unlawfully and maliciously put place cast or throw upon or across any Railway any wood stone or other matter or thing or shall unlawfully and maliciously take up remove or displace any rail sleeper or other matter or thing belonging to any Railway or shall unlawfully and maliciously turn move or divert any points or other machinery belonging to any Railway or shall unlawfully and maliciously make or shew hide or remove any signal or light upon or near to any Railway or shall unlawfully and maliciously do or cause to be done any other matter or thing with intent in any of the cases aforesaid to obstruct upset overthrow injure or destroy any engine tender carriage or truck using such Railway shall be guilty of felony and being convicted thereof shall be liable at the discretion of the Court to be kept in penal servitude for life or for any term not less than three (now five) years."

After another four such clauses, the railway might realistically expect great care to be taken by the quarrymen, which was of course precisely the intention!

Finally, another and much more sombre notice was that of February 1915 relating to the running of Armoured Trains. The instructions dealt with the composition of the trains, how they were to be operated on the railway (brakes, driving gear, head and tail lamps, etc.) and liaison between the railway and military. The train was to be worked by a military driver and fireman, and with a

railway driver acting as a conductor; there were also to be two railway guards and a traffic inspector present. A military officer in uniform would accompany the train and give instructions as to where it was to run and where to stop, but the railway employees were responsible for the safe working of the train.

The train could be admitted to an occupied section, provided the train ahead was not a passenger train. It was a sign of the times that the military officer could in some measure over-rule the railwaymen on board.

12.—REQUIREMENTS OF MILITARY OFFICERS ACCOMPANYING ARMoured TRAINS.

(A) Everything possible must be done within the scope of these instructions to meet the requirements of Military Officers accompanying Armoured Trains, and Station-masters, Signalmen, Engine-drivers, Firemen, and Guards must carry out any instructions given by the District Traffic Inspector or his Assistant.

(B) Should a Military Officer accompanying an Armoured Train desire an operation carrying out contrary to these Instructions, it must be explained to him that it cannot be done without risk to persons using the Railway, unless the ordinary traffic is suspended. If he still insists on the operation being carried out, this must be done after arrangements have been made to stop all other Trains running on lines that may be affected, until the operation is completed; and the General Superintendent must be advised as quickly as possible by Telegraph or Telephone.

Figure 15: Clause 12 of the instructions for running Armoured Trains

6. Superintendent's notices

To quote from Williams in his 1876 book on the Midland, the Superintendent of the Line “has charge of the running of the trains, the safe working of the line, and the signal and other similar arrangements”, and was responsible for such matters to the General Manager. Most of the records of the Superintendent's activities apply only to the period from about 1871, when it appears he took over the responsibilities. It should be noted that the Superintendent's official title changed to General Superintendent around 1910, as his responsibilities grew with the many changes to operational methods around that time.

As with the similar notices issued by the General Manager, orders and instructions were issued to staff by means of a numbered series of circulars, requiring acknowledgement to HQ, and also generally instructing that the circular be fixed into the recipient's Order Book. There were just under 800 of these circulars issued up to the end of the 19th century, and the practice continued into the 20th, although as time went on the circulars changed somewhat in content, being more involved with train working arrangements and thus rather larger than before.

The first such circulars on record deal with fairly mundane requirements, such as the frequency of regulating signalbox clocks, and the use of signalbox

telegraph circuits for public messages. Circular no. 261 of October 1877 directed Stationmasters to ensure that fog-signalmen received the correct sustenance after they had been on duty after six hours, the most suitable being described as bread and cheese, and tea or coffee, but most definitely no intoxicating liquor. At about this time, there is a gradual increase in the number of instructions dealing with signalling and the block telegraph, as well as dealing with punctuality, braking systems and methods and the like. Frequently these circulars refer to instructions already in place in the Appendix to the WTT, and vary or add to these. Thus, Circular no. 546 of September 1889 deals with attaching other companies' vehicles to Midland passenger trains, of what to do in defined exceptional circumstances, and advising on some of the physical variations likely to be experienced, not least the special lettering or colouring employed. I commented earlier about that year's Regulation of Railways Act, with all its requirements for braking systems, and it is clear there was substantial time and energy devoted to getting the practicalities right on the ground.

The Midland was known as a fairly unpunctual railway, and an 1889 Circular pulls no punches! Headed “Working of Passenger Trains” it indicates that complaints have been received from the public, and that now the busy season was over there was no reason why trains “should not resume their ordinary punctuality”.

It is imperative that a remedy should at once be applied, and you must give the matter your special personal attention, taking care that the whole of your men are kept thoroughly alive to the necessity for putting forth every effort to avoid delay, and you must call my attention to any circumstances worthy of note in connection with the working of the traffic, making any suggestions that you think are calculated to effect an improvement.

You must also distinctly understand that any excess of traffic is not to be considered an excuse for loss of time at Stations, and difficulties in this respect must be met by additional exertion on the part of the Staff.

Figure 16: part of Circular no. 550 of October 1889

There speaks the Victorian master, I think.

The matter was again addressed in June 1900, when Stationmasters were instructed by Circular no. 795 to report all delays to passenger trains at their station, and the reason for the delay, to the Superintendent. A supply of printed forms was issued, and these were in all cases to be used; the report was to reach the Superintendent on the day following the delay. Yet again, in October 1900, Circular no. 807 stated that delays to passenger trains were occurring “owing to Goods or Mineral trains occupying the Running Lines”, again requiring Stationmasters to report such delays. Now, signalmen were to be supplied with forms for reporting delays, and Stationmasters also had to wire the Superintendent at the time of the occurrence.

There is an interesting and quite substantial Circular, no. 789 of April 1900, dealing with new parcels trains to be

introduced between London and Bradford from the end of the month. In the down direction, this new train left at 9.20 p.m., just after the Scotch express at 9.15, and conveyed parcels vehicles for a number of destinations, Birmingham, Bristol, Lincoln, Manchester and Liverpool, as well as the expected Bradford vans. The up service, at 9.35 p.m. from Bradford, similarly had through vans from widely separated starting points, including Birmingham, Bristol, Hereford and Nottingham, attached at Derby, and also from Lincoln attached at Leicester. There were resulting changes specified to several existing passenger and mail trains, and the whole instruction extended to seven pages. It is worth mentioning that the down train ran for many years, over the course of time being retimed to follow the 9.30 Scotch express when that was put on, leaving at 9.40 as late as the 1950s.

Circular no. 1081, dating from September 1907, deals with the requirements for Warming of Trains, for the season 1907–8. Whilst it will obviously be one that was replicated year by year at around this time, it nevertheless sheds light on what was involved. The warming arrangements were generally to come into operation on November 1st, notably one month later than in more modern times, but a qualifying note stated that Night trains and the day Scotch expresses must be heated when the temperature demands it.

Most main-line trains were specified to be covered by the provision of heating by steam pipes, but heating by hot water pipes was still in use on the London, Birmingham and Bristol area suburban services. Drivers were instructed to keep the steam or hot water heating constantly on, unless advised otherwise by the guard. The guard was instructed to report, via their journals, on all variations from the planned order, whether above or below plan, and also to report the time the engine was attached at the starting point, and also the temperature at several points on the journey, as far as they could ascertain from the thermometers in their possession.

For all those passenger trains not specified, heating was to be provided by the then old-fashioned method of footwarmers. Two warmers were to be placed in each compartment, except that in extremely cold weather, an extra warmer should be provided in first-class compartments of long-distance trains. Footwarming stations were warned to be prepared to supply additional warmers on request by passengers. Carriages going onto foreign lines, other than Scotland, York, Liverpool, Manchester and Bournemouth, were to be searched at the junction stations and Midland warmers removed.

In addition to the numbered circulars, the Superintendent's office was responsible for many other operating documents, as might be expected, with a wide range of subjects. I will just give a few brief details of some examples, to indicate the range.

Fruit train notice – special trains to run, additional van workings, special stops in existing services, connections, loading of vans, where vans to be sorted, etc. The 1913 season document consisted of 14 pages covering the whole of the system, including details of through workings to other lines.

Loading of Passenger and Freight Trains, a new publication coming into use in 1921, as indicated earlier. The cover noted that the booklet superseded the instructions given in the Appendix, and indeed this and subsequent versions of the booklet became a regular feature of LMS and BR operating practice.

Passenger train marshalling arrangements – a comprehensive publication, showing the composition of all express trains throughout their journey, with the number of seats, details of carriages and vans attached or detached, and the total weight of the trains. It was issued several times annually, to correspond with the issue of working timetables. In earlier years, it also gave details of the number of compartments, whether corridor or non-corridor, and if lockers were provided, but by 1922 this had been considerably simplified. What had been over 100 pages in 1914 had come down to 44 pages in 1922. However, the 1922 document additionally contained 130 pages of local stock working, previously issued as separate booklets for the South & East, West and North districts.

Another regular issue, necessarily in conjunction with the timetable, was the booklet rather misleadingly titled “Special Working Arrangements referring to Passenger Trains”, which set out guidance for staff in dealing with out-of-course running. In the main, this consisted of instructions to wire ahead details of passengers, or for how long a connecting train may be detained, or in some cases when a train should *not* be kept for connection. There was an open invitation in the preamble, as can be seen below:

The staff engaged in the working of Passenger Trains are invited to point out in connection with future issues of this Programme any instances in which better arrangements might be made, and to offer suggestions which are calculated to assist the running of Passenger Trains in general.

The instructions are given in station alphabetical order for each District Superintendent's division.

The receipt of this Programme must be acknowledged first means.

LEEDS DISTRICT.

STATION.	TRAINS.	INSTRUCTIONS.
ADDING-HAM	2.10 p.m. Ilkley to Skipton.	When more than 5 mins. late, to wire Skipton particulars of passengers for the 2.51 Morecambe train.
APPERLEY	1.20 p.m. Leeds to Bradford.	When 5 mins. or more late, to change passengers for Carnforth and beyond, and stop the 1.55 from Leeds to take them up.
	8.55 p.m. Bradford to Leeds (Sundays).	May be detained 6 mins. for passengers for Calverley and Newlay from the 6.55 from Morecambe.
	10.30 p.m. Bradford to Leeds (Sundays).	May be detained 10 mins. for passengers for intermediate stations to Leeds from the 9.10 from Carnforth. If the connection is not made, the Carnforth train to be stopped, where necessary, to set down.
APPLEBY	N.E. trains to Penrith.	Will be detained 3 mins. to make connections from the Midland Line on advice of passengers.
	4.0 p.m. Carlisle to Hellifield. } 4.15 p.m. Carlisle to London. }	When the Scotch Express is 20 mins. or more late, and there are no passengers in it for stations between Appleby and Hellifield, the slow train must be sent forward to Hawes Junction, or beyond, as necessary.

LEEDS	12.0 night London to Carlisle.	To wire Carlisle when passengers for the M. & C. Line.
	12.10 a.m. Leeds to Bristol.	May be detained 5 mins. for passengers from the N.E.
	1.35 a.m. (1.55 Sundays) Carlisle to London.	To wire Trent and Derby particulars of passengers for the West.
	1.40 a.m. Carlisle to London.	To wire Rotherham (Mas.) the number of passengers for Sheffield.
	2.55 a.m. Leeds to London.	To wire Sheffield time train leaves, and extra vehicles to be dealt with for 4.27 a.m. from Sheffield. If Scotch Express likely to leave Leeds later than 3.10, approximate time to be wired not later than 3.0.
	2.45 a.m. Leeds to Normanton.	May be detained until 3.10 for L. & N. W. mail.
	4.20 a.m. Leeds to Bradford.	When train late from South and cannot leave Leeds before 4.30, duplicate to be started punctually.
	4.52 a.m. Heysham to London.	When 15 mins. or more late, a duplicate must be started from Leeds punctually if there are passengers for London, and Sheffield requested by telegram to send a passenger vehicle to Rotherham (Mas.) with the engine to work the Sheffield passengers forward; Rotherham (Mas.) being also advised.
	8.57 a.m. Leeds to Sheffield.	When 20 mins. or more late, to wire Cudworth particulars of passengers for H. & B. Line.
	10.0 a.m. Leeds to Carlisle.	Not to be detained more than 5 minutes for passengers from the N.E. Line.
	12.5 p.m. Carlisle to London. } 2.50 p.m. Leeds to Bristol. }	When the Scotch Express is so late that the 2.50 p.m. Leeds is despatched without the connection, the Scotch Express must be stopped at Chesterfield to detach the West portion, and a telegram sent to Chesterfield and the Loco. Dept. at Hasland, at least an hour before the train, is due there in order that the West portion may be worked forward specially.
	2.55 p.m. Leeds to Cudworth.	Not to be detained for 2.8 p.m. ex Bradford, except on advice of through passengers.
	10.45 a.m. Bristol to Carlisle. } 3.48 p.m. Leeds to Carnforth } and Morecambe. }	When the Carnforth train is despatched without making the connection, the Scotch Express may be stopped at Bingley, Keighley or Skipton, to set down passengers. If there are passengers for more than one of these stations, the train must be stopped at Keighley only. The Traffic Inspector at Manningham must be advised of the extra stop in addition to the station affected.
	1.0 p.m. Leeds to London.	When the Carnforth train is so late that it will not reach Leeds by 1.0 p.m., the London express must be despatched to time and the through vehicles from the Furness Line sent by 1.6 p.m. to Derby to connect with the 1.50 p.m. ex Manchester, Mr. Cook, Derby, being advised.
	1.30 p.m. Carlisle to London. } 6.40 p.m. Leicester to Saxby. }	To wire Leicester if passengers for the Saxby Line.
	2.17 p.m. Bristol to Bradford.	When so late that it cannot leave Leeds by 7.45, a duplicate must be despatched punctually.

Figure 17: Part of a July 1913 notice relating to Leeds District and station

The final example in this selection is the Programme of Christmas Parcel Arrangements. This was a substantial booklet covering all aspects of parcels working, from how the traffic was to be loaded in vehicles, to labelling, delivery of perishables, and parcels for other lines. There were 15 pages detailing additional vehicles to be conveyed, and several pages of extra trains, with timings. Although a separate notice, it was consecutively numbered with other operating notices, and thus, in the 1907 season the pages were numbered in the high 3500s.

There is one further category of notices issued by the Superintendent's office, namely Special Trains Notices, generally abbreviated on the railway to STNs. These were short-term alterations, issued usually only a day or two in advance, and sometimes sent out by wire. Of necessity, they were required to be acknowledged by wire on receipt. A few examples will suffice. Handwritten STN no. 70 of August 20th 1904 gave details of a special train to run the following day from Victoria to St. Pancras via Ludgate Hill, with three passenger vehicles from Croydon to Kettering. Times were shown both for this and the outward engine and

van, plus provision of van and guard by Mr Bells, presumably at St. Pancras, and there was a note that tickets were to be examined at Kentish Town, during the six-minute stop to run round.

STN 67, dated April 12th 1912, gave details of several special trains to run on the next couple of days, including a 2.3 p.m. Birmingham to Kingsbury on the 13th conveying Territorials; instructions were to stable at Kingsbury, then the return train to leave at 6.39 p.m. An additional special train was to run on Sunday 14th from Carlisle to Liverpool, with 14 vehicles Edinburgh to Liverpool, 1½ Edinburgh to Bradford, and 5 Dundee to St. Pancras. The latter vehicles were to be attached at Hellifield to the 3.27 p.m. from Hellifield. Another special train on the same date was from Cudworth to Manchester Central, in this case running through from Hull (H&B) with 13½ vehicles. Sheffield was to attach 3 vehicles. Interestingly, Sheffield is shown to provide a guard, but there is no other provision, which rather suggests that the H&B guard worked to Sheffield. There is, however, nothing to show whether and how far any H&B loco worked.

A different type of STN was that dealing with a special train conveying armour plates as an out-of-gauge load.

Such details are rarely available, so are illustrated below in Figure 18.

A number of armour plates, from Messrs Vickers, Sons & Maxim Ltd., en route to Barrow-in-Furness, will be worked from Sheffield to Carnforth on Sunday next, December 11th, as shown below :-

	arr or			arr or	
	pass	dep		pass	dep
	a.m.	a.m.		p.m.	p.m.
SHEFFIELD	-	6-15	Calverley	1-20	
Masboro'	6-30	7- 5	Guiseley Co. Shipley	1*40	1*50
Swinton Station Box	7*20		Skipton	2w40	3-48
Swinton Junction		7*30	Hellifield	4*18	4*28
Cudworth	7*55	8* 5	Settle Junction	4-38	
Oakenshaw	8*30	8*55	Clapham	5- 1	
Normanton	8*45	9*22	Bentham High	5-20	5w25
Hunslet Station Jc.	9-50	12-55	CARNFORTH	6- 0	

One or more of the armour plates will be conveyed in 30 ton trollies (fitted with trestles), leaning to the six feet side, being fixed to a maximum height from rail level of 13' 4" at 3' 8½" from centre, and this side must be kept to the six feet throughout the journey.

Comparatively lightly loaded wagons must be marshalled between the heavier loads in the usual manner.

Our Engineer agrees to the traffic passing on a Sunday at not too great a rate of speed, under careful supervision, on the fast line from Masboro' to Swinton, on the up fast line from Swinton Station Box to Swinton Junction, over the outside down passenger line at Normanton, passenger line Waterloo Colliery Sidings to Hunslet Station Junction, passenger line Hunslet Station Junction to Engine Shed Junction; down slow line from Whitehall Junction, and over the up loop Hellifield South Junction to Hellifield North Junction, all single line arched openings being avoided.

Masboro' Control Office to arrange for the engine and men of the 1-30am Sheffield to Leeds to work the train to Leeds, and for an Inspector to accompany the train from Sheffield to Leeds, who will make the necessary special arrangements at Swinton.

Mr Hawkins to arrange Inspector to accompany the train Leeds to Carnforth, and make special arrangements where necessary.

The train must carry "Through goods lights", run on lines worked on the Block Telegraph only, except where it may be necessary to comply with the Engineer's restrictions, and be signalled on the bell as follows :-

1 pause 2 pause 4.

A Goods Department Inspector will accompany the train Sheffield to Carnforth.

Figure 18: STN no. 220 of December 8th 1910

Finally, the Superintendent issued other documentation, generally of a local nature, to Stationmasters, advising, instructing, cajoling or complaining, as the case may be. On May 2nd 1872, Mr Polar at Dronfield was advised to note that Break Down Vans will leave Sheffield the following day at 8.15 a.m. for Barnsley, Kilnhurst, Sheepbridge and Dronfield to load up cripple wagons. On March 2nd 1882, Mr Driver at Leicester was told that the Loco Department had advised new loads for engines between Coventry and Nuneaton, and details were given for him to note. On April 14th 1897, Mr King at Mansfield was advised that about 200 passengers will join the 1.10 p.m. Mansfield to Chesterfield at Clown on the following Saturday, "for the purpose of witnessing a football match at Chesterfield", and requesting that it be strengthened by "five five-bodied third class carriages".

Last, but not least, from 1914 comes the cautionary tale of the L&SWR horsebox returned dirty from

Wirksworth. On January 2nd Mr Cox at Wirksworth was written to stating that his (recent) explanation was not satisfactory, that his station had previously been reported for returning such vehicles dirty, and that Mr Cox had then promised it would not happen again. The document continues: "So far, we have nothing whatsoever to say to the L&SW Co in reply to their complaint except to admit downright negligence"; and asking what more he has to say on the subject.

A few days later, Mr Cox had replied but this too was unsatisfactory and a further HQ letter went out: "... it does not follow because you were away at the time of this irregularity, matters should go wrong. The case under notice clearly indicated that you have not a proper system in operation for cleansing horseboxes, and the sooner you put the matter on a satisfactory footing the better." The correspondence ends by requesting Mr Cox to confirm by return that he has done so.

7. Control office

The introduction of the well-known system of Control Offices from 1909 on required a considerable amount of documentation, as well as a major change in operational methods. This came about due to the excessive train delays being experienced, and the consequential excessive hours of duty for trainmen, leading eventually to complaints to Parliament. However, it is a rather specialised subject, and I do not propose to cover it in any detail. Suffice it to say that detailed instructions were issued covering how trains were to be worked, controlled and reported on, following on from some very detailed preparatory work in 1908. Explanatory booklets were issued to all concerned, and there was even a special book issued in 1914, nominally by the Derby Control Office, to record the circumstances and report on its success. (I believe it is the intention for the Society to publish a copy of this book in due course.)

My main aim in referring to the new control methods is to bring to attention an aspect that is not normally mentioned, and yet was integral to some of the matters I have been discussing. I want to quote from the special book at some length, because it goes to the heart of the change.

“Until this system was introduced there was no attempt to decide, on double lines of railway, the line upon which freight and mineral trains should run at certain points, or which facing connection should be used, this being left entirely to the discretion of the Signalmen.

This frequently resulted in trains being turned from one line to another by the Signalsman at a particular point to benefit the workings at that place, but the Signalsman’s radius being limited it often had a bad effect on the working of the train before it had proceeded very far. With the varying speed of trains it is frequently necessary to turn a train running at a slow rate of speed onto an adjacent line for the passage of a train running at a higher rate of speed, and in scheduling the trains the points at which they have to be turned from one line to another are [now] indicated by a different type of figure in the time table.”

I referred in my remarks on working timetables to the considerable increase in the amount of routing information provided at this time, and it is apparent that those changes were brought about as a result of the detailed investigations and preparatory work for the Control system. Indeed, the precise example quoted in the Train Control book is that which was used in working timetables for the next 30 years, using the standard time of 10.20 as explained previously. There were other changes in working introduced, new telegraph codes, the introduction of train graphs, daily recording of wagon availability, etc., with perhaps the most well-known being the system of locomotive power classes. All in all, some very major changes in the way the Midland was run, which in turn had a beneficial effect on punctuality, and a pronounced effect on profitability.



Figure 19: Exterior of Masboro Control Office

Originally published in *The Railway Gazette* 1921

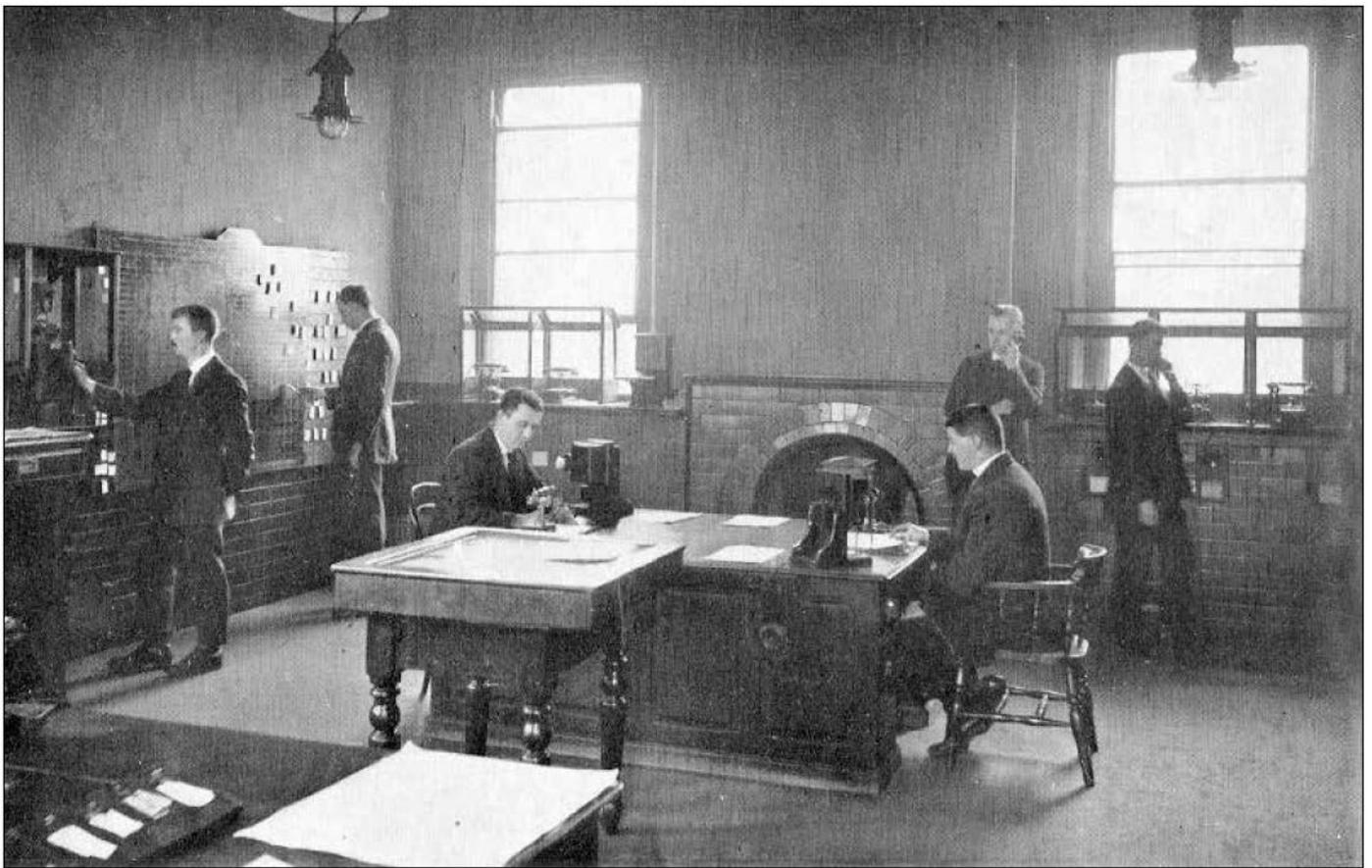


Figure 20: Interior of Masboro Control Office

Originally published in *The Railway Gazette* 1921

Seated (left) Relief Assistant, (right) Shift Controller.
Standing (left to right) Assistant (Rolling Stock) and
three Assistant Controllers (General).

8. Conclusion

In conclusion, I have sought to show some of the operating documentation necessary to running a railway in the 19th and early 20th century, a railway which steadily developed from a small provincial one to a major trunk route. My feeling is that in the 19th century, so far as operating practices are concerned, the Midland just grew like Topsy, and it wasn't until the seams started

to creak towards the end of the century, and particularly at the beginning of the 20th, that organisational change was forced on the railway. Once that came about, all the signs are that a very professional, analytical approach was then taken, leading to thoroughly updated methods and documentation, which then stood the test of time until well after the Midland's successor had also passed into history.

Appendix

MR Mineral trains to London (Brent Sdgs) May 1922

Train time	From	Runs	Time arr	No. of engines	Comments	Days run						no. of weekly trains	nominal wagons per train	total wagons
						M	T	W	Th	F	S			
		<i>Weekday arrivals</i>												
8/45	Wellingboro	MX	12 40	D			1	1	1	1	1	5	80	400
4/55	Toton	MX	1 22	D			1	1	1	1	1	5	80	400
10/5	Wellingboro	MX	1 55	DR			1	1	1	1	1	5	40	200
6/15	Toton	MX	2 35	D			1	1	1	1	1	5	80	400
6/50	Toton	MX	2 55	D			1	1	1	1	1	5	80	400
11/50	Wellingboro	MX	3 28	D			1	1	1	1	1	5	80	400
12 15	Wellingboro	EWD	4 0	D		1	1	1	1	1	1	6	80	480
8/30	Toton	EWD	4 34	D		1	1	1	1	1	1	6	80	480
9/25	Toton	EWD	6 0	D		1	1	1	1	1	1	6	80	480
3 30	Wellingboro	EWD	7 10	DR		1	1	1	1	1	1	6	40	240
7 10	Wellingboro	EWD	11 0	D		1	1	1	1	1	1	6	80	480
8 15	Wellingboro	EWD	12/ 2	DR		1	1	1	1	1	1	6	40	240
4 35	Toton	EWD	12/38	D		1	1	1	1	1	1	6	80	480
9 30	Wellingboro	EWD	1/19	D		1	1	1	1	1	1	6	80	480
5 5	Toton	EWD	1/27	D		1	1	1	1	1	1	6	80	480
10 5	Wellingboro	EWD	2/ 3	DR	Arrives West End Sdgs	1	1	1	1	1	1	6	40	240
10 30	Wellingboro	EWD	2/20	D		1	1	1	1	1	1	6	80	480
11 20	Wellingboro	EWD	3/10	DR		1	1	1	1	1	1	6	40	240
7 12	Toton	EWD	3/56	D		1	1	1	1	1	1	6	80	480
8 30	Beeston	MSX	5/ 9	D			1	1	1	1		4	80	320
1/55	Wellingboro	EWD	5/45	DR		1	1	1	1	1	1	6	40	240
2/35	Wellingboro	EWD	6/16	D		1	1	1	1	1	1	6	80	480
3/10	Wellingboro	EWD	6/56	DR		1	1	1	1	1	1	6	40	240
11 20	Toton	SX	7/43	S		1	1	1	1	1		5	40	200
12/20	Toton	SX	8/49	D		1	1	1	1	1		5	80	400
5/15	Wellingboro	EWD	8/58	DR	LE to Somers Town for 12 40 Wboro	1	1	1	1	1	1	6	40	240
12/55	Toton	SX	9/23	D		1	1	1	1	1		5	80	400
2/35	Toton	SX	11/ 5	S		1	1	1	1	1		5	40	200
7/40	Wellingboro	EWD	11/18	D		1	1	1	1	1	1	6	80	480
		<i>Sunday arrivals</i>												
8/45	Wellingboro	SO	12 40	D							1	1	80	80
6/45	Toton	SO	2 55	D							1	1	80	80
11/55	Wellingboro	SO	3 28	D							1	1	80	80
12 15	Wellingboro	SO	4 0	D							1	1	80	80
Totals						22	29	29	29	29	27	166		11000
<p>Key S - single engine D - double headed DR - double headed when required 8/45 indicates pm</p>														