

Southampton Line Timekeeping

By P. DEAN, B.Sc.



Photo]

[P. Dean

The 7.20 a.m. train from Bournemouth West to Waterloo entering Southampton with "Battle of Britain" Pacific No. 34110, "66 Squadron"

THE problems involved in accommodating fast through services over lines where fairly frequent local services are also run are not always appreciated by the through traveller. The train paths must, if possible, be fitted in between the local services with adequate margins to prevent slight delays to the latter from affecting the expresses. It is interesting, therefore, to see what has been achieved in timetable planning and in the actual running results in a specific case. Such a service is that between Waterloo and Southampton, where local cross-country services may conflict with the movements of main-line trains at several points.

The summer timetable of 1957 saw the introduction of a service of two-hour expresses between Waterloo and Bournemouth with one intermediate stop at Southampton, giving the latter its fastest regular booked service from London. Originally three down and four up trains were run to the new timings—the 8.20 and 10.30 a.m. and the 6.30 p.m. from Waterloo, and the 1.15, 3.15, 7.15 and 8.15 p.m. up from Southampton—thereby contributing half the mileage in the

Southern Region total for runs booked at over 58 m.p.h., the down runs coming in this category. The 8.20 a.m., which does not run beyond Bournemouth, was to have been curtailed to run on Mondays only during the winter service, but proved to be sufficiently popular to be run from Monday to Friday throughout the year. During the summer service last year a further down train was added to the list of two-hour timings, filling in the break in the systematic departure times for the Southampton line from Waterloo at 2.30 p.m. These timings do not apply at weekends, and in the case of the 6.30 p.m. an additional 4 min. are allowed to Southampton on Fridays. Further, in the current winter timetable both the new 2.30 p.m. down and the 8.15 p.m. up have been cut out.

These schedules require some smart running, the 81 min. in the down direction comparing with the original 87 and the present 88 min. timing of the "Bournemouth Belle" and the 83 min. allowance to pass Southampton of the pre-war "Bournemouth Limited," though the latter was a stiff task for a "Schools" 4-4-0 with its normal load of eleven

coaches or 360 tons tare. In the up direction the timings from Southampton are easier, 85 min. being allowed in the public timetable and 84 min. in the working book. The pre-war "Belle" was also allowed 85 min. in the public timetable but in this case the working book showed one minute longer. The present working time is also 86 min. in spite of the load, which may be up to as many as twelve Pullmans and a bogie van.

Before actual results are considered, perhaps a description of the route should be given for the benefit of those not familiar with it. The start from Waterloo

with the Portsmouth line, to the summit of the Chobham ridge at milepost 31. It begins at 1 in 387 and steepens to 1 in 298 near the top. The line then dips slightly to enter Hampshire and cross the old South Eastern line to Reading, whence follow six all but level miles to the foot of the second climb. Beginning with an undulating stretch beyond Fleet at an average of 1 in 1,000 for eight miles, the road then steepens to 1 in 249 for the six miles through Basingstoke to a summit at Wootton Box. Two and a half miles beyond Basingstoke there is a slowing to 50 m.p.h. for the crossover



Photo]

[C. P. Boocock

Modified "Merchant Navy" class 4-6-2 No. 35018, "British India Line," ascending Pokesdown bank with the down "Bournemouth Belle"

is more or less level, although rather sinuous at first, then, some four miles out, comes a slowing to 40 m.p.h. through Clapham Junction from which recovery must be made up a grade of 1 in 338. A mainly level stretch through the outer suburbs in north-west Surrey follows with a slight dip to Esher and an easy rise beyond to Oatlands Box before the dip to the Wey valley, just over 20 miles from London, which enables a run to be made at the first real climb of the journey.

This climb is ten miles in length, through Woking and its level junction

to the Southampton line at Worting Junction.

From the junction the route bears southward away from the Salisbury and Exeter line, and beyond Wootton, after two miles down at 1 in 1,334 and two rising at 1 in 609, the highest point between London and Southampton is reached. The line now heads due south, the collar work for the engines all over, at an even down grade for over twenty miles, cutting first through the summit of the Hampshire Downs at Litchfield and then almost under Popham Beacon

by two further short tunnels and so down through fine rolling countryside to Waller's Ash Tunnel and into the Itchen Valley at Winchester.

Here the line is joined by an alternative route from London, over the "alps" from Alton, and about eight miles beyond, at Eastleigh, by the line from Salisbury and Andover *via* Romsey and that from Portsmouth and Fareham. The line still falls slightly on to St. Denys, where the Portsmouth-Southampton line is joined, and after a level mile comes the severe restriction to 15 m.p.h. round Northam curve followed by a short tunnel under the centre of the town to Southampton Central Station.

together with the corresponding figures for the net running times, are set out in Table I. Of these runs three were loaded to 13 bogies, twelve only to 11 and the remainder had the normal 12 on, corresponding to the 400-ton limit laid down in the working timetable, though in one case a four-wheeled van was added. It will be seen that the booked running time was exceeded on 36 occasions, or 86 per cent. of the runs recorded, the excess being over six minutes on 14 of these and once over half an hour.

Not all these runs were with the normal "Merchant Navy" haulage and the figures are broken down in the table according to the motive power used.

TABLE I
Timekeeping: 10.30 a.m. from Waterloo

Locomotive class and type	Runs in booked time or less. Average gain		Runs in excess of booked time. Average loss	
	Actual	Net	Actual	Net
	m. s.	min.	m. s.	min.
Rebuilt MN 4-6-2	1 09 (5)	2½ (18)	6 16 (20)	2½ (7)
MN 4-6-2	0 27 (1)	1½ (5)	4 55 (6)	4 (2)
WC 4-6-2	—	½ (1)	7 28 (8)	3½ (7)
LN 4-6-0	—	0 (1)	8 26 (2)	7 (1)
Summary	1 02 (6)	2½ (25)	6 42 (36)	3½ (17)

The figures in brackets are the numbers of runs taken into account in assessing each average.
MN: "Merchant Navy"; WC: "West Country"; LN: "Lord Nelson"

In the up direction trains from the Bournemouth line take the local line from Northam Junction and thus have to negotiate a crossover at St. Denys at 40 m.p.h., but this makes little or no difference to the running as it follows less than a mile after the Northam slack. Then follow twenty-one miles of stiff climbing, all but the first four being at 1 in 252. Once over the summit at Litchfield the only restriction to speed, apart from a 60 m.p.h. slack at Worting Junction, is the overall limit of 85 until the London area restriction to 60 m.p.h., not rigidly adhered to, is reached at Malden. Through Clapham Junction the restriction is again to 40 m.p.h.

As an overall picture of the time-keeping with the two-hour Bournemouth trains between London and Southampton during the first 15 months of the service, details relating to all the runs recorded by the writer on the 10.30 a.m. down and 3.15 p.m. up are set out in the accompanying tables. In the down direction some 42 runs were recorded and the overall average gains and losses on booked time,

With the rebuilt 4-6-2s the running, while a little better than the overall results, is still generally in excess of the booking, though the net time figures show an average gain of 2½ min. on 18 runs as against an average loss of 2½ min. on only seven. With the unrebuilt engines the results are similar but with a little less in hand.

The eight runs on which "lightweight" 4-6-2s appeared are not up to the standard that might be expected of these engines, all having lost time in running, although one did gain ½ min. on a net time basis. These locomotives have more than made amends for this showing by their work in the up direction, as will be noted later. There remain two runs by "Lord Nelson" 4-6-0s of which one is of interest in that, but for a signal check beyond Eastleigh, time would have been kept with a 12-coach load of 430 tons gross.

It is evident that there is generally sufficient in hand with a "Merchant Navy" engine to keep time even with one permanent way slack in the run, and as there is rarely engineering work

at more than one point between Waterloo and Southampton it follows that the greater part of the losses are attributable to signal checks which are, unfortunately, all too frequent a feature of the down runs.

A study of the timetable reveals how these trains fit in with other services and suggests the possible causes of delay. The 10.30 a.m. follows the 10.27 a.m. slow electric train to Portsmouth as far as Surbiton where the latter crosses to the slow line and makes its first stop.

Eastleigh at 11.32 a.m., some eight minutes earlier than previously. This was replaced, as far as delay to the main-line train is concerned, by the 11.3 a.m. diesel from Portsmouth to Southampton due at St. Denys at 11.43 a.m. and at Southampton due at St. Denys at 11.43 a.m. and at Southampton Central at 11.48 a.m., thus leaving very little margin for the London train booked into Southampton Central at 11.51 a.m. The position is very similar in regard to the running of the 2.30 p.m. and 6.30 p.m.



Photo]

[Reginald A. Wright

Waterloo to Bournemouth express leaving Southampton Central on September 11, 1958, headed by "Lord Nelson" 4-6-0 No. 30855, "Robert Blake"

With its greater acceleration the electric should have no difficulty in keeping ahead over this distance and, in fact, the 10.30 a.m. generally has an unchecked run at least to Winchester Junction, except for an occasional slight easing at Woking when the road there is not cleared in time. In the summer of 1957 the path into Southampton was crossed at Eastleigh by the 10.45 a.m. from Portsmouth, due at Eastleigh 3 min. before the passing of the express.

The situation was changed with the introduction of the Hampshire area diesel-electric trains in the autumn of 1957, when the corresponding train from Portsmouth was the 10.53 a.m., due at

expresses, where the Portsmouth trains concerned are those starting at 3.3 p.m. and 7.3 p.m. respectively, though with the latter there is also the 7.40 p.m. Southampton Terminus to Eastleigh steam train to be reckoned with at Northam Junction. In the case of the 8.20 a.m., running ten minutes earlier relative to the hourly timings of the Hampshire diesels, the trouble is not at Northam but at Eastleigh, where the 8.40 a.m. from Andover Junction is due at 9.31 a.m. and the 8.53 a.m. from Portsmouth at 9.32 a.m.—only 3 and 2 min. respectively ahead of the London train! Furthermore, the 8.53 a.m. from Alton only clears the main line at Shaw-

ford some 4 min. ahead of the express, which is allowed $\frac{1}{2}$ min. longer to Winchester Junction and 1 min. longer from Eastleigh onwards than the remainder of the two-hour trains.

It will be seen therefore, that there are a number of tight clearances from other train paths associated with these down two-hour trains and while they are now all from diesel-electric workings, with one exception, and these do keep good time, some of them are too tight for comfort: the London trains have only to be running a minute or so early and be checked near the end of their run to Southampton to lose more time than they had gained.

start to stop speed, as in the down direction, notwithstanding the invariable checks on the approach to Waterloo. It should be noted here that these figures do not necessarily indicate an early arrival, as the up trains often leave Southampton Central a few minutes late, the 32-min. booking for the 28.7 miles from Bournemouth Central being none too easily kept.

The paths of the three up two-hour trains are free of any probable obstruction from the Hampshire diesel services, and the only timing which appears likely to give trouble is on Friday, in summer only, when the 3.15 p.m. is preceded by a relief train at 3.5 p.m. and both these

TABLE II
Timekeeping: 3.15 p.m. from Southampton Central

Locomotive class and type	Runs in booked time or less*. Average gain		Runs in excess of booked time*. Average loss	
	Actual	Net	Actual	Net
	m. s.	min.	m. s.	min.
Rebuilt MN 4-6-2	4 06 (5)	4 $\frac{1}{2}$ (8)	3 48 (3)	—
WC or BB 4-6-2	2 32 (5)	4 $\frac{1}{2}$ (9)	6 23 (7)	3 $\frac{1}{2}$ (3)
Summary	3 19 (10)	4 $\frac{1}{2}$ (17)	5 31 (10)	3 $\frac{1}{2}$ (3)

The figures in brackets are the numbers of runs taken into account in assessing each average.

MN: "Merchant Navy"; WC: "West Country"; BB: "Battle of Britain."

*The figures are based on the 85 min. allowance shown in the public timetable

Turning now to the up direction, the overall results are much better, as shown in Table II. Of course, there is an additional 4 min. allowed in the public times, on which the figures are based, but more than half the runs are with lightweight Pacifics with work well up to the standard of the larger engines. The booked time was exceeded on only half the runs, on four of which the excess was over 5 min. but in no case more than 13 min. On each run included in the table the load was 12 bogies. On only three runs was the net time in excess of that allowed, all with "West Country" haulage. The average net gains of 4 $\frac{1}{2}$ min. on 17 of the runs, with both types of 4-6-2, show something of the standard of work with this train, and on the five "Merchant Navy" runs in which there was an actual gain on the public time the average gain of just over 4 min. represents a run at 58.7 m.p.h. average

trains are booked through Woking within ten minutes of the 2.30 p.m. slow from Portsmouth crossing to the local line ahead of them. In the writer's experience this gives little trouble and there remains only the entry to Waterloo itself. Here, as far as the 3.15 p.m. is concerned, delays rarely amount to more than 2 or 3 min., almost invariably between Clapham Junction and Waterloo.

It is hoped that these observations will give some idea of the problems involved in arranging and running to time a fast through service in conjunction with frequent slower, conflicting trains, a problem which perhaps occurs most frequently on the Southern Region. It is to be admitted that on other Regions similar difficulty may be encountered when freight workings conflict with fast through traffic, but as a rule freight timings are more readily modified to suit the through passenger services.