



Open mathematics

Additional Safety Measures

Judy Ekins

Even if you constructed a perfect timetable, there's still a potential safety hazard if one train doesn't run to time. So, there's a tried and tested procedure which overrides the timetable and ensures that only one train can be on any one section of the track. For instance, the single-track journey from Arley to Bewdley can only be undertaken if the driver possesses the relevant physical pass – or 'token' – that grants the driver sole permission to travel on that section. On reaching Bewdley, the driver gives up the token by looping it in its holder over the arm of the waiting signalman.

The operations superintendent for the railway is John Hill. And on occasions he is also a signalman.

John Hill

Right well, I've collected the token off the driver. As you see, this is the Arley–Bewdley North section, and this is the driver's permission to be on that single-line section. The key token, as you can see, which now goes into the machine. I then tap out the code to the signalman at Arley to tell him the train has arrived here safely; he will acknowledge that. I've just tapped out the code for the train that we have waiting here, and, as again you see, I get the token for the Arley–Bewdley North section out, and this will now be given to the driver of the train that's waiting here, allowing him to proceed up the single line to Arley.

[Inaudible conversation between driver and man on platform]

Judy Ekins

So the railway is operated very safely. But there's still a need to pay the running costs, and therefore it also has to be commercial. With this in mind Keith Shaw provides the enquiry office with a list of all possible extra slots, which are available for excursions.

Pamela Westwood

You want to book a special excursion? What time of year? In May, yes. We do a restricted service in May. And you want the dining-car facilities, do you? From Bridgnorth to Kidderminster, there's a train at 12.10, which arrives in Kidderminster at 1.15, and back from Kidderminster at 2.10, arriving in Bridgnorth at 3.15. We could put that train on for you at those times. Would you like me to send you some details?

Judy Ekins

How do you identify spare slots for excursions between the regular service? Take that slot for a restaurant-car excursion that was suggested to the telephone caller. This is the timetable in force in May. The service outlined here in pink is known as the A timetable North 1. How could a dining excursion be made to mesh with this timetable?

Keith Shaw

If we wanted to leave Bridgnorth at about 12, we can see that we'd need to cross the service train at Bewdley at 12.55, so a train could leave, and if it was running non-stop, it would of course be a continuous line.

Something between 12 and 12.10, the train could run to Bewdley, and in fact, if we got it exactly right, it could pass Bewdley nonstop, whilst the service train was standing there.

We'd then need to look and see how we could work that train back to Bridgnorth, and it's just

possible to leave straight away, but in fact the first practical time to leave would be when the following service train gets to Kidderminster there, which from the graph you can see is 1.41. So we could leave, say, at 1.45, and the train could run non-stop back to Bridgnorth. It's got to get there before the 2.35 train departs; otherwise it will interfere with the normal service.

This train is run for the benefit of our customers and the person who's chartering the train, so they would be given some choices as to when they left, and it might be, for example, that they will wish to leave Bridgnorth at about, say, quarter past eleven, when they could cross the service train at Hampton Loade, because that's another crossing point which is available.

The train could leave Hampton Loade, and it then could stop at some attractive viewpoint; it could then join the original path and go on to Kidderminster in the original timetable. That would give a much more leisurely journey, and some of our charterers like that sort of facility.