

Salisbury to Exeter Route Capacity Enhancements. A Proposal by Railfuture.

Background:

Railfuture is a non political, not for profit organisation which campaigns for a bigger and better railway in Britain. We have some 20,000 members and affiliated members (via Rail User Groups) nationally. We have considerable expertise in many aspects of rail and seek to influence stakeholders to promote the needs of users and potential users, both passengers and freight forwarders. These proposals have been developed with the full cooperation of, and input from, the Salisbury-Exeter Line Rail Users Group (SERUG)

History:

The rail line from Salisbury to Exeter was once part of the main line from London Waterloo to a variety of destinations in Devon and Cornwall. It was laid out for fast running and was double track throughout from London to Exeter and Plymouth. In the 1960's the line was relegated to a secondary route, many of the intermediate stations were closed and most of the double track west of Salisbury was removed in 1967. The route was provided with a stopping service of trains at approximately 2 hourly intervals operating between Exeter and London Waterloo. Most of the route west of Exeter was closed. The service was of poor quality and unreliable, not least because of the long sections of single track where if one train was late, it affected services in the both directions, often for many hours.

From this low point, since the 1980's things have improved significantly. Several intermediate stations have been reopened, new trains were provided in 1993 and 2 new passing loops installed, east of Tisbury in 1986 and subsequently at Axminster in 2009. There is now an hourly service between Exeter and London Waterloo (including on Sundays) with several additional trains between Yeovil Junction/Gillingham and London. The improved quality of the service has resulted in a significant increase in the use of the line.

Whilst it is true to say that rail travel has grown over the whole of Britain, the growth on the Salisbury-Exeter line has been both considerable and consistent. Appendix 1 sets out in some detail the historic growth in use on a station by station basis. Overall passenger journeys on the line have increased by 58% over the last 10 years.

In addition to the progressive improvement in the quality of services, the growth has been fuelled by a large increase in residential development along the route. Some station catchments, especially Gillingham, Yeovil, Axminster and Cranbrook have seen significant new housing provided. Overall there are plans to provide 22,000 new homes in the local District plans over the next 10-15 years. A detailed breakdown of these figures is available as Appendix 2. Improvements to the train service are essential to support employment opportunities and economic development in the region.

Present Situation:

As a result of the significant increase in use on the line, many services are now very full, often with passengers standing. Whilst this may be the norm on short distance metro type operations, this is certainly not acceptable on long distance trains where many journeys are measured in hours, rather than minutes. Given the proposed increase in housing on the line and ever increasing congestion on the roads, the situation is likely to become much worse, particularly as the new Franchise holder (First/MTR) have no clear plans to provide more

capacity west of Salisbury. Railfuture believes that that there needs to be a realistic, pragmatic plan which provides incremental improvements, whilst providing value for money to taxpayers.

Proposals:

These proposals cover 2 areas. The first is rolling stock, to provide the required increase in capacity quickly and the second concerns infrastructure enhancements to provide more frequent services.

- A. Rolling Stock:** The short term solution to overcrowding is to provide longer trains. Many services west of Salisbury are formed of 3 cars only. Railfuture accept that at present the use of class 158/9's is driven by the needs of peak hour flows to and from Waterloo, particularly east of Salisbury. The opportunity to cascade additional class 158 units to the Exeter line, which could be made available as a result of Great Western electrification, should be taken. In addition steps should be taken to recover the existing 158/159 units which are used on other parts of the network, or sub leased to other operators. We believe that this change, coupled with a proposal to permit splitting and joining at Yeovil Junction would permit most services to be formed of at least 6 cars between Yeovil Junction and London Waterloo. (See **Infrastructure item 1**).
- B. Infrastructure:** Whilst more rolling stock will provide short term relief, Railfuture believe that in the longer term more infrastructure will need to be provided. We recognize that funding in CP6 and beyond is likely to be tight so our proposals are designed to be incremental and with clear passenger benefits for each stage. They have been listed in priority order.

1. Yeovil Junction:

At present the signaling at Yeovil Junction is capable of permitting both splitting and joining of trains at the station. However because of concerns within the ORR about the safety of this type of operation, attaching trains is not permitted at Yeovil Junction. It is our view that subject to a proper risk assessment and given that the net number of splits and joins is likely to be similar, (i.e. more at Yeovil and fewer at Salisbury) this should be pursued with vigour and any risk mitigation measures identified and implemented. The cost of this is virtually zero, it simply requires management time and determination. This would permit all trains to be formed of additional vehicles between Yeovil and Salisbury/Waterloo. Clearly this will increase vehicle mileage and may cost some additional traincrew, but overall it is a very cost effective way to combat overcrowding on at least part of the route. This would also have the added advantage of opening up other journey opportunities for the trains whilst laying over at Yeovil Junction, for example running services to Yeovil Pen Mill or beyond.

2. Dinton - Tisbury Loop.

At present the infrastructure does not permit the operation of a half hourly service all day between Yeovil Junction and Waterloo via Salisbury. We believe that this is a key priority given the considerable planned growth of housing in the Gillingham, Sherborne and Yeovil areas. The configuration of the loop away from the station at Tisbury is also poor, with trains having to wait for station duties to be complete before the other trains can pass and enter the station. This results in additional time in the train plan which could be eliminated with an extended loop. The extension of the existing loop at Tisbury both eastwards to Dinton, approximately to Mile Post 91 and westwards to a point beyond Tisbury Station to approximately Mile Post 96.50 would have the following benefits:

- a) Permit a half hourly train service to operate on this section of route all day.

- b) Reduce journey times for all passengers travelling west of Salisbury, by eliminating planned waiting in the existing loop.
- c) Improve overall performance by permitting dynamic passing in the extended loop, reducing reactionary delays.

3. Whimble Loop.

It has long been an aspiration of Devon County Council to see a half hourly service between Exeter and Axminster as part of the “Devon Metro” strategy. The present infrastructure does not permit this and the stations between Honiton and Exeter are served by a “skip stop” pattern (except Cranbrook) using the Waterloo to Exeter services. This results in an irregular, less than hourly pattern of service at these intermediate stations. There has been significant housing development at all the stations between Axminster and Exeter and more is planned, particularly in the Whimble/Cranbrook area. Traffic congestion in Exeter is now a major issue and a regular interval local service would bring real passenger benefits. Provision of a loop in the Whimble - Cranbrook area, but not necessarily through the latter station, to reduce costs, would permit the operation of an hourly local service between Exeter and Axminster, in addition to the existing hourly service to and from Waterloo. This would have the following benefits:

- a) Reduce overcrowding on Waterloo trains at the Exeter end of the line.
- b) Provide a regular interval service to all “local” stations between Exeter and Honiton.
- c) Provide 2 trains per hour between Exeter and Honiton/Axminster.
- d) Maintain a dedicated 2 hourly diversionary path for London Paddington trains, but faster than at present.
- e) An additional 2 hourly Exeter to Honiton path that could be used for local trains at busy times.

4. Crewkerne Loop.

The line from Yeovil Junction to Exeter (St David’s) is used on a regular basis for diversion of the London Paddington to Exeter and Plymouth services both in terms of planned engineering work and in other emergencies. The Great Western route is particularly prone to flooding and has been closed for days on several occasions in recent years. At present the Salisbury-Exeter line can only accommodate a very limited number of trains on diversion, unless the scheduled services from Waterloo are truncated at Yeovil Junction. Several bodies, including Network Rail and The Peninsula Rail Task Force have proposed that as part of a rail resilience plan for Devon and Cornwall, additional capacity is provided on the route via Yeovil Junction. In conjunction with proposals 2 and 3 above, Railfuture propose that an additional loop be provided east of Crewkerne Station. This, in conjunction with existing loops and the proposed new loop at Whimble, extends the proposed hourly Exeter to Axminster service to provide an hourly diversionary path in both directions between Exeter and Yeovil Junction. The diverted services would need to call at the local stations between Exeter and Axminster, but without the need to revise or truncate any of the services proposed in this paper. It is our view, that because of traincrew route knowledge constraints, it is unlikely that it would be possible to reliably operate more than 1 train per hour on diversion. It is recognized that it may be necessary to do additional work in the Yeovil Pen Mill area to provide an hourly additional path on the single track between Yeovil Junction and Castle Cary. This is outside of the scope of this report, but is well understood by us.

Conclusions.

These proposals are focused on providing benefit to rail users. The schemes have been chosen to maximise the capacity increase of the line, whilst minimising track doubling on more difficult sections of the route, such as through tunnels and at Crewkerne station. They

are incremental and do not need to be implemented together, because each one brings specific and identifiable passenger benefits. Knowing that funds for enhancements will be limited for the foreseeable future, these can be implemented as and when funding becomes available.

Nothing in these proposals conflicts with our understanding of the plans put forward by train operators, Network Rail, local authorities or other interested groups. Railfuture's proposals are practical and offer realistic solutions to a number of pressing issues which will only get more acute as time passes. We will be happy to engage with stakeholders to explain and provide further detail to any interested parties. Further technical details and information are in the appendices.

11.08.17

APPENDIX 1 – Passenger numbers taken from ORR annual statistics -

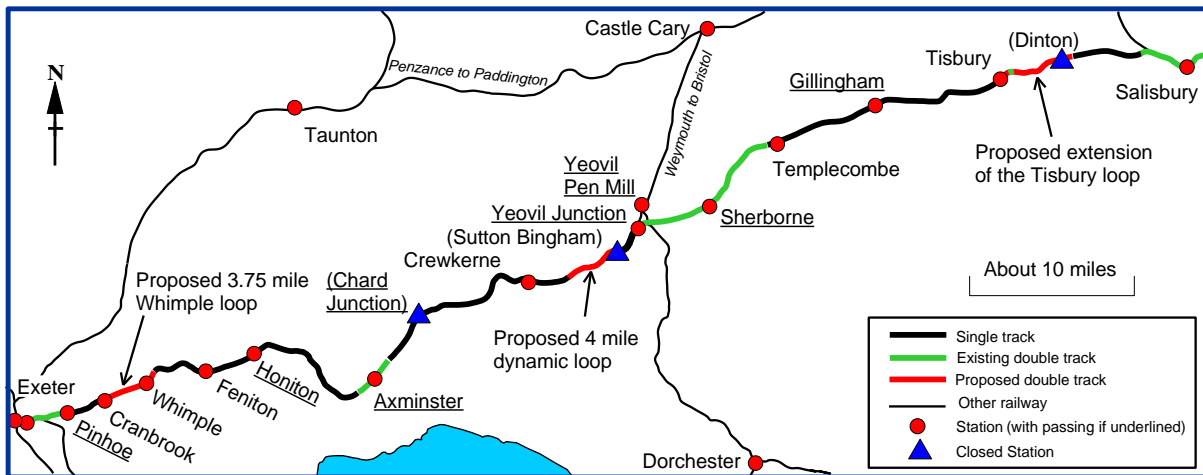
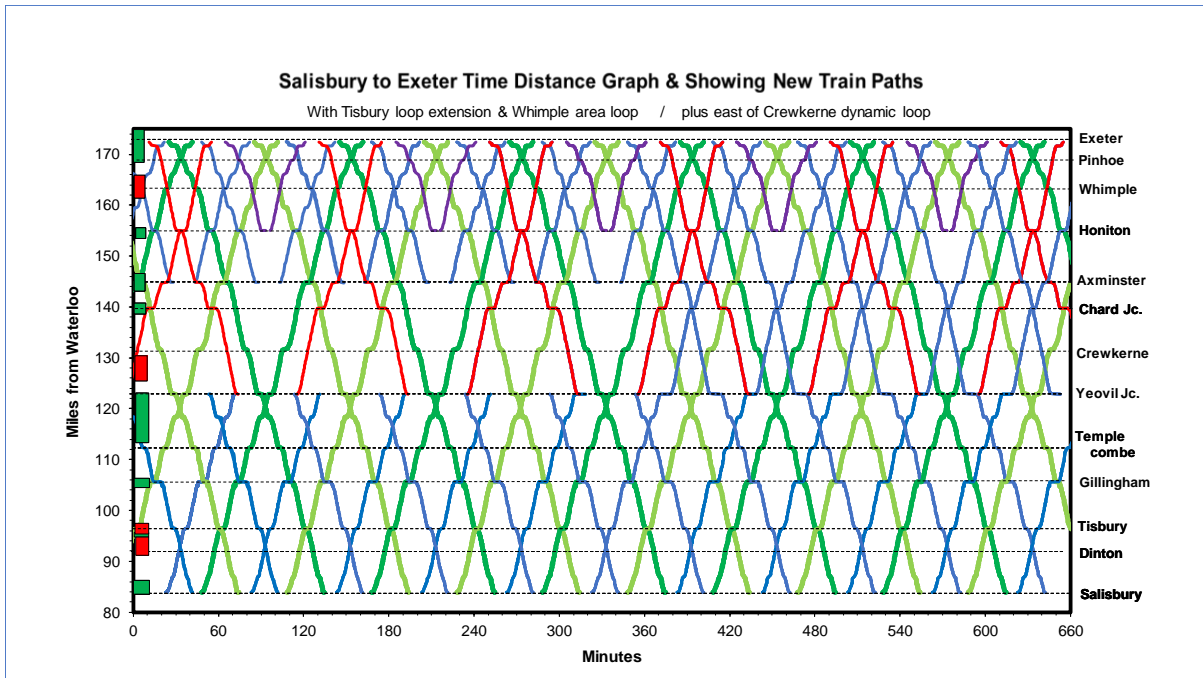
Station Passenger usage ORR stats	Nov 2005 to Nov 2006	Nov 2014 to Nov 2015	Nov 2015 to Nov 2016	12 month increase	10 year growth in journeys	% increase on 2005/6
Salisbury (inc Bristol - Soton)	1,603,255	1,963,292	2,028,148	64856	424,893	27%
Tisbury	213,928	241,524	241,340	-184	27,412	13%
Gillingham (Dorset)	361,000	423,212	425,660	2448	64,660	18%
Templecombe	80,502	113,732	115,378	1646	34,876	43%
Sherborne	163,108	216,114	220,980	4866	57,872	35%
Yeovil Junction	193,000	214,748	222,396	7648	29,396	15%
Crewkerne	91,754	141,812	155,696	13884	63,942	69%
Axminster (new d loop and platform 2009)	176,270	386,226	394,438	8212	218,168	124%
Honiton	252,128	391,860	389,784	-2076	137,656	54%
Feniton	55,341	70,534	74,294	3760	18,953	34%
Whimple	40,516	68,896	68,448	-448	27,932	67%
Cranbrook (opened late 2015)		-	20,404	20404		
Pinhoe	17,777	88,872	94,354	5482	76,577	430%
Exeter Central (inc Exmouth journeys)	1,081,171	2,343,636	2,433,006	89370	1,351,835	125%
TOTALS	4,329,750	6,664,458	6,884,326	219,868	2,554,576	58%
Excludes journeys to/from Exeter St Davids						

APPENDIX 2 – Planned new housing starts – within 10 to 15 years -

Gillingham (Dorset)	5,500	
Sherborne	1,000	
Yeovil	7,682	3,841 min 5 year period
Axminster	900	
Honiton	650	
Cranbrook	6,551	by 2027.
TOTALS	22,283	

APPENDIX 3 – Details of New Loops and Timetabling –

The time distance graph below shows where existing and proposed trains need to pass on the mainly single track Salisbury to Exeter line. Next to the mileage axis existing double track is shown by green rectangles and proposed double track in red. Station stops show as small deviations where minutes accrue with no distance covered. The map shows the geographical location of the passing places.



The Existing Waterloo to Exeter Service

The green lines show the existing service pattern (XX:20 from Waterloo and XX:25 from Exeter), but modified to show trains passing in Tisbury station instead of the Tisbury loop half a mile to the east. It also improves reliability for passing other services and running of the existing Yeovil to Exeter 2 hourly diversionary path shown in red.

Extending 2 trains per hour from Waterloo to Salisbury through to Yeovil Junction

A 4½ mile eastward extension of the Tisbury loop, using much of the formation occupied by the disused Chilmark siding, is proposed. This enables the XX: 50 service from Waterloo to Salisbury to run hourly through to Yeovil Junction and the XX:47 Salisbury to Waterloo to start every hour from Yeovil Junction. This gives 2 trains per hour both ways between

Waterloo and Yeovil Junction. Blue lines show the passing 1½ west of the former station at Dinton. Currently the single track limits these trains to every 2 hours, or hourly in one direction only.

Total length of double track for the Dinton to Tisbury station work inclusive of the existing double track would be about 5½ miles.

Three trains per hour capacity between Exeter and Axminster with the Whimble loop

The proposed Whimble loop would start one mile east of the station on straight track leading from Bridge 499. After half a mile and at bridge 502, the track is substantially on the former down side right through to the suggested end point just to the east of Cranbrook station. This together with there being only one overbridge (502) makes Whimble a favourable location for track doubling. It is not necessary to provide a second platform at Whimble.

Total length of the proposed loop would be about 3¾ miles. Work was done on the Whimble Loop by Parsons Brinkerhoff for SELCA, Devon County Council & Somerset County Council in 2004, although for a different timetable/passing configuration (**Pre-Feasibility Report For Exeter to Waterloo Line Devon and Somerset Loop Lines**, 24th December 2004, Doc Ref: TUE80790A-SNP-100).

The Whimble loop gives 3 train paths each way between Exeter and Axminster. The Blue lines show an hourly shuttle service, XX:48 from Exeter St. Davids, to Axminster and returning from there at XX:43. Intermediate stops are at Exeter Central, Cranbrook, alternating between Whimble and Feniton and then Honiton. A slightly earlier Exeter departure would allow Pinhoe to be served.

The current capability to divert Paddington services from the Taunton route every 2 hours both ways (red lines) is maintained, but the Whimble loop allows an 11 minute later departure from Exeter St. Davids at XX:11 instead of on the hour. Westbound from Yeovil Junction is at XX:54 arriving at Exeter St Davids at XX:55. Apart from Exeter Central which is optional, these trains must stop to pass at Honiton, Axminster and Chard Junction.

The Whimble loop would additionally allow a 2 hourly Exeter St. Davids (XX:05) to Honiton shuttle service. This would be useful for peak time services with stops at Pinhoe and Cranbrook.

Providing an Hourly Great Western Diversionsary Pathway.

Additional Taunton line diversions could run hourly when necessary, by taking over the stops of the Exeter to Axminster shuttle service. Passing would be at Chard Junction and a new passing loop of about 4 miles would be needed east of Crewkerne station. This would be from Sutton Bingham around mile post 125 to around mile post 129, although consideration might be given to also completing the 2 miles of double track between Yeovil Junction and Sutton Bingham. The Blue lines show the paths on the right hand side of the time distance graph.