

Proposed amendment to the Track Access Contract between
Network Rail Infrastructure Limited
&
Transport for Wales Rail Limited (TfWRL)
Under Section 22a of the Railways Act 1993

Network Rail's Representations

21st December 2021

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Timetable production

Analysis was undertaken in June 2020 to understand feasibility of TfWRL's aspirations to run 2tph between Wrexham -Bidston (the technical note will be submitted with this representation). This analysis, based on Wednesday's only, used the class 230 timing load and found that it was only possible to run a regular, clockface, 2tph service in periods of the day with no freight services. It was not possible to run a regular pattern in conjunction with the freight trains.

The infrastructure of this section does not lend itself to regular, patterned, mixed use running. The absolute block headway sections are up to 13 miles long, the running speed is slow (15mph to 50mph), which is further reduced for Heavy Axle Weight freight, there is a restrictive bridge which slows freight further and prevents heavy trains crossing each other and a section of single line. Trains using Penyffordd Cement Sidings need to split on arrival and attach on departure due to the siding length. This means the trains hold the mainline for 30 minutes whilst these moves are completed and prevent other trains being routed from Wrexham General.

Due to the nature of the infrastructure and signalling, capacity is limited by the long absolute block sections. An increase in services takes a lot of the available capacity and reduces the "firebreak" between trains if any are running late. This could mean delay passes from one service to the following service. Where TFW services share the platform at Bidston with regular Merseyrail services, any delay of over 5 minutes is likely to cause TFW to miss their slot on the platform, increasing their delay to 15 minutes, or instead introduce delay into the Merseyrail services.

Platform availability is constrained as Bidston platforms are frequently used by the regular Merseyrail services and therefore services from must fit in with that pattern. There is only one 52m platform at Wrexham Central and permissive working is not possible.

The plan bid for the SCD May 2022 timetable was bid with class 153 timing load which has slower SRTs than the 230's originally proposed, therefore the timings of the passenger trains differed from the original analysis. The run times of both journeys are increased due to the slower timing load by 2-3 minutes. Furthermore, the slower SRTs and lengthened journey times means the initial diagramming/turnaround proposal was no longer workable. Therefore, the down trains were bid in a different pattern with the semi-fast and stopping paths effectively swapped. This results in only the semi-fast services having a significant turnaround time at Wrexham Central, with the 2 stopping train diagrams on near-minimum and minimum turnaround times. This allows very little flexibility within the timetable to aid delay recovery. This means delays are likely to propagate from service to service within a diagram. The TFW trains contain no spare allowances that would aid performance recovery and mostly run with minimum dwells. The below table demonstrates the turnaround times at either end of the line.

Bidston	arr	xx:58	xx:28
	dep	xx:01	xx:32
Turnaround time		3 mins	4 mins
		F > F	S > S
Wrexham Central	arr	xx:52	xx:29
	dep	xx:05	xx:32
Turnaround time		13 mins	3 mins
		F > F	S > S

Freight services differed from the initial analysis; some freight trains had been re-timed since, there are also extra services in the timetable and there are several services which don't run on Wednesdays but do on other days of the week.

Review of TFW's plan for SCD May 2022 highlighted rejections would be required to several of their additional services in order to resolve clashes between freight services with firm rights and freight services which would be included through application of the decision criteria (please refer to the table contained within freight section). Further to this, whilst resolution of some of these clashes with freight services remains outstanding, separate concerns regarding performance of the additional services based on the 153 timing load have been raised with TFW.

Early analysis was undertaken with the following assumptions made

- Primary delay is as per 16/12/2019 to 14/03/2020 (i.e. pre-Covid December 2019)
- The absolute minimum time a unit requires to reverse is 2 minutes so the recovery potential in a 3-minute turnround is 1 minute
- The turnround times as per the summary table in the e-mail chain below
- No other timetable factors affect the departure delay – i.e. the only recovery is available in the turnround time*

This analysis concluded the following

- At Bidston the percentage of right-time starts would be forecast as 34 %
- At Wrexham the percentage of right-time starts would be forecast as 65 % (based on an average between 42 % for 3-minute turnround and 87 % for 13-minute turnround.
- Overall average: 50 % right-time starts

* Noting that if TfWRL introduce 230s on 153 diagrams there could be recovery en-route which could improve the arrival punctuality (based on the December 2019 figures) and the ability to recover delay after departure.

Capacity usage has also been assessed by expressing the used minutes in a set window of time as a percentage. Where capacity utilisation is 90 % or more, we feel this will have a detrimental impact on performance. International Union of Railways guidelines suggest that capacity usage should be a maximum of 85 % in the peak hours and 70 % in the off peak.

Running only TfWRL 2 tph takes 86.7 % of the available capacity using class 153's. Any freight running in the current timetable increases this capacity utilisation where we can accommodate both freight and passenger services, this infrastructure is up to 99.6 % utilised. The detailed findings were:

- In a 2 hour period where just TFW trains are running, 1tph running for TFW has capacity utilisation of 42 % and 2tph usage is 87 %.
- In the busiest 2 hour period of the evening with mixed TFW and freight, the 1tph usage is 85 % and the 2tph would be 115 %. This highlights the need to reject and remove services noted above.
- In a 2 hour period where we can accommodate both the TFW and freight, the 1tph usage is 65 % and the 2tph usage is 99 %.

Train Planning recommendation:

As a result of this, it is our view that it would be detrimental to include the additional 1tph for TFW across the whole day. The additional 1tph has been rejected in the SCD May 2022 offer.

Wales Route Level crossing programme

Network Rail has secured Rail Network Enhancement Pipeline funding to deliver short term mitigation measures to level crossings on the Wrexham – Bidston line.

The crossings in scope of the project are seven Station Pedestrian Crossings (SPCs), a public right of way and a user worked crossing. The short term mitigation project is aimed at intervening at the crossings to mitigate the level crossing risk to enable the safe commencement of services for SCD May 2022. Network

Rail is currently in the process of finalising designs to pass to a contractor who has been appointed. Ground investigations have been undertaken.

The current programme estimates that delivery will be completed towards the middle of May 2022. The project team are planning on de-risking the late delivery of the scheme by phasing delivery at some sites. In practice, this will mean delivering sub-optimal but safe solutions in time for the commencement of services, with work being completed alongside the additional services. The re-phasing work is yet to take place because it requires completed designs.

All construction projects carry a risk of delay however, there is a reasonable amount of confidence that it will be possible to deliver solutions to allow services to commence. Other than the phased delivery approach already identified, no other mitigations have yet been identified which would allow services to commence if solutions have not been delivered. In the unlikely scenario where critical works are not completed prior to the commencement of the services and there was a short delay, we would look to implement other risk mitigation actions (such as public safety engagement) on a short term basis to allow services to start, subject to agreement with the Level Crossing Manager.

Freight

In September 2020, GBRf presented their 14th Supplemental to Network Rail's Sale of Access Rights Panel (SoAR) GBRf sought an additional 8 firm access rights and 9 amended access rights, predominantly for traffic from the Hanson Cement Works at Clitheroe and Padeswood on the Wrexham to Bidston line.

SoAR agreed to sell firm access rights for all associated trains, except for 4 access rights, which were found to compete with TfWRL's stated aspirations of 2 trains per hour.

SoAR agreed to sell these 4 GBRf access rights as contingent access rights until PCD December 2021 where they were due to be reviewed in line with the Wales ESG outcome. This was specifically relating to the TfWRL service commitment to deliver 2tph between Wrexham and Bidston in the PCD December 2021 timetable.

Following the September 2020 SoAR decision, GBRf preceded to consult the 4 competing access rights as a Section 22a application (17th SA), which has been consulted but is still to be submitted to the ORR.

Through the timetable development and validation process for both the PCD December 2021 and SCD May 2022 timetables, a number of conflicts with existing freight services and TfWRL's proposed second train in the hour had been identified. The table below demonstrates the number of timetable conflicts associated with the introduction of the second TfWRL train in the hour.

The blue coloured boxes indicate conflicts with a competing firm access right, while the peach coloured boxes do not currently have firm access rights, but the Decision Criteria has been applied.

In the case of the PCD December 2021 timetable development, which was subsequently deferred to SCD May 2022, 5 TfWRL paths were rejected in full by Network Rail and the network capacity offered to freight services. 3 TfWRL services were cut short to originate/terminate at Wrexham General (vice the requested Wrexham Central) to allow both freight and TfWRL paths to be offered.

TFW	DBC	GBRF
2F51EK	Clashes with 6M76 EWD and 6J40 EWD from Wrexham General to Dee Marsh Jn, no solution found	
2F55EK		Clashes with 0V41 ThO from Wrexham General to Penyffordd, previous solution was to cut short and retime earlier
2F67EK		Would need consequential retiming if 2J64 was retimed

2F71EK		Clashes with 6M42 MWFO and 6V41 TThO from Wrexham General to Dee Marsh Jn, no solution found
2J52EK		Clashes with 6J40 EWD from Dee Marsh Jn to Wrexham General, previous solution was to cut short and retime later
2J54EK	Clashes with 6V75 EWD from Dee Marsh Jn to Wrexham General, no solution found	
2J64EK		Clashes with 6J41 EWD from Dee Marsh Jn to Wrexham General, previous solution was to cut short and retime later
2J72EK		Clashes with 6V41 TThFO from Dee Marsh Jn to Wrexham General plus other TFW services at Wrexham General and Central. No solution found

It should be noted that when the TfWRL 4th SA was being proposed as a Section 22 application for PDC December 2021 to SoAR Panel, Network Rail voiced concerns around the current and expected performance levels, which were significantly below the set target level and how this might have a negative impact on current freight traffic and the potential for freight growth out of the Penyfford terminal. This concern still stands and has been further validated by the timetabling work undertaken by the Capacity Planning Team.

Maintenance access

It was identified by Network Rail that the introduction of 2 trains an hour on the line would detrimentally impact their maintenance access. Maintenance of the line is split between 2 Delivery Units (DU's), one responsible for the northern end of the line (Shotton north) and the other, Shotton south. Below I have covered the 2 DU's concerns separately as their maintenance access requirements differ.

At the northern end of the line, the access is used to undertake essential track patrolling and is carried out weekly.

Blocks are taken each week and alternate between the Down and Up lines with 3 separate patrols taking place on the line. The current timetable patterns allows 23 minutes of productivity within each hour, the introduction of a 2tph reduces the time available to mean that the patrolling would no longer be able to take place.

We have reviewed the possibilities to accommodate TfWRL's aspirations however Track Work Safety has led to us removing red zone working. This has led to green zone working only as no option exists at this location to introduce assisted red zone working.

The 3 scheduled patrollers complete daytime patrols on the Wednesday and Friday at a frequency of 7 days. Moving this to a night time means having to move all other patrols to night time which would lead to the staff being rostered permanent midweek nights. Current Terms and Conditions for staff prohibit this as an option.

Staffing levels are not sufficient enough to enable us to alternate patrollers to meet the maximum pattern of 4 sets of midweek nights per 13 week periods. We have explored the option to patrol at a higher frequency than 7 days, however Network Rail Standard NR/TRK/001/mod02 requires us to walk the track at its current frequency due to its track construction with no planned deviation.

2022 will see a replacement of the jointed track with continuous welded rail which will enable us to introduce new technology and new ways of working that would remove the need for the basic visual patrol entirely. The renewal is currently scheduled to take place between week 16 and 27 (July – October) 2022.

At the Southern end, the access is used to undertake essential track maintenance activities including patrolling, rail testing and lubrication. Current access results in 89 planned line blocks every 13 weeks.

As above, the introduction of 2tph will result in the loss of the current planned access. At the present time, there is not sufficient resource, with the corresponding Terms and Conditions, within this DU to undertake the work entirely during night time access.

Should all the other constraints including capacity and performance be overcome we would be willing to consider whether we could be supported if:

- Prior to the track renewal, implementing the service with the exception of Thursdays.
- Network Rail and TfWRL enter into dialog under 2.8 Part J of The Network Code, where Network Rail will provide a best estimate of our costs to resource the night time access option.

Conclusion

All of the above points being considered, Network Rail does not believe that the Access Rights sought by TfWRL should be supported.

- The broader plan to operate a 2tph service should include an agreed effective, integrated plan for stopping patterns, turnaround management and use of rolling stock to be reliable. The current proposals from TfWRL are likely to import important performance and capacity utilisation risks onto this area of the network. In this respect, we specifically note that the plan for SCD May 2022 utilised C153 rolling stock and timing loads which we would expect to extend the journey times and consequently import disproportionate reliability risks into the plan.
- The 2tph proposal presents a number of conflicts with freight which prevents the 2tph plan from operating throughout the day, weekdays and Saturday's.

Network Rail will continue to work with TfWRL to access any options that are presented by TfWRL that go towards addressing the performance and operability concerns.

If the capacity and performance concerns were overcome then Network Rail and TfWRL would be required to agree appropriate mitigations for the outstanding risks, e.g. maintenance access which is palatable to both parties. In addition, we note that the level crossing enhancements are required to be delivered before the service can be introduced.