

1 DETAILS OF PARTIES

1.1 The names and addresses of the parties to the reference are as follows:-

- (a) Freightliner Group Ltd whose Registered Office is at The Podium, 1 Eversholt Street, London, NW1 2FL, representing Freightliner Limited and Freightliner Heavy Haul Limited ("Freightliner") ("the Claimant"); and
- (b) Network Rail Infrastructure Limited whose Registered Office is at 2nd Floor, 1 Eversholt Street, London NW1 2DN ("Network Rail") ("the Defendant").

1.2 Third parties: all other Access Beneficiaries.

2 THE CLAIMANT'S' RIGHT TO BRING THIS REFERENCE

2.1 This matter is referred to a Timetabling Panel ("the Panel") for determination in accordance with Condition D2.2.8(a) of the Network Code.

3 CONTENTS OF REFERENCE

This Sole Reference includes:-

- (a) The subject matter of the dispute in Section 4;
- (b) A detailed explanation of the issues in dispute in Section 5;
- (c) In Section 6, the decisions sought from the Panel in respect of
 - (i) legal entitlement, and
 - (ii) remedies;
- (d) Appendices and other supporting material.

4 SUBJECT MATTER OF DISPUTE

4.1 This is a dispute regarding the Timetable Planning Rules proposal for SRTs, allowances and junction margins at Stratford.

4.2 This dispute arises over Network Rail's implementation of Timetable Planning Rules under Condition D2 of the Network Code.

5 EXPLANATION OF EACH ISSUE IN DISPUTE AND THE CLAIMANT'S ARGUMENTS TO SUPPORT ITS CASE

- 5.1 Following the determination of TTP371/513/514/570/571 (part 5.2), Network Rail formally proposed its previous proposals in respect of SRT alterations and junction margin alterations in the Stratford area.
- 5.2 Freightliner rejected these proposals for the same reasons previously outlined.
- 5.3 Network Rail proposed to increase junction margins at Stratford in connection with freight trains, together with additional allowances for approach control. Sectional Running Times were also increased. This was apparently done in response to delay minutes being accrued. No detailed or reasonable justification for the changes has been provided, and Freightliner is not convinced that the root cause of any delay has been adequately investigated. Although it proved possible to accommodate Freightliner's Firm Contractual Rights in respect of the then-current Working Timetable, we had concerns that the timetable pattern that was devised in December 2010 would no longer be sustainable and that spare capacity for new or amended freight services has been eroded. In the absence of Strategic Capacity on this route, it was not clear at the time how much capacity remained. Network Rail has since undertaken a study to show that indeed very little capacity remains.
- 5.4 While performance is an obvious concern to all operators and Network Rail, it is not the only consideration. Freightliner believes that the trade-off between capacity and performance needs to be understood better.
- 5.5 The lack of capacity in this area is of great concern, as the following changes to the Network are likely to result in the need to provide more services and possibly change the existing ones in order to reflect customer demand and/or make best use of resources:
- 5.5.1 Opening of London Gateway, with a stage 1 capacity for 18 trains per day;
- 5.5.2 Felixstowe branch capacity increase – up to 48 trains per day (cf current 31tpd).
- 5.6 While it is the long-term intention that the route from Ipswich to the Midlands and North-West via Peterborough and Leicester is developed to take much of the growth, that development will lag some way behind the demand for additional trains: indeed the key scheme on this route is a major enhancement in the Leicester area, work on which will not be started until CP6.
- 5.7 In respect of Sectional Running Times (SRTs), Appendix A shows the freight SRTs between Forest Gate Jn and Stratford in the Up direction, both before and after the December 2012 timetable change date.

- 5.8 It is normal practice for the SRTs on a particular Network Link [the nominated geographic link between two locations in planning systems, with an allocated line code where necessary] to represent the fastest transit between the two locations. If additional time is required for a slower approach or divergence (or any other reason), this amount of time should be quantified when the SRT is calculated and shown in Section 5.3 of the Timetable Planning Rules following consultation and agreement.
- 5.9 In the case of Forest Gate Jn to Stratford (line code ML, for Main Line), the SRT should represent an entry into that section from the Up Main at Forest Gate, and continuing via platform 9 at Stratford towards Liverpool Street, as this represents the fastest transit of that section. This is the case for the passenger SRTs shown in Appendix A1, but as no regular freight services undertake this movement, traditionally the freight SRTs have represented transit via platform 10 at Stratford and include the necessary deceleration for the slower speed junction towards Channelsea Jn.
- 5.10 The freight SRTs have previously been determined from the Tratim model (devised by BR Research in Derby), which was in use until around 2007. Appendix B shows the output from this model for various traction and load combinations. Note however that the model does not include an allowance for the effect approach control.
- 5.11 For example, the SRT for timing load 75C66S12 (Class 66 hauling 1200t at up to 75mph, including relevant container speed restrictions) is derived from the relevant entry in Appendix B2 – in this case 1.7 minutes. Approach control is applicable at L270 signal (governing moves towards Channelsea Jn). Typically an approach control will cost a passenger train roughly half a minute and a freight train a whole minute, although this does vary location by location depending on the severity of the approach control. However, that on the approach to signal L270 is not especially onerous – the signal clears on occupation of the track circuit MBW (the track circuit between signals L270 and L273). Adding 1 minute to the model run time of 1.7 minutes, gives 2.7 minutes, which should then be rounded up to form the planning value, i.e. 3 minutes.
- 5.12 A similar calculation may be undertaken for all other timing loads. From Appendix B1, all 60mph freight timing loads would come out at 3 minutes (2.1 minutes model value, plus 1 minute for approach control – total 3.1 minutes. In this case it would be reasonable to round down). Note that the Class 86 model values are higher than the other, due to the Tratim model being run in 1995, before significant line speed changes were made in the area. The result is that all freight SRT pass-to-pass values for this Network Link should be 3 minutes.
- 5.13 The allowance for approach control is somewhat subjective, as the circumstances differ by location and no modelling tool appears to be able to reflect accurately what should happen in

practice. However if it is felt that there is significant variance in the technique in drivers, either by TOC/FOC or by individual driver, this problem should be taken up with the TOC/FOC concerned for resolution, rather than making assumptions or planning to the lowest common denominator.

- 5.13 In terms of actual running and analysis, Network Rail has rightly picked up that there have been (and continue to be) many examples of trains taking longer than 3 minutes to cover this section – indeed most trains do take longer. However, Network Rail's methodology and investigation has, in Freightliner's opinion, not been undertaken thoroughly, has not found the correct source of delay causation, and has implemented an incorrect solution.
- 5.14 Network Rail's methodology has been to take live running data from a number of trains over a 3-month period (January to March 2013), and has analysed the average level of loss of running time in this section (Appendix C). This was then compared with the same trains in the same period of the previous year. The findings were that the average lateness in the 2013 period was 0.38 minutes, compared with 2.2 minutes the previous year. From this finding, it was concluded that SRTs should be extended by 2 minutes.
- 5.15 While this is an interesting piece of statistical analysis, it does not, and cannot, bring any conclusion as to what the SRT actually should be. NR's findings did not take into account the actual running time of trains over the Forest Gate Jn to Stratford section, whether or not they were on time, or whether they were delayed for any reason. No analysis (that Freightliner is aware of) has been undertaken to establish the reason for any train taking longer than 3 minutes, nor has reference been made to the previous SRT's derivation or any modelling been undertaken with currently-available systems.
- 5.16 Freightliner's own investigation into this matter has shown there are a number of factors which lead to trains taking longer than 3 minutes, although 3 minutes is actually attainable. The main cause of delay appears to be the way the trains are signalled. L292 signal (on the Up Main at Maryland, and that preceding L270) has a special form of control that means it is approach controlled if the forward route from L270 is not set. Note that this does not mean that L270 needs to show a proceed aspect, just that the forward route is physically clear and has been proved in the interlocking. In order for the forward route from L270 to be set, Liverpool Street IECC needs to request the "slot" from Upminster IECC, which is believed to be an automatic process although it can also be instigated manually. In order for L292 signal not to be approach controlled, this process needs to happen when the approaching train has reached Forest Gate Jn, otherwise the sequence of double yellow and then single yellow will occur on the approach to L292. The introduction of these signalling arrangements occurred at the time of the North London Line route upgrade in around 2010, although nothing was mentioned in

the text of the Network Change document (reference NC/G1/2010/NLRIP/V002) that this was occurring or any effect it might have.

- 5.17 Freightliner believes that the process of requesting the “slot” generally happens too late as there is insufficient time for Upminster IECC to react to the request and the interlocking to function before an approaching train sees a restrictive aspect sooner than is desirable. In an optimal sequence of events, once the route from L270 is set, there is a short delay before L292 clears to single yellow. Until that point in time, L292 remains at red, with L306 at yellow, L316 at Forest Gate at double yellow. Unless L270’s forward route has already been set then an approaching train will sight L316 at double yellow, only some 15 seconds after passing Forest Gate Jn, and early braking will occur. Signalling plans are attached as Appendix I for information (note these do not refer specifically to the above-mentioned Network Change but are provided to shown where the relevant signals are).
- 5.18 There are some instances where this situation would be necessary – for instance if an Up train is looking to reoccupy platform 10 shortly after the departure of a Down train (to achieve a desirable 3-minute reoccupation margin), then avoiding approach control at L292 will be very difficult to achieve. In these circumstances it would be sensible to stipulate an additional 1 minute allowance in the running time (by showing a “{1}” entry in TPR section 5.3) to cater for the additional approach control at L292.
- 5.19 In cases where trains take 5 minutes or more, this is generally very easily explained as one of the following:
- 5.19.1 Train was scheduled to take 5 minutes
 - 5.19.2 Train’s schedule included pathing time
 - 5.19.3 Train was delayed by other services.
- 5.20 It will be noted from Appendix A that an additional 2 minutes was not applied consistently to every SRT – most have in fact been rounded up to 5 minutes from whatever previous value they had. It should also be noted that this has generally only been applied to pass-to-pass and pass-to-stop SRTs – for example, while 75C66S12 is now 5 minutes pass-to-pass, it is still 4½ for start-to-stop, which is obviously nonsensical. Note also that 5 minutes for 1.75 miles represents an average speed of 21mph.
- 5.21 In cases where the approach was made from the Up Electric Line or from Woodgrange Park, an extra allowance is necessary; in the case of the former, the approach speed is 50mph for freight and the latter 20mph – both with an approach control at L330 signal.
- 5.22 Appendix D shows four examples of train running, sourced from CCF replay. All four are of trains along the Up Main from Ilford to Stratford. Included are the times at which the route was

set and also the signal cleared at both L292 and L270 signals. The first and second examples show transits of the Forest Gate Jn to Stratford section in 4m03s and 4m12s, with the route being set and cleared from L292 on approach, and again at L270. The third example shows a transit of 3m07s, but in this case it should be noted that the route from L270 was set while the train was between Forest Gate Jn and Forest Gate. This still meant an approach control at both signals, but the effect of the “slot” being given much earlier is quite apparent. The fourth example has a transit of 3m28s, but with route setting slightly earlier than examples 1 and 2.

5.23 Examples of 3-minute transits are not easy to come by, particularly when one is restricted to measuring only the last 10 days’ worth of train running that is held in TRUST, but it does show what is achievable if the signallers act effectively to keep trains moving. Examples of 4-minute transits are numerous.

5.24 For other routings between Forest Gate Jn and Stratford, changes have also been made:

5.24.1 Forest Gate Jn to Stratford (DML): again, most SRTs have been rounded up to 5 minutes. No Tratim data is available for this routeing, however this routeing should assume a 50mph entry speed at Forest Gate Jn and continuing at the 50mph linespeed through to Stratford, and deceleration to take into account the 20mph divergence towards Channelsea Jn. Again approach control at signal L270 would apply. A manual calculation would assume that a 50mph transit from Forest Gate Jn to Stratford would take 2.1 minutes, a deceleration in the order of 0.2 minutes and the approach control again at 1 minute – giving a total of 3½ minutes after rounding up. This shows that almost all the existing SRTs are incorrect, but that 5 minutes is again excessive. It should be noted that the passenger SRTs for the same move have not been changed.

5.24.2 Forest Gate Jn to Forest Gate (ML) and Forest Gate to Stratford (DML): Forest Gate Jn to Forest Gate (ML) SRTs have been left largely untouched at 1 minute (correct – 42 chains at 75mph = 25 seconds, rounded up to 1 minute to allow for sighting yellow aspects). Forest Gate to Stratford (DML) SRTs have largely been increased from 2 to 4 minutes. An unimpeded run along this route would be at 40mph (the speed of Maryland East Jn crossovers) to Stratford, then the same approach to L270 as per the previous instances – just short of 2 minutes. On top of this must be added an approach control allowance, hence 2 minutes as an SRT is inaccurate, but 2½ minutes would be more appropriate than 4 minutes.

5.24.3 Forest Gate Jn to Forest Gate (EL) and Forest Gate to Stratford (ML). Forest Gate Jn to Forest Gate (EL) SRTs have been largely increased from 1 minute to 2 minutes. This SRT should be based on an approach along the Up Electric line from the Ilford

direction (50mph for freight), with the exit via Maryland East crossovers (40mph) to the Main lines. L310 signal (the signal protecting Maryland East Jn on the Up Electric line) does have approach control, but it is much less restrictive, being approach-controlled from double yellow and clearing on occupation of the approach track circuit. This allows an almost unimpeded run. Assuming a constant 50mph, this would take 38 seconds. A 1-minute SRT therefore allows for some deceleration or a lower approach speed to some extent – as low as a constant 31mph. Should a train approach this section from the Woodgrange Park direction, the train would not exceed 20mph for most of the section – which would equate to 1m35s. It would therefore be reasonable to show a requirement for a {1} allowance in TPR Section 5.3 for trains undertaking this move. The Forest Gate to Stratford (ML) section represents a transit from the Up Electric at Forest Gate, via Maryland East crossovers to the Up Main at Stratford. One could assume a 40mph transit, slowing for the L270 approach control – 1.225 miles at 40mph, plus 0.2 minutes for a deceleration and a further 0.5 minutes gives 2m33s. Hence the previous SRTs of 2 minutes are insufficient, but NR's assumption of 4 minutes is excessive.

- 5.25 Freightliner has major concerns on the effect on capacity. In the run-up to the December 2010 timetable change, Freightliner worked with National Express East Anglia ("NXEA") to devise a revised Great Eastern Main Line ("GEML") timetable, in order to assist its bid for a revised pattern of service in that timetable. From that work, a "standard hour" pattern was devised for the off-peak hours (Appendix E). This provided the following freight paths:

5.25.1 Down direction:

Two diesel Class 4 Stratford – Ipswich

One electric-Class 4 Stratford – Ipswich

Three diesel-hauled Stratford – LTS

5.25.2 Up direction:

One diesel-Class 4 Ipswich - Stratford

One electric-Class 4 Ipswich – Stratford

Three diesel-hauled LTS - Stratford

(LTS = north Thameside lines, via Barking)

- 5.26 Class 6 trains were not part of the work, but it was envisaged that they could still be accommodated, which eventually they were. The paths to/from the LTS were nominally timed as 75C47S12, but in the section between Stratford and Forest Gate Jn, the actual timing load

is not really relevant as there is so little difference between lighter and heavier trains. The diesel paths to/from Ipswich were also timed at 75C47S12, and the electric paths at 75C86D16.

5.26 Freightliner has developed the work over the last 4 years to update it with minor changes to NXEA (now Abellio Greater Anglia) services, to reflect the increase to 4 trains per hour on the Gospel Oak to Barking line, to reflect the increase to 6 trains per hour on the North London line between Willesden Jn and Stratford, the building of the avoiding line between Stratford and Maryland, the building of the Up Channelsea Loop between Stratford and Lea Jn, the change of diesel train timing load from 75C47S12 to 75C66S12 to reflect the change of traction being used, the inclusion of Class 6 paths and more detailed analysis of the capacity of the whole route, including alternative timing loads.

5.27 This work is attached as Appendix F, and details that the following can be accommodated:

5.27.1 Down direction:

Three Class 4 path Stratford – Ipswich at up to 75C66S12, 75C86D16 or 75C90S12 (paths A,B & C)

Path A can be increased to 75C66S14 or 75C66S16 at the expense of path C

One Class 6 path Ipswich to Mark's Tey/Harwich at 60H66S22

One diesel-hauled Stratford – LTS (or 2 at the expense of a slot in the other direction, or Up path A running at 75C66S16)

5.27.2 Up direction:

One Class 4 path Ipswich – Stratford at up to 75C66S14, 75C86D16 or 75C90S12 (path A)

One Class 4 path Ipswich – Stratford at up to 75C66S12, 75C86D16 or 75C90S12 (path B)*

One Class 4 path Ipswich – Stratford at up to 75C66S12, 75C86D16 or 75C90S12 (path C)

Two diesel-hauled LTS - Stratford

* at the expense of one LTS – Stratford path

5.28 This shows that it is possible to increase the number of Class 4 paths by one by taking up a slot from the LTS line. The LTS line quantum was reduced from 3 to 2 paths by the increase from 2 to 4 passenger trains per hour between Gospel Oak and Barking. The third path is still

valid between Forest Gate Jn and Stratford, but only for short trains that would fit between Woodgrange Park and Forest Gate Jn.

- 5.29 It is also possible to accommodate a train timed at 75C66S16 in paths A and C at the expense of LTS to Stratford paths, although path C at 75C66S16 does not work with path B. Path C can also be timed at 75C66S14 if the 2Kxx xx:10 Southend Victoria to Liverpool Street service is amended to run via the Independent line from Ilford to Manor Park, thence via the Electric line.

- 5.30 The following can also be accommodated:

One Class 6 path at 60-66S08 Ipswich – Stratford, but not with path C at 75C66S16

One Class 6 path at 60H66S22 Harwich/Mark's Tey – Stratford at the expense of path B.

- 5.31 By increasing the SRTs between Forest Gate Jn and Stratford, however, all this falls apart. All the paths from the Woodgrange Park direction would no longer work unless they were revised to run in the Up direction via the Avoiding Line and therefore reduce the quota of Down freight slots. Path B would disappear altogether as there is no longer sufficient margin between Path A and the 2Fxx xx:35 Colchester Town to Liverpool Street service. There would be a choice between having either a Path A or an LTS path. Path C also becomes TPR non-compliant for certain timing loads.

- 5.32 The implied reduction in capacity means that there is now little scope neither for introducing additional trains during the daytime off-peak hours, nor for retiming existing services as customer demands may dictate.

- 5.33 With regard to the junction margin at Stratford, the margin for any train following a freight train has been increased from 3 to 4 minutes at Stratford. Again, no justification has been provided for this, save that the signalling apparently does not permit a passenger train arriving at platform 10 in the Down direction to follow an Up freight train through platform 10.

- 5.34 On further investigation, and following observation this move appears to be possible in 3½ minutes, so 3 minutes does seem unachievable, but 4 minutes excessive. However on asking Network Rail's local management, it appears that a change in the signalling was instigated (at an unknown date), without Network Change. This involved the removal of a "warner route" from L253 signal towards L263 signal (that protecting the entry to platform 10 in the Down direction), which now means that there is in effect "double blocking" on the Down Main line approach to Stratford.

- 5.35 While an increase in the junction margin may be appropriate in this one instance (and not in the case of any other margin at Stratford), we believe that the Network Change process should have been completed before proposing new margins.
- 5.36 The change does not have any effect on the daytime standard hour pattern as described above, but does have an effect at other times of day. By increasing the junction margin, Network Rail has by default reduced the capacity at this location.
- 5.37 With regard to adjustments to Sectional Running Times, an additional requirement for extra running time was added to TPR Section 5.3 under the entry for Stratford: "Freight trains which have passed Woodgrange Park and will cross from EL to ML approaching Stratford: approach control and slow speed crossover {2}".
- 5.38 This further undermines the capacity situation outlined above, and is again in Freightliner's opinion unnecessary – in practice, with the route set, transits can occur from Forest Gate Jn to Stratford (via the Up Electric line to Maryland East Jn thence via the Up Main) in 5 minutes or less – Appendix G shows one example of a transit in 5m30s, without the route ahead being set early.
- 5.39 The instruction is also badly worded, as there is no EL to ML crossover approaching Stratford – we presume that this is meant to refer to Maryland East crossovers.
- 5.40 Freightliner believes Network Rail has failed adequately to take into account the Decision Criteria, specifically:
- (a) maintaining, developing and improving the capability of the Network;
 - (b) that the spread of services reflects demand;
 - (d) that journey times are as short as reasonably possible;
 - (f) the commercial interests of Network Rail (apart from the terms of any maintenance contract entered into or proposed by Network Rail) or any Timetable Participant of which Network Rail is aware;
 - (g) seeking consistency with any relevant Route Utilisation Strategy;
 - (j) enabling operators of trains to utilise their assets efficiently;
- and that the entire weight of the decision was based solely on the following criterion:
- (c) maintaining and improving train service performance.
- 5.41 No cognisance appears to have been taken of the requirement for Strategic Capacity on this route, despite it being one of the country's major freight arteries, and indeed we believe

Network Rail has also failed in its duty under the Railways Infrastructure (Access and Management) Regulations 2005 section 21, paragraph 4:

5.41.1 “The infrastructure manager must, including in the case of congested infrastructure, undertake an evaluation of the need for reserve capacity to be kept available within the final working timetable to enable him to respond rapidly to foreseeable ad hoc requests for infrastructure capacity.”

5.42 We do not believe that Network Rail has undertaken such an evaluation: indeed the only capacity study was one undertaken by Network Rail after the dispute process was initiated.

5.43 Freightliner made a further attempt to solve the dispute on 5 November 2015, by way of a counter-proposal that sought to provide some extended SRTs that we felt could be reasonably operated in practice and yet still maintained the desired level of capacity. This however was rejected. The correspondence is attached as Appendix H.

5.44 The counter-proposal was also intended as a way of avoiding the Network Change issue (the effect of the 2010 signalling changes not being described in any Network Change notice). If Network Rail issued a Network Change notice under Condition G1, or Freightliner issued a notice under Condition G1.9, to retrospectively reflect this change the resulting Network Change would have to be rejected by Freightliner due to the deleterious effect.

5.45 The determination for TTP371/513/514/570/571 (part 5.2) instructed that the TPRs applicable prior to the December 2012 timetable change should be restored with effect from the December 2015 timetable change; this has not happened.

6 DECISION SOUGHT FROM THE PANEL

The Claimant should is requesting that the Panel determine:

6.1 That Network Rail’s proposals for changes to SRTs, allowances and junction margins are unreasonable and should be struck out;

6.2 That suggestions for changes to the Timetable Planning Rules should not solely concentrate on performance (perceived or actual) at the expense of other factors such as capacity: a balance needs to be made.

6.3 Network Rail should accept Freightliner’s counter-proposal of 5 November 2015 in full and ensure that the changes to Sectional Running Times are implemented in the December 2016 timetable, and the changes to junction margins and allowances is reflected in next available version of the 2017 Timetable Planning Rules.

7 APPENDICES

The Claimant confirms that it has complied with Access Dispute Resolution Rule H21.

Appendix A: SRT changes as proposed by Network Rail

Appendix B: Tratim modelling

Appendix C: Network Rail performance statistic

Appendix D: CCF runs

Appendix E: standard hour development work with NXEA

Appendix F: standard hour development work by Freightliner

Appendix G: CCF run

Appendix H: Freightliner counter-proposal of 5 November 2015 and Network Rail's response.

Appendix I: signalling plans

8 SIGNATURE

For and on behalf of Freightliner Limited and Freightliner Heavy
Haul Limited

Signed

J. K. Bird-----
Print Name

Track Access Manager
Position