

Mr John Larkinson
The Office of Rail and Road
1 Kemble Street
London
WC2B 4AN

10 July 2015

Dear Mr Larkinson

Access to the East Coast Main Line: industry hearing follow-up – performance

Thank you for your letter of 22 June 2015 following up the industry hearing. You asked in that letter for our written representations on performance modelling issues. This letter sets out our response to the performance modelling issues you have raised.

We confirm that no part of this response is required to be kept confidential. In preparing this response we note that the issues raised are very closely aligned with our interests in relation to our application. As an intending open access operator, we are proposing significant investment on the basis of a business model which depends on our ability to attract customers and grow revenue. It is vital to us that the paths we seek will, following award, be available in practice and able to be delivered with a standard of performance that customers will find compelling. It is our judgement based on our analysis that it can be sufficiently certain now that this is the case and that the industry processes can be trusted to address the details of implementation and deliver further refined and improved timetables. We share the view that more performance analysis and timetable development will be needed, but as part of established industry processes and not in advance of a decision to award the access rights.

Turning to the specific questions raised on performance modelling, these are set out below with our responses and supporting analysis.

"What, if any, performance analysis they think needs to be done before we make any access decisions, their reasons, what inputs the analysis would require, how detailed the work should be and how long they believe this should take."

1 Overview

- 1.1 The purpose of any performance analysis in advance of making any access decision is to enable the ORR to make that access decision.
- 1.2 ORR's role in making that decision is to oversee the fair and efficient allocation of network capacity (see section 4.3 of the Criteria and Procedures) and satisfy itself that the rights sought are capable of being exercised in a way that means services using the same routes should be able to operate reliably and not preclude Network Rail having adequate access to the infrastructure for efficient maintenance and renewal (see section 4.17 of the Criteria and Procedures). In fulfilling this role, ORR will be balancing its section 4 duties which include weighing improvements in performance with promoting use of the network, efficiency and economy and competition.

- 1.3 The making of an access decision does not require that the timetable to be operated is established in advance of award. The award of access rights is not about the approval of a particular timetable. The timetable development process is a separate and well-developed process with an enhanced ESG mechanism looking at least four years ahead to oversee Events (as defined in the Network Code). Proper development of the timetable will also encompass a range of ongoing, associated "housekeeping" activities, which are best advanced as part of these ongoing industry processes.
- 1.4 There has been extensive work already carried out by Network Rail to support the analysis that there is adequate capacity for eight LDHS paths per hour in each direction. This is supported by ECTL indicative timetabling work and has been widely accepted, including by VTEC. We have purposefully developed our access proposition and indicative timetables with capacity and performance as prime considerations, making use of the available capacity and promoting an approach which works with other operators on the route. Our timetabling work has identified capacity for 9 paths on the route south of Newark when the Lincoln/Newark service runs.
- 1.5 Related to this analysis that there is sufficient capacity for at least 8 long distance high speed ("LDHS") paths, our analysis of performance data also shows that performance on the basis of 8 LDHS paths will be well within acceptable standards and that there is no indication of any sufficiently material concerns which could not be addressed through industry procedures.
- 1.6 A range of other considerations further support the ability to reliably deliver the eight LDHS paths, including further anticipated infrastructure investment (including ERTMS), rolling stock investment and the nature of the rights to be granted.
- 1.7 Against this background, the consequences of a different approach would strike a wrong balance of the section 4 duties, delaying the efficient use of the network capacity which will be available for use, and as a result would withhold benefits to passengers, and delay the benefits of competition.
- 1.8 We are concerned that for some there may be an incentive to delay the decision on the introduction of the 8 LDHS service pattern, as this would in turn delay the necessary private sector investment in rolling stock to support this service improvement and set back increased competition over the route. This incentive could be reflected in promoting an overly cautious approach to performance analysis and timetable development prior to the award of access rights. At the hearing there was extensive comment on the strong record of the industry in delivering timetables for additional services which had originally been claimed as doomed to performance failure.
- 1.9 In contrast we would note that our plans to be an open access operator mean that our business will be entirely dependent on its ability to attract passengers to our service proposition: we approach this issue from a perspective that requires a high degree of certainty that the paths we require will be available (in reality as well as under the access agreement arrangements) and that these will be able to be operated to the standard of performance which will attract customers. We are satisfied that it is sufficiently certain now that the network has the capability to deliver 8 LDHS paths on both capacity and performance counts.
- 1.10 While we have addressed this response to the 8 LDHS pattern, we confirm our view that there is also capacity for nine LDHS paths in alternate hours, where one of the nine paths is going to Newark or Lincoln, with no material adverse impact on the performance analysis.

1.11 In conclusion, we consider that ORR may properly proceed to an access decision based on 8 LDHS paths per hour without requiring further performance analysis, but on terms which require all the successful applicants to agree to participate in the ESG process for the development of the timetable and planning of the relevant Event.

1.12 These points are developed in further detail below.

2 Capacity Assessment - there is enough capacity for at least 8 LDHS paths

2.1 The shared conclusions are that there is capacity for 8 LDHS paths on the ECML. Network Rail has been engaged over a lengthy period in assessing available capacity and reported most recently in its letter of 15 May 2015 in support of the current process. At the hearing there was general acceptance of the capability to provide access for 8 LDHS paths, including from VTEC.

2.2 ECTL strongly supports this view, based on its own timetable development work and performance modelling.

2.3 As part of our application, we have supplied ORR with an outline timetable. This is a standard two hour timetable fully consistent with VTEC's application, with our own paths overlaid in the first of the two hours. For the Down direction south of Doncaster, and the Up direction south of Peterborough, our indicative paths closely mirror that of VTEC's Middlesbrough to King's Cross service in the second hour. This gives a high degree of confidence that there is capacity on the route to operate these paths robustly.

2.4 Our outline timetable is based on the infrastructure interventions assumed by VTEC in its own outline timetable which are required for the introduction of IEP. This gives us a high degree of confidence that the capacity will be available, since VTEC is relying on these interventions to introduce its IEP fleet and deliver its own timetable. In addition, our plans do not rely on the introduction of ERTMS to the route and the ECML Connectivity Scheme interventions at York. These are both likely to have upside benefits in terms of route capacity when they are introduced. Also our trains will be five cars in length, which provides flexibility at King's Cross and Edinburgh by enabling the use of shorter platforms and platform sharing.

2.5 In applying for quantum only rights and proposing to operate a non-standard pattern which is designed to work with other operators on the route, our application provides maximum flexibility for Network Rail to accommodate the needs of freight and other operators as specific paths are identified through the detailed timetabling process.

2.6 While this letter concentrates on the 8 LDHS path proposition, our assessment is that there is capacity for nine LDHS paths south of Newark, depending on the stopping pattern and flighting of trains. This is illustrated by VTEC's outline timetable which contains nine paths in a 60 minute period in the Up direction. This reinforces the case for the capability of the network to deliver at an 8 LDHS path level.

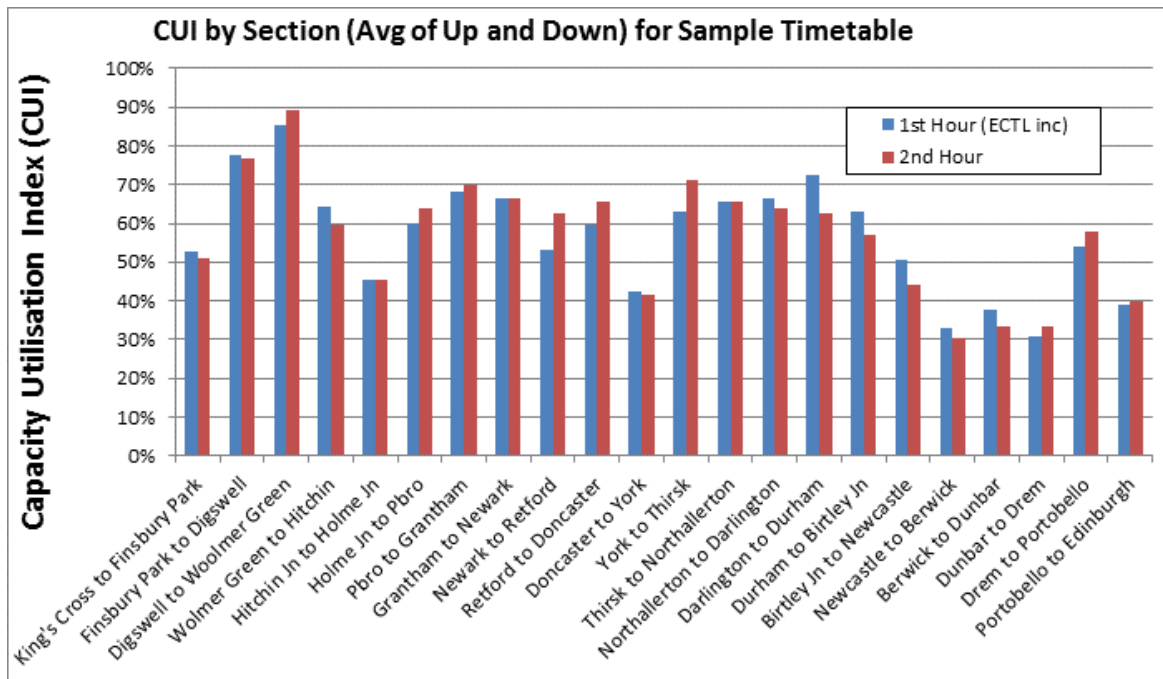
3 Performance Assessment – there is no serious performance issue

3.1 Network Rail has already demonstrated that generic capacity exists to operate 8 LDHS paths an hour. We have supplemented this work with our own analysis using the standard industry measure of Capacity Utilisation Index (CUI), which indicates the extent to which maximum theoretical capacity on a given route section is being consumed. Similar to the international standard UIC 406 method, CUI has been used as an input to the calculation of the Capacity Charge tariffs, and as part of NR's RUS process. At higher levels of CUI a greater level of congestion related reactionary delay can be expected. Demonstrating that

our proposals maintain CUI at consistent levels provides confidence that robust performance is achievable through good timetable design.

3.2 ECTL has undertaken its own high-level analysis by calculating CUI for the outline timetable supplied to ORR. This analysis has been independently reviewed by our consultants who were previously commissioned to update the Capacity Charge tariffs for CP5. Our analysis was based on current planning assumptions (excluding for example ERTMS), and it is anticipated that the introduction of ERTMS to the southern end of the route could provide further additional capacity.

3.3 The chart below (which shows average values over the Up and Down directions) indicates the CUI by section for the standard two hours of this timetable. This indicates the capacity consumed in the first hour of the timetable (which includes our paths overlaid) is at a level comparable with that in the second hour (taken from VTEC's application). We conclude that capacity is available to robustly operate our proposed paths, while remaining inside industry accepted levels of capacity usage on the route. This means that ORR should have a high degree of confidence that should rights be granted for these paths, Network Rail will be able to successfully undertake development of a robust timetable through the ESG process.



3.4 Network Rail's report of December 2014 gives an indicative figure for the performance impact of increasing the number of LDHS on the ECML as a drop in PPM of 1.8 - 2.0%. For the reasons set out in this letter, our analysis indicates this is unduly pessimistic and that there is no such significant performance risk from the 8 LDHS path proposals. Limited detail is provided on the methodology Network Rail used, for example, it is not clear whether the forecast takes account of expected improvements in asset reliability and the capacity increases planned for the route. It is also worth noting in the context of VTEC's application for rights in 2020, that our own application for one path every two hours would be responsible for only one quarter of any overall impact from the move to 8 paths per hour.

3.5 Network Rail's performance assessment was based on examining performance immediately before and after the change in an attempt to neutralise for other factors. However, there is typically a 'bedding in' period around a major timetable change, and in

the first two cases below performance a year after the new timetable was actually higher (see below). TPE's performance was affected by a number of external factors, but is now recovering and is approaching the level of performance prior to the change despite an increase of 25% of paths between Leeds and Manchester. This past experience should give confidence that timetable changes can deliver robust performance, alongside the customer benefits of increased competition, additional services and new journey opportunities.

Timetable	Operator	PPM Before Change	PPM After Change
WCML Dec 2008	Virgin Trains	83.1% (MAA 08/09 P08)	83.2% (MAA 09/10 P08)
ECML May 2011	East Coast	83.3% (MAA 11/12 P01)	86.5% (MAA 12/13 P01)
TPE May 2014	TPE	92.3% (5 period average to 1415 P03)	91.7% (5 period average to 1516 P03)

3.6 We heard a lot during the hearing about the resilience of the route. One standard measure of performance resilience is the ratio between reactionary and primary delay. This ratio indicates the minutes of reactionary delay caused by each minute of delay due to primary incidents, and is largely a function of the timetable operated on the route and the capacity available. Using the industry APA dataset produced by Network Rail in 2014/15 Period 7, we have calculated the ratio for Long Distance operators. East Coast (operating the franchise at the time) had the lowest ratio of any Long Distance operator, significantly below the sector average and comparable operators, such as Virgin Trains. This benchmarking exercise on the primary Long Distance operator on the ECML demonstrates that the route is not at tipping point, and has the capability to absorb additional paths while continuing to operate reliably. It implies that ORR should have confidence that with a responsible execution of the normal industry timetabling processes the additional paths should not lead to poor performance.

Long Distance Operator	Ratio between reactionary and primary delay
East Coast	1.1
Abellio GA	1.4
Virgin Trains	1.4
FGW	1.7
EMT	1.8
CrossCountry	2.5
FTPE	2.6
LD Sector Average	1.8

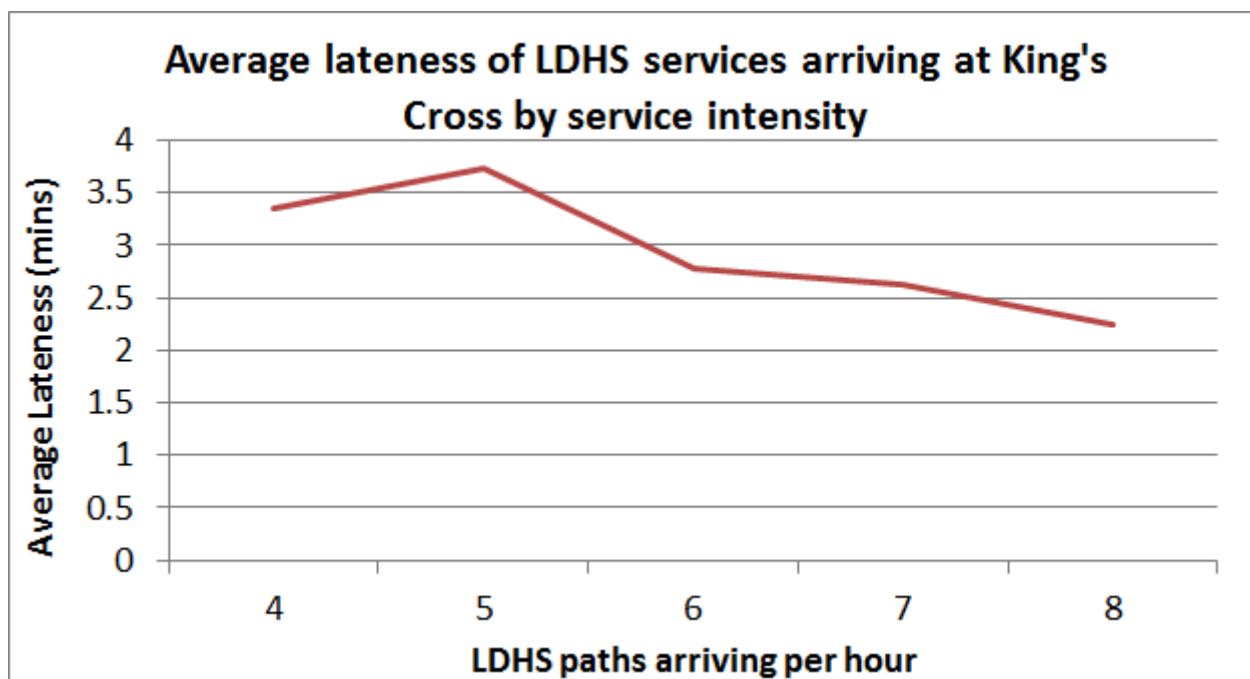
3.7 As described above, the outline two hour timetable supplied with our application is based on VTEC's 2020 timetable with our own paths overlaid in the first hour. Our assessment is that VTEC's timetable has been designed to ensure performance, for example, by making choices about intermediate stops and flighting of trains. In overlaying our paths into this

timetable, we have adopted the same principles to minimise the capacity used and ensure high levels of performance.

- 3.8 Our analysis on the ratio above implies that around 47% of all delay suffered by East Coast was due to primary incidents (both infrastructure and train related). This is the highest of any Long Distance operator and is much higher than the sector average of 35%. Current and future investment in infrastructure reliability through NR's renewals and enhancement programme and the introduction of VTEC's IEP trains, will be expected to have a significant impact on route performance, addressing the causes of the high frequency of primary incidents. These new trains will be around three times more reliable than the current VTEC fleet, with a forecast Miles per Technical Incident (MTIN) of around 40-50k, compared with the current MTIN of 14,000.
- 3.9 Our proposals are for the use of new Hitachi-built trains based on the IEP, which by the time of introduction will have been extensively tested and introduced into service. It is expected to deliver significantly improved performance and reliability and to be directly compatible with the performance of the IEP stock which will be being operated by VTEC. In summary rolling stock does not give rise to any material performance concerns but represents a likely improvement in performance over what is currently experienced.
- 3.10 Comments were made during the hearing about the importance of maintaining Right Time performance for customers. The table below (from Network Rail's PPM and CaSL dataset 201516 P02) shows that VTEC already delivers levels of Right Time performance against comparable operators which are well above the sector average, suggesting low levels of sub-threshold delay and a resilient timetable. We confirm our support for and confidence in the normal industry processes to develop a detailed timetable that continues to exhibit these qualities.

Long Distance Operator	RT (MAA)
EMT	60%
VTEC	59%
Virgin Trains	52%
FTPE	50%
FGW HSS	45%
CrossCountry	42%
Abellio GA	40%
Sector Average	50%

- 3.11 We note concerns during the hearing about the impact of the intensity of service on performance. As highlighted by Network Rail in its September 2014 report, there are a number of hours in the current (May 2014) timetable where in excess of six LDHS paths are operated per hour. Using Network Rail's data (April to July 2015), we have analysed the punctuality of weekday LDHS paths (VTEC, Hull Trains and Grand Central) arriving at King's Cross by the number of paths in each hour of the timetable. As shown below, this indicates that as service intensity increases, punctuality is maintained or improved. These results, derived from the existing timetable operated on existing rolling stock, should give a high degree of confidence that the higher levels of service can be sustained, especially following the introduction of new highly reliable fleets which will be operating in electric traction mode for the southern end of the route.



- 3.12 The need for further performance modelling, after the award of access rights and prior to the services commencing is recognised and accepted. Network Rail in its letter of 15 May 2015 summarised the position in terms recognising the role (and adequacy) of the industry processes to deal with this issue:

*"The detail provided demonstrates that there are capacity choices available on the ECML. Network Rail will work with the ORR and the Industry to work towards and achieve a fit for purpose timetable. We would reiterate that there is a requirement to undertake detailed timetable and performance assessments, along with considering impacts on safety, maintainability and power supply. **We would expect these additional requirements to follow normal Industry processes.** Any rights sold prior to any such assessments will require the maximum amount of flexibility, allowing for optimum timetable development opportunities."*

- 3.13 We confirm our expectation that the rights sold would be quantum only rights, without any further Firm Rights, and that the industry processes would then operate as established to develop the detailed timetables. We would not support the award of other than quantum only rights on the route, but if there were to be any exceptions to this then we would expect any additional rights to be strictly limited and set so as not to prejudice either operation of the ESG or the capacity and performance issues under consideration.

4 The Timetabling Process is appropriate to finalise the timetable and refine performance

- 4.1 The industry processes are properly established to handle the task of establishing detailed timetables to fulfil the access rights proposed to be granted on the basis of 8 LDHS paths.
- 4.2 The conclusions on available capacity are sufficient for the ORR to be certain over the delivery of 8 LDHS (see above).
- 4.3 The adoption of access rights limited as far as possible to quantum will provide Network Rail with very significant or maximum flexibility, consistent with just the quantum rights, to exercise flexing rights in accordance with the Network Code to arrive at an optimal timetable. This is in line with Network Rail's anticipation in its letter of 15 May 2015.

- 4.4 The Event Steering Group mechanism in Part D of the Network Code provides the mechanism for all affected operators to work together through an Event Steering Group, with Network Rail:

"7.2 Event Steering Group

7.2.1 In relation to each Event, Network Rail shall set up and chair an Event Steering Group. The Event Steering Group shall be set up in sufficient time prior to the relevant Event so that it can achieve its objectives set out in Condition D7.2.2.

7.2.2 The objectives of an Event Steering Group shall be to:

(a) agree a project plan to achieve a smooth transition for the necessary timetable changes, arising from the Event, through Condition D2 by way of timely industry input into the process ("the Project");

(b) oversee and facilitate delivery of the Project;

(c) carry out appropriate consultation with Passenger Focus, London TravelWatch, Rail Freight Group and Freight Transport Association during the course of the Project.

7.2.3 Members of the Event Steering Group shall participate in and contribute to the Event Steering Group so that it achieves its objectives."

We would commit to be a member of the ESG for the ECML if our application for access was successful and would expect other applicants to give a similar commitment.

- 4.5 There will be material detail to be worked out in due course, for example as identified in Network Rail's letter of 15th May 2015 (with emphases added):

*"Further timetable analysis and detailed performance assessments would be required as more detail becomes available and during further iterations of the timetable as it develops **through normal industry process**. Any such assessments would also require detailed work on service recovery principles and performance targets, in order to incentivise operators to maintain an appropriate resource base and develop robust train plans and diagrams that support right time from origin."*

Before performance can be addressed Network Rail envisaged it:

"• Would need to develop a detailed timetable for all ECML and off route services and operators would need to supply the resource plan (crew and rolling stock) and diagrams that supported the timetable

*• **In formally developing the timetable for 2020 with the Industry**, the Timetable Planning Rules (TPR) and Sectional Running Times will need to be refreshed to ensure these reflect planned changes to service levels, rolling stock, infrastructure layout and operational rules procedures. This is another important consideration for the future performance of the timetable*

*• Would undertake a **Programme Management approach** towards the introduction of the timetable and Network Rail would lead that process."*

The performance work would then include:

"• A modelled assessment of PPM impact;

• An assessment of Right Time performance;

- *An assessment of interactions between services at key locations;*
- *Initial updates to the regulating policy to take account of a revised service structure;*
- *The development of a service recovery strategy for use by Network Rail and Operator Controls;*
- *The development of contingency plans for severe disruption and severe weather."*

4.6 This evidences an expectation and confidence in the industry procedures, with processes managed to the industry procedures and timescales. Industry processes are the way to address issues such as timetable development, refresh of timetable planning rules and development of contingency plans. We confirm our support for and confidence in these processes operating, as envisaged by Network Rail, after the award of access rights.

5 Industry Experience on Timetable Changes

5.1 At the hearing there was general support for the observation that the industry planning processes have repeatedly, successfully delivered timetable change, contrary to dire predictions at the time change was first proposed. There should be confidence in the ability of the processes to deliver.

5.2 We would support the terms for approval being on the basis that the successful applicants join in the relevant ESG process.

5.3 We strongly support the view that the industry process are adequate to deliver in this case. As described above, recent experience of major timetable changes gives no evidence of prolonged performance detriments caused by these changes. In fact the opposite, in the case of the WCML 2008 and ECML 2011 timetables, it was demonstrated that a carefully designed timetable could deliver enhanced levels of performance alongside an increased quantum of trains. The industry's collective experience should give us confidence that new timetables can be introduced while quickly achieving high levels of performance. Regardless of the outcome of our own application, the introduction of VTEC's new trains to the route will see a step change in services from 2020. This change is a franchise commitment which presumably the industry is collectively confident it can successfully manage.

5.4 There has already been extensive work on capacity and there is significant data available on performance. Neither of these generates any level of concern which is outside the scope of what the industry processes can properly manage.

6 The Implications of a Requirement for Detailed Performance Analysis

6.1 In this case and given the work carried out to date and the strength of the capacity and performance analysis to date, we do not accept there is any requirement for further detailed performance analysis to be carried out in advance of award of access rights.

6.2 Performance modelling using a system such as RailSys requires a high quality production level timetable in order to be equitable with the base timetable against which it is measured. To enable correct modelling of the timetable the standard hour would need to be extended to an all day timetable, including peak periods. This would also need to include resource plans for rolling stock movements (to enable turnarounds at terminal stations), platform allocations, details of freight paths and regional services which interact with the core route, and empty stock movements. This detail is usually only available at an advanced stage in the industry timetable process: requiring it prior to a decision to grant rights would risk delay to the process and consume valuable industry resources without

ensuring confidence in the results. For example, details of the regional services that would need to be taken into account will be affected by the outcome of the Northern and TransPennine franchise competitions which are not expected to be announced until the end of 2015.

- 6.3 In addition, RailSys is a timetable and infrastructure proving tool which does not directly forecast PPM, for example, it is not able to model cancellations or events of major disruption. This makes it ideally suited to be part of the ESG process to prove the timetable developed by the industry at that stage of the process.
- 6.4 To ensure the impact of future timetables is compared to a realistic starting point, a performance forecasting exercise will need to account for planned improvements on the route including new highly reliable trains, network enhancements and the introduction of ERTMS. This will add to the workload, without necessarily improving the accuracy of the forecast due to the uncertainties. Our view is that this detailed assessment is appropriately undertaken as part of timetable development through ESG processes, where more detailed information is available giving greater confidence in the results.
- 6.5 If this work were to be required, then the level of detail mooted would require detailed timetable development (see the extract from Network Rail's letter of 15 May 2015 set out at paragraph 4.5 – which envisaged this being undertaken as part of the timetabling process). We would object to delaying award to make this timetable development a pre-condition of award because:
- (a) it is unnecessary in advance of award, given the strength of the case for 8 LDHS and the industry processes available to address the detail of timetable implementation;
 - (b) it is impractical, cumbersome, distracting, inefficient and expensive to seek to carry out this type of work outside of the industry processes, with multiple scenarios to be tested;
 - (c) the sensitivity of these modelling tools means that in the likely absence of a sufficiently certain and detailed timetable, this form of modelling work is likely to be unreliable and a poor indicator of the performance which would eventually be achieved;
 - (d) to require such an approach is contrary to the policy behind the move to quantum only access rights, which is designed to introduce flexibility into the timetabling process and facilitate the industry processes to address these issues; and
 - (e) there would inevitably be further delay, which would delay the benefits to customers of the proposed increased services, delay the efficient use of the network and restrict the introduction of further competition onto the ECML.

7 Conclusion

- 7.1 For the reasons outlined above it is sufficiently well established that there is sufficient capacity to reliably deliver 8 LDHS paths each hour in each direction to at least an acceptable level of performance. The application of quantum only rights and the availability of the ESG to address detailed timetable development in the period following award means the right course is to allow detailed implementation to follow established industry processes after the award of access rights.
- 7.2 The extensive work to date has established feasibility and not identified blocking performance or capacity issues. In this context detailed performance modelling in

advance of the award of access rights is not going to be efficient or likely to generate reliable answers, while at the same time it will delay use of capacity on the route and delivery of benefits to passengers.

- 7.3 We recognise that ORR may wish to continue to test and conduct due diligence on the capacity and performance issues in support of its duties under the Act. However we do not consider that there is justification for any detailed performance analysis which would be inconsistent in timescales with the ORR reaching a determination on the applications in autumn 2015.

"What would need to happen next if this work confirmed a performance impact, including what inputs and resources would be required and how this would impact the usual industry ESG processes?"

8 There is no material adverse performance impact to address

- 8.1 We are confident based on the range of capacity analysis and timetable development work and our analysis on performance that there is no material adverse performance impact to be addressed before the award of access rights.

9 Industry Processes are the right channel for resolution of issues

- 9.1 If a sufficiently material performance impact were to be identified (which based on the extent of work already undertaken we do not consider to be a material risk), then we would expect the proper response, as indicated in the Network Rail letter of 15 May 2015, would be to task the ESG to address the issue as part of the Event development process.
- 9.2 The detail of what may be required in terms of inputs and resources would depend on the nature of the performance impact identified. Network Rail have already identified in their letter the range of activities which they would expect to see undertaken and which would be expected to be more than adequate to address most concerns, especially in the context of more flexible, quantum only access rights.

10 Serious consequences of delay

- 10.1 We note what would be particularly serious would be a delay to the award of access rights. Until rights are awarded, applicants cannot progress the significant investments they propose to support delivery of the new paths to make use of the available capacity and deliver benefits to customers. Our estimate of the net economic cost of delaying the commencement of our services by six months is in excess of £20m.

Please do not hesitate to contact us should you wish to discuss or require further information on any matters raised in this letter.

Yours sincerely



Leo Goodwin
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