Freightliner

Valentina Licata
Office of Rail Regulation
One Kemble Street
London
WC2B 4AN

Freightliner Group Limited
3rd Floor, The Podium
1 Eversholt Street
London NW1 2FL
Tel: +44 (0) 207 200 3912
Fax: +44 (0) 207 200 3975
Email: durhaml@Freightliner.co.uk
Web: www.freightliner.co.uk

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Dear Valentina

DRAFT DETERMINATION – FREIGHTLINER RESPONSE

This is the response of Freightliner Group Limited representing Freightliner Limited and Freightliner Heavy Haul Limited to the Office of Rail Regulation's Draft Determination, dated June 2013.

Overall Freightliner welcomes the draft determination and believes that it is reasonably balanced. In particular we appreciate that the Office of Rail Regulation (ORR) has listened to the rail freight industry and has mitigated the increase to freight track access charges to a reasonable level overall for CP5.

Freightliner does have some issues it would like to raise in conjunction with the draft determination and these are laid out within this letter.

Executive Summary

- **Overall the level of charges for freight for CP5 has been set at a challenging level**

- **More work is needed on the calculation and the implications of freight avoidable costs to prepare for future Control Periods. In particular we are concerned that VTISM has been used to calculate avoidable costs rather than incremental costs as it was designed to do, and further investigation is needed. We would also like to understand how it is updated.**

- **The identified issues with the Serco calculation of the vertical element of the Variable Usage Charges should be reviewed and verified so that there is a more robust understanding for CP6; these are a significant driver of cost re-allocation between TOCs and FOCs.**

- **Further consideration of the calculation and the implications of provision of rolling stock models to calculate the horizontal element of the Variable Usage Charge is required for CP6.**

- **Further work on the role and responsibilities of the System Operator role is**

urgently needed.

- **The Network Rail payment rates in Schedule 8 are not based on a model equivalent to the passenger rates. We put forward a proposal based on further work that we (RFOA) have commissioned**

- **We remain firmly of the view that the Capacity Charge should apply at traffic levels above the Schedule 8 benchmarks only. However in order to find a solution for CP5 we have reached a common position with Network Rail through the RDG Freight group to apply during CP5 only**

- **The baseline for the Volume Incentive needs careful consideration to ensure that Network Rail are appropriately incentivised**

The detailed response below is laid out by reference to the Chapters in the Draft Determination (and therefore not in order of importance to Freightliner)

Chapter 3 Output Framework

3.66 to 3.76 Freight Performance

Freightliner welcomes ORR's decision to support the new more customer focussed Freight Delivery Measure that has been developed by the freight operators (FOCs) and Network Rail (NR). We are surprised that ORR has amended the joint proposal for a target of 95% and a performance floor of 91.35% before regulatory action. We felt this gave a target at the same level as the CP4 target but recognised that the Freight Joint Board would take action before any regulatory action was required. We are disappointed that the ORR is proposing setting the target at 92.5% which is considerably below the current level of performance achieved by Network Rail and below its CP4 regulated target. This sends the wrong message both to Network Rail and customers and appears inconsistent with decisions on passenger performance.

We request that ORR reconsiders the agreed NR/FOC position

3.86 to 3.92 Decisions on network availability

Freightliner agrees that Network Rail should continue to have an obligation and incentive to reduce disruption to passenger and freight from engineering work. The ORR has noted the calculation process for both PDI-P and PDI-F is difficult to understand and Freightliner remains unconvinced the current index is the best measure. We therefore welcome the development of a new parallel measure during CP5. We note there has been a reduction in the PDI-F measure through CP4 but it is not clear if this has been driven by the presence of the index or indeed has had any real beneficial value to freight operators; it has not been noticeable to us.

We note that ORR is proposing a 33% reduction in the PDI-F, which is welcomed but this seems to contradict later statements that the number of Schedule 4 claims will increase during CP5. There is a direct link between the two.

We are keen that there is a greater focus in the area of possession planning during CP5 and we are particularly concerned by the widening gap in payments under Schedule 4 to passenger operators versus freight operators. We have concerns that Network Rail does not fully consider the impacts of possession planning on freight services and that as devolution of routes develop it will become challenging for freight operators. The PDI-F measure does not reflect such impacts. We would like to flag this area as one of considerable concern for CP5 and intend to keep in close dialogue with the ORR if the situation deteriorates for freight operators as we fear.

A recent example in June 2013 the Ipswich to Peterborough route was a planned closure for plain-line renewals with diversions planned via ECML but subsequently the W9 Hertford Loop (the only gauge cleared freight route) was also closed for 'station and OHLE work' without any freight operator consultation at short notice (1 week notice).

These instances (and there are other examples) pose severe operating and planning problems especially for intermodal services which are gauge critical; arranging alternative road haulage, removing certain types of containers from trains and finding drivers with the requisite route knowledge.

It is also disappointing that any concept of 7 day working appears to have been dropped. Being able to offer consistent services 6 days and in some markets 7 days a week remains a key requirement for freight operators, particularly as an enabler to grow the domestic intermodal market. It is also vital, we believe to make the best use of network capacity, which is increasingly at a premium.

We would like to see a further review of the effectiveness of the measure during CP5, particularly as devolution develops.

3.93 to 3.99 Decisions on Network Capability

This is still an area where there is insufficient focus and lack of clear information. Operators do not have access to either GEOGIS or the National Gauging Database and data is still inconsistently published by different Network Rail Routes in different sectional appendix. All the information should be available in one single database that is easily accessible.

Unfortunately we are still seeing instances where network is removed without Network Change or before Network Change is agreed.

3.133 to 3.143 Decisions on the environment

The industry is already subject to a variety of environmental and legal obligations, which change quite frequently. Rail is fundamentally a more environmentally friendly mode than road and therefore it is not logical to burden rail with additional obligations which do not apply to road. Rail freight operators are already aware that it is important for the success of the sector to keep ahead of the road competition in terms of environmental outputs.

Freightliner therefore does not believe that there is any requirement, or need for regulatory outputs in this area – now or in the future.

3.143 Noise management issues

To date we have not studied in detail the DEFRA noise mapping data or the noise action plans arising from Environmental Noise (England) Regulations 2006. However we believe that they indicate that rail noise is not a significant issue in the UK (we understand that aircraft and road traffic noise is far more intrusive) and when compared to mainland Europe. Any future proposals need to be proportionate and should not erode rail's competitive position versus other modes of transport.

The procurement of new and modified rolling stock by UK freight operators is already subject to the "Wagon Rolling Stock Technical Specification for Interoperability" which specifies limits for rolling noise and the specification for 'quiet' brake blocks for new and upgraded wagon rolling stock. However ORR should be aware that the composite brake-block (organic and non-organic) homologation process (UIC Leaflet 541-4 and addendums), managed on behalf of the European Rail Agency (ERA) by the UIC is imperfect and is causing issues for brake-block manufacturers throughout Europe.

UK FOCs are 20 to 30 years ahead of railway undertakings in mainland Europe with around 75-80% of the existing UK wagon fleet equipped with either composite brake blocks or disc fitted (classed as 'quiet'), as opposed to cast-iron blocks which are still dominant on mainland europe.

Freightliner does not believe that noise differentiated track access charges (NDTAC) should be introduced; they are only optional, not mandatory under the Recast of the First Railway Package. The UK track access charging tariff is already complex, and already includes incentives for operators to procure track-friendly bogies, supported by the Wagon Rolling Stock TSI.

Line-side and track solutions, for example bunds or screening at the line-side or dampers and pads under the rails, may be appropriate as noise reduction measures and Local Planning Authorities could be incentivised not to grant planning consent, where practicable, to new housing development proposals adjacent to the operational railway. However it must be recognised that such a solution introduces considerable additional cost and therefore any measures must be proportional to equivalent measures for other modes.

3.144 to 3.151 System operator capability

This is an area that is not yet fully developed or understood in the wider industry; Network Rail requires input from TOCs and FOCs to develop this concept fully as the industry is vertically separated and the system operator concept implies integration.

We are keen that there is more clarity to the system operator role quickly as it appears that by default or otherwise Network Rail are devolving powers about agreeing access rights to the Routes, seemingly in contradiction to 3.145 (a) and (b). We think that it is essential that Network Rail manage access to the holistic network on an integrated system basis as for a national operator such as freight operators paths usually cross many routes. However it is also vital that the ORR takes a strong lead in setting a framework for access policies that recognises its duties, including to promote the use of the railway network for the carriage of goods, to protect the interests of users of railway services and enabling persons who provide railway services to plan their businesses with a reasonable degree of assurance. Operators are heavily reliant on the ORR to act as a referee on access to the network.

The dashboard that was recently presented to us by Network Rail is at an early stage of development. Freightliner is happy to contribute to a better definition and understanding of this concept.

One area which we have raised before and continues to be unsatisfactory is Network Rail's train planning service. We are still not in a position where Network Rail makes to operators offers for train paths consistently in accordance with the Network Code. Additionally when Network Rail proposes major possessions they provide insufficient information regarding the availability of an alternative route for train services.

Freightliner supports ORR's proposal's in paragraph 3.150, however the pace of establishing the role of the System Operator needs to be upped.

Chapter 5 Support Expenditure

We welcome ORR's decision to continue to set efficiency targets for NR's support costs as this is an area we perceive could be more efficient. There is always an imbalance in the industry between the resources that Network Rail has and those of the TOCs and FOCs.

However we do believe that serious consideration should be made to replacing the TOPS system and other related systems that are based on 1970s technologies. This is a core operating system with many links to other systems but it has many constraints and is totally outdated.

Chapter 7 - Consultation on implementing PR13: Indexation & "true up"

We welcome the ORR's desire to have a common approach for indexation of charges for freight and passenger operators, whilst recognising the franchise passenger operators are broadly held harmless to such changes.

Freight charges are currently adjusted using an annual average (based on the 12 months ending December preceding the April increase) and we see this as a sensible way forward for CP5 and for adoption with the passenger operators for consistency. We recognise the time lag endemic to this methodology but note that the use of averaging flattens out unusual monthly figures. We are content with the continuation of the Office of National Statistics (ONS) CHAW index as the measure of general inflation.

With regard to the proposed "true-up" methodology, we note the desire to improve the accuracy of income flows to Network Rail, but note that over half of NR's income is directly from network grant. We are firmly of the opinion that the proposed change is an unnecessary complication that:

- Adds volatility to the charges with a disproportional increase in risk to operators (who are less able to bear volatility) from swings in forecast versus actual;

- Creates a timing mismatch between our costs and revenues, which is more costly for operators to absorb than NR given NR's access to cheaper funding. More explicitly we have no similar arrangements with our customer base and suggest adoption would add a further difficult variable to rate negotiations. Please note, automatically indexed rates (RPI or other) are a rarity in our sector; and,

- Increases administration for operators due to the additional required engagement in the process.

As such, we feel adopting the "true up" method would not add material value to the industry.

Chapter 8 Asset Management: maintenance and renewals expenditure

Freightliner believes that it is essential that Network Rail maintains a steady volume of renewals work through the whole of CP5 rather than fluctuating volumes. During CP4 many renewals were deferred at the start of the control period for a short-term cost saving. This may have led to the increase in Temporary Speed Restrictions in following years. Additionally the amount of possessions required towards the end of the Control Period has been challenging for operators.

A steady volume of work through CP5 and beyond would help to reduce supply-chain costs and assist with planning resources and possessions. This can only be beneficial to the industry in the attempt to reduce costs. We note that in table 8.12 the proposed levels of track renewals are not evenly spread across the control period but peak in years 3 and 4. Given the natural peak in enhancement works towards the end of the Control Period it would seem more sensible if anything to carry out more track renewals at the beginning of the Control Period.

Chapter 9 Enhancements expenditure

9.76 Review of enhancement projects

It would be helpful if this section could be laid out more clearly and we would like to see increased clarity in the final determination regarding the overall scope and the outputs of

these projects.

It is difficult to ascertain from the tables (Table 9.4 particularly) in this chapter which projects under "Other Committed Schemes" or "Other Named Schemes" have had funding removed. In principle we understand that ORR has reduced risk/contingency and added efficiency overlay, but it is difficult to follow to which schemes this has been applied. In the case of the Northern Hub we understand from NR that it has been cut by £30 million but neither the text nor the table state that Northern Hub funding has been cut.

Ring-fenced funds: Strategic freight network

The £200 million for CP5 is welcomed as is the ORR's decision not to make adjustments to the ring-fenced fund. However following experience with the fund in CP4 we would make the following comments/observations:

- The SFN CP4 delivery has been patchy with some schemes delivered on time and under-budget, e.g. Southampton to WCML gauge enhancement and Felixstowe to Nuneaton gauge enhancement, but with others now having to be carried-over into CP5 because of contractor and cost issues, e.g. Southampton to WCML train lengthening.

- In the case of Yorkshire route gauge enhancement Network Rail has not provided a firm completion date. This means we have considerable uncertainty in our ability to plan W10 traffic from Felixstowe and Southampton to Leeds (the busiest intermodal terminal in the north east) at the end of CP4/start of CP5.

- We would like to see improvements in the governance of this group during CP5. Revised governance processes for CP5 have been agreed by the steering group and we would hope that there is greater transparency in CP5. This should manifest in with clear visibility of the business case and transparency on governance.

- The need for visibility on the business case and clear governance arrangements is particularly important where there may be divergent views on the need for, and value of some CP5 candidate schemes.

Other ring-fenced funds

The £240 million for East Coast Connectivity to improve capacity and reduce journey times is inadequate and there will have to be difficult choices about the highest value schemes which will be challenging for the different stakeholders to agree. It is therefore particularly important that is transparent and structured. The governance of the fund must be led by the industry with a focus on value for money.

It has been demonstrated during the early optioneering work for the East Coast Connectivity Fund that the provision of additional freight paths delivers very high BCRs (benefit: cost ratios) - in excess of 6:1. When compared to additional passenger services freight delivers a higher level of socio-economic benefits.

Chapter 10 Deliverability of engineering work

We note the uncertainty around enhancements that are at an early stage of development, which we have already made reference to in the context of our comments on Chapter 9 and agree with ORR's view that Network Rail must regularly update its deliverability assessment for projects as the delivery dates become clearer. This is something they have not always done during CP4.

We agree with ORR's requirement that Network Rail should update its deliverability assessment for civil engineering renewals in years three, four and five of the control period.

There is clearly a very high volume of work in CP5 and it will be a tremendous achievement if it is delivered on time and within budget.

Chapter 16 - Freight Track Access Charges

Freightliner recognises that the ORR has listened to the concerns of the rail freight industry in considering changes to freight track access charges and this has been broadly welcomed by the industry.

Freight Specific Charge/Freight Avoidable Costs

The ORR has decided to implement a freight specific charge on certain commodities that are deemed to be able to afford a "mark-up". We are not objecting to the charge levels that the ORR is proposing for CP5, in particular we welcome the decision not to charge a freight specific charge for biomass during CP5 and the proposal to align any future charges to the Department of Energy and Climate Change decisions on setting subsidies for biomass generation.

During the review process Freightliner was a strong advocate of making the Freight Specific Charge a per tonne charge. This was on the basis that the charge is in effect a "mark-up" based on the ability to pay in accordance with the regulations. We are of course aware that the ORR came under particular pressure from the Scottish coal industry that has been and still is in crisis and the ORR subsequently reduced the proposed coal freight specific charge.

Freightliner remains of the view that there is considerable merit in reviewing the metric of the Freight Specific Charge again for CP6 as in our view this charge gives more flexibility and there is no requirement under the Access and Management Regulation for a "mark-up" to be cost reflective.

In our view greater care is needed when referencing the work undertaken by LEK on behalf of Network Rail in calculating the avoidable cost of freight traffic. The gross CP5 average costs have been calculated to be between £133 and £311 million pounds a year, with a mid-point of £222 million, we are therefore unclear where the £280 million quoted in paragraph 16.4 was sourced from.

There are several elements of the LEK conclusion that we do not agree with. The major elements are:

1. Use of 35 year averages – we do not support the use of a 35 year average cost as this includes costs for growth and investment that have not yet incurred. We do not think it is a reasonable to consider something a cost when it includes cost savings from rail traffic that is not currently running or from investments that have not been incurred. In our view all the costs should be calculated at CP5 average

levels, noting that even this includes an element of growth and investment that has not yet occurred.

2. Use of VTISM to calculate avoidable costs – VTISM has been used to calculate avoidable usage costs and makes up a very considerable proportion of the total freight avoidable costs. We understand that VTISM was not designed for the purpose of calculating step changes in costs but the impact of marginal changes only.

3. We have previously raised our concerns regarding the apparent mismatch in the costs for reducing traffic versus increasing traffic and the lack of linearity does not make logical sense. These concerns have not been addressed.

4. The freight avoidable costs include the cost of investments made in the rail network specifically for freight benefit as well as allocations from other schemes. Whilst it may be true that these investments would not be needed if all freight traffic moved by road we think careful thought is needed about including investments in the calculation of freight avoidable costs as this could drive unintended behaviour. For example, this could have an impact on whether freight operators feel able to support investment schemes like electrification going forward. There would be little point the government investing in electrification of freight routes if the deemed increased subsidy of rail freight prevented freight operators being able to raise capital to invest in new electric locomotives.

5. We have previously commented on the allocation of the cost of some investments e.g. East Coast Main Line as freight avoidable costs. It does not appear any of our comments have resulted in any change to the calculations. Careful and detailed consideration is needed to ensure that the allocations are correct.

VTISM

VTISM is an umbrella for a number of planning modules that assess rail surface damage from variable traffic type and density, e.g. wear and fatigue. Its provenance dates back to pre-privatisation and BR Research and this body of knowledge has been added to by Network Rail, RSSB, leading academic institutions and consultancies.

VTISM is underpinned by a variable balance of science and observed trends/relationships, supported with empirical evidence, that are converted into a set of algorithms for a specific area of engineering endeavour. The key to the suitability of these algorithms is the circumstances in which the underlying science and observed trends/relationships have been taken. It is likely that these circumstances create a usable but ultimately limited range for the algorithms in assessing, or forecasting, the impact of change.

It is important to recognise that successive, and cumulative, incremental change could lead VTISM into increasing fallibility in its predictive accuracy if the underlying base of science and observed trends are not updated for developing circumstances; if the world doesn't stand still. For example, when assessing expected noise the dominant relationship changes: at slow speed its engine noise, at medium speeds its rail noise and at high speed its aerodynamic noise, so dovetailing these known relationships to the circumstances of the day (variable speeds around the network) is critical to the accuracy of the output.

Therefore, the question we pose is: "how representative are the assumptions within VTISM to the current state of the UK railway?" By this we mean, how close is the underlying science and observed trends (manifested in the algorithms) in VTISM to representing the railway as we know it today? For instance, have the improvements in sleeper design and quality or type and density of traffic across the network been incorporated?

VTISM is a useful tool but limited to the relevance of assumptions it is based on, which require perpetual challenge. If these are no longer representative of the current character of the UK rail network the output, in terms of work required which is then used to generate the cost, is susceptible to significant margins of error (high and low side). Consequently, benchmarking to other studies (two Swedish Universities have similar models in terms of desired outputs) is a key sense check alongside recognising the limitations of VTISM and a cautious approach to the outputs.

On the basis of the above we are of the strong view that further investigation is required to understand how VTISM is updated for change and the suitability of using to calculate avoidable costs rather than incremental costs.

Variable Usage Charge (VUC)

Freightliner welcomes ORR's decision to cap the overall increase in variable usage charges to 10% rather than the 23% proposed in January 2013.

Freightliner has previously raised concerns with elements of the Serco work, and commissioned TTCI to undertake a brief review of the Serco work. The questions that were raised following the January consultation have not been answered and we would like to pursue these further. The most fundamental of these is why the calculations of vehicles travelling above 75mph have been simply discarded as the results they gave were not intuitive?

This potentially suggests a wider flaw in the calculations which must be pursued if the model is going to have any credibility going forward.

Freightliner is also concerned with regard to the work undertaken by Network Rail on horizontal forces. This work relies on the availability of "Vampire" models. These models are not available for much of the existing wagon and locomotive fleet and often operators are unable to obtain these models as they are the property of a wagon or loco manufacturer who is reluctant to release copies of their design information.

It must also be recognised that if it becomes compulsory to provide this model to calculate costs and charges that this will add cost to the rail freight industry (the model costs approximately £45k per wagon/loco type). This must be carefully considered and consulted upon and not implemented by default without due consideration.

Capacity Charge

The Capacity Charge is a risk adjustment mechanism directly related to Schedule 8. We therefore deal with these below under Chapter 20.

Coal Spillage Charge

Freightliner accepts that the transport in coal in hopper wagons does cause some coal spillage on the rail network near the loading and unloading points of source and destination points. However, we are confident that the amount of coal spillage has considerably reduced over the last few years with the elimination of open wagons and the considerable investment in brushing equipment at terminals that bucket load.

The increased coal spillage charge follows a period of investment by many terminal operators in improved loading equipment and increasing the coal spillage charge will not incentivise parties to invest any further (even though the investment was funded via the access charge paid by operators and ultimately power stations there is still considerable hassle and management time spent in procuring and managing such schemes).

We do not support the Network Rail model to calculate coal spillage costs:

- We do not think it is an accurate reflection of costs but merely a rough proxy.
- The use of deemed mileages outside loading and unloading flaws in our view considerably over-estimates the costs and the fact that a terminal that loads by bucket if it has installed sweeping equipment receives a 75% discount whilst a terminal which loads through a shoot receives no discount is just bizarre and shows a lack of understanding (we understand the consultants employed by ORR did not even visit any sites when they undertook their review of Network Rail's model and subsequently can have limited understanding of the reality of what is happening on the ground).

If this charge is going to be continued into CP6 we would strongly argue that more evidence on actual geographic spread of coal spillage and related work undertaken is collated by Network Rail. Freightliner has previously submitted photographs taken at Doncaster station showing no sign of coal spillage despite a significant volume of coal trains per day passing through. According to the Network Rail model there should be visible coal spillage in the Doncaster area.

We do not accept Network Rail's position that "this model was used to calculate the charge in CP4 and no one objected" as a substantive reason not to ensure that the model used is cost reflective going forward.

Electric Traction Charges – EC4T & EUAC

The Electric Charge for Traction (EC4T) has undergone some radical change with the advent of metering and actual prices charged (subject to pre bought capacity). We understand the principle to narrow the gap between modelled cost and actual cost thereby doing away with a (volume and financial) wash-up mechanism (or at least minimising the year-end adjustment required). The driving principles of greater transparency over final costs and incentives for operators to reduce or manage consumption and therefore cost are ones we fully support.

Our concern regarding the increase in EC4T Asset Usage Charge (EAUC) is entirely associated with comments regarding the applicability of the VTISM modelling to whole life costs rather than its intended use for small incremental changes in activity. For greater detail regarding this please reference the earlier section (within Chapter 16) of this response, which lays out our concerns regarding VTISM.

We note that in accordance with the Access and Management Regulations that charges should be calculated on a "direct" base unless it is deemed that a "mark-up" can be borne.

Overall, we would reiterate our comments from earlier consultations to NR (October 2012) and the ORR (May 2013) where we highlighted that:

1. EC4T and EUAC represent material and real costs to Freightliner that affects our ability to compete with our road competitors and future investment decisions on the balance of diesel or electric traction within our locomotive fleet. Therefore large swings are unhelpful in creating stability for planning business.

2. NR should be exposed to transmission losses and be included in the volume wash-up for their consumption to deliver the incentive to invest in more efficient infrastructure or management tools for consumption;

3. We would expect the fixing of the transmission losses for a control period, or, as indicated in the Draft Determination, the ORR being the only re-opening authority (but only where a material change can be demonstrated). This avoids the risk FOCs

specifically face as a national operators to a fluid mechanism where new ESTAs are added or adjusted following enhancements or asset policy changes by NR;

4. We remain nervous from an intellectual perspective on the concept of Partial Fleet Metering (PFM) and share the ORR's desire for the industry to develop the framework subject to ORR approval. As stated, we broadly support its application to the DC network as a way into metered consumption given the greater investment cost and relatively closed nature of DC networks to individual operators. However, for the AC network we don't see capital costs as a legitimate barrier and are concerned the complexity it imports to NR's billing, with respect to multiple DSLF, and the associated IT development cost that would require a source of funding;

5. We also have a clearer position of remaining a modelled operator versus becoming a metered one. We do remain uncertain as to whether there is a material benefit to becoming metered until further measures can be applied to reduce consumption requiring further investment and consequently as a package whether five years is a sufficient payback to warrant fitting meters; and,

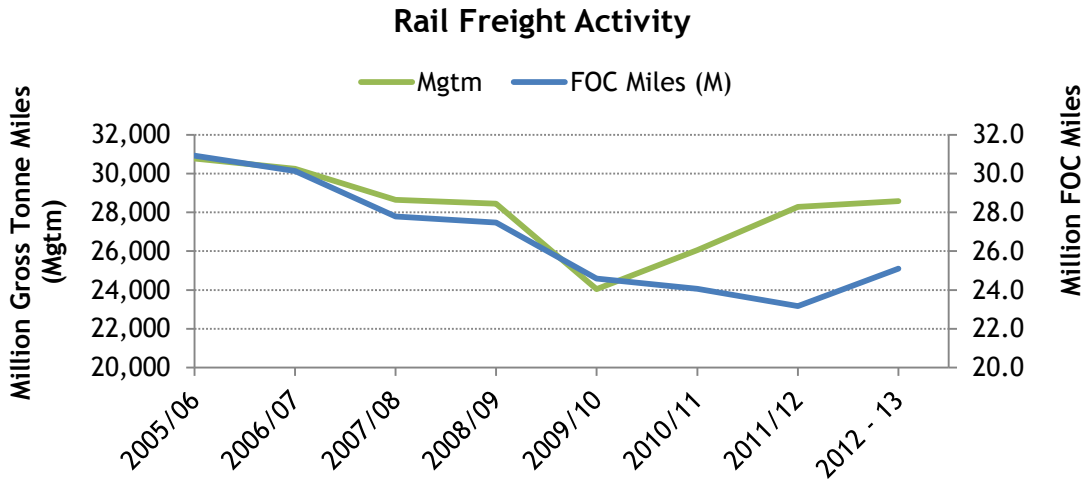
We note, and welcome, recent industry developments allowing smaller tranches of consumption to be forward bought through NR's energy supplier.

Traffic Forecasts

The forecast used in Table 16.58 requires checking, it possibly appears the freight forecasts are for a total of 5 years whilst the passenger forecast is per year.

In our view the Network Rail Strategic Business plan forecasts for freight need further work. There has been considerable confusion because previous modelled unconstrained forecasts designed for long term network planning purposes are being used for other purposes they were not designed for. Further work should be done to calculate short term bottom-up forecasts for use in CP5. See also paragraph on Volume Incentive.

Additionally the ratio of freight tonne km and train km appears incorrect as there is a trend for train km to not grow at the same ratio. Freight train operators are loading more freight per train in a push to become more productive and competitive. See graph below.



Chapter 19 Financial Incentives

Freightliner supports the ORR's sentiment to encourage the industry to work together to

improve productivity and reduce costs and to deliver better value for money for its customers. We therefore support stronger incentives, both on the operator to reduce Network Rail's costs and on Network Rail to help improve the operator's productivity and customer service.

Freightliner therefore supports in principle the Route-level efficiency benefit sharing scheme. However we do have some considerable concerns with regard to this scheme.

We do not support the downside element of the scheme for minority operators in routes. The likely result of this is that minority operators will opt out as the risk will be considered too large in comparison with their profits, especially given the considerable efficiency challenge that Network Rail faces. We do not think this is a desirable result for the industry as cost savings are much more likely to materialise if all operators are participating in the scheme.

Freightliner suggests at least for CP5 (noting ORR's comments that REBS is not expected to be a long –term regulatory mechanism but a stimulus for change in behaviour) that REBs is upside only for minority operators even if this is in exchange for a slightly lower upside percentage. In our view there would still be an incentive for operators to work with Network Rail as they would not know until 6 months after the end of any year whether the route was meeting its efficiency target or not. There would only be a dis-incentive if it becomes apparent after the first year that the route was so far off its target it could not possibly be meet; if this is the case the base-line is likely to have been incorrect.

We do not see how we will be able to assess the opportunity for outperformance on 10 separate routes. It is not clear at the moment what information may be available to us or how we would be able to make a reasonable assessment, even if we had sufficient resource to do so. It seems to us that to participate in REBS as proposed will be a gamble, on whether Network Rail is able to reach its efficiency targets.

Freightliner also remains concerned about the lack of clarity about how efficiency will be assessed ex-poste by the ORR. There must be clearer criteria agreed in advance about the definition of efficiency saving so that all parties can clearly understand the rules that is being worked to.

Our overall reading is that the efficiency targets set are demanding and that Network Rail does not yet know how they will achieve them. There are many elements of NR's cost base that operators cannot influence such as procurement and staff levels and costs and it is not reasonable for operators to take responsibility for such costs. However we can act positively to help reduce Network Rail's costs in some areas. The REBS scheme should reflect this balance.

Volume Incentive

Freightliner continues to support the principle of a volume incentive to encourage Network Rail to actively support rail freight growth. Our view is that the incentive should ideally be paid for all growth, not growth above the forecast growth only. In CP4 due to the recession Network Rail were clearly not going to hit the volume incentive target from year 1 and therefore had no incentive at all after that.

We do not support the use of the Strategic Business Plan freight forecasts (see above on freight forecasts and Appendix 1) being used as a baseline for the volume incentive as at the moment these freight forecasts are being misinterpreted. The current forecasts are based on the assumption of unconstrained network capacity (because their primary function is to inform network capacity planning).

Capacity is a real constraint both in terms of quantity and quality so without further investment the forecasts will not be achieved. In the domestic intermodal market a 7 day offering is very important in making rail competitive with road (see section on delivery metrics above). In order to compete rail operators must be able to make this offering without specifically providing more resources for the 7th day. The lack of availability on routes to enable a 7 day offering is a real constraint to growth in this market unless there is investment to enable it.

Network Rail has recently consulted upon on revised freight forecasts, as the last ones were prepared before the recession in 2008. The rail freight industry is currently working with Network Rail to obtain a more transparent set of forecasts based on varying scenarios. Freightliner would like to see a base scenario assuming no improvements in productivity with other scenarios based on differing productivity improvements and investment scenarios. This will make it much clearer as to what productivity improvements and investments are needed to grow rail freight.

However it must be noted that even updated forecasts will not take into account the current constraint on capacity. An effective volume incentive must not assume that additional capacity can be created by Network Rail at no cost. Therefore we believe that further consideration is needed to adjust the forecasts to take into account the existing and real capacity constraint to freight growth on the rail network.

Freightliner supports the inclusion of biomass in the volume incentive, as this is a developing market which needs Network Rail's support to succeed. Biomass is more complicated to move than ESI coal as it must not get wet and it is more time sensitive as power stations will only have limited storage capability. Unlike the electricity coal volumes a Freight Specific Charge is not payable and therefore it if is not included within the volume incentive volumes Network Rail would be incentivised to grow all freight except biomass.

Chapter 20: Possessions & Performance Regime

Schedule 4

The recognition by ORR of the issues that would have been caused if the CP4 funding level had been rolled forward into CP5 is welcomed, given the expected volume of possessions forecast by NR and its' proposed increase (49%). There does seem to be an inconsistency with the expected increase in Schedule 4 incidents and the proposed reduction in PDI-F, we suggest the ORR investigate this.

Whilst we remain supportive of Schedule 4 as a liquidated sum regime, we are concerned over the expanding delta between the freight and passenger compensation rates. As highlighted in our consultation response to the ORR (February 2013), an increasing gap in rates paid by NR could lead to, or re-enforce, a defaulting NR behaviour where possessions are taken against freight traffic over passenger traffic.

We are mindful that as FOCs we don't pay an Access Charge Supplement (ACS) to fund NR for Schedule 4 payments where TOCs (franchise passenger operators) do. However, we would contend that the TOCs consider their ACS liability in their bids for a franchise and consequently, where for a FOC an ACS would be a real cost, for TOCs it is at worst a zero sum game and arguably part of the fixed charge / network grant funding balance.

It should be recognised that the current compensation rates for freight are too low and do not fully compensate FOCs for the cost and losses caused by possessions or the wider societal impact of traffic returning to the road, particularly in light of the increasing size and value of existing freight trains. The current rates, and their continuation in real terms

for CP5, should be taken in the context that these rates are an adjustment to an original set of rates (themselves a negotiated settlement for the removal of the Part G provisions for disruption) following a high number of possessions early in CP4 that triggered a protection to NR's funding for CP4, a circa 30% reduction, thus could be considered "artificially" low.

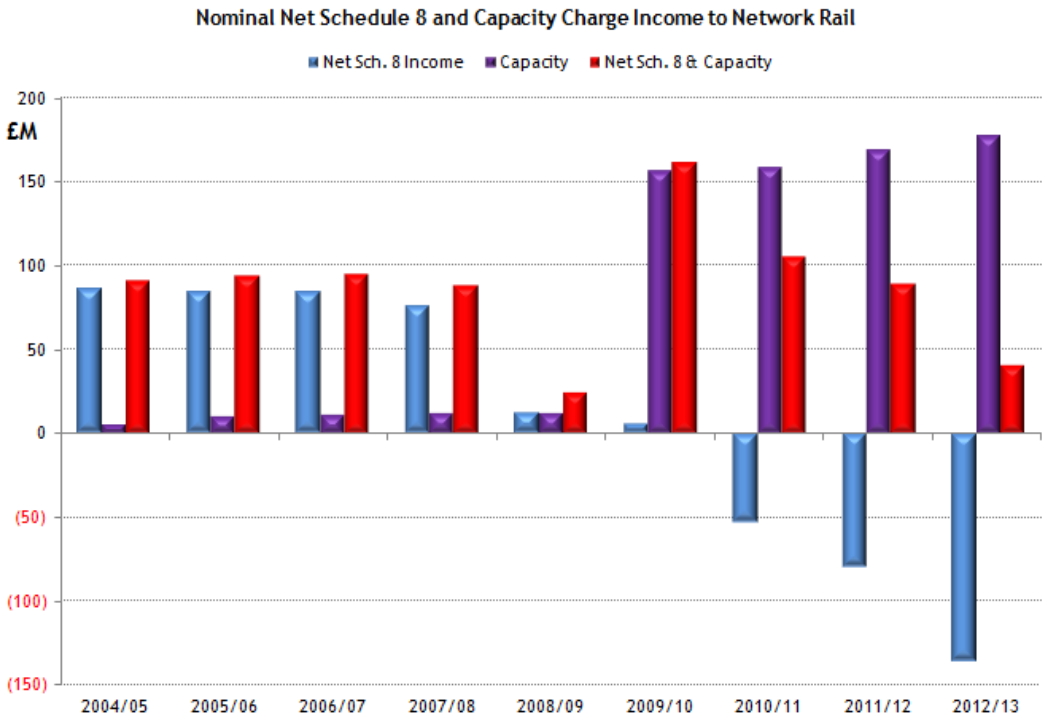
As such, we would urge the ORR to consider whether the balance of rates between freight and passenger actually delivers the right overall value to the economy of the country, given the widening disparity in rates will encourage greater disruption to freight services.

Schedule 8 (Chapter 20) and Capacity Charge (Chapter 16)

We strongly urge the ORR to consider the Schedule 8 Performance Regime and Capacity Charge holistically given that the Capacity Charge's primary role is as a financial risk adjustment for NR from the impact of increased network activity (currently measured as train miles) on the Schedule 8 payments NR could be liable for.

We have consistently contended that the current application of the Capacity Charge over-recovers against this liability and requires a fundamental change for it to deliver against its primary stated function.

The charts below illustrate our view of the over-recovery to NR since CP3 against both passenger and freight operators.



Source: NR Regulatory Financial Statements

Capacity Charge (Chapter 16)

We clearly understand the capacity charge as a financial risk adjustment to the Schedule 8 Performance Regime to compensate NR for increased Schedule 8 payments from increased activity (train miles) above the baseline of activity used in calculating the benchmarks.

We accept it has a secondary role by ensuring that NR are not dis-incentivised to accept additional traffic (train miles) on to the network and as a pricing signal to operators. However, in its current guise it is not a scarcity charge, i.e. a charge to send a pricing

signal for access to specific parts of the network. We note that the ORR are considering a scarcity charge under their next review of charges (PR18) but assert that this is outside of the PR13 review scope and CP5 application of the capacity charge.

We welcome the ORR's willingness to debate this issue openly and the two paths identified in the Draft Determination and the subsequent letter laying out options.

We have previously submitted an explanatory note giving background to the RFOA proposal, please see attached as Appendix 4. We remain of the view that the RFOA proposal is the only technically correct and economically pure version of the capacity charge.

However in recognition of the late stage of the draft determination and that most of the remainder of the draft determination has now been resolved the FOCs have been in discussion with Network Rail via the RDG Freight Group with the purpose of reaching a joint position with regard to the capacity charge.

We have reached such agreement in principle with Network Rail and we hope that this is helpful in enabling ORR to make a decision with regard to the capacity charge.

The proposal is a pragmatic position intended for CP5 only and does not infer in any way our endorsement of this continued approach for CP6. In our view the longer term solution should be that the impacts of additional traffic are dealt with by adjustments to the Schedule 8 benchmarks (as the impact on freight operators is) and not via a separate charge (as we proposed last summer).

RDG proposal

The RFOA proposed in April 2013 that the capacity charge for marginal freight traffic above a baseline would be the rate resulting from the recalibrated rates for CP5.

The RFOA proposal has a number of benefits: it would maintain the principle of marginal cost recovery (which is essential if new Schedule 8 rates are adopted) but it would avoid the significant financial impact on freight operators from applying the recalibrated rates across all traffic. However, we recognise that under the RFOA proposal it would mean that there would be no assumed capacity charge income for CP5 (compared to the circa £4m p.a. in CP4).

Following discussion, the RDG Freight Group proposal for the capacity charge for FOCs for CP5 is, in summary, as follows:

- The broad basis of the proposal is the RFOA proposal, whereby the recalibrated rates apply to all traffic at the margin.

- In contrast to the RFOA proposal, the charge would be disaggregated by commodity, with three sub-categories: coal/biomass, intermodal and other. This would avoid potential cross-subsidies between different types of traffic, which is important given that freight traffic is expected to increase in CP5 on parts of the network that are the busiest, whilst lower growth (or traffic reduction) are most likely to take place on parts of the network that are less busy. We do not foresee the need to additionally disaggregate by FOC, principally to minimise the complexity of the capacity charge calculations.

- A further difference to the RFOA proposal is that there would be a baseline established to recover (at the GB-wide level) circa £2m pa during CP5. This should provide sufficient 'headroom' for the 'downside' incentives to work (noting the range of the capacity charge in the first four years of CP4 has been between £3.9m and £4.5m pa) whilst ensuring a contribution to Network Rail's funding of £10m over CP5 compared to the RFOA proposal. We note that the financial baseline is essentially arbitrary given that the broad RFOA approach has been adopted and that we have moved away from the 'theoretically pure' capacity charge model.

There is some detail to work through, including the precise form and level of the baseline. There are two options for the form of the baseline: to set the traffic baselines at a lower level in order to recover a projected sum of circa £2m pa or to have a 'fixed' element to the calculation of the capacity charge. We will consider these options over the next few days and will write separately under the RDG banner.

Our proposal reflects constructive engagement by the RDG Freight Group, seeking to identify a practical methodology for the capacity charge for CP5. We would be pleased if the ORR could consider this proposal in finalising your determination for CP5.

Schedule 8 (Chapter 20)

We remain supportive of the Schedule 8 Performance Regime as a liquidated sum regime. We agree with the ORR's comments that as an incentive regime it has worked well to provide a pillar for investment cases that have improved both NR and FOC performance since its revision at PR08.

Over the first 4 years of CP4 Network Rail have generally failed to meet their Schedule 8 benchmarks (to the point that the Freight Joint Board had to be set up) whilst freight operators have generally outperformed theirs. We were disappointed that the ORR has seemingly rewarded NR with the same benchmark (and allowed upwards adjustments which did not apply in CP4) and punished freight operators by making theirs considerably harder. Changing the benchmarks in this way will not encourage investment to improve performance and could lead to future perverse behaviours. We urge the ORR to consider the performance regime over the longer term rather than resetting the targets every 5 years.

It also does not appear that the various elements of the performance regime, the 2 benchmarks and 2 payment rates have been considered holistically. Each element appears to have been separately calculated with no consideration of the overall impact; for freight operators this is a considerable increase in the financial risks of running freight services. It does not appear that any impact assessment has been undertaken that assesses how these changes will impact on freight operators' ability to compete with road.

We are concerned by the proposed step change in the freight-operator benchmark and the freight operator payment rate. The result is a very considerable increased risk that will be borne by freight operators. The ORR has calculated that the reduction in payments to the freight operators will be £10.3 million a year in exchange for no improvement in actual performance and before the risk of the increased freight operator payment rate is taken into account. The real result is a £10.3 million reduction in NR's funding requirement and a £10.3 million increase in freight operators' costs. This is a very considerable cost and risk to be expected to bear, especially in one step.

We would draw attention to our contention that the FOCs are near "a Pareto point" in their performance where continued improvement comes at an increasing investment cost or longer payback period than experienced to date.

In addition, some of the sustained gains undoubtedly coincided with the investment in new assets, most notably the Class 66 locomotive. These locos are now at mid-life points and many are due mid-life overhauls over CP5. This means that achieving the same level of performance will be challenging over the next few years.

We suggest that the reduction in the freight operator benchmark should be phased in over CP5 to give freight operators time to prepare for the proposed lower target.

Network Rail Benchmark

We note the ORR's proposal to set NR level of performance for CP5 no greater than CP4 exit value reflecting the level of performance to which NR has been funded. Our interpretation of the Draft Determination would indicate that this level of performance is expected throughout CP5.

We are disappointed that NR is not incentivised to make further performance improvement through a continuing profile of a reducing benchmark. This has been successful in the past when supported by explicit performance funding for NR. Furthermore, we would suggest a profile of improvement is considered under the banner of developing best practice within NR. Our direct experience during CP4 has been that NR has beaten current benchmarks regularly and should be continually challenged to do so. The graph below illustrates this.

We note that the ORR is proposing increasing NR's benchmark by 7.5% because of various factors that NR claim were not previously factored in. We remain unconvinced that these delays were not already included in the CP4 benchmark and we have not seen the data that backs up these changes. We would like the opportunity to see the full data and have the opportunity to comment on it through the Schedule 4 and 8 industry group before this change is implemented.

Network Rail Payment Rates (payments to freight operators)

We acknowledge the uncertainty and comments the ORR makes in the Draft Determination regarding the NR Payment Rate. During the review process we have drawn the ORR's attention to the increase in value of freight trains over time and that the NR payment rate for CP5 should reflect this and similar to the treatment of the NR payment rate to passenger operators. To date, we have submitted the increase in kgtm per train as a proxy and recognise the ORR's concerns over using this fairly crude index. We remain convinced that the value of freight trains has increased and in the intervening period commissioned LEK to consider how this increase in value might be best evidenced. LEK undertook two pieces of work:

1. To consider the constituent elements of the current NR payment rate and how those are affected by an increase in train value, as expressed by the increase in net train weight (tonnes per train); and,

2. To source independent expert opinion on the extend (%) to which freight user costs are passed back to, therefore borne, by FOCs. Professor David P. Myatt was identified who is a Professor of Economics at London Business School.

Using the CP4 NR payment rate of £17.47 (2009/10) as the start point, the key findings from the LEK work on train value were:

1. Over CP4 the average rate has been undervalued by £1.28 per minute; and

2. Applying the proposed RPI only adjustment to CP5, the average rate will be undervalued by £5.61 per minute.

The key conclusion from the Professor David P. Myatt paper is that the pass-through rates are as follows:

(i) a scenario in which there are no switching opportunities to other transport modes, but it is easy for freight to switch between different rail freight operators – 87.5% of the value is pushed back to freight operators

(ii) a scenario in which it is also easy for freight users to switch to other transport modes, such as road freight - 98.75% of the value is pushed back to freight operators

(iii) a setting in which users find it easy to switch to other transport modes, but where the delay-induced cost is incurred by the users of all rail freight operators - 95% of the value is pushed back to freight operators

On the basis of this work, taking a low end estimate of 90% and applying it to the difference between £3 (0% freight user cost, i.e. operator cost only) and £25 (operator cost plus 100% freight user cost) results in a 2012/13 price for operator and freight user cost of £22.80 (£3 + 0.9*(£25-£3)), or £3.67 more than the 2012/13 priced £19.13.

As such, as a minimum we propose a rebasing the NR payment rate for CP5. Logically, we suggest Professor Myatt's adjustment is applied first followed by the train value impact. For sake of comparison, this would move the CP4 exit rate from £19.74 to £23.53, having applied the RPI increase (3.1%) on Professor Myatt's 2012/13 equivalent value of £22.80. Applying an estimated RPI increase alone for 2014/15 would result in a CP5 entry value of £24.24. Second, we ask for the ORR's consideration of an annual adjustment (two way), in addition to RPI, to reflect freight train value as per LEK's rationale (net tonnes per train being a proxy for train value). This would result in an exit CP4 value of £24.30 and a forecast CP5 entry value of £25.86. The table below details these movements, noting the operator costs are only 80% variable to changes in train value whereas the user costs are 100%.

The LEK report and independent expert opinion are attached as two appendices for consideration. We contend these provide a significant step forward from the current ORR proposal for NR's freight payment rate.

We feel it is important that there is an as accurate valuation of freight as possible in light of the diverging delta between passenger and freight rates that, if determined, we believe will incentivise a negative NR behaviour towards freight, i.e. we believe there is a risk that NR will default delay / disruption onto freight as the cost to NR of delaying freight is substantially below that of delaying passenger operations.

We request that the ORR update the Network Rail payment rate on the basis of this further evidence and reflect this in the Final Determination.

Network Rail Cancellation Payments

We interpret the ORR's Draft Determination as a status quo position on CP4 into CP5. We broadly accept this although would comment that the rates are too low and that perhaps the threshold should be adjusted down to reflect the better performance expected from NR, i.e. the current threshold was set at the advent of CP4 and has rarely been breached.

Freight Operator Benchmark

As laid out above the FOCs have improved but are potentially at the Pareto point where further improvements are increasingly expensive. A significantly lowered benchmark doesn't incentivise further investment and possibly undermines investments made in the final years of CP4, where payback periods have been significantly extended.

We note the ORR's desire to retain a five year cycle for the Schedule 8 Performance Regime but suggest that expected material changes, as experienced, will undermine investment later in a control period and create a non-continuous programme of improvement.

Freight Operator Payment Rate (payments made to Network Rail)

The change to balance of risk from far higher out-payments due to considerably increased passenger payment rates versus ORR's proposals to not change payments to FOCs does not appear to have been holistically considered. The ORR do not seem to have considered in their proposal the overall change in the balance of risk, but seem to have dealt with each element of the performance regime separately.

We have suggested in previous responses that the higher freight operator payment rate acts as an inflator to whole industry costs and considerably increases the risks for freight operators running services. The risk of causing 15 minutes delay at £52 a minute outweighs any profit made from running the service itself and could result in freight services being unable to bear such a risk.

We note that there is a model, albeit widely criticised, for updating the passenger payment rates but as no such model exists for freight rates, so they have not been amended. Freight operators have now provided further evidence to enable a more accurate calculation of the rate paid to freight operators but the proposed increase is nowhere near the proposed increase in payments to passenger operators.

Coupled with the widening delta to the draft determination NR's payment rate, which has not been increased we remain concerned over the signal this provides to NR in its treatment of FOCs when considered against passenger operators.

Bonus Payment Rates

We support 100% bonus payment rates for reasons of symmetry to the payments rates, enabling investment cases. These also give stronger incentives below the benchmark.

Incident Cap

We welcome ORR's decision that NR should continue to provide this insurance to FOCs given the absence of an alternative from the private sector.

Annual Cap on Schedule 8 Payment

Retaining an individual FOC agreed cap with NR, subject to the ORR's approval, is our preferred solution and believe it has worked well during CP4.

Impact

The impact of the Draft Determinations for Schedule 8 hinges on the relative movements in the benchmarks and payment rates. This is abundantly clear in the expected reduced NR liability of £10.3M per annum. We would stress that the Draft Determination generates:

- Materially higher risk than previously ever experienced for FOCs to changes in relative performance of NR, i.e. our ability to remain cost neutral is substantially undermined by the outlined FOC benchmark and delta in rates in the Draft Determination; and

- An enhanced incentive for NR to disrupt FOCs over TOCs where NR has control over the situation.

Please contact me if you would like to discuss of the issues raised in this response.

Yours sincerely

Lindsay Durham
Head of Rail Strategy
Freightliner Group Limited

APPENDIX 1

Freight Forecasts – Background

1. The long term forecasts that have been prepared by MDS Transmodal are based on an economic model that ;

    a) assesses the total demand for freight movements in the UK & then

    b) calculates, using assumed input scenarios, what market share should be moved by rail based on rail being the cheapest mode for the user.

    c) assumes that network infrastructure, whether it is road or rail is paid for by government as now.

2. By inputting different scenarios the model can calculate what should happen to modal share at certain stage-gates (2023/2033/2043).

3. Fundamentally the model assumes that efficient rail network capacity is available; this is important as:

    a) The purpose of having unconstrained forecasts is they form the first stage of a Long Term Planning Process that enables decisions to be made about the practicalities and value for money of increasing capacity at a later stage in the process. i.e. an iterative process

    b) In effect the forecasts create a vision for what could be achieved in different scenarios and are a framework for choice by government to consider whether to invest in increasing capacity on the rail network to enable modal shift of freight movements to rail, or to invest in the road network. Different scenarios can be modelled on the basis of:

        - all of the fundamental drivers of modal shift to rail e.g. GDP, the rising price of oil, wages growth.

        - other key variants including the development of rail connected warehouses and assumptions on both road and rail efficiency.

4. The model must be recognised as a long term forecasting tool to enable capacity planning and not a replacement for short term bottom up forecasts.

5. The model is not designed to accurately reflect particular local conditions or short term decisions made by procurers of freight transport. It is unable to fully take into account ;

    a) qualitative issues such as the need to aggregate services for different customers, rail terminal design, reliability or service quality,

    b) the existing reality that the lack of available efficient long distance paths is impacting on freight operators' ability to provide new services.

APPENDIX 2

See separate document - LEK paper on train load impacts on the Network Rail Payment Rate

APPENDIX 3

RFOA executive summary - Network Rail Payment Rate – Cost Pass Through to Operators

1. As part of its draft determination1 and supporting documents on the freight performance regime, the ORR:
    - Highlights the proportion of freight user costs that are ultimately passed back to freight operators in the form of reduced revenues as a key input to the calibration of the Network Rail payment rates
    - Quotes a £3 - £25 range per minute of freight train delay (in 2012/13 pounds and at 2008/09 average loads per train), based on assuming 0% to 100% is passed back;
    - Admits that there is uncertainty surrounding the proportion of freight user costs passed through to freight operators in the form of reduced revenues
    - Asks for further evidence from freight operators, and
    - Concludes (presumably only as an interim position due to the lack of data) on the midpoint of 50%. The ORR states as follows;

      "We assume 50% of user costs are passed on in the form of lower operator revenues for the purposes of constructing a central estimate of the total per minute value of delay to freight operators. However, we are seeking further evidence from freight operators to inform this assumption."

2. We note that the ORR does not cite any evidence to support the assumption of 50%.

3. Given the importance of this assumption, the RFOA has commissioned a leading and authoritative economist, David Myatt, Professor of Economics at London Business School, to provide his views on the percentage of pass back.

4. Professor Myatt is an academic economist and political scientist based at London Business School, teaching both core and elective courses on its MBA, EMBA, MiM, and PhD programmes. He is also an Associate Member of Nuffield College in the University of Oxford, and is affiliated with various other academic institutions. His academic research interests lie within the broad fields of game theory, political economy, formal theoretical political science, and industrial organization. Further details of his CV and publications can be found at dpmyatt.org.

5. The RFOA asked Professor Myatt to consider the percentage of freight user costs passed back to operators. Please see Appendix A Professor Myatt's analysis.

6. Based on Professor Myatt's analysis on the proportion of cost pass-back, we submit that the following is the case:
    - Virtually 100% pass-back for intermodal, due to road competition;
    - 85-90% for other categories, in the situation where there are four competitors and road is not significant as an alternative mode; and

1 Periodic review 2013: Draft determination of Network Rail's outputs and funding for 2014-19, June 2013

7. Overall, Professor Myatt agrees with the ORR's statement that, in a perfectly competitive market, 100% of freight user cost increases to be passed through to freight operators in the form of lower revenues.

8. However, in relation to the ORR's view that, in practice, this might represent a range of 0% to 100% with a central case of 50%, Professor Myatt's views differ from those of ORR. Instead his view is that *"the pass through rate substantially exceeds 50%"*

9. Overall, therefore, we view the ORR's 50% cost pass-back assumption is inappropriate and too low. A base case estimate should instead be in the order of 90%. This clearly has implications for the level of user costs to be compensated under the Network Rail payment rate, giving higher results than those of the ORR's draft determination. The ORR should incorporate this into its final determination for CP5.

10. If the ORR were to use the pass through rate in the professor's paper (say 90%) with their estimate range of £3-£25 for the payment rate in their draft determination, the payment rate in 2012-13 prices would be £22.80. This is £3.67 higher than £19.13 as proposed by the ORR. Note that neither of these figures takes into account the growth in average train load since 2008/09 and so the actual rate should be adjusted to also take this into account.

Annex A – Professor Myatt's responses in relation to pass-back of delay costs from freight customers to operators – see attached.

APPENDIX 4 CAPACITY CHARGE – RFOA PROPOSAL

Executive Summary

- The Capacity Charge was introduced in 2003 to recognise the increased performance penalty risk that could arise for Network Rail from increased freight and passenger services on the Network
- Due to billing systems limitations at Network Rail, the actual basis for charging was simplified down to a charge per train mile for all services rather than just incremental services.
- Since 2005/6, freight train miles have actually reduced by 34.7% as the FOCs have become more efficient in aggregating loads and making best use of the network. Passenger train miles meanwhile have increased 13.6% in this period.
- It could therefore be argued that based on the original policy, the freight sector should not be paying any capacity charge until their usage of the network measured in train miles has returned to 2001/02 levels as we have reduced performance risks rather than increased them.
- Network Rail is keen to secure a much higher unit rate per mile for capacity charges to reflect the increased financial risk accruing from the uplift in Schedule 8 delay minute rates.
- As a compromise, the RFOA proposed a zero charging base on CP4 Schedule 8 benchmark levels (2010-12) and pay a capacity charge on incremental traffic on an aggregated FOC basis for each at the new higher rate. This could be calculated and paid at the end of each financial year in CP5.

Principle

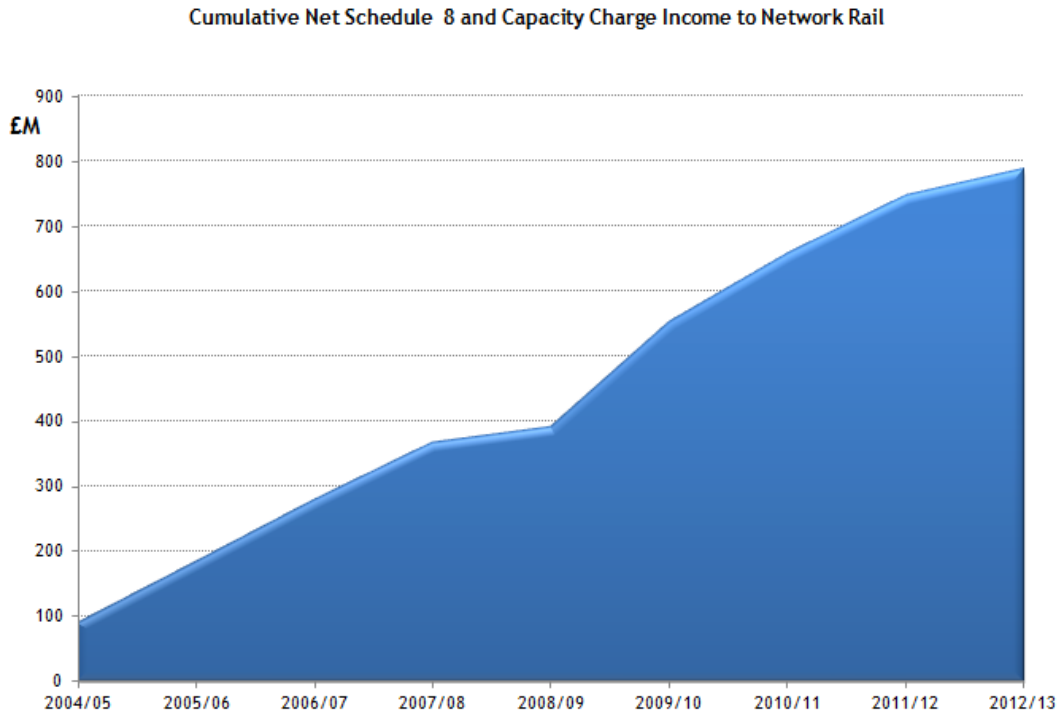
The Capacity Charge is designed to neutralise the increased Schedule 8 payments made by Network Rail associated with the increased difficulty of recovering from incidents as the network becomes more crowded. The purpose of the Capacity Charge is therefore to ensure that Network Rail are not dis-incentivised to accommodate additional trains on the rail network which may bring wider economic and social benefits.

Current Charge

Since its inception in 2001 the Capacity Charge has been charged on the basis that the same rate applies to all train miles, whether it is existing trains or additional trains. This methodology results in fundamental overcharging as the calculated marginal rate for additional trains is applied to all trains. This methodology does not take into account the fact that the Schedule 8 performance regimes are benchmarked or that the marginal rate for additional trains on a busy network is higher than the cost of trains already on the network as congestion results in increased secondary delay.

This has resulted in approximately £400 million over-recovery by Network Rail in the first 4 years of Control Period 4 (CP4). This level of over recovery is despite the fact that the Capacity Charge rates have not been recalculated since 2001 whereas Schedule 8 payment rates were updated from the beginning of Control Period 4 (2009); if the Capacity Charge had been increased in line with Schedule 8 rates the over-recovery would have been considerably higher. This also means that during CP4 there has been a de-linkage between Schedule 8 payment rates and the Capacity Charge at the margin.

The below graph shows Network Rail's income from the Capacity Charge net of Schedule 8 payments for the first 4 years of CP4:



It is noted that in the case of franchised passenger operators (who pay around 97% of the total value of the Capacity Charge) Network Rail does not benefit financially from this over recovery as the Capacity Charge income is offset against the Fixed Charge income.

However freight operators only pay an equivalent to a fixed charge (the Freight Specific Charge) on those market segments that are deemed by the ORR to be able to afford a "mark-up". Therefore there is no equivalent off-set for freight operators and the Capacity Charge is an actual cost to freight operators.

Track access charges are required to conform to the principles set out in the Railways Infrastructure (Access and Management) Regulations 2005 ("the Regulations"). As the part of Capacity Charge already within Network Rail benchmarks is in effect in lieu of fixed charges then the charge is in effect a "mark-up" which must then conform to the principles set out in paragraph 2 of Schedule 3 of the Regulations. In essence this states that a mark-up can only be levied on those market segments that are deemed to be able to bear one. The current methodology for calculating the Capacity Charge does not seem to be compliant with the Regulations and therefore RFOA have proposed an alternative methodology that is compliant with the Regulations.

Updating the Capacity Charge

Network Rail contracted Arup to re-calibrate the Capacity Charge for CP5 and the final report was published on 24th May 2013**.** As a result of this calibration Network Rail has concluded that the Capacity Charge rates for freight should increase by some 400% (from approximately £4 million per annum to £21 million per annum). This large increase, if applied using the current methodology, i.e. to all trains would have resulted in an unaffordable increased cost to FOCs. This therefore exacerbated the need to reconsider the existing structure of the Capacity Charge for CP5, particularly in light of its inconsistency with the Regulations.

RFOA proposal

<u>Original proposal based on Schedule 8 benchmark adjustments</u>

The RFOA made a proposal to Network Rail in August 2012 to incorporate the Capacity Charge within Schedule 8 benchmarks. This mechanism is already in use for the freight operator element of the benchmark, which is adjusted annually when there have been increases in total train miles on the network. At that time Network Rail said there was

insufficient time to consider this proposal for CP5 implementation. RFOA is still of the view that adjusting the benchmarks for Network Rail as well as FOCs would be the most appropriate way of ensuring that Network Rail were correctly incentivised to accommodate additional traffic and suggests that further consideration is given to this in preparation for CP6.

Subsequent proposal based on marginal additional trains only

As an alternative the RFOA made an alternative proposal to the ORR in April 2013.
The basic proposal is that a baseline of freight train miles is established based on the same year as is being used to calibrate Schedule 8 benchmarks. At the end of each year this is compared to the actual freight train miles operated in that year by all freight train operators. Assuming this is a positive number the difference is multiplied by the capacity charge rate per train mile and then is charged to each freight train operators in proportion to the total number of freight train miles that they have each operated (ensuring no discrimination between operators). If the number of train miles has not increased over the baseline or has reduced the payment would be zero. The mechanism is in practice similar to other "wash-up" mechanisms such as the calculation of the EC4T charge, which is adjusted for actual use at the end of each financial year.

The same method of calculating the cost of the marginal impact is used based on the Arup report but the actual charge for freight is calculated on a marginal basis based on the number of train miles actually operated in the form of a wash-up at the end of the year.

This methodology supports the principle of paying for every new train mile operated on the network. It applies equally to all trains and is a transparent and simple with low administration costs.

Please see below example of calculation based on actual figures provided by Network Rail for 2012/13.

Capacity Charge Rate £ per mile		£0.86		
	Base Train Miles (average 2010-12)	10% growth	10% decline	20% growth
	24,693,489	27,162,838	22,224,140	29,632,187
Additional Capacity Charge Income		£2,123,640	£0	£6,370,920

Zero based line

This proposal would result in a baseline of zero payment (based 2010-12 train miles so in practice given increased mileage in 2012/13 there would be some payment) before growth (compared to approximately £4 million a year in CP4). The RFOA thinks this is not an unreasonable starting point for several reasons:

Payments made below the Schedule 8 benchmark level equate to an over-recovery of costs and are therefore a contribution to fixed costs, and therefore should be assessed against an ability to pay in line with the Access and Management Regulations.

In the CP5 draft determination the ORR has proposed changes to both the NR and the FOC benchmarks levels. According to the ORR's calculations, at current performance levels the combined impact of these benchmark changes would be a reduction in Network Rail's out payments on the freight Schedule 8 by £10.3 million. Therefore net of the reduction in Capacity Charge Network Rail's net out payments would still reduce by £6.3 million assuming no change in actual performance levels.

Since 2001/2 when the current Capacity Charge was calibrated the number of freight trains has reduced by 34.7% and since 2005/6 (no earlier data available) the actual number of freight train miles has reduced by 18.9% - see graph overleaf. There is a strong case that the

benchmark should actually be set at 2001/2 levels of freight miles, when the current Capacity Charge was calibrated.
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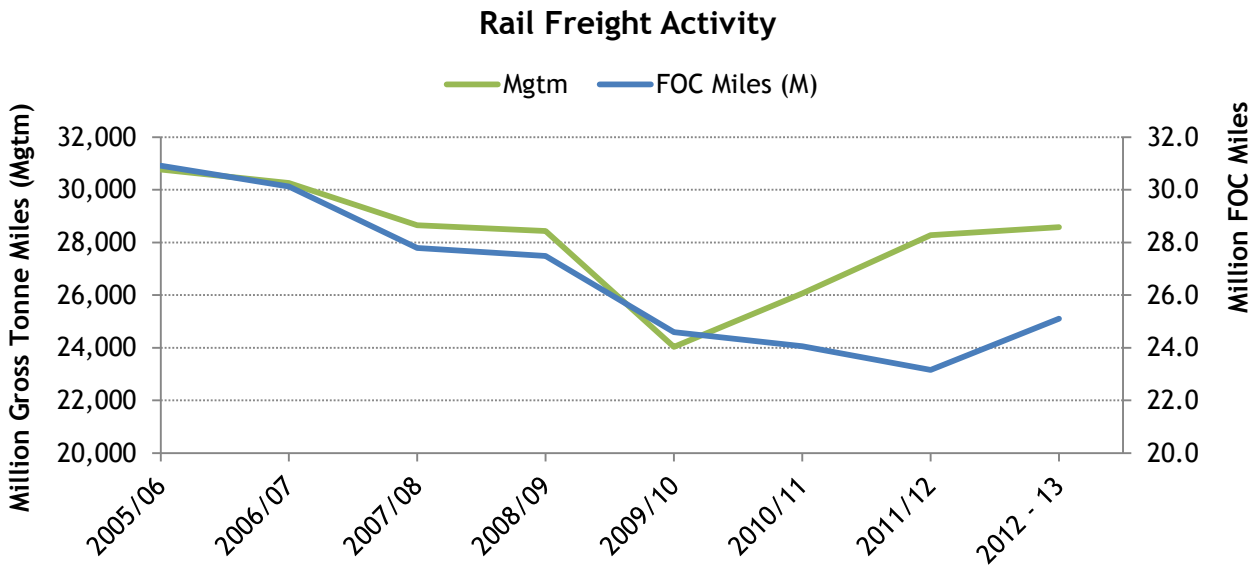

The RFOA has however proposed a compromise that it is based on the same years as Schedule 8 benchmarks are set which is we now understand 2010/11 and 2011/12 which would result in a annual benchmark of 24,693,489 miles. In summary freight operators have contributed to reducing congestion on the rail network rather than causing additional congestion. Network Rail's exposure to Schedule 8 payments has reduced, but a Capacity Charge has still been paid for all trains (freight operators have not been rewarded for their contribution to reducing congestion).

It could therefore be concluded that the train miles baseline was set at the 2001/2 level, when the Capacity Charge was last updated, i.e. a much higher level. This means that the efficiency gains already made by freight operators are incorporated into the new baseline.

Simplistic methodology
RFOA has proposed a nationwide and simplistic Capacity Charge based on all trains. This reflects the national one tier payment rate in the freight Schedule 8. RFOA does not support a more complex structure based on commodity groupings, as this seems an unnecessary given the one size fits all basis of the Schedule 8 regime.

On the Pass-through Impact of Freight User Costs

Opinion

by **Professor David P. Myatt**

September 2013

1. Context and Scope

1.1. **Context.** The Office of Rail Regulation (henceforth the ORR) has published proposed aspects of Network Rail's regulatory environment. One feature is the payment rate which compensates rail freight operators for delays caused by Network Rail.

The ORR's research uses, at least implicitly, the economic analysis of the extent to which freight user costs (that is, costs incurred by freight users as a consequence of the aforementioned delays) are passed back to freight operators. At the moment, the ORR's position is (or at least appears to be) that an appropriate pass-through rate is 50%. That is, for a delay cost incurred by a freight user, and following the adjustment of price, 50% of that cost falls on the user, whereas 50% is carried by the operator.

The relevant source material here is Section 3.7 of "Freight Schedule 8 Performance Regime: Updating the Network Rail Payment Rate and Cancellation Payments." In particular, items 3.7.2 and 3.7.5–3.7.7 are most directly relevant.

1.2. **Scope.** I have been asked to consider the impact on different market participants of freight user costs. Specifically, I have analysed the consequences of a delay-induced cost that is incurred by the user of a particular freight operator. This is within the context of two different (but related) scenarios: (i) firstly, a scenario in which there are no switching opportunities to other transport modes, but it is easy for freight to switch between different rail freight operators; and (ii) secondly, a scenario in which it is also easy for freight users to switch to other transport modes, such as road freight.

Although not specifically requested, I have considered also a third scenario: (iii) a setting in which users find it easy to switch to other transport modes, but where the delay-induced cost is incurred by the users of all rail freight operators.

2. OPINION

2.1. **Summary.** *In all three of the scenarios, described above, the pass-through rate of the delay-induced cost to the relevant operator (or operators) substantially exceeds 50%.*

I have considered the three scenarios described in the scope of this report for the relatively cautious case when the elasticity of supply is equal to the elasticity of demand.

I have assumed that the freight operators act as competitive price-takers and that there are four similarly sized competing operators.

For these cases, the pass-through rates are as follows:

	Cost Type	*Relevant Market Scope*	*Rate*
(i)	Supplier	Rail Freight	87.50%
(ii)	Supplier	Rail and Road Freight	98.75%
(iii)	Sector	Rail and Road Freight	95.00%

For the avoidance of doubt, scenarios (i) and (ii) concern situations in which the relevant delay-induced cost affects only a single operator, whereas scenario (iii) is a situation in which all rail freight operators are affected by the same cost. For scenario (i), buyers are able to switch easily between rail freight operators, but are unable to switch elsewhere, whereas in scenarios (ii) and (iii) freight users are also able to switch to road freight.

For completeness, let me interpret the 87.5% pass-through rate reported in the first line of this table. This says that if a delay affects the users of a single rail freight operator, then 87.5% of the associated delay cost will be passed through (in the form of a lower price) to that operator. The users will carry 12.5% of that delay cost. Furthermore, the price received by other operators will rise by 12.5%. These pass-through rates also measure the profit impact on the relevant operator. That is,

$$\text{Profit Impact} = \text{Pass-Through Rate} \times \text{Per-Unit Delay Cost} \times \text{Operator's Output}.$$

Note again that these calculations use a conservative specification in which the elasticity of supply for each operator is equal to the elasticity of demand. The pass-through rates rise if supply is less elastic. My calculations below report pass-through rates for a range of elasticities. A key feature is that those rates all significantly exceed 50%.

In Section 2.2 I mention briefly some issues that arise in oligopolistic markets, before returning in Section 2.3 to discuss the key factors that influence pass-through rates in a competitive (price-taking) market. Sections 2.4 and 2.5 are more technical: they report explicit formulae for those rates. Section 2.6 provides a more detailed table for pass-through rate effects for various scenarios of interest; this extends the table reported above.

2.2. **Oligopoly.** The calculations reported above assume that rail freight operators act as price takers. That is, this is a competitive market in the sense that each operator does not expect to exert a significant influence over the market price.

A further specification to consider is one in which rail freight operators recognise that they exert some market power. An appropriate model here is one in which operators are thought of as "Cournot" oligopolists. This is when they compete by non-cooperatively choosing their outputs, but where they recognise the price implications of output changes.

Although the details are not reported here (they are available upon request) the relevant pass-through rates are also large (typically larger) in the oligopolistic case. For example, in the simplest case when freight is supplied by a monopolist the appropriate compensation rate for delay costs is 100%. Furthermore, if a single operator in an oligopoly is hit by a delay cost then the operator's loss typically exceeds 100% of the direct delay cost. This is because of the strategic disadvantage that an operator suffers; the consequent output expansion by competitors raises the impact on the cost-hit operator to above 100%. Finally, in an oligopoly environment the total impact (on all market participants; that is, all users and all operators) of a delay is greater than direct cost of that delay. That is,

$$\text{Overall Impact of a Delay} > \text{Per-Unit Delay Cost} \times \text{Affected Operators' Output}.$$

The right-hand side of this inequality is the direct cost of a delay. In a competitive scenario (when operators are price-takers) this is also the total impact. However, in an oligopoly the delay cost induces an overall contraction of industry output. In an oligopoly the marginal units of output involve a price (representing the marginal benefit of output) that strictly exceeds the marginal cost of production. Hence, the induced contraction of industry output is costly. In contrast, when suppliers are "perfectly competitive" (that is, they are price-takers) price is equal to marginal cost and so any industry contraction (following the presence of delays) involves a negligible additional cost above the direct impact.

2.3. **Pass-Through in Competitive Markets.** The determination of pass-through rates is closely related to the economic incidence of taxes and other costs. The economic incidence of a cost is the extent to which a market participant is affected by it; this differs from (and is independent of) the identity of the participant who directly bears the cost.

In a perfectly competitive market (in which no one player substantially influences prices) the imposition of a cost on all buyers (on the demand side) has the direct effect of harming those buyers. However, the consequent reduction in demand pushes down the equilibrium price. This price reduction partially offsets the cost carried by buyers; hence part of the impact is passed through to the suppliers in the form of a lower price.

In a classic "textbook" environment the relative impact on the two sides of the market is determined by the relative size of the elasticities of supply and demand. For example, if those elasticities are equal then the overall impact of the cost is balanced across the two sides of the market: 50% is borne by the buyers, and 50% by the sellers. Precisely the same analysis applies when a cost is imposed on all suppliers in a market.

Crucially, however, this logic applies only if the cost is imposed on all buyers, or upon all suppliers, in a market. If the cost is borne by only some suppliers (or, equivalently, by buyers when they purchase from those suppliers) then the incidence effects change in important ways: the fraction of the cost borne by the affected suppliers grows substantially; the impact on buyers is lessened substantially; and suppliers who are not directly affected by the relevant cost enjoy a benefit (rather than suffer a harm) from the cost change.

For the purposes of discussion, suppose that the users of a single rail freight operator are affected by a delay cost. There are three steps that determine the final impact:

(1) In the very short run, before the freight user is able to adjust behaviour, any delay cost affecting freight users will be directly paid by those users.
(2) In the medium run, the relevant operator must set a price that is lower than the price of others' products. This price reduction exactly equals the relevant delay cost, and so at this point 100% of the cost is passed to the operator.
(3) With upward sloping supply, the affected operator contracts output. That output contraction forces prices upward. The price rises push part of the cost increase back onto users; this also raises the profits enjoyed by other competing operators.

The third effect depends upon the size of the operator's output change and the extent to which that influences the market equilibrium. Importantly, this depends upon the market share of the affected operator. If an operator represents a small fraction of the relevant market then only a small fraction of the cost shock is pushed back into the market system. Hence a relatively small operator carries a large percentage of any operator-specific cost.

Sections 2.4 and 2.5 that follow are more technical in nature: they report the mathematical formulae for pass-through effects. Numerical illustrations are provided in Section 2.6.

2.4. **Basic Formula for Cost-Shock Pass-Through Rates.** The fraction of the cost impact which is avoided (that is, passed on to others) by a particular operator (or sector of operators who are hit with the same sector-specific cost shock) is proportional to that operator's market share (or the sector's share, for a sector-specific shock).

For example, if all operators are hit by the same shock, and if the elasticities of supply and demand are the same, then the pass through is 50%. If, however, an operator affected by a cost shock represents only 20% of the relevant market, then only 10% of the cost is passed on to others, and so the affected operator carries 90% of the effect. In general, the pass-through rate (to an operator) of the cost is in this setting is mathematically

$$(\star) \qquad \text{Pass-Through Rate} = 100\% - \frac{\text{Market Share}}{2}.$$

As an illustration, consider scenario (i): a single rail freight operator is hit by an operator-specific cost shock (perhaps paid by the corresponding user), and buyers may freely switch to other rail freight operators, but not to roads. Furthermore, suppose that there are four operators. The market share of the affected operator is 25%, and so the formula $(\star)$ gives:

$$\text{Pass-Through Rate} = 100\% - \frac{25\%}{2} = 87.5\%.$$

Other operators gain (and their users lose) from a price rise equal to 12.5% of the cost.

In scenario (iii) all operators are hit with the same delay cost, and users are able to switch to other transport modes. If rail freight represents 10% of the overall freight market, then

$$\text{Pass-Through Rate} = 100\% - \frac{10\%}{2} = 95\%.$$

An associated price rise (5% of the cost) helps the non-rail operators and harms users.

2.5. **The Effect of Elasticities.** The formula ($\star$) applies if the elasticities of supply and demand are equal. Any reduction in the elasticity of supply increases the pass-through rate felt by the relevant operator. In the rail freight environment, it might be expected that supply is relatively inelastic (owing to capacity constraints) compared to both the elasticity of demand and the elasticity of other (e.g. road-based) freight operators. If this is so, then the pass-through rate experienced by rail operators would be higher.

Specifically, if all operators share the same elasticity of supply, but that elasticity differs from the elasticity of demand, then the pass-through-rate formula becomes

$$(\dagger) \qquad \text{Pass-Through Rate} = 100\% - \frac{\text{Market Share} \times \text{Supply Elasticity}}{\text{Demand Elasticity} + \text{Supply Elasticity}}.$$

This rate becomes greater as supply becomes more inelastic (the elasticity of supply is lower) which corresponds to a case where outputs react only sluggishly to price changes. It seems reasonable to think that this may apply in rail freight, which suggest that the pass-through rates are larger than those reported in the previous scenario-based examples.

Nevertheless, it is possible to compute a "worst case" specification for the lowest possible pass-through rate. Even if supply is very elastic the pass-through rate must satisfy

$$\text{Pass-Through Rate} \geq 100\% - \text{Market Share}.$$

For scenario (i) the pass-through rate exceeds 75%, and in scenario (iii) it exceeds 90%.

I have yet to discuss the second scenario. In scenario (ii), an operator-specific shock hits one of four rail freight operators within a 10% slice of the overall freight market. The relevant market share for an individual rail operator is 2.5%, and so the pass-through rate must (according to the formula above) exceed 97.5%. Moreover, if supply is less elastic than demand (as it might be expected to be) then the pass-through rate exceeds 98.25%.

2.6. **Numerical Pass-Through Rates.** It is helpful to compute numerical pass-through rates for different cases. The three scenarios that form the scope of this opinion are:

(i) A single operator is hit with a cost shock. The relevant market is for rail freight. I have been asked to consider the case with four similarly sized operators.

(i) A single operator is hit with a cost shock. The relevant market is for freight generally, where rail represents 10% of this market. There are four similar rail operators.

(ii) Here all four rail freight operators are hit with the same shock. However, they jointly form, as in scenario (ii), 10% of the relevant (larger) freight market.

I also consider here the following four configurations for the elasticity of supply:

- Supply is completely inelastic (symbolically, $\varepsilon_S = 0$).
- Demand is three times as elastic as supply ($\varepsilon_D = 3\varepsilon_S$).
- Supply and demand are equally elastic ($\varepsilon_D = \varepsilon_S$).
- Supply is completely elastic ($\varepsilon_S = \infty$).

Here "ε_S" and "ε_D" indicate the elasticities of supply and demand, respectively.

For the three scenarios and four elasticity configurations, the pass-through rates are these.

	Cost Type	*Relevant Market Scope*	$\varepsilon_S = 0$	$\varepsilon_D = 3\varepsilon_S$	$\varepsilon_D = \varepsilon_S$	$\varepsilon_S = \infty$
(i)	Supplier	Rail Freight	100.000%	93.750%	87.500%	75.000%
(ii)	Supplier	Rail and Road Freight	100.000%	99.375%	98.750%	97.500%
(iii)	Sector	Rail and Road Freight	100.000%	97.500%	95.000%	90.000%

The clear message emerging from all of these numerical exercises is that pass-through rates are high for all of the elasticity configurations documented here.

3. Brief Concluding Remarks

I conclude with some brief additional comments.

Firstly, the analysis here considers competitive markets. A move to consider oligopolistic markets can raise, rather than lower, the pass-through rates that apply to operators.

Secondly, in the settings where the relevant market comprises both road and rail freight, the elasticities of supply may differ. A reasonable guess is that the elasticity of rail freight operators is relatively low; this again serves to increase the pass-through rates.

Thirdly, in an oligopoly setting the total impact of a delay cost actually exceeds the value obtained by multiplying the per-unit delay cost by the volume of affected freight.

DPM. September 3, 2013.

4. Mathematical Appendix

This appendix is designed exclusively for a technical reader. It documents the formal mathematical formulae that lie behind the analysis used in this opinion.

4.1. **Cost Shocks in a Perfectly Competitive Market.**

Consider a market in which all suppliers are price takers. I write p for the market equilibrium price. The demand function is $D(p)$. Supply is drawn from N suppliers, where supplier $i \in \{1, \ldots, n\}$ is potentially affected by a cost shock c_i. The supply function of i is $S_i(p, c_i)$.

My objective here is to investigate the impact of a change in the cost shock c_j on buyers and on the profits of both supplier j and other competing suppliers $i \neq j$. The cost shock c_i is a constant additional marginal cost added to the production cost of supplier i. This is equivalent to a reduction in the price offered for its product. Mathematically,

$$\frac{\partial S_i(p, c_i)}{\partial c_i} = -\frac{\partial S_i(p, c_i)}{\partial p}.$$

An equilibrium is obtained by equating supply to demand, so that $D(p) = \sum_{i=1}^{N} S_i(p, c_i)$. To investigate the effect of a change in the cost parameter c_j on the market price, this equilibrium condition can be totally differentiated with respect to c_j. This yields:

$$\begin{aligned}
\frac{\partial D(p)}{\partial p}\frac{dp}{dc_j} &= \frac{\partial S_j(p, c_j)}{\partial c_j} + \frac{dp}{dc_j}\sum\nolimits_{i=1}^{n} \frac{\partial S_i(p, c_i)}{\partial p} \\
&= -\frac{\partial S_j(p, c_j)}{\partial p} + \frac{dp}{dc_j}\sum\nolimits_{i=1}^{n} \frac{\partial S_i(p, c_i)}{\partial p} \\
&\Rightarrow \quad \frac{dp}{dc_j} = \frac{\frac{\partial S_j(p, c_j)}{\partial p}}{-\frac{\partial D(p)}{\partial p} + \sum_{i=1}^{n} \frac{\partial S_i(p, c_i)}{\partial p}}.
\end{aligned}$$

To move further it is helpful to work in terms of elasticities. I write ε_D for the elasticity of demand and ε_i for the elasticity of supply. Mathematically,

$$\begin{aligned}
\varepsilon_D = -\frac{\partial D(p)}{\partial p}\frac{p}{D(p)} \quad \text{and} \quad \varepsilon_i &= \frac{\partial S_i(p, c_i)}{\partial p}\frac{p}{S_i(p, c_i)} \\
\Rightarrow \quad \frac{\partial D(p)}{\partial p} = -\frac{\varepsilon_D D(p)}{p} \quad &\text{and} \quad \frac{\partial S_i(p, c_i)}{\partial p} = \frac{\varepsilon_i S_i(p, c_i)}{p}.
\end{aligned}$$

These expressions can be substituted into the the solution for dp/dc_j, so that

$$\frac{dp}{dc_j} = \frac{\varepsilon_j S_j(p, c_i)}{\varepsilon_D D(p) + \sum_{i=1}^{n} \varepsilon_i S_i(p, c_i)} = \frac{\varepsilon_j [S_j(p, c_j)/D(p)]}{\varepsilon_D + \sum_{i=1}^{n} \varepsilon_i [S_i(p, c_i)/D(p)]}.$$

In equilibrium, demand $D(p)$ is equal to the total supply $\sum_{i=1}^{n} S_i(p, c_i)$, and so $S_j(p, c_j)/D(p)$ is the market share of supplier j. Writing α_i for the market share of each supplier i,

$$\frac{dp}{dc_j} = \frac{\varepsilon_j \alpha_j}{\varepsilon_D + \sum_{i=1}^{n} \varepsilon_i \alpha_i}.$$

In fact, the summation in the denominator is equal the overall elasticity of supply in this market. That is, $\varepsilon_S == \sum_{i=1}^{n} \alpha_i \varepsilon_i$. Hence the effect of an increase in the cost shock c_j associated with supplier j on the overall price in the market is

$$\frac{dp}{dc_j} = \frac{\varepsilon_j \alpha_j}{\varepsilon_D + \varepsilon_S}.$$

This represents the degree to which a cost shock affecting j is deflected into the market price. To obtain the profit impact on supplier j, differentiating j's profit readily yields

$$\frac{\partial[\text{Profit of } j]}{\partial c_j} = S_j(p, c_j)\left(1 - \frac{dp}{dc_j}\right) = S_j(p, c_j)\left(1 - \frac{\varepsilon_j \alpha_j}{\varepsilon_D + \varepsilon_S}\right).$$

Summarising, and writing in terms of percentages,

$$\text{Pass through percentage} = 100\% - \frac{\varepsilon_j \times (\text{Market Share of } j)}{\varepsilon_D + \varepsilon_S}.$$

This underpins formula (†) used in my main opinion.

4.2. **Buyer-Paid Costs.** The environment of relevance to this opinion is one in which a buyer incurs an extra cost when purchasing from a particular supplier. This occurs when a freight user suffers a delay cost of c_i when purchasing from operator i.

Given that products are easily substitutable, the direct effect of a shock c_i is to shift downwards the price receive by supplier i by the amount c_i. This is because supplier i must offer a price exactly c_i below the price of products offered by other competitors in order to sell. This means that p can be interpreted as the price for a perfect product, whereas $p_i = p - c_i$ is the price paid to a supplier affected by a delay cost c_i. Hence, the cost carried directly by a buyer is equivalent to a cost paid instead by the supplier. This is in accordance with the general principle that the ultimate incidence of a cost is independent of the identity of the trading partner who directly pays that cost.

5. Biographical Note

David P. Myatt is Professor of Economics at London Business School (LBS). Amongst other positions he is also: an Associate Member of Nuffield College, University of Oxford; an Associate Fellow of the Department of Economics, University of Warwick; and a Research Fellow of the Centre for Economic Policy Research. He was educated at the London School of Economics (LSE), at the Massachusetts Institute of Technology (MIT), and at the University of Oxford. Prior to moving to LBS he held various academic positions within the University of Oxford, including Fellowships of St Catherine's College and Nuffield College.

David's academic research often uses the tools of game theory (the scientific analysis of strategic decision-making) applied to various settings in both economics and political science. In economics his research includes the study of advertising, marketing, and product design strategies; in political science, his work includes theories of leadership, strategic voting, and executive performance. His academic research papers have been published in the very top academic journals in both economics (including the American Economic Review and the Review of Economic Studies) and political science (including the American Political Science Review and the American Journal of Political Science). In an editorial capacity, he previously served the Royal Economic Society as Editor of the Economic Journal. He is currently Co-Editor of the Quarterly Journal of Political Science and Associate Editor of the Journal of Economic Theory, and holds other positions on editorial boards and within leading scientific associations.

At LBS, David's teaching ranges across the full portfolio of programmes, including the MBA, EMBA, MiM, and PhD degrees. Within the core Managerial Economics course, he teaches tools for output choice and pricing in markets where businesses seek to exploit their market power; within the elective Thinking Strategically he uses the tools of game theory to analyse strategic decision-making; and within the Business, Government, and Society course he explores the interaction of businesses with wider societal stakeholders.

David also has experience in both open and custom executive education programmes; he has served private clients in this capacity, and he is a long-standing contributor to the sixty-year-old Oxford University Business Economics Programme. In his consulting activities, David has advised clients on competition policy, auction strategy, business organisation, and various aspects of the regulatory environment.

L.E.K.

L.E.K. Consulting LLP

40 Grosvenor Place
London, SW1X 7JL
United Kingdom

T: 44.20.7389.7200
F: 44.20.7389.7440
LEK.com

Train load impacts on the Network Rail Payment Rate

4 September 2013

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Network Rail Payment Rate – Train Load

1. Following the review of the Network Rail Payment Rate (the "payment rate") conducted during PR08, the payment rate was set at £17.47 per train minute of delay. The rate of £17.47 applied for the year 2009/10 and has since been uplifted annually for inflation. In the draft determination for PR13, the ORR propose to follow the same approach of annual uplifts for inflation such that the payment rate was £19.13 in 2012/13, is £19.74 in 2013/14 and would be uplifted for inflation in each year of CP5.

2. However, inflation is not the only factor that affects the per train minute cost of delay. Train load - i.e. the amount/volume of goods moved - is also an important factor. As train loads increase, each train minute of delay affects more goods and inflicts greater costs on both freight operators and freight users.

3. The table below shows the elements of freight operator costs (sourced from ORR research), their relative sizes and how they respond to changes in train load:[1]

Freight operator costs	Effects of increased loads per train on delay costs	Approx. % of freight operator costs	Changes proportionally with train load?
Loco lease & maintenance	Same number of locomotives required to move load	7%	×
Wagon lease and maintenance	More wagons required to move larger load	6%	✓
Driver costs	Same number of drivers required to move load	12%	×
Fuel	Fuel consumption higher with heavier load	55%	✓
Handling	Greater staff numbers/machinery required to load/unload	13%	✓
Repositioning	Greater logistical problems in repositioning more wagons	6%	✓
	Total	**100%**	**80%**

4. The table above shows that for an increase in train load, 80% of the freight operator costs of delay would also increase proportionally.

5. The table below shows the elements of freight user costs (sourced from the AECOM/ITS report) and how they respond to changes in train load:[2]

Freight user costs	Effects of increased loads per train on delay costs	Changes proportionally with train load?
Handling	Greater terminal handling costs per load	✓
Labour	Overtime payment is greater if train load increases	✓
Short-loading	Risk of not being able to fully load wagons due to delay increases as number of wagons increases	✓
Management Time	More phone calls and administrative time spent in contingency	✓
Road Substitution	With a longer delay, more lorries would be needed to move the load	✓
Penalties	Penalties determined by size of load	✓
Collection & delivery	More drivers/vehicles waiting for train to arrive	✓
Stock out	Greater likelihood as loads increase	✓
Equipment	Extra machinery needed to unload if wagon numbers increase and turnaround time is reduced by delay	✓

[1] ORR Research reported in Annex C of Review of Access Policy Consultation (2010)
[2] Rail Freight User Values of Time & Reliability (2010)

6. The table above shows that for an increase in train load, all freight user costs of delay would also increase proportionally.

7. In excluding changes in train loads from its calculations, the ORR is failing to compensate FOCs for increases in the consequences of delay. Since the entire premise of the payment rate is that it should compensate FOCs for the costs of delay and train loads are an important factor affecting those costs of delay, the payment rate should be adjusted to account for changes in train load.

8. We therefore suggest that the proposed payment rate should be adjusted for changes in train load since the beginning of CP4 and that, going forward, the payment rate should be adjusted annually to account for both inflation and changes in train load. In particular, the tables above demonstrate that freight user costs should change proportionally with average train load and that freight operator costs should change at 80% of the rate of the average train load.

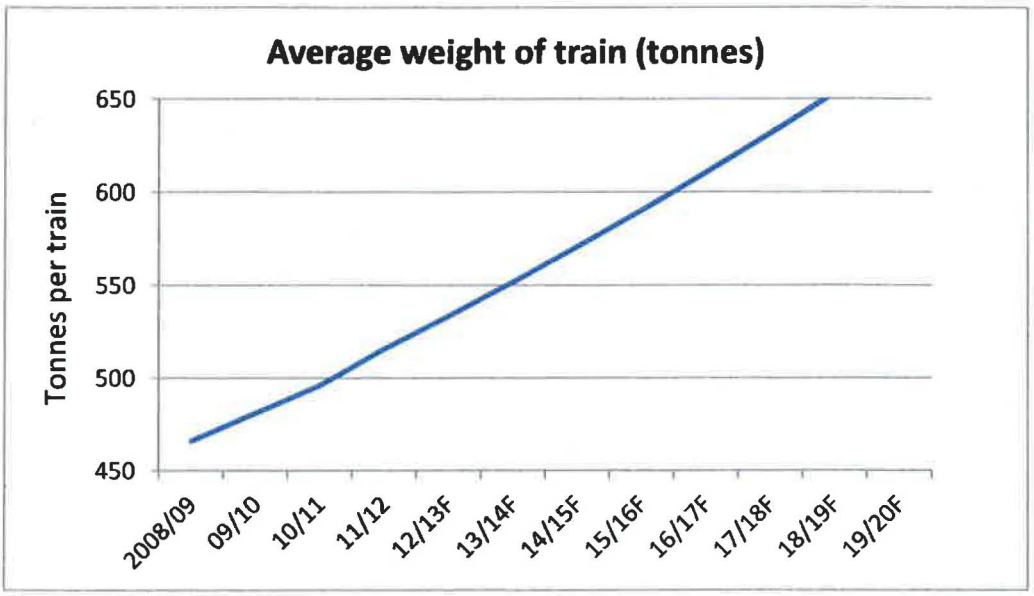
9. Network Rail does not publish figures for the amount/volume of goods transported on the railway network; however, it does publish figures for the weight of goods transported. Although it is the amount/volume of goods that directly affects costs of delay, the weight of goods acts as a reasonable proxy for the amount/volume of goods. One proviso to this is that the different commodity types have different densities and so using industry-level figures for changes in average train weight will not accurately represent changes in the amount/volume of goods moved.

10. Network Rail figures show that average train loads, as measured by tonnes of cargo (i.e. net of the weight of the rolling stock itself) per train, have increased at an average rate of 3.4% per annum between 2009/10 (the beginning of CP4) and 2011/12.[3] Given the slight commodity shift towards intermodal during CP4, we believe that the average rate of 3.4% in fact masks a stronger increase in the amount/volume of goods moved per train. Consequently, the true increase in annual volume of goods per train would be higher than 3.4% p.a. However, since there has only been a slight shift in commodity mix during CP4, we use the figure of 3.4% as a proxy for the increase in amount of goods transported but note that it is lower than the true rate for the increase in amount of goods transported for these years.

11. Official figures for average tonnes per train are not available for the years after 2011/12, but the trend of increasing average tonnes per train is forecast by Network Rail to continue throughout CP5. Since Network Rail's forecast for freight traffic in total tonne kilometres is not based upon average weight per train, dividing Network Rail forecast tonne kilometres by forecast train kilometres would be misleading due to significant forecast changes in commodity mix.

12. Both track access charges and increasing network congestion incentivise freight operating companies to increase train loads rather than the number of train movements. Furthermore, the Network Rail forecast appears to assume unconstrained demand growth; this would suggest Network Rail under-estimates the growth in average train load as freight operating companies face very real constraints on their ability to add extra train movements. For these reasons, we have used the historical growth rate of 3.4% in our following indicative analysis.[4]

[3] Network Rail Long Term Planning Process (April 2013)
[4] NR forecasts set out in Network Rail Long Term Planning Process - Freight Market Study Draft for Consultation, April 2013



13. The table below sets out our proposed methodology for recalculating the payment rate from the beginning of CP4 and throughout CP5. First, we separate the payment rate of £17.47 at the beginning of CP4 into a freight operator cost component and a freight user cost component (taking the freight operator cost figures from ORR Research)[5]. Secondly, we uplift the freight operator cost component for (i) inflation and (ii) 80% of the change in average train load. Thirdly, we uplift the freight user cost component for (i) inflation and (ii) the change in average train load. We then repeat each step on an annual basis.

[5] ORR Review of Access Policy 2010, Annex C

	CP4					CP5				
	2009 /10	**2010 /11**	**2011 /12**	**2012 /13**	**2013 /14**	**2014 /15**	**2015 /16**	**2016 /17**	**2017 /18**	**2018 /19**
Payment rates uplifted only for inflation as proposed by ORR										
Inflation - RPI (Previous year to December)[6] (%)	n/a	(0.5)	4.6	5.2	3.2	3.1	2.7	2.7	2.6	3.4
Operator costs (uplifted for inflation) (£)	2.68	2.67	2.79	2.93	3.03	3.12	3.21	3.29	3.38	3.49
User costs (uplifted for inflation) (£)	14.79	14.71	15.39	16.19	16.71	17.22	17.69	18.17	18.65	19.28
Payment rate (£)	**17.47**	**17.38**	**18.18**	**19.13**	**19.74**	**20.34**	**20.90**	**21.46**	**22.03**	**22.77**
Average for control periods (£)	**18.38**					**21.50**				
Payment rates uplifted for both inflation and changes in train load										
Growth in train load (Previous year) (%)	n/a	3.2	3.1	4.0	3.4	3.4	3.4	3.4	3.4	3.4
Operator costs (uplifted for inflation and partially for train load) (£)	n/a	2.73	2.93	3.18	3.37	3.57	3.77	3.98	4.20	4.46
User costs (uplifted for inflation and train load) (£)	n/a	15.19	16.38	17.92	19.12	20.38	21.66	23.00	24.42	26.11
Payment rate uplifted for train load (£)	**n/a**	**17.92**	**19.31**	**21.10**	**22.49**	**23.95**	**25.43**	**26.98**	**28.61**	**30.57**
Average for control periods (£)	**19.66**					**27.11**				
Differences between payment rates uplifted only for inflation and payment rates uplifted for both inflation and changes in train load										
Difference between payment rates (£)	**n/a**	**0.54**	**1.13**	**1.97**	**2.76**	**3.61**	**4.53**	**5.52**	**6.59**	**7.79**
Difference in average payment rates for control periods (£)	**1.28**					**5.61**				

14. Using this methodology to correct the Network Rail payment rate for changes in train load gives an indicative payment rate in 2013/14 of £22.49 rather than £19.74 as currently in place. By the end of CP5, further increases in train load produce an indicative payment rate of £30.57 as opposed to £22.77 and an average increase in payment rate during CP5 of £5.61. The difference in payment rates reflects the significant extra costs of delay incurred due to increases in train loads which should be factored into the payment rate.

15. We note that the table above uses industry-wide (i.e. not corrected for differences in density of commodities) figures for average train weight growth for the years 2009/10 to 2012/13 and an estimate of industry-wide average train weight growth of 3.4% to calculate the payment rate for the years after and including 2013/14. When using actual figures rather than forecast figures to set future payment rates, the ORR should beware that, due to forecast changes in commodity mix, growth in tonnes per train is likely to under-estimate growth in the true driver of user costs which is the amount of goods being carried per train.

16. In conclusion, the ORR proposes in the Draft Determination that the current payment rate, as set at the beginning of CP4 and subsequently uplifted for inflation, continue to be uplifted for

[6] ONS (RPI reference CHAW); Oxford Economics (ONS, Haver Analytics)

inflation during CP5. However, since the beginning of CP4 train loads have increased at an average rate of 3.4% and are projected to continue increasing throughout CP5. As shown in the tables in paragraphs 3-5, train load is an important factor affecting the costs of delay per train minute because almost all cost consequences of delay are linked to the amount/volume of goods that are delayed. If the payment rate is to compensate freight operators for the costs of delay, it should therefore be uplifted to account for the increase in train load.