



OFFICE OF **RAIL REGULATION**

Workshop introduction

Paul McMahon
Deputy director, railway markets and economics
Workshop on the variable usage charge and a freight-specific charge, 5 July 2012

Introduction

This workshop forms part of the periodic review 2013 (PR13), in which we establish Network Rail's outputs and access charges for control period 5 (CP5), 1 April 2014 to 31 March 2019

Workshop purpose:

- to outline the contents of our consultation
- to provide an update on work estimating freight avoidable costs
- to give stakeholders the opportunity to ask questions and discuss

Purpose of the consultation:

- Consult on a cap on the average variable usage charge
- Consult on introduction a new track access charge for certain freight commodities

Agenda

13.00	Introduction	Paul McMahon
13.10	Variable usage charge	Ben Worley, Network Rail Emily Bulman, ORR
13:25	Discussion	Chaired by Paul McMahon,
13:50	A freight specific charge	Emily Bulman Maggie Simpson, RFG
14:20	Discussion	Chaired by Paul McMahon
14:55	Break	
15:10	Network Rail's freight avoidable costs	Andrew Allum, Owen Hazell, L.E.K
15:20	Discussion	Chaired by Paul McMahon
15.45	Summary and next steps	Paul McMahon
16.00	Close	





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Variable usage charge

Emily Bulman

Head of transport economics

Workshop on the variable usage charge and a freight-specific charge, 5 July 2012

Variable usage charge

- ▶ Variable usage charges is designed to recover Network Rail's operating, maintenance and renewals costs that vary with traffic
- ▶ It currently varies by type of vehicle, but is a uniform rate GB-wide
- ▶ Network Rail's 2010-11 revenue was £137m, £3.6m and £41.4m for franchise passenger operators, open access passenger operators, freight operators respectively
- ▶ Accounts for around 75% of charges revenue from freight operators (or two-thirds if freight-only line charge is excluded)
- ▶ We have stated our intention to determine a charge that is geographically disaggregated; but this consultation is **about an average charge across all vehicle types and geography**

Network Rail's freight cap consultation and conclusions: variable usage charge

- ▶ In PR13 Network Rail has responsibility for developing and calculating the variable usage charge in accordance with our charging objective and guidance. We audit and approve the charges.
- ▶ Network Rail has consulted and concluded on setting a cap on the variable usage charge: part of its “freight cap” consultation of November 2011
- ▶ We have reviewed Network Rail's work
 - See published report of independent reporter
 - Review of consultees' views and how Network Rail has responded to them
 - ORR oversight
- ▶ Subject to some minor caveats, we are proposing to accept Network Rail's estimates, and are consulting on this



Implications for average variable usage charge

- ▶ We do not yet know whether the average variable usage charge for CP5 will be higher or lower in real terms than that for CP4:
- ▶ Network Rail's initial variable cost estimates are around 5% to 7% higher, before accounting for changes to efficiency
- ▶ Network Rail is revising these costs further for the strategic business plan (January 2013)
- ▶ After adjustment for efficiency, rates could well be lower, but we do not know yet
- ▶ We are proposing a cap on average variable usage charge to reduce uncertainty



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A freight specific charge

Emily Bulman
Head of transport economics
Workshop on track access charges, 5 July 2012

Background to proposal

- Freight operators pay £55 million charges a year – less than 1% of Network Rail's revenue
- Freight track access charges currently set to reflect costs directly incurred, with exception of freight only line charge (around £5 million a year)
- Cost of infrastructure associated with rail freight is paid by governments; preliminary estimate of “freight avoidable costs of infrastructure” is around £200 million a year
- We are proposing a new track access charge for CP5 (2014-19) that would recover those costs associated with some rail freight market segments

Rationale for the charge

“a fair and most efficient approach to sharing the costs of using the rail network between freight and passenger operators”

- Make the structure of access charges more cost reflective, reduce cross-subsidy and ensure that freight operators make a greater contribution to the costs that freight operations impose on the network

Legal framework

1. Access and Management Regulations 2005
2. Statutory duties

Access and Management Regulations 2005

- ▶ Track access charges “shall be set at the cost that is directly incurred as a result of operating the train service”

Exceptions to charging principles

- ▶ “A Member State may, if the market can bear this, levy mark-ups on the basis of efficient, transparent and non-discriminatory principles”
- ▶ mark-up “must not be to exclude the use of infrastructure by market segments which can pay at least the cost that is directly incurred as a result of operating the railway service, plus a rate of return which the market can bear”



Legal framework: balancing our statutory duties

These include:

- ▶ to promote the use of the railway network in Great Britain for the carriage of passengers and goods, and the development of that railway network, to the greatest extent which it considers economically practicable
- ▶ to contribute to the achievement of sustainable development
- ▶ to enable persons providing railway services to plan the future of their businesses with a reasonable degree of assurance
- ▶ to have regard to the funds available to the Secretary of State for the purposes of his functions in relation to railways or railway services
- ▶ our duty which, in summary, requires that we have regard to the expenditure that is to be incurred by Scottish Ministers



Proposed framework for the charge

- Propose charge to be set to recover freight avoidable costs
 - *Subject to legal framework*
- We are consulting on options for important design issues:
- Consider policy with respect to individual freight market segments
 - Underpinned by analysis of demand

Freight avoidable costs

- Freight related infrastructure costs can be classified:
 - **costs common to passenger and freight services**, i.e. freight-related costs which would be required for passenger services even if all freight services were to cease; and
 - **freight avoidable costs**, that is the costs that Network Rail would not incur, over the long term, if all freight services were to cease (but passenger services were to continue)
- Propose charge to recover freight avoidable costs (net of other charging revenue)
 - *subject to legal framework*
- Network Rail working to update its freight avoidable cost estimates
- Inform our conclusions, but revisions to costs and independent scrutiny will continue beyond this

Charge design issues

- Market segments
 - We propose that these are defined by commodity
- Allocation of costs between market segments
 - Level of disaggregation of costs
 - Allocation metric (gross tonne miles?)
 - Treatment of costs common to different market segments
- Unit of charge
 - per gross tonne km
 - per gross tonne
 - a combination of the above



Design issue: a cap on the impact on freight traffic

- Bear in mind our statutory duties, including:
 - having regard for the funds of the SoS for Transport / Scottish Ministers; and
 - promote the use of the of the railway in GB for carriage of (passengers) and goods
- We are considering whether to have a direct constraint on the impact a new charge may have on freight traffic:
 - cap the charge so that the average forecast fall in freight traffic for each market segment to which the charge is applied is no more than a certain defined percentage
 - We consider a suitable cap may be that the charge results in no more than 10% fall in freight moved (tonne km)

To which market segments should the charge apply?

We follow the requirements of the Access and Management Regulations

1. Whether there is a significant risk that the charge could result in the exclusion of the use of the infrastructure by the market segment
 2. Consider efficiency, taking the following factors into account:
 - (a) the **elasticity of demand**, i.e. how demand for rail freight might fall or rise as a result of higher charges
 - (b) the **extent to which the market competes with road** – because a switch to road may be inefficient
- In addition, a number of statutory duties are relevant

Market analysis - commissioned 3 studies

- MDS-Transmodal (Stage 1 Report)
 - Model impact of higher charges on all freight market segments up to an increase of 100%: as a filter on the market segments for which we would consider levying the new charge
- NERA: Electricity supply industry
 - NERA detailed modelling of the impact of higher charges on demand for coal, nuclear and biomass for the Electricity Supply Industry
- MDS-Transmodal (Stage 2 Report)
 - Model the impacts (drawing on NERA analysis) of higher increases (greater than 100%) on those markets identified at stage 1

MDST-Stage I Report: Results (1)

Doubling variable usage charge

Commodity	% change in Tonne kms	Increased revenue (£m)
Other (mostly Nuclear)	0.0%	0.3
ESI Coal	-0.4%	13.4
Other Coal (inc Biomass)	-1.0%	3.9
Iron Ore	0.0%	0.5
Automotive	-10.1%	1.0
Metals	-4.2%	4.6
General Merchandise	-8.8%	0.3
Petro / Chemicals / Industrial Minerals	-11.4%	2.8
Intermodal	-12.9%	20.3
Domestic Waste	-12.3%	0.2
Construction materials	-14.8%	5.2

MDST-Stage I Report: Results (2)

Doubling variable usage charge means significant increase in road traffic for some commodities

Commodity	Revenue increase £m	Potential disbenefits £m	Ratio	Switch to road?
Other (mostly Nuclear)	0.3	0.0	0.00	Low
ESI Coal	13.4	0.5	0.03	Low
Other Coal (inc Biomass)	3.9	0.3	0.07	Medium
Iron Ore	0.5	0.0	0.00	Medium
Automotive	1.0	0.3	0.28	High
Metals	4.6	1.7	0.38	Medium
General Merchandise	0.3	0.2	0.78	Medium
Petro / Chem / IndMin	2.8	4.1	1.45	Medium
Intermodal	20.3	33.4	1.64	High
Domestic Waste	0.2	0.4	1.76	High
Construction materials	5.2	10.6	2.03	Medium

We use this analysis to identify market segments to which we might levy a charge

- ▶ We are not considering levying a charge on any market segment that is not both highly inelastic and faces little competition from road
 - Proportionate approach
 - Consistent with our approach in PR08
 - Consistent with our statutory duties, including contributing to the achievement of sustainable development
- ▶ Researched the following market segments further:
 - electricity supply industry (ESI) coal
 - other coal, including biomass
 - spent nuclear fuel
 - iron ore

Analysis of the electricity supply industry – coal (NERA)

Option	Coal lifted		Coal moved	
	Million tonnes	% change	Million tonnes	% change
Change per thousand net tonne km				
Base Case	178	0.0%	27,889	0.0%
£5 increase	174	-2.1%	27,221	-2.4%
£10 increase	170	-4.6%	26,501	-5.0%
£15 increase	165	-7.4%	24,466	-8.1%

Analysis of the electricity supply industry – nuclear, biomass (NERA)

- Coal
 - Also looked at impact on consumers (<0.2% increase in bill) and Scottish mining industry (may reduce investment in new mines)
- Nuclear
 - Negligible impact on demand for spent fuel – even for £100 per thousand net tonne km
- Biomass-difficult to quantify impact:
 - emerging market
 - different types of biomass
 - impact in part dependent on extent to which government adjusts subsidy levels

MDST Stage 2 analysis

➤ Coal

- Potential for significant reduction in length of haul (reduction of around 25% in tonne km) – question regarding degree to which this would occur anyhow, with ongoing rationalisation

➤ Other coal

- Minimal competition from road for some traffic
- Other traffic has characteristics of more elastic market

➤ Nuclear

- No loss of traffic to road

➤ Iron ore

- No loss of traffic to road
- £10 per thousand net tonne km option estimated to increase steel costs by 0.1%

➤ Biomass

- Most planned major sites in close proximity to deep water ports

Basis for our conclusions on market segments to which charge should apply

We follow the requirements of the Access and Management Regulations

1. Whether there is a significant risk that the charge could result in the exclusion of the use of the infrastructure by the market segment
 2. Consider efficiency, taking the following factors into account:
 - (a) the **elasticity of demand**, i.e. how demand for rail freight might fall or rise as a result of higher charges
 - (b) the **extent to which the market competes with road** – because a switch to road may be inefficient
- In addition, a number of statutory duties are relevant
- Have regards to the funds available to the Secretary of State
 - Have regards to the expenditure to be incurred by the Scottish Ministers
 - Promote the use of the rail network for the carriage of goods



Summary of proposals for market segments

Market segment	Propose to levy a charge to recover market segment's share of freight avoidable costs?
Coal for electricity supply industry	Yes, subject to cap so that forecast traffic does not fall by more than a set percentage (10%?)
Spent nuclear fuel	Yes
Iron ore	Yes
Biomass	Not as part of PR13, but revisit
Coal transported for other purposes	We are considering this further
Other freight market segments	No



Assessing the impacts of our proposals

- Good regulatory practice to assess the impacts (costs, benefits and risks) of policy proposals – **to inform the decision, not determine the decision**
- We have said that we will assess impacts of a number of our proposals on charges
- We are assessing the impacts of this proposal, which we will refine through further consultation

Costs and benefits of charge (ESI coal) - assumptions

- Use test results for charge of £10 per net k tonne km on ESI coal: MDST forecast charges revenue increase of around £40 m, loss of tonnes lifted of 3.7% and tonnes moved of 23%
- **Caveat:** *estimate of actual charge still being prepared (and would be subject to cap): use the MDST test case here for illustrative purposes*

Impacts

- Reduction in cross-subsidy
- MDST forecast no increase in road traffic
- Disbenefits associated with loss of traffic – use “rule of a half” though need to consider further including wider impacts
- Benefits from Network Rail infrastructure cost savings
 - Lower limit: loss in variable usage charge revenue
 - Upper limit: pro-rata freight avoidable costs

Costs and benefits of charge (ESI coal)

- illustrative estimates (£10 / net k tonne km)

2018-19	Low	High
Loss in subsidy to coal industry / customers	-£40	-£40
Revenue gain to rail customers / wider society	>>£40	>>£40
Disbenefits of lost traffic	-£6	-£6
Network Rail cost savings	£3	£15
Externalities (environment / congestion)	£0	£0
Total net impact	>>-£3	>>£9

- Main impact is a transfer of funds from coal industry and its customers to rail customers and / or wider society: other impacts are small in comparison even with a substantial fall in tonnes moved

What the reduction in cross-subsidy might mean

- ▶ Our indicative estimate is that NOT increasing the charge for coal delivers a benefit cost ratio of between 0.78 and 1.08: **estimate implies no apparent business case for this subsidy to coal**
- ▶ Comparison: freight enhancement Felixstowe to Nuneaton capacity scheme IIP benefit cost ratio of 2.0

Option tested resulted in forecast reduction in subsidy to:

- ▶ Power generators, ports, coal importers, coal mines (<1% increase in coal price)
- ▶ Energy customers – households and businesses (<0.2% increase in bills)
- ▶ Freight operators
 - Adds to fluctuations in demand for their services
 - If the market is competitive, we would expect charges to be passed on to customers





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Next steps

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Next steps: further work

- Refining variable cost estimate:
 - Continued refinement of Network Rail’s costs and efficiency assumptions throughout PR13
 - November 2012 Network Rail consultation on variable usage charge disaggregated by vehicle
 - We are also exploring options to disaggregate the charge geographically.
- Estimating freight avoidable costs
 - Completion of L.E.K study for Network Rail
 - The results will inform our conclusions on consultation; but the estimate is likely to be refined as PR13 progresses

Next steps: the consultation

- This consultation closes 10 August 2012
- Conclusions published November 2012
- Our conclusions:
 - Confirm cap on variable usage charge
 - using freight avoidable cost estimates and market analysis to update potential level of charge (and cap)
 - confirm the commodities to which the charge will apply
 - we may also confirm the basis for the **allocation and units** of the charge, although these may be subject to further consultation