

Structure of Charges Workshop

14 July 2006



Introduction

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Structure of Charges and PR08

- PR08 will establish Network Rail's outputs, revenue requirement, and access charges for Control Period 4 (April 2009 – March 2014)
- Structure of track access and station long term charges forms a central part of PR08
- Consultation document issued June 2006
- This workshop part of consultation process

PR08 timetable and structure of charges

Key dates for the structure of charges workstream:

7 September 2006	Closing date for responses to structure of track access and station long term charges consultation document
Autumn 2006	Possible ORR consultation document on reservation charges, plus consultation on freight charges capping/phasing
December 2006	Network Rail ICMv2 complete. Network Rail submits structure of charges methodology proposal
February 2007	ORR publishes decisions on structure of charges (in <i>Advice to Ministers and Framework for Setting Access Charges</i>), including: <ul style="list-style-type: none">- Reservation charge- Environmental charge/incentives- Route based charges- Freight charges

PR08 timetable and structure of charges continued

June-July 2007	Secretary of State & Scottish Ministers issue HLOSs & SOFAS
October 2007	Network Rail SBP submission, including indicative charges proposals
February 2008	ORR publishes assessment of Network Rail SBP (including charges)
April 2008	Revisions to Network Rail SBP if necessary (including charges)
June 2008	Draft determination (total level of access charges)
October 2008	Final determination (total level of access charges)
December 2008	Final levels of individual access charges audited and approved. Review notice initiating implementation of PR08

Aims for this workshop

- Presentation and discussion – to support consultation responses and our work
- Focus here on *charging* approaches as incentive mechanism, but acknowledge there are some constraints, and the important role of planning
- Builds on consultation document – covers following key areas:
 - New arrangements for establishing charges
 - Update on recent TTCI study of RCF
 - Reservation charges and environmental charges – thinking to date, options for discussion and areas for further work
 - Taking the work forward
- Particularly interested in comments on practicalities

Agenda

- 13.00 – 13.05 Introduction – *Paul McMahon*
- 13.05 – 13.15 Context for structure of charges work – *Iain Morgan*
- 13.15 – 13.30 Further work on rolling contact fatigue costs
– *Peter Doran and discussion*
- 13:30 – 14:00 New arrangements for charges
proposals – *Iain Morgan and discussion*
- 14.00 - 14.50 Reservation charges – *Emma Kelso and discussion*
- 14.50 – 15.10 Tea
- 15.10 – 15.40 Environmental charges – *Iain Morgan and discussion*
- 15.40 – 15.55 Taking the work forward/AOB – *Emma Kelso and
discussion*
- 15.55 – 16.00 Wrap up and close – *Paul McMahon*

Context for structure of charges work

Iain Morgan
Senior Economist
14 July 2006



History

- *October 2000*: Periodic review 2000 determines current structure of passenger charges
- *October 2001*: Review of freight charging policy determines current structure of freight charges
- *December 2003*: Access charges review 2003 determines increase in level of charges but generally no change to structure of access charges
- *November 2004 - October 2005*: *Structure of costs and charges review*
- *August 2005 – February/March 2006*: *Structure of Station long term charges review*

Structure of costs and charges review 2005 (1)

- In the light of:
 - increase in the level of charges (ACR2003)
 - Government rail review conclusions, particularly devolving powers and responsibilities to local and regional organisations
 - Industry research since 2000, particularly on the wheel-rail interface
- Main elements of the review:
 - Reviewing variability of Network Rail's cost base and the appropriate basis for the calculation of the variable usage charge
 - Developing an avoidable cost approach to allocate the fixed charge between franchised passenger operators
 - Initiating Network Rail's development of an infrastructure cost model (ICM)

Structure of costs and charges review 2005 (2)

- We concluded that there was insufficient evidence to justify a change in charges from April 2006 because
 - Uncertainty about the proportion of Network Rail's costs that vary with usage
 - Uncertainty about the appropriate long term cost base
 - Further work needed on RCF cost driver
 - Review did not apply to freight

Structure of station long term charges review

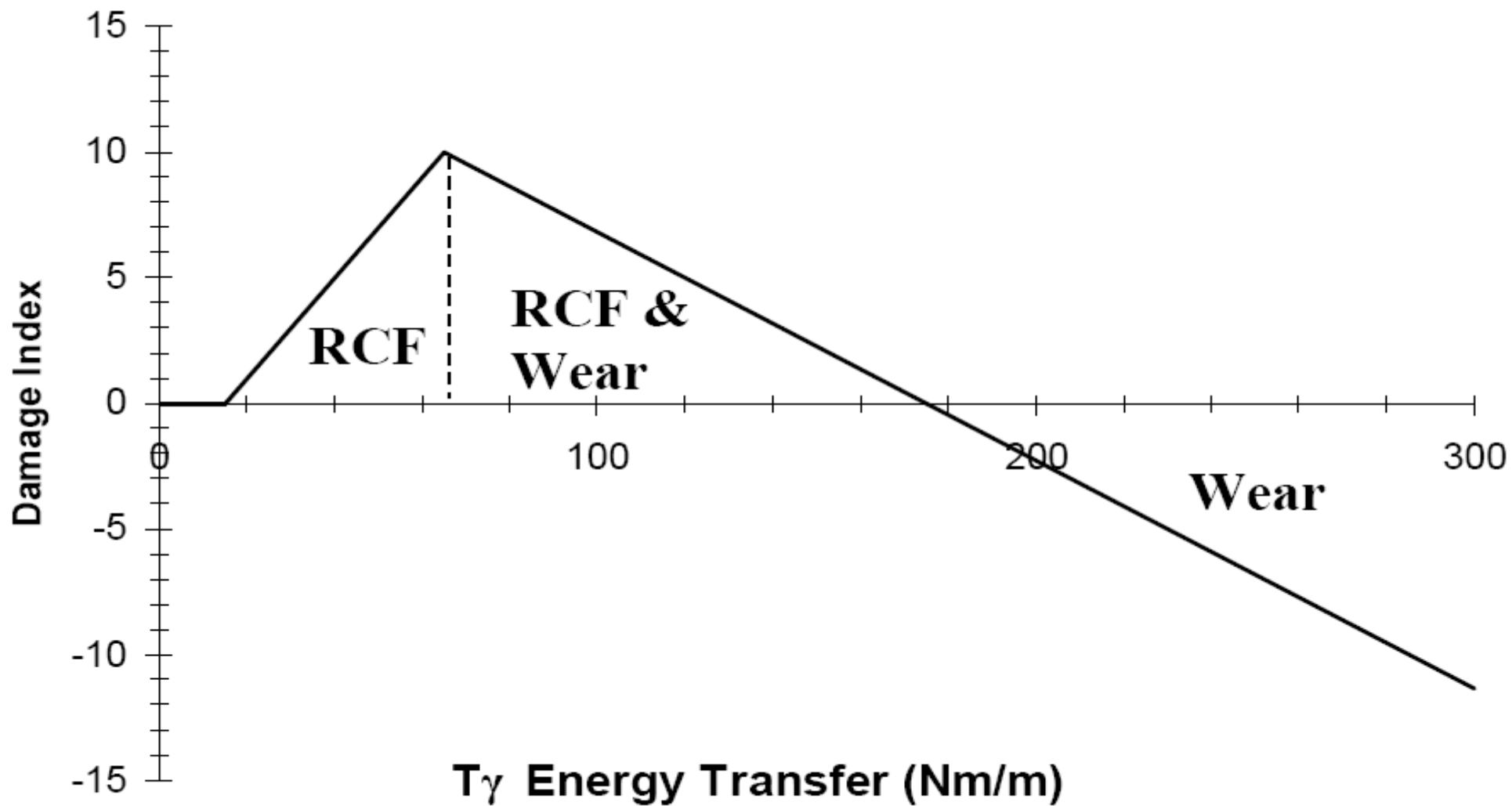
- Initial consultation document April 2005
- Objectives
 - To establish a more sophisticated charging structure, based on maintenance, repair and renewal costs
 - To calculate the adjustment to the long term charge to reflect the revised division of maintenance, repair and renewal responsibilities on adoption of Stations Code
- Corderoy study to identify more cost reflective charging approach
- Corderoy conclusions would require changes to level as well as structure of charges
- Concluded that no changes would be made to station long term charges until PR08 where the level and structure could both be reviewed.

Rail Surface Damage



Peter Doran

Asset Management Advisor



Passenger Results – July 2005



Freight Results – July 2006

- Sensitive to curve radius, track quality
- Sensitive to wheel / rail profiles, tractive force
- Primary yaw stiffness (PYS) alone is not good enough for attribution
- Other factors tested and found not needed (bogie inertia, usm, bogie spacing)

Conclusions

- PYS alone not sufficient for charging
- Infrastructure interaction requires large amount of data before charges can be derived
- Is it worth the effort to re-attribute £M 125+ a year?
- Can NR find a simpler method?

New arrangements for charges proposals

Iain Morgan
Senior Economist

14 July 2006



Introduction

- During previous access charges reviews ORR led
 - Consultation on the policy objectives relating to charges
 - Consideration of changes to the structure of access charges in the light of the above objectives
 - Much of the technical work in calculating access charges
 - Review and approval of access charges
- The new arrangements involve Network Rail taking the lead on the technical work including calculating proposed access charges
- However, ORR remains in the lead in
 - Defining the charging objectives
 - Providing guidance to Network Rail on the issues it should consider in developing its charges proposal
 - Review and approval of access charges

Overview of new arrangements

- Network Rail to submit its charges proposal consistent with
 - Our charges objectives
 - Our guidance
- Charges proposal subject to our audit and approval
- Network Rail preparing its workplan for the development of its charges proposal
- Stakeholder involvement
- Benefits of the new arrangements:
 - Additional impetus to Network Rail to improve sufficiently its cost knowledge
 - More efficient for Network Rail to undertake the technical development work drawing on improvement in its cost knowledge
 - Consistent with the role of Infrastructure Manager envisaged in EU legislation

Objectives

- We will consider Network Rail's charges proposal against all our section 4 duties
- Network Rail should ensure that its charges proposal is consistent with the other objectives
 - Provide appropriate incentives to ensure efficient utilisation and development of the network
 - Not discriminate between users of the network
 - Practical/cost effective/comprehensible/objective in operation
 - Reflect the efficient costs caused by use of the infrastructure
 - Enable Network Rail to recover its allowed revenue requirement

Guidance

- Network Rail will prepare its charges proposal in the context of our guidance
- The guidance is not a list of instructions to Network Rail but rather sets out a range of issues that it should take into account in developing its charges proposal (including the required format and supporting evidence)
- Network Rail can consider an approach contrary to a specific element of our guidance where this is fully justified e.g. in the light of our charging objectives

Main aspects of guidance

- Categories of charges (apart from consideration of the reservation charge which we are leading on)
- Charges methodology
- Geographic disaggregation
- Building on work from last year's structure of costs and charges review
- Transparency and engagement with stakeholders
- Network Rail's workplan
- Format of charges proposal

Network Rail's charges proposal

- Charges proposal includes
 - Structure of charges (including geographical disaggregation)
 - Calculation methodology
 - Final level of each charge
- Three stages of submission

Stage 1 December 2006

- Network Rail submits its proposal on the structure of charges and methodology

Stage 2 October 2007

- Network Rail includes indicative charges proposals in its Strategic Business Plan

Stage 3 October/November 2008

- Final submission of charges following our final determination

Audit and approval process

- Three stage process
 - Review of methodology and further cost analysis (Dec 06 – Feb 07)
 - Review of Network Rail's indicative charges (Oct 07 – Feb 08)
 - Final Audit (Oct – Dec 2008)
- Stakeholder involvement in process

Next steps

- Network Rail will develop its workplan for preparing its charges proposal
- This will include details of how stakeholders will be fully involved
- We will carry out further work on reservation charges with a possible consultation document in September 2006

Recap

- New arrangements
- Charging objectives
- Our guidance to Network Rail
- Our audit and approval process

Scarcity and Reservation Charges

Emma Kelso

Senior Economist

14 July 2006



Overview

- Why a scarcity/reservation charge?
- Initial views on scarcity vs reservation charges
- Reservation charges: options to consider and discuss
- Further work/next steps

Why a scarcity/reservation charge?

- Reservation/use of right/path creates opportunity cost. Operators don't pay for that particular cost => no *financial* incentive to ensure rights allocated/ capacity utilised efficiently.
- Theory - charge useful =>incentives for efficient capacity utilisation/efficient holding of rights.
- Some flexibility essential – reservation/scarcity charge not to discourage holding of rights where rights have real value to the operator.
- *However* - practicalities - charges only useful if benefits > costs – our work focused on understanding more about this trade-off.

Why a scarcity/reservation charge?

- Do Part D and Part J of Network Code already address the efficient allocation of rights?
 - should certainly help, but may be limited by lack of financial incentive.
- Won't RUSs ensure efficient capacity utilisation?
 - yes RUSs should contribute – not yet possible to assess – again, no direct financial incentive.
- Question for ORR: whether a charges system would add *extra* (net) benefits.

Initial views – Scarcity Charge

- Charge reflecting full economic value (opportunity cost) of right/path.
 - theoretically strong[est]
 - more sophisticated than reservation charge – addresses efficient allocation of capacity, not just efficient holding of paths (deals with not only releasing rights operators don't use/value, but ensuring those rights allocated to those who value them *most*).
 - practical difficulties (i) calculating the charge or auctioning “slots” complex (ii) billing a charge which can vary with time, through time, & with location
 - Accurate charge needed for efficient use of capacity - inaccurate charge could => perverse incentives.
 - **Initial view – no scarcity charge for CP4 – focus research on reservation charges, and monitor effectiveness of RUSs.**

Initial Views – Reservation Charge

- Charge paid when a right reserved – encourages operators to give up any rights of no/low value to them => more efficient holding of rights (nb would be *in addition* to Part J)
 - theoretically strong
 - can be far simpler than scarcity charge while still having positive impact on efficiency
 - provided for under EU Directive 2001/14/EC – European precedents
 - lots of practical questions when deciding if/how charge can be designed => see rest of presentation.
 - **Initial view – further work on possible reservation charge worthwhile.**

Who should reservation charge apply to?

- Would apply to all operators, but in practice main impact would be on freight operators.

“Pure” reservation charge vs “Failure to Use”

“**Pure**” = charge paid at reservation, irrespective of whether right/path then used.

Could include a “rebate” if right/path subsequently used (seeking legal advice on wording of Article 12)

- Pros – conceptually simple, transparent incentive to only reserve paths that are required (actual or contingent),
- Cons – if incorporates “rebate” feature => more complex (need capability to bill on basis of whether right/path actually used). Mechanism for dealing with failure to use due to exogenous events needed (esp. if applies to paths rather than rights).

“Pure” reservation charge vs “Failure to Use”

“**Failure to use**” = charge paid (ex post) if right/path reserved not subsequently used

- Pros – charge linked directly to action is intended to discourage.
- Cons – defining “used” without creating perverse incentives or v complex mechanism:
 - if “used” defined as “timetabled” (in working timetable) => incentive to ensure all rights translated into timetabled paths – doesn’t address aims of the charge (efficient use of those rights/paths themselves).
 - if “used” defined at path level, some form of *ex post* billing needed (need to bill on whether path used basis – adds complexity). Need way to deal with exogenous events (eg failure to use due to a NR delay).
- How significant are cons/how readily can they be overcome?

Should the charge be levied on access rights or paths?

Rights (eg L1, 2 and 3 for freight)

- Pros – simple, practical.
- Cons – in *theory* => incentive for more spot bidding, but need for certainty likely to limit this significantly. May create perverse incentives (under failure to use charge).

Paths

- Pros – better under a failure to use option. Practical precedents (eg Switzerland).
- Cons – some practical difficulties – eg how to cope with (exogenous) delays which mean a different path used.

Initially attracted to rights basis as more practical option, but may depend on charges option selected.

Where/when should the charge be applied?

- Apply to all areas of network or only areas where path likely to have value to others?
- Theoretically, latter makes more sense (could be *all* rights have at least some value to others)...
- ... and has been implemented elsewhere (eg France)
- ... but charge varying with eg location raises practical issues:
 - how can value of rights across the network be established? Would level of congestion or line type be a reasonable proxy?
 - if so, who would set lines/areas for application and how often would they be revised?

Initial view – applying to specific areas preferable, but only if practical complexities can be overcome.

Complexity of the charge

- Initial view – operators need to be able to respond to the incentives any charge creates – suggests keep **simple as possible**.
- Charge on per right/path or per right km/path km basis?
 - Initial view – **relating charge to length inappropriate** – complex, practical difficulties (eg Y paths), and no evidence that longer paths worth more than shorter ones.
- Flat charge or charge that varies with likely value of the path/right?
 - Initial view – varying charge theoretically attractive but **flat charge more appropriate** – simpler, and avoids practical difficulties – eg how much higher should charges be on highly congested vs moderately congested lines? Do we have enough information to set a charge to that level of detail?

Charge level

- Initially attracted to **relatively low charge**:
 - charge doesn't have to be high to have some impact
 - charge is new – need to understand how responsive operators/customers would be to it
 - ... but acknowledge higher charge has some merits (eg stronger incentive may free up more unused rights/paths).
- Who calculates? Initial view – to minimise uncertainty ORR would set charge at PR & no resets during CP4.
- Were we to pursue reservation charges, we would consult on charges levels and other features in Autumn 2006.

How should funds be used?

Option 1 – as a fund for enhancements

- Pros – funds used to help relieve capacity constraints – operators see charge translated into practical benefits.
- Cons – funds raised in one area not likely to be large – spending funds on parts of the network where they were raised may not be practical. Thought needed on how to ensure funds spent efficiently.

Option 2 – revenue-neutral approach (adjust variable charge)

- Pros – avoids any increase in charges for operators as a whole.
- Cons – allocating adjustment across operators could be complex. Difficulties in forecasting revenues from reservation charges. Wash-up mechanism required.

Initial view – enhancement fund more appropriate (but nb – primary aim is *not* as fund raising tool). Would be reflected in considerations on the phasing/capping of any charges changes for freight.

Further work/next steps

- Consultation closing date 7 September 2006
- Depending on responses and further ORR analysis, possible Consultation Document Autumn 2006
- Conclusions on structure of charges issues (including reservation charge) February 2007
- We welcome further dialogue after this workshop, particularly given the complexities involved.

Recap on key points for comment

- Focussing further work on reservation charges options rather than scarcity charges.
- “Pure” reservation charge or “failure to use”?
- Apply charge to rights or to paths?
- Form of charge (where applied, flat rate or vary with congestion, per right/path or per right/path km).
- Level of charge/charge methodology.
- Use of funds.

Environmental charges and incentives

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Overview of presentation

- ORR's role in relation to the environmental impact of rail and work being carried out
- Our sustainable development workstream including environmental planning processes, incentives and charges
- Energy efficiency and regenerative braking
- Other energy efficiency
- Next steps

Introduction

- Why is ORR interested in encouraging improvements in the environmental impact of rail services?
 - Statutory duties
 - EU legislation
- What have we done so far?
 - Commissioned AEAT report on the environmental impact of rail 2005
 - Discussed with key stakeholders
 - Prepared a workplan for the sustainable development workstream
- Other work being carried out includes:
 - RSSB review of sustainable development of rail network
 - DfT Technical Strategy
 - System Interface Committees

Sustainable development workstream

- Define ORR's policy with respect to delivering its environmental related statutory duties (including examining trade offs with other duties)
- Encourage good management processes
- Consider monitoring and better quantification of environmental impacts
- Revise our environmental guidelines
- Assess role of Network Code
- Consider environmental incentives and charges

Environmental charges and incentives

- Environmental impact leads to a cost to society
- Environmental charge could act as a disincentive to operate vehicles that cause significant detrimental impact on the environment
- Environmental charge could also act as an incentive to operate environmentally efficient vehicles
- Need to consider the overall effect e.g. modal shift to/from modes that cause greater environmental disbenefit
- Rail's share of UK environmental impact from transport is low
- Vehicles may be well designed but cause a poor environmental impact due to poor maintenance
- Incentives as an alternative through use of Key Performance Indicators – reputational effect

Energy Efficiency: Regenerative braking

- Use of regenerative braking leads to a reduction in the overall energy required
- Ability to use regenerative braking depends on both the vehicle and the rail infrastructure
- Level of energy savings attainable depends on type of infrastructure and train service pattern

Current issues

- Should the current 16.5% discount on traction electricity charges be revised to reflect the differences in energy saving on different parts of the network?
- How can necessary work on infrastructure to enable regenerative braking be facilitated?

Other energy efficiency issues

- Traction electricity charges are based on modelled consumption rates
- On-train metering would enable energy efficiency to be incentivised
- AEAT produced a feasibility study on implementing metering
- Metering also opens up the possibility of competitive supply of traction electricity
- We want to examine the benefits of metering further

Next steps

- Sustainable development consultation document due in September 2006
- Further discussion with key stakeholders to understand priorities on energy efficiency and how to resolve any obstacles to responding to these priorities
- In the light of our guidance Network Rail will consider with stakeholders the appropriate level of geographic disaggregation of the regenerative braking discount

Recap

- Sustainable development workstream including environmental charges and incentives
- Energy efficiency: regenerative braking
- Energy efficiency: on-train metering

Taking the work forward and any other business

Emma Kelso

Senior Economist

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Structure of charges milestones

- *Autumn 2006* Sustainable development consultation document and possible consultation on reservation charge
- *November 2006* Consultation on phasing and capping any changes to freight charges
- *December 2006* Network Rail submits its proposal on the structure of charges and intended methodology building on version 2 of its infrastructure cost model (ICM)
- *February 2007* ORR publishes decision on framework for charges, including phasing/capping of freight charges, reservation charges, environmental charges and route based charges.
- *October 2007* Network Rail submits its Strategic Business Plan (SBP) including indicative charges
- *February 2008* ORR assessment of SBP
- *June 2008* PR08 Draft determination
- *October 2008* PR08 Final determination and subsequent Network Rail submission
- *December 2008* Review notice due to be served to implement PR08 following final stage of audit and approval of charges

Any other business?

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