Structure of presentation

• Background to GB rail
• Evolution of charges
  • Privatisation
  • 2000 periodic review
  • 2003 access charges review
• 2005 structure of costs and charges review
  • Context
  • Key issues associated with deriving revised access charges
The context of the GB rail industry

- **Vertical separation**
  - Infrastructure owner & manager: Network Rail (since 2002)
  - Train operations: 24 franchised passenger train operators (TOCs); 6 freight operators; open access operators; ROSCOs

- **Broadly conventional “RPI-X” economic regulation structure, but:**
  - Franchises do not run concurrently with control periods
  - Franchises generally shorter than payback period of investment in long-lived assets
  - TOCs insulated from changes to charges during franchise lifetime and have limited commercial flexibility
  - Significant amounts of public subsidy – direct grants depress charges

- **ORR approves or directs track access agreements (charges) in line with its duties under section 4 of Railways Act 1993**
Charges and incentives

- **TOCs:**
  - Insulation of franchised TOCs to changes in charges during a franchise dampens/eliminates incentives
  - Inefficient response to price signals due to restrictions on prices to final customers
  - TOCs are incentivised at franchise bidding process

- **Freight and open access:**
  - Price signals important for freight and passenger open access

- **Infrastructure provider:**
  - Charges incentivise Network Rail (under price cap)

- **Funders & train manufacturers:**
  - Incentives for funders and vehicle manufacturers
Charges at privatisation

- Charges established ahead of 1996 privatisation
- Variable costs used as a proxy for marginal costs
- Charges:
  - Variable usage (3%)
  - Electricity for traction (5%)
  - Fixed charges (92%)
- Changes to services based on negotiation and variation of fixed charge (i.e. proxy for a capacity/congestion charge)
- Framework acknowledged to be:
  - Not very cost reflective
  - Opaque, potentially discriminatory & high-transaction costs (due to negotiation)
2000 periodic review

- First post-privatisation regulatory review of Railtrack’s outputs, costs and revenues
- Included a major review of incentive regimes and structure of charges
- Main changes:
  - Negotiated charges replaced by published charges
  - Introduction of a capacity (congestion) charge
  - Three-fold increase in variable usage charge (from 3% to 9%)
  - Total variable charges increased to around 13% of total revenue requirement – more cost-reflective
2003 access charges review

- Hatfield accident in October 2000 was precursor for explosion in costs and administration of Railtrack
- Infrastructure transferred to Network Rail in October 2002
- ORR undertook an access charges review (“ACR 2003”) to cover April 2004 – March 2009:
  - Final conclusions to ACR 2003 published in December 2003
  - 40% increase in revenue requirement compared to assumptions from 2000 periodic review
- ACR 2003 focused on overall revenue requirement
  - Did not address the structure of charges
  - Additional revenue requirement funded through an increase in the fixed charges and government grants
## Control periods 2 and 3 revenue requirements and variable charges

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<td><strong>Revenue requirement (£million 2002/03 prices)</strong></td>
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<td>CP2</td>
<td>2,633</td>
<td>2,778</td>
<td>2,903</td>
<td>3,035</td>
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<td>CP3</td>
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<td>4,443</td>
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<td><strong>Variable charges (£million 2002/03 prices)</strong></td>
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<td><strong>Fixed charges (£million 2002/03 prices)</strong></td>
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<td>CP2</td>
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<td>1,486</td>
<td>1,560</td>
<td>1,638</td>
<td>1,720</td>
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<td>CP3</td>
<td>2,797</td>
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<td>3,309</td>
<td>3,817</td>
<td>3,750</td>
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<td><strong>Variable charges as a share of total revenue requirement</strong></td>
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<td>CP3</td>
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<td>8%</td>
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* Single till: including freight, grants, stations, retail
2005 structure of costs & charges review

• Reasons for review:
  • Address exclusion of structure of charges from ACR 2003
  • Address need for better route and cost information to reflect the changes in the structure and functioning of the industry
  • Take account of how industry parties have responded to incentives
  • Take account of recent research (e.g. rolling contact fatigue)
• Review will not lead to increase in revenue requirement
• Initial consultation document published November 2004
• Final conclusions due to be published December 2005 and new charges implemented in April 2006
• Review does not include freight (or station) charges:
  • Freight may be reviewed from end of 2005 (for implementation in 2007)
Current charges

- **Variable usage charges (~4% of total revenue requirement, ~€250m pa)**
  - Wear and tear to track and non-track assets associated with the volume and type of traffic (assuming current network capability)
  - Hybrid top-down/bottom-up model: 10 years of forward looking total cost data and damage coefficients – for 144 individual vehicles

- **Traction electricity charges (~2%, ~€130m pa)**
  - Recover Network Rail’s costs of procuring electricity for use by train operators in their operations

- **Electrification asset usage charges (~0.5%, ~€30m pa)**
  - Wear and tear of electrification assets from electrically powered traffic

- **Capacity charges (~2.5%, ~€170m pa)**
  - To reflect the performance regime (Schedule 8) costs of congestion

- **Fixed charges**
  - Recovery of residual revenue requirement after taking into account variable charge income, other single till income and grants
**Example freight charge calculations**

<table>
<thead>
<tr>
<th>Freight type</th>
<th>Consist</th>
<th>Charge (per 100km, 2004/05 prices)*</th>
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<tbody>
<tr>
<td><strong>Automotive &amp; intermodal</strong></td>
<td>1 x class 66/0 diesel loco (126t) 10 x wagons (IFAB) (40t loaded)</td>
<td>Loaded: €144 Empty: €76</td>
</tr>
<tr>
<td><strong>Bulk &amp; neo-bulk</strong></td>
<td>1 x class 66/0 diesel loco (126t) 36 x wagons (HAAV) (47t loaded)</td>
<td>Loaded: €563 Empty: €127</td>
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<tr>
<td><strong>Iron ore</strong></td>
<td>1 x class 66/0 diesel loco (126t) 22 x wagons (JUAD) (102t loaded)</td>
<td>Loaded: €830 Empty: €146</td>
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<tr>
<td><strong>Automotive &amp; intermodal</strong></td>
<td>1 x class 90/0 electric loco (84t) 10 x wagons (IFAE) (144t loaded)</td>
<td>Loaded: €463 Empty: €135</td>
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<td><strong>Average rates (per 1000 gross tonnes per 100km)</strong></td>
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<td>Excluding coal &amp; iron ore</td>
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<td>€291</td>
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<td>Coal / iron ore</td>
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<td>€343</td>
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* Charges cover: variable usage, traction and capacity
Objectives for the structure of charges

- Promote the objectives of ORR’s duties under section 4 of the Railways Act 1993 and be consistent with the wider objectives of its funders
- Incentivise Network Rail, train operators, train manufacturers, rolling stock companies and funders to ensure the efficient utilisation and development of the network and the optimisation of whole industry costs
- Not unduly discriminate between users of the network
- Be practical, cost effective, comprehensible and objective in its operation
- Comply with relevant legislation, including the EU Directive 2001/14/EC
Cost principles (1)

- Review of cost principles central to the charges review
- Allocate Network Rail’s costs to the train operators who cause those costs
- Incremental cost = cost associated with a change in output
  - Concept can be applied to small changes (e.g. additional vehicle) or larger changes (e.g. a service group, route, TOC)
- The first set of access charges (1994) was based on Long Run Incremental Costs
  - “Avoidable” costs of an entire TOC were calculated as basis for the fixed charge
  - Currently fixed costs allocated to TOCs directly and by share of train kms
Cost principles (2)

- **Single output (e.g. one operator on a route):**
  - All of Network Rail costs associated with route can be attributed to the operator

- **Multiple outputs (e.g. major routes with different types of service):**
  - Potentially different incremental costs for each service – due to level of network capability required

- **Summing the incremental costs on a multiple service route likely to yield a total cost less than total NR costs**
  - Due to joint/common costs

- **Summing the standalone costs would yield a total cost greater than the total NR costs**

- **It is necessary to recover total revenue requirement, i.e. need to augment incremental costs**
Translating incremental cost into charges

- Depends on incentives to be established
  - Efficient use of existing network = SRIC
  - Efficient development of network = LRIC
- LRIC = SRIC when excess capacity
- LRIC = SRIC when capital investment is divisible and perfect foresight
- ORR believes LRIC approach is most appropriate – in theory
- In practice:
  - LRIC likely to result in volatile prices
  - LRIC may lead to sub-optimal allocation of existing capacity
  - Time, location, scale and cost of enhancements difficult to predict
  - Enhancements funded by third parties
  - Dealing with multiple users / outputs
- Treat enhancements separately:
  - SRIC + enhancements charge
Conclusions

- Access charging in rail evolved significantly in the last decade
  - Against the backdrop of major change in the industry
- Influence of charges on passenger train operators limited
- Charges remain relevant for allocating capacity
- Administrative approaches to allocating capacity play a major role
- Both charging and administrative approaches require detailed understanding of costs
- Current review of structure of costs & charges is opportunity to address shortcomings
- Central to this is the need to derive and apply incremental costs