Multimodal 2008
Green Logistics Day

Promoting Modal Shift

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Structure of Presentation

• The business and environmental baselines

• The political and economic context

• Market opportunities for rail freight

• Business challenges for rail freight
Rail Freight: Business Baseline

- Rail freight privatisation in 1990’s aimed to improve efficiency through competition and market entry
- Industry model proved successful
- Rail freight volumes (tonne-kms) up over 60% in 12 years
- 5 rail operators running maritime/domestic container services
- 4 rail operators moving coal to power stations/industrial plants
- Others moving specialist flows of traffic such as timber, scrap
- Over £1.5 billion invested in new freight locomotives, wagons, terminals and facilities and information systems
  - almost all funded by private financial institutions.
Rail Freight: Environmental Baseline

• Rail produces from three to five times less carbon emissions per tonne carried than road, depending on cargo type

• Rail is significantly more energy efficient than road: energy efficiency has a direct relationship to carbon emissions.

• Rail freight is up to fifteen times better than road in terms of other noxious emissions
The transport sector must “play its proper role in our fight to tackle climate change.”

“We need to get the prices right” to cover the environmental and congestion costs of transport, encourage technological innovation, promote behavioural change, and deliver smart investments.

- Price carbon by taxes or trading mechanisms so businesses can “prioritise and make informed choices on goods and services.”

- Encourage adoption of low-carbon-technologies: “Regulation will be necessary to force the pace of change.”

- Better use of existing infrastructure networks is essential, with targeted new investment to support/at international gateways.
The Political and Economic Context (2)
‘Delivering a Sustainable Railway’
July 2007

• “The Government's... long-term ambition is for a railway:
  - that can handle **double** today’s level of freight and passenger traffic...
  - that has reduced its own carbon footprint and improved its broader environmental performance.”

• Competition in freight between road and rail **and** between rail operators is strong

• Strong inter-modal and on-rail competition is beneficial as...“it ensures that freight is moved as efficiently as possible”
• “The Government is confident that rail freight will continue to grow over the next 10 years… combined with rising passenger numbers, this will increase the competition for space on the network.”

• The Government will not specify a target volume or market share for rail freight in its High Level Output Statement, but:
  - welcomes the long-term charges regime established by ORR
  - supports the stability offered by long-term access contacts
  - will work with the industry to develop a Strategic Freight Network
  - has identified £ 200 mio. of Network Rail investment to 2014
  - to begin this programme. (In addition to supporting other rail infrastructure investment that will benefit freight users e.g. TIF-P projects)
What will the Strategic Rail Freight Network deliver?

• For rail operators
  – increased productivity through longer, heavier, higher gauge trains and faster commercial transits (+10-30% per train)
  – 24/7 service resilience from network of diversionary routes + smarter management of engineering works

• For Government
  – capacity to meet the forecast growth in rail freight
  – increased capacity/optimised capability on the passenger railway
  – economic & environmental benefits of market-based modal shift
  – productivity benefits and wider choice for freight users: secured through inter-modal and inter-operator competition

  – but requires complementary investment in efficient inter-modal interchanges
Rail Freight Forecasts to 2015 and 2030 (1)

• 2006 - 2030 rail freight demand forecasts prepared by RFG and FTA - working with major freight users, logistics operators, developers

• Not yet finalised: bulk movements subject to further review–principally due to energy mix: but general acceptance of unitised freight forecasts

• Derived from standard government forecasting model used in evaluating road projects and major private infrastructure investments

• Incorporate official projections of economic growth and energy trends/prices

• Assume no change in UK transport policy: no national road pricing

• Assume existing rail freight technology and no step-change in competitiveness of rail freight
Rail Freight Forecasts to 2015 and 2030 (2)

- 2015 demand forecasts now accepted as reasonable by Government, N.R. & O.R.R. to assess network capacity requirements and plan major infrastructure projects (e.g. Route Utilisation Strategies, Crossrail)

- Rail freight forecasts include growth in domestic non-bulk traffic (based on approx 14% rail share at some new rail linked distribution sites)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2015</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnes (millions)*</td>
<td>123.7</td>
<td>130.3</td>
<td>197.8</td>
</tr>
<tr>
<td>Tonne km (billions)</td>
<td>23.5</td>
<td>31.0</td>
<td>50.4</td>
</tr>
<tr>
<td>Trains (‘000s)</td>
<td>409</td>
<td>434</td>
<td>634</td>
</tr>
<tr>
<td>% surface t/km by rail</td>
<td>12.6</td>
<td>15.0</td>
<td>20.7</td>
</tr>
</tbody>
</table>

Forecasts assume existing tonnes/train by commodity and routing

* Includes movement of infrastructure material. Source: Network Rail
### Rail Freight Forecasts to 2015 and 2030: Commodity Breakdown

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2006</th>
<th>2015</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>51.4</td>
<td>35.7</td>
<td>41.1</td>
</tr>
<tr>
<td>Metals</td>
<td>11.0</td>
<td>11.5</td>
<td>13.1</td>
</tr>
<tr>
<td>Ore</td>
<td>6.5</td>
<td>6.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Construction</td>
<td>21.4</td>
<td>23.8</td>
<td>30.3</td>
</tr>
<tr>
<td>Auto</td>
<td>0.3</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Petro/chemicals</td>
<td>8.1</td>
<td>8.5</td>
<td>9.3</td>
</tr>
<tr>
<td>Waste</td>
<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Network Rail</td>
<td>8.2</td>
<td>8.2</td>
<td>8.2</td>
</tr>
<tr>
<td>Domestic Non Bulk</td>
<td>2.2</td>
<td>8.9</td>
<td>31.9</td>
</tr>
<tr>
<td>Port/International (C/T) Non Bulk</td>
<td>12.8</td>
<td>25.0</td>
<td>55.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>123.7</td>
<td>130.3</td>
<td>197.8</td>
</tr>
</tbody>
</table>
Forecast Freight Train Movements 2030

- Daily Freight trains
- Sum of both directions
Network Capacity Stress 2030
(80% path utilisation)

- excess demand 2030
- daily freight paths
- sum of both directions

Legend:
- <4
- 4...8
- 8...12
- 12...16
- 16...24
- 24...32
- 32...40
- 40...48
- 48...60
- 60...72
- >72
Promoting Modal Shift: Achieving the Potential of Rail Freight

• **What is important to encourage market-based modal shift?**
  – Public policy consistency – significant progress made
  – Rail policy stability:
    - delivery of the Strategic Freight Network
    - secure access rights/ predictable charges
    - consistent opex/capex grants framework
  – Spatial Planning policy consistency: e.g. rail-linked interchanges
  – Independent economic regulation to limit political risks attached to capital investments and long-term financial commitments

• **In summary:** confidence in the funding and delivery of the Strategic Rail Freight Network and confidence in the effectiveness of independent economic regulation
Promoting Modal Shift: How will it happen?

- Case-by-case/flow by flow/contract-by-contract
- By client innovation and engagement or by rail operator initiatives
- May be linked to strategic review of logistics systems and depots
- Speed of adaptation will vary between clients and market sectors – and also depend on rail network capacity and capability
- Provision and use of standardised performance metrics will become increasingly important – both demand-side and supply-side:
  - to the client to allow comparison of solutions/locations/operators
  - to Network Rail to ensure efficient use of rail infrastructure capacity shared with publicly-sponsored passenger services
Promoting Modal Shift: Some Challenges

• Political and public policy instability: ‘events’, macroeconomics and the electoral cycle

• Economic viability & business models of rail freight operators
  – capacity and capability to innovate
  – effects of asset intensity, process complexity and regulatory intervention

• Aggregation and interface problems
  – different business cultures of freight users, rail operators, Network Rail
  – differing planning-horizons of freight users, rail operators, Network Rail
  – handling dispersed, fluctuating and lower-volume traffic flows
    • the less-than trainload challenge: “turning a pipeline into a truck!”

Ensuring a market appetite for innovation, engagement & commercial risk
  – from clients
  – from rail operators
  – from private financial institutions
Conclusions

• Tough business challenges still to address— but supportive political and economic context

• Pricing environmental impacts should work in favour of efficiently-run rail freight services

• Great progress since privatisation but further productivity improvements possible - gives confidence for future

THANK YOU FOR YOUR ATTENTION!
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