



Foundation for Science and Technology

Freight transport – the role of rail

6 November 2007

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Some generalities

Freight transport responds to demands of market – it costs a small % of price of goods in shops

Freight industry very competitive, creative, and cost/time/quality of service conscious

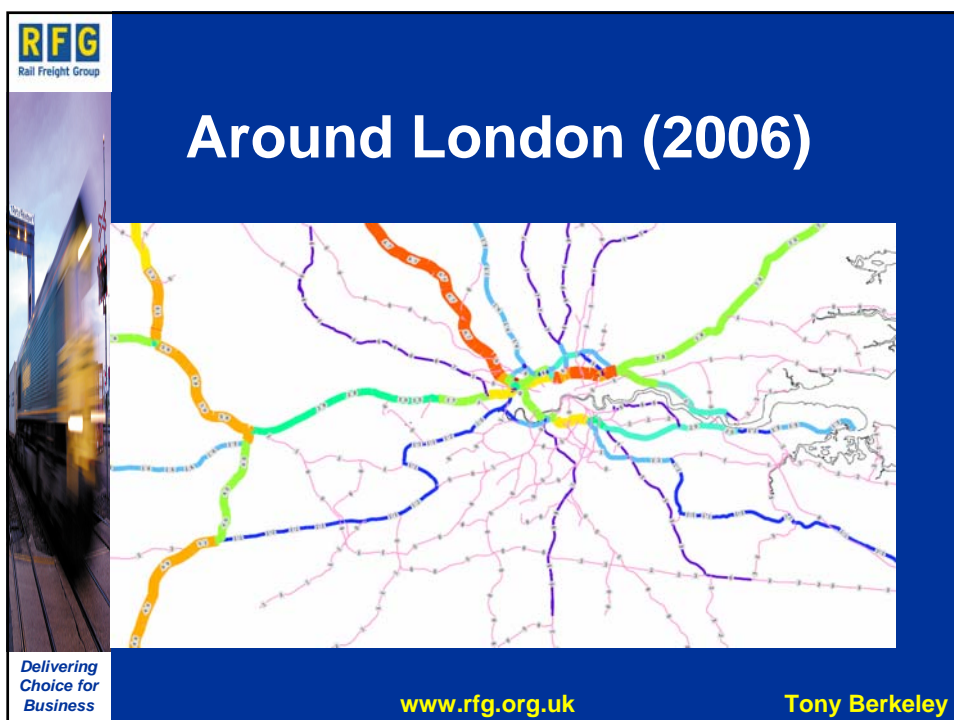
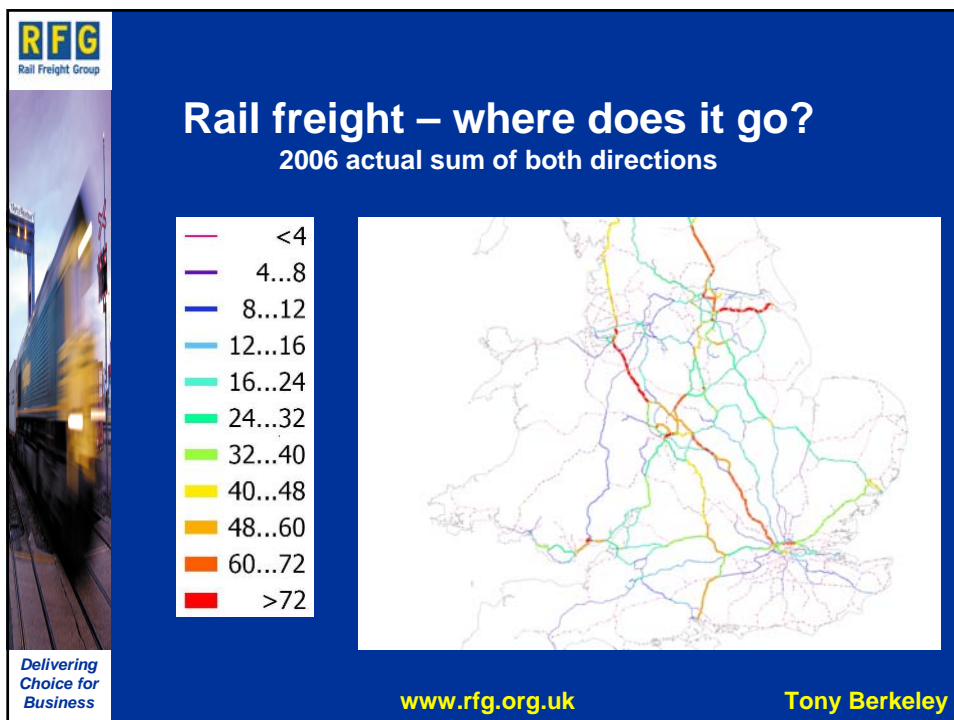
For land transport, road and rail compete; also with short sea shipping



Rail freight cannot handle all land based flows – such as home deliveries!

Neither rail nor short sea shipping can operate without ports/terminals since end destinations for cargo are generally only road connected.

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*Delivering
Choice for
Business*

Yorkshire and Humberside (2006)



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What goes by rail?

Rail freight's market share – source 2007 Rail White Paper

Sector	Net tonnes lifted (millions)	Net tonne kilometres moved (billions)	Approximate share of movements (%)
Coal	45.5	7.0	33
Metals	17.4	2.6	19
Construction	22.8	2.8	16
Petroleum	7.6	1.2	4
Channel Tunnel	1.2	0.5	3
Intermodal	8.7	4.0	14
Other	1.8	2.5	11
Total	105	20.6	100

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Main flows and commodities by rail

Aggregates & building materials
 Coal – much of it imported through
 Humber, Hunterston and Bristol
 Containers – deep sea and domestic

This traffic needs to go between major centres, or their links to ports, as Eddington Report states.

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Future demand for rail freight

Assuming no constraint on capacity or terminals, no change to competitive advantage of road or rail, and compliance with UK energy policies

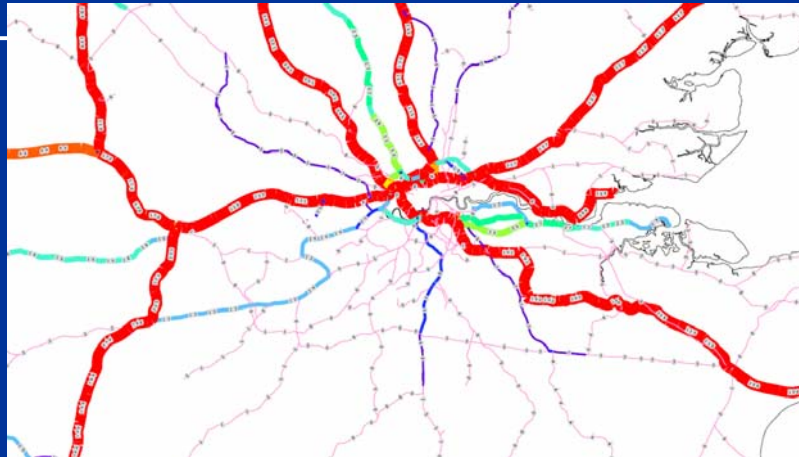
	2006	2015	2030
Total tonnes (million)	123.7	130.3	197.8
of which not coal	72.3	94.7	156.7
of which coal	51.4	35.7	41.1
Tonne km (billion)	23.5	31.0	50.4
Trains (thousand)	409	434	634
Indices for tonne km:	100	132	215

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Where will this traffic go in 2030?



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Track capacity - 2030

Excess of demand over supply – trains per day sum of both directions assuming no increase in passenger trains



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In 2030...

RFG forecasts growth of 115% in rail freight overall; probably conservative! Container demand could be much greater.
Can the roads and rail routes cope, and what will influence the choice of mode?

- Road user charging or other fiscal measures.
- Taxes/charges more related to carbon emissions.
- Road pays full cost of damage imposed.
- Rail pays more than the marginal cost.
- Gigaliners (longer and heavier lorries) permitted.

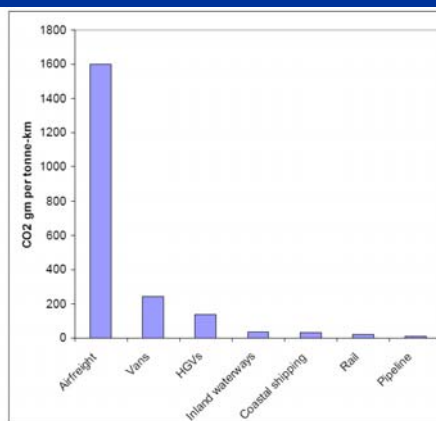
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The CO2 challenge

CO2 emissions from freight transport in the UK – McKinnon Sept 2007



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So what is needed for rail to take a higher market share of freight?

- Capacity on the tracks
- Terminal availability
- Taxes/duties etc carbon neutral and costs reflecting full cost of damage imposed

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Track capacity – 2030

Excess of demand over supply, sum of both directions with existing infrastructure and no extra passenger trains (trains per day)

- West Coast Main Line S End – 200
- East Coast Main Line S End – 100
- Great Eastern Main Line – 80
- Great Western Didcot Reading – 85
- WCML Stafford – Crewe - 220

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What else will affect these numbers?

- A higher or lower modal shift to rail, but less rail means more road transport
- Longer freight trains
- More passenger trains
- Shorter land journeys by using short sea shipping more
- Downturn in the economy
- Change in emphasis in 'green' issues

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Can rail cope? Yes, with...

More capacity with new signalling (ERTMS), more tracks, grade separated interchanges and, eventually, new lines for passenger or freight.

More terminal and port capacity since, without these, only road can provide the services that customers need.

This is still much cheaper and more environmentally friendly than building roads

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We need to start planning for this growth now!

All forecasts are by definition wrong!
The timing may be wrong, the origins and destinations may be wrong but, if we are going to continue to be part of the global economy and seek growth, then we cannot sit back and be surprised when we have not prepared for the increasing demands of our customers!

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