



Mark ups on track access charges – the debate in Britain

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Outline

1. Existing charges in Britain
2. Freight mark-ups
3. Passenger mark-ups
4. Conclusions



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British track access charges

- Variable usage charge (based on estimated wear and tear)
- Electrification asset usage charge
- Capacity charge (based on impact of additional trains on reliability)
- Fixed charges - paid by passenger franchisees only (most passenger services in Britain are franchised)
- Freight mark-up
- Charges for lease of stations and depots

Rail infrastructure cost coverage in Britain (2016/7) (£m)



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Costs		Revenue from track access charges	
Operations	554	Variable usage charge	224
Maintenance	1319	Capacity charge	428
Renewals	2774	Fixed charges	411
		Use of electrification assets	16
		Stations and depots	353
Total	4647	Total	1432

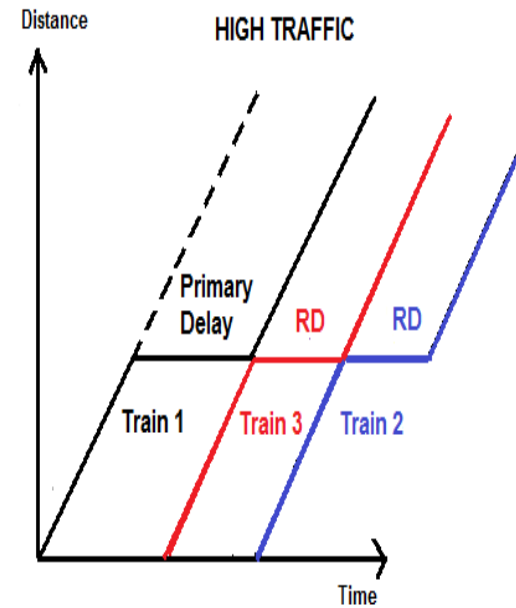
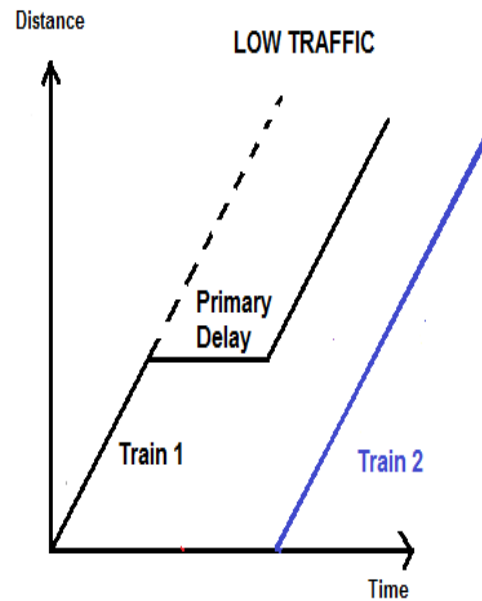
Source: Network Rail (2017) Statement 1 (expenditure), Statement 6a (Analysis of Income) and Statement 6c (Analysis of Income by Operator).



Congestion charges

- Apply where an additional train can be accommodated but will reduce punctuality
- Delays directly caused by that train charged for by the performance regime
- But there is still a further externality in that an additional train may add to reactionary delay even when not the direct cause of delays itself

Reactionary delay



Adapted from diagram in : Network Rail (2012) Periodic Review 2013 – Consultation on the Capacity Charge



Calculation of the Charge in Britain

- Capacity usage was calculated (CUI).
- Regression Analysis was carried out with the measure of capacity usage (CUI) as the explanatory variable and observed reactionary delay per train mile as the dependent variable.
- The calculated impact on reactionary delay of additional capacity use provided the basis for calculating the Capacity Charge.
- The charge varies by day of the week and location (but not time of day).
- Unpopular – complex, uncertain and of limited effectiveness

Market segments defined as commodities (incl. containers)

Imposed on those commodities able to bear it, to recover freight avoidable cost (e.g. freight only lines, passing loops only needed for freight etc)

Impact of doubling variable track access charges by commodity (% change in tonne km) assuming charge passed on as higher price

Nuclear	0
Iron Ore	0
Power station coal	-0.4
Containers	-12.9
All freight	-8.9

Loss of benefit due to driving off traffic willing to pay marginal cost is minimised when prices for different market segments follow the rule:

$$\left(\frac{P_1 - MC_1}{P_1}\right) / \left(\frac{P_2 - MC_2}{P_2}\right) = \frac{e_2}{e_1}$$

For freight, it is reasonable to assume that competition drives price down to marginal cost (train operating cost plus payment for use of infrastructure) and that any increase in infrastructure charges will be passed on by an increase in prices to the final consumer.

Thus the price elasticity of demand for track access charges is the elasticity in the final market times the proportion of cost that is track access charges.

Proposed changes to freight mark-ups



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Review of ability to pay

Adding one commodity – biomass

Suggested ceiling to be fully allocated cost instead of avoidable cost

Concern at how ability to pay is to be judged?

Note evidence that road freight vehicles are undercharged; currently only allowed for by a limited scheme of subsidy for rail track access charges

Marginal external costs and indirect taxation (2010)
 (weighted mean for all roads and times of day)

		cars	heavy goods vehicles	
Congestion		10.1	52.4	
Infrastructure		0.1	9	
Accidents		1.6	2.8	
Local Air Quality		0.1	2.5	
Noise		0.1	7	
Greenhouse gases		0.9	3.8	
Other		0	6.4	
Indirect taxation		-4.7	-34.1	
Total		8.2	49.7	



Sources for previous table

- Source:
- Cars: Department for Transport (2017 TAG databook)
- Heavy Goods Vehicles Department for Transport (2009) Mode Shift Benefit Values: Technical Report
- Note: values for heavy goods vehicles are estimated 2015 values in 2010 prices

Note: dominance of relief of congestion over environmental factors controversial

Passenger mark-ups in Britain



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- So far only franchisees have paid a mark-up
- A fixed charge based on fully allocated cost
- So no effect on service levels or fares at the margin
- Concern that train operators have no incentive to work with infrastructure manager to minimise system costs if they do not bear total cost
- Better incentives to minimise system costs if based on avoidable cost and franchisees exposed to infrastructure cost risk
- Use of prime user costing for any remaining fixed costs



Issue of open access for passenger services

- Currently open access entry only allowed where it is 'not primarily abstractive'
- OAO operators only pay the variable charge, not a share of the fixed charge
- Competition and Markets Authority has advocated a removal of this barrier to open access competition
- But how to ensure that the fixed charges and premium paid by franchisees is not eroded?
- ORR proposes to replace (part of) the fixed charge on franchisees by variable charges payable by all operators
- Suggested PSO levy dropped for the time being

- For franchised services, some fares regulated and minimum service levels specified
- Where not regulated, little on track competition so fares presumably set to maximise revenue
- So increased track access charges will have little impact on fares levels
- Impact will be withdrawal of less profitable trains unless these are required as part of a franchise agreement (possibility of long run adjustment of franchised service requirements, especially where regional authorities responsible for franchising)

Passenger market segmentation



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Profitability varies by:

- type of train (inter city, regional etc)
- time of day/ day of week

CEPA study of margin between revenue and train operating cost - conclusions



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Two types of service can bear mark-ups

- Core inter city services
- Long distance commuter services
- Typically could bear a mark-up of €4-5 per train km

But

- Margin must vary by time of day
- Removing some trains may add revenue to others, so this may understate incentive to cut services

1. British estimates of direct cost may be too low
2. Important to retain a capacity charge on a crowded system though could be improved (e.g. variation by time of day)
3. Ramsey pricing assuming track access charge increases passed on as higher prices appropriate for freight – but should also allow for undercharging of competing road haulage



4. Unlikely that increases in track access charges would be mainly passed on as higher prices in passenger – instead impact likely to be cuts in services
5. Two part tariffs best for public service contracts but inappropriate where on track competition
6. Here cuts in services may be minimised by segmenting market by profitability of service – varies by service type (inter city, commuter, regional) route and time of day

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