

Rail demand forecasting – ten lessons of a lifetime

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Lesson 1: Unexpected changes in the supply side can undermine demand forecasts



Eurostar/CTRL

CTRL and Eurostar and high-speed commuting



Lesson 2: Borders Railway Some demand forecasts are right for the wrong reasons....



Borders Railway



Lesson 3:and other forecasts are right despite everything going wrong!



Lesson 4: Markets change over time...



Lesson 5:and so do market shares, although demand models regularly presume very limited modal switching

Over a period of 11-12 years from 1995, the rail market share of all travel over 25 miles (which is dominated by car) grew from 8% to 14%.



Demand by mode indexed to 1980=100

HS2 likely has demand under-estimated as a result



Lesson 6: Service frequency really matters – as do through trains – seminal 1981 research



Lesson 6: Service frequency really matters – as do through trains

- For business passengers a change of train is equivalent to a 20 minute journey time extension
- For leisure passengers it is equivalent to a 40 minute extension
- High frequency services have a huge effect on demand hence Regional Railways' 'Sprinter' revolution



Lesson 7: Changing mode car to rail ('park and ride') *en route* has not been accurately forecast (but could be)



Lesson 8: Fares elasticity effects are now buried in complexity

- Regulated fares: season tickets and 'savers' (set in relation to RPI)
- Railcards; route restrictions; individual train operating company offers; PTE & TfL-based fares; fares based on the BR sectors of 25 years ago; the mileage based rates and tapers of previous generations...
- 3000 stations but may be 100m+ fares
- Obligation to offer the cheapest undermined by 'split ticketing'

Put that lot into your generalised cost function!

Oh, and take account of a highly skewed income distribution and the existence of corporate (or reclaimable) travel policies!!

Lesson 9: the analytic presumption of demographic and land use stability has led to serious under-estimation of demand on new lines





Canary Wharf in 1980



Canary Wharf in 1985



Canary Wharf in 1991



Canary Wharf Today



Lesson 10: We've run out of incremental capacity, so now the modelling gets much harder



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