



Road versus rail: Facts sheet No 10: Rail safety costs, value for money?

This note is from Inquiry Evidence. The detail is superseded by the arithmetic in the summary. The main changes are (a) the cost of the system is now quoted as £3.6 billion, not £6 billion (b) maintenance costs have been included adding £180 million to the annual spend. The conclusion is not effected to any significant extent. The inquiry note provided:

..... This note suggests that for every life (plus the associated lesser casualties) saved on the railways 30 to 40 lives (plus their associated lesser casualties) may have been sacrificed on the roads or elsewhere.

- 1 The latest reported cost of the proposed safety systems for national rail is £6 billion. If the system lasts 30 years then, with the interest rate set to 6%, the annual cost of the £6 billion is £435 million per year. That annual costs is net of maintenance and will save train accidents only.
- 2 Over the 18 years ending 1999 an average of 6 passengers per year were killed in train accidents. Data suggests that that should perhaps be increased by 15% to allow for staff. If half would be saved by the signaling system we are left with 3.5 fatalities per year saved.
- 3 Facts sheet 04 suggests that fatalities in train accidents account for only 22% of casualty costs in train accidents, the rest being attributable to serious and slight injuries. The value of a life is set at £922,874, at the 2000 price base, by the Government. Hence the value of the casualties saved per year will be approximately: $3.5 \times 922,874 / 0.22 = £14.7$ million.
- 4 It follows that the annual capital cost of the system, £435 million, will exceed the annual value of the casualties saved, £14.7 million, by a factor of at least 30; an amazing misuse of public or private money if ever there was one.
- 5 If the recent newspaper reports, suggesting a saving of some 80 fatalities over 40 years, are to be believed then, instead of the 3.5 fatalities per year saved suggest above, the system may save only 2. In that case the annual cash value of the saving is £8.4 million, 41 times less than the annual cost of the capital.
- 6 That implies a great loss of life and limb elsewhere, such as in our hospitals or on the roads. E.g. the casualty cost per fatality on the roads is £2.8 million at 2000 prices (note this is not the cost of a fatality; instead it is the cost per fatality of the fatality plus all the associated lesser casualty types). Hence to justify an annual expenditure of £435 million on the roads there would have to be 155 lives saved (plus the associated lesser injuries). Not a good comparison - for all roads the relative casualty rates Fatal/Serious/Slight will be different from rail
- 7 Meanwhile, road traffic on motorways and trunk roads require no, or virtually no, signals at all.

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