UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

COMPETITION FOR LONG DISTANCE PASSENGER RAIL SERVICES: THE EMERGING EVIDENCE

Professor John Preston,

Director, Transportation Research Group.

The Future for Interurban Passenger Transport.

17th November 2009.

18TH MADRID 2009
INTERNATIONAL TRANSPORT RESEARCH SYMPOSIUM

Forms of Competition for Long Distance Passenger Rail

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

- Operations 0riginally envisaged as atomistic on-the-track competition with vertical separation.
- Evolved into vertically integrated local monopolies with some route competition.
- On-the-track competition re-emerges in Europe post 1994: head-0n, cream skimming, niche markets.
- Off-the track competition for national rail originates in Sweden (1990 local, 1993 regional).

Outline

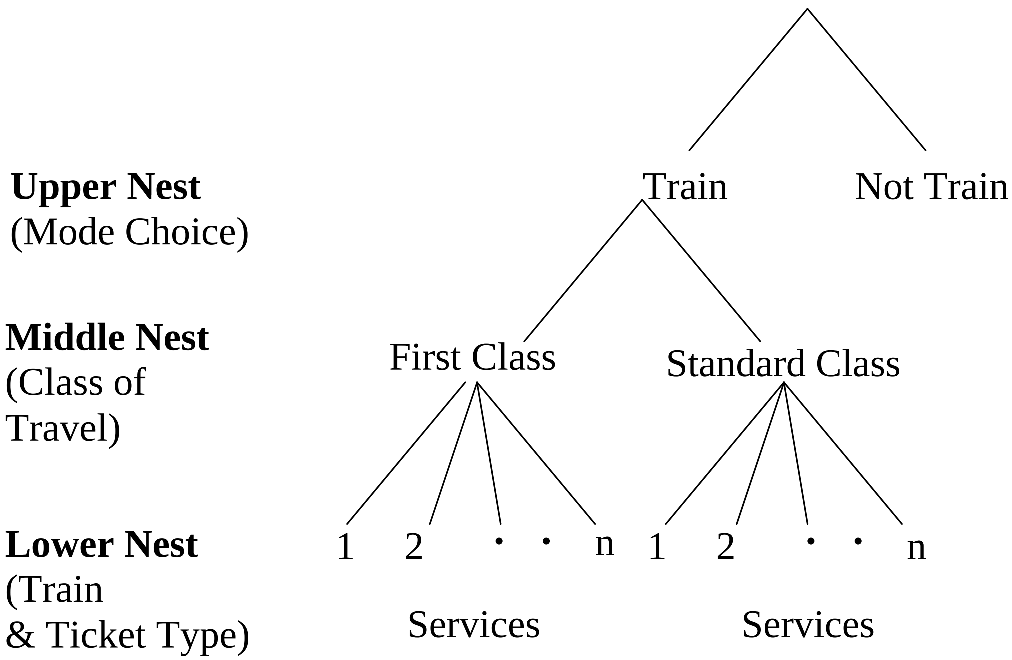
UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

- Ex ante simulation of on-the-track competition for Great Britain and Sweden: head-on and cream skimming.
- Ex post evaluation of off-the-track competition in Great Britain with a case study of the East Coast Main Line franchise.
- Ex post evaluation of niche market open access: case study of Hull Trains and Grand Central.
- Conclusions

Simulation

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

Schematic Representation of the PRAISE Demand Model



TC = (1 + A) (aT + bTH + cTKM + dPKM)

where
TC = Total cost
A = Administrative mark-up
T = Trains
TH = Train Hours
TKM = Train Kilometres
PKM = Passenger Kilometres.

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

Ex ante Simulation (I)

- Route GB1, 2 million pax per annum. Paralleled by Route GB1A – one hour longer.
- Route S1, 2 million pax per annum. Paralleled by Route S1A, 1 million pax per annum – one hour longer.
- Route S2. 0.25 million pax per annum. Borderline profitability.
- Track access charges (2000 prices): GB full cost recovery (£5 per train km), S short run marginal costs (£0.65 per train km).

Ex ante Simulation (II) Route GB1

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

- Head-on competition not feasible.
- Cream skimming entry feasible (if regulation for interavailable tickets) but not socially desirable.
- Market grows by 11% and incumbent gets a 7% share. Incumbent's revenue is down by 17%.
- If Route GB1A has 50% lower fares can capture 25% of traffic.

Example Results from the PRAISE Model – Inter City Route GB1 (per day)

Model Run	Fares	Entrant Service Pattern	Inter-availability of tickets	Incumbent Profit (#)	Entrant Profit	Consumer surplus change (Business)	Consumer surplus change (Non-business)	Welfare Change
5	C*	1*	Yes	23,545	528	12,741	4,548	-1,383

Notes:

1* Entrant provides two additional express services in the morning and evening peak periods in both directions of travel.

C* Both operators discount fares by 20%.

Incumbent base profit £42,746

Ex ante Simulation (III)

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

- Route S1 head-on competition feasible and improves welfare.
- Market grows by 43% and entrant share 53%. Incumbent's revenue down by 46%. Welfare up by 31% of profits.
- Regulated monopoly with 20% fare reductions and small service cuts could increase welfare by 118% of profits.

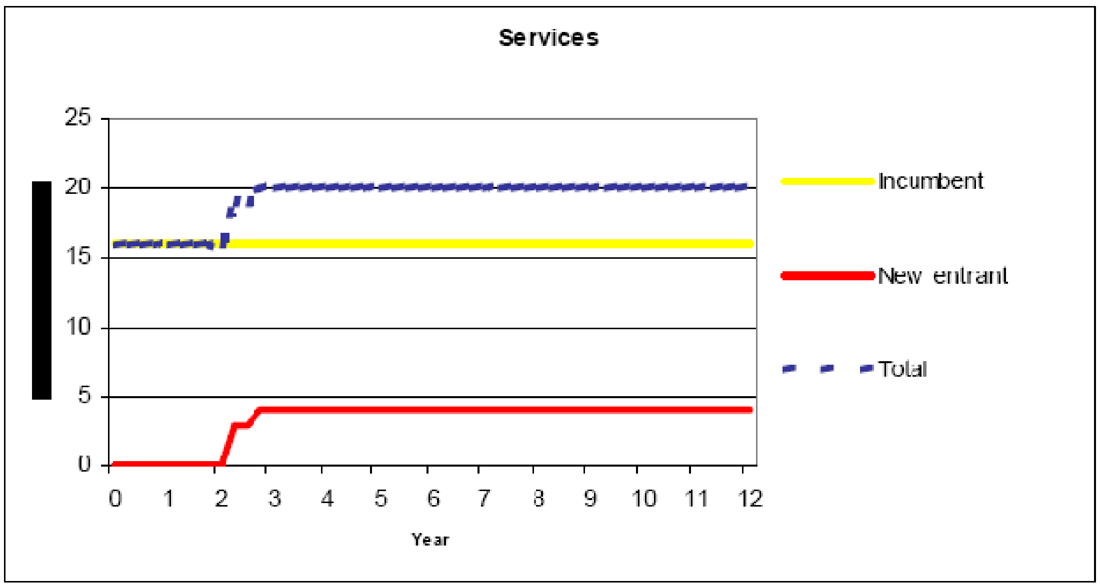
Example Results from the PRAISE Model – Inter City Routes S1 and S1A

Scenario	Fare Route 1A	Fare Route 1 -Inc	Fare Route 1 -Entrant	Service Route 1A	Service Route 1 -Inc	Service Route 1 -Entrant	Route 1 Pax change	Routes 1 & 1A Profit change	Routes 1 & 1A CS change *	Routes 1 & 1A Welfare Change *
67	As Now	-20%	-20%	As Now	As Now	Match	43.0%	-23.1%	54.4%	31.3%

Note: Inc = Incumbent, Pax = Passenger, CS = Consumer Surplus, * Expressed relative to base profit and a base situation in which tickets are interavailable.

Ex ante simulation (III)

- Route S2 competition only feasible on peak days (Friday, Sunday)
- Other simulation models give similar results e.g. SDG (2004). Importance of track charges and interavailable tickets.



Off Track Competition (I)

- Three rounds in Great Britain.
- OPRAF 1995/6. 25 franchises, of which 5 long distance. 5.4 bids per franchise.
- SRA 2000 – 2005. 8 franchises. 4.2 bids per franchise. 13 franchise failures, only 2 long distance. Cost increases in the order of 23-38%. Winner's curse or low balling?
- DfT. 2005 to date. 10 franchises. 3.8 bids per franchise. 2 failures, both long distance. Some mergers of long distance and regional services. Cap and collar revenue sharing regime. Cross default provisions.

Off Track Competition (II)

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

The East Coast Franchise

	Date Started	Expected Duration	PVNP 1st year (£m)	PVNP Final year (£m)
GNER	April 1996	7 years	65[1]	0
GNER	May 2005	10 years	(50)	(219)
National Express[2]	Dec. 2007	7 ¼ years	7	(311)

PVNP = Present Value of Net Payments. Figures in brackets denote premia paid.
[1]Out-turn. [2] terminated 13 November 2009.

Note increased use of backloading.

Alternatives

- Gross cost contracts.
- Flexible length (least PV of revenue approach).
- Vickrey auctions.

Niche Open Access (I)

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

ORR moderation of competition – services should not be primarily abstractive.

Two main entries: (i) Hull Trains (2000)

(ii) Grand Central (2007)

Generation:Abstraction ratio greater than 0.3.

High proportion of travel on dedicated tickets.

Open Access Services Summer 2009

	Franchisee's trains per day	Open access trains per day	Franchisee super off peak return	Open access Off peak return
London – Hull	1 (19)	7	£85	£69
London – Sunderland	0 (23)	3	£105	£71

Figures in brackets are indirect trains.

Niche Open Access (II)

Economic benefits exceed net financial costs (reduced subsidy premia)

Economic Benefit of Open Access Services (£m)

	Hull Trains		Grand Central	
	PV 5 years	PV 10 years	PV 5 years	PV 10 years
Economic benefit	47.3.	96.9	18.4	38.2
Net financial cost	29.1	45.4	15.5	24.3
Net Present Value	18.1	51.5	2.9	14.0
Benefit Cost Ratio	1.62	2.13	1.19	1.57

Source: MVA, 2009.

Conclusions (I)

UNIVERSITY OF Southampton
School of Civil Engineering and the Environment

- On- and off-track competition problematic. Exacerbated by capacity scarcity and network effects.
- Monopoly operations may be close to optimal if:

  Modal competition: deregulated bus and air markets.

  Route competition: franchised regional services.

  Niche direct services of off main line destinations.

  Effective performance regime.
- Public operations may be close to optimal if:

  Commercial agency with efficient costs.

  Innovative in terms of product and pricing.

Conclusions (II)

- If these conditions don't hold then off-track competition has some attractions – not least because it can introduce a form of two part tariff for infrastructure.
- However, current policy momentum is towards on-track competition.

  Directive 2007/58 introduces open access for international services with domestic cabotage from 1 January 2010.

  Sweden to introduce open access in 2010/11. SJ already developing entry blockading strategies.

  Dangers of too much service at too high fares.