

# Land of the rising railway

## Example for Britain

Britain can learn a great deal from Japan about improving high-speed links, said Dr Christopher Hood, director of the Japanese studies centre at Cardiff University.

New high-speed lines are big revenue earners but they also give a profit for society and the environment, he said, and can also free up capacity on existing routes for commuter trains and freight.

Dr Hood called for four new main lines in Britain. The journey time from London to Newcastle, even assuming UK trains are not so fast as the Japanese Shinkansen trains, could be cut from 215 minutes to 130.

The Newcastle line could continue to Aberdeen while separate lines could go from London to Glasgow and London to Plymouth.

London to Cardiff could be only one hour.

But there would need to be frequent services on straight, electrified lines. There would have to be dedicated lines to avoid crossovers or signalled junctions.

Trains would have to be comfortable. At Present there is limited leg room on most trains which have seating facing the wrong way.

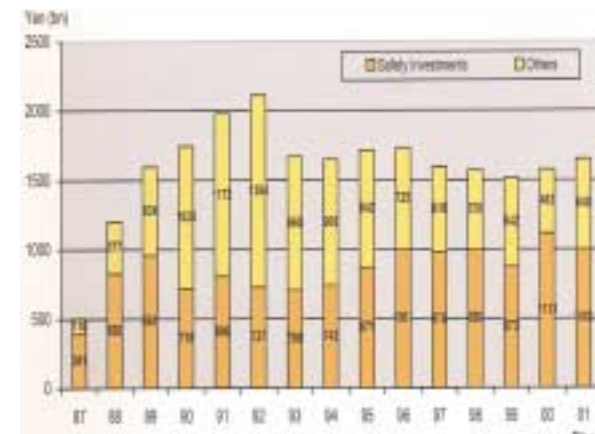
Stations should be the focal point of the journey, with perhaps theatres, shops and meeting rooms.

Repairs would have to be carried out at night, and there must be no drop in standards on Sundays.

But he said the problems of Britain's railways lay as much in the education system and society as they do in the rail industry. The approach of the two countries is so different.

In Japan, research began in 1962 on "low level flying" from Tokyo to Osaka.

The linear Shinkansen test centre opened in 1977 and 18 kilometres of double track has been built. Tests at 550 kilometres per hour had been completed with two vehicles passing at a relative speed of 1,000 kph.



Investment for safety



**PASSENGERS FIRST:** Travellers on the Nagoya Railway have a unique observation cabin above the driver on this Panorama Super series 1000 leaving Unama station on the Inuyama line

Pictures by Hiroshi Naito © of the Japanese Railway Society

## A lesson in privatisation

One of the key components of Japanese railway privatisation was the establishment of a Railway Development Fund, said Seiji Yasubuchi who is a financial expert with UBS Warburg but has also worked for the Mitsubishi Corporation in both London and Japan. The rail development fund was set up

four years after the privatisation in 1987 of Japanese National Railways which were split into six regional companies. Mr Yasubuchi described how debts at JNR – which was founded in 1906 – almost doubled between 1981 and 1986 while revenue remained virtually static.

Until then the railways had been financed by government grants and loans, bank loans, government-guaranteed bonds and local authority bonds.

After that, finance came from corporate bonds, a determined drive to keep interest rates down, regular and early repay-

ments of loans and some cancellation of debts.

The way managers have tackled the privatised railway was outlined by Tetsuya Oiyama who works for the East Japan Railway Company, although he joined JNR more than 20 years ago.

*"We have never raised fares and have kept the balance in the black in the almost 15 years since the establishment of our company," said Mr Oiyama*

The number of railway operational accidents has fallen by 40% in the privatisation years while capacity has increased by 20% and productivity by 60%.

Five Shinkansen lines had been completed.

There is a strong focus on recycling. Rubbish bags are provided at rail stations for discarded newspapers.

There is a determined attempt to develop shopping centres and hotels based on stations. JRE has built its own research and development centre and is determined to make the 21st century an era of railway renaissance.

**"What do you mean by a broken rail? We do not understand."** Executive of Odakyu Electric Railway Company.

**"Train failure? You mean a total train failure? I cannot recall one and I've been here for 37 years."** Manager, Tokyo subway control centre.

**"Crashworthiness? Our trains do not collide. We have systems to prevent that."** Executive, ministry of transport.

Comments made to British officials on a visit to Japan in 2000.

**The reports on this page are based on lectures to the Japanese Railway Conference at Cardiff University on 25 March 2002. A full report is available for £100 plus VAT from Dr Christopher Hood, Japanese Studies Centre, Cardiff University, Colum Drive, Cardiff CF10 3EU. Fax: 029 2087 4419 email: HoodCP@Cardiff.ac.uk**

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**DISNEY LAND:** This three-mile long continuous monorail was opened last year to serve the Disney resort at Maitiama

## 100 times safer than Britain

British railways are probably 100 times more dangerous than their Japanese equivalents.

The estimate came from Dr Ryo Takagi who was educated at the University of Tokyo but joined the University of Birmingham as a research fellow last year.

He said Japan has far more railway than Britain although the two countries are roughly equal in size and population.

Britain has only 17,324 kilometres, including national rail, London Underground and the various light rail systems, compared to the 27,625km of Japan.

Japan also has 2,153km of Shinkansen high-speed rail where Britain currently has none.

Of course with such a better railway the number of passengers carried is far greater. Britain has 2.06 billion passengers a year, compared to Japan's amazing 21.65 billion.

In terms of passenger kilometres, Japan is far ahead with 384.4 billion compared to Britain's 47.5 billion.

Surprisingly Britain's railways carry more freight, 103 billion tonne kilometres, compared to Japan's 22.4 billion. Whereas Britain has 31% of its national rail network electrified, Japan has been

much more forward looking, with 63% of its railway electrified. Japan also has several monorail systems, and a new magnetic levitation line expected to open in Aichi in 2005.

Japan's railways have the best punctuality records in the world and walk-on fares are about the same, or even cheaper than pre-reserved tickets. There is also little difference between peak and off-peak prices.

There are also some serious drawbacks. One is that urban transport operators rarely have through tickets, so that transfers between systems are expensive.

There is also a marked reluctance for trains to work though from one system to another. But the privatisation of 1987 is seen as a success, with both

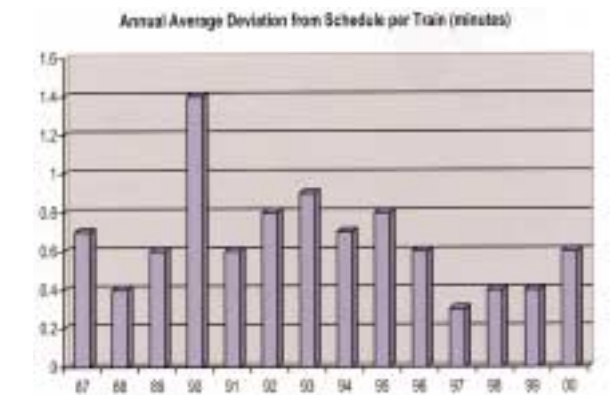
German railways and Swiss Railways following Japan's example of having a regional split rather than a separate management for infrastructure and operations.

Privatisation has led to speed increases on both Shinkansen and other lines, as well as lower costs.

There has been little or no fare rise since 1987.

The private railways are now determined to improve their financial performance by collaborating in train design, stored-fare cards and new information technology initiatives.

Dr Takagi said Britain should have learnt from Japan how to privatise its railways and at the same time how to improve both safety and reliability.



Amazing facts of Japanese rail punctuality