



The Institution of
Railway Operators

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Running rail – Japanese style

John Glover, with Mark Phillips, Ian Rawlings and John Barlass, takes a closer look at Japan's railway system

In Britain, Japanese railways are perhaps best known for their high-speed Shinkansen passenger services on dedicated standard gauge lines, but there is also a large scale 1,067mm gauge conventional network and many urban railways.

This article concerns service provision and is based on the experiences of a team of rail managers from Britain, who visited Japan to view its operations first hand.

SHINKANSEN SERVICES

The first Shinkansen opened between Tokyo and Shin-Osaka in 1964. The routes are specially constructed and dedicated solely to the operation of such services.

JR Central operates two types of rolling stock for Shinkansen services, both are relatively new fleets of 16-car formation. The 61 Series 300 trains were introduced from 1992 and the 60 Series 700 from 1998. Trains operate at a maximum speed of 268kph (167mph).

Three types of service are operated by JRC on the Tokaido Shinkansen: Nozomi (Hope), Hikari (Flash of Light) and Kodama (Echo). These have different stopping patterns, with Nozomi being the fastest, linking the three main cities on the line with the Tokyo Metropolitan area. Hikari and Kodama provide limited-stop and all-



A 300 Series Shinkansen train at Tokyo.

stations services respectively. Three hundred trains a day are scheduled, with no significant difference in the service pattern between weekdays and weekends.

On average, a train leaves Tokyo for Shin-Osaka, or beyond, every six minutes. Trains operated on the Tokaido-Sanyo Shinkansen are provided by both JR Central and JR West, with crews changing at the boundary. There are no charging regimes between the two organisations for this method of operation.

LOCAL TRAIN SERVICES, NAGOYA

Conventional services around Nagoya are similar to the urban and suburban services around many British cities. A mixture of DMUs and EMUs are used.

The maximum operating speed on the conventional network is 130kph. This limit, approximately 81mph, has been imposed as trains are required to be able to stop, from line speed, in no more than 600 metres. This is a response to the significant proliferation of level crossings on these routes. The two exceptions are both on routes with

no level crossings and include the Honshu-Hokkaido tunnel.

Standards of passenger comfort are generally good and are excellent on rolling stock, such as the series 85 DMU, used for longer distance interurban services. The on-board environment and quality of ride are exceptional for a mid-life vehicle.

On the more rural parts of the network, diesel units are operated as single cars at off-peak, but in multiple during the busier times of the day.

Sitting immediately behind the driver, it was possible to witness the application of 'Shisa Shoko', whereby the driver would point to emphasise his understanding of every trackside or in-cab indication.

This included pointing at

trackside workers to demonstrate that he had seen them.

Of particular note was the private railway, which also operates between the towns of Minu Ota and Tajimi.

This was electrified double track and the operator has the potential to offer a faster and more reliable service. In the run-up to JNR privatisation, such operators were able to undercut fares, thereby further undermining ridership.

Since privatisation, the former national railway companies have won back a portion of lost business.

TRAIN CLEANLINESS

Train interiors are relatively simple, with no signs of wear and tear. Levels of cleanliness are outstanding, but there are significant reasons.

Firstly the Japanese are a very clean and tidy nation; there is very little litter anywhere and no graffiti. There are also armies of cleaning staff at each terminus.

For the Shinkansen, two cleaners board each carriage at Tokyo – 32 for a whole train – following passenger disembarkation.

PASSENGER INFORMATION

The quality and provision of passenger information varies widely. The Shinkansen has one of the best, but some of the others are

IRO ANNOUNCES THE FIFTH SERIES OF EDUCATIONAL COURSES

The Institution of Railway Operators is now taking applications for its fifth series of educational courses, which start on 13 October. The deadline for completed applications and the course fee for the diploma and degree courses is 27 July. Tony Cousins, the institution's education manager said: 'Demand for the courses is high and you are advised to start the application process now. You must be a member of the institution and need a membership number for your application to be progressed. If you are not a member you need to apply now.' Full details of how to become a member of the IRO and details of courses can be found on www.railwayoperators.org.

DIARY OF EVENTS

SCOTTISH AND IRISH AREA

Tuesday 11 September: Talk by Duncan Sooman, territory engineer (civils) Network Rail Scotland – The 2030 Railway: A Scotland Perspective. Network Rail Boardroom, Buchanan House, Glasgow, 17:15 for 17:30 start.

This is the event originally scheduled for 20 March. For information on Scottish Area events please contact Chris Owen on 01506 854537 or email scottish@railwayoperators.org

SOUTH EAST AREA

Monday 21 May: Len Porter, chief executive of Rail Safety and Standards Board will be speaking

Monday 9 July: TBA

Monday 10 September: Andy Barr, London Underground, will be speaking about major asset recovery following a serious incident.

Monday 12 November: High Speed 1 – speakers TBA

All South East Area meetings take place at the Union Jack Club, Sandell Street, opposite Waterloo East Station.

Doors open at 18:00 for an 18:30 start. For information on South East Area events please contact southeast@railwayoperators.org

SOUTH WEST AREA

For information on all South West events and matters, contact Lawrie Hall on 01453 822150 or emailsouthwest@railwayoperators.org

NORTH EAST AREA

Wednesday 9 May: Visit to the Network Rail Training Centre in Leeds. The subject of the talk will be the Selection and Training of Signallers. This will be followed by an opportunity to have some 'hands-on' experience on the simulators used to train signallers, including the lever frame and NX panel.

The event will commence at 17:00 for 17:15 at the Network Rail Training Centre, City Exchange, 5th Floor, 11 Albion Street, Leeds, LS1 5ES.

Refreshments will be provided. For further news on the IRO in the North East please contact: northeast@railwayoperators.org

NORTH WEST AREA

Saturday 2 June: Annual North West Area Family Day visit to the East Lancashire Railway. All members, their partners and children are welcome. Precise details of the day's timetable, refreshment arrangements and costs will be advised nearer the time, but in the meantime would members who are interested please reply to Clive Evans by Monday 2 April, detailing numbers in their family party. Please contact northwest@railwayoperators.org

MIDLANDS AREA

Monday 21 May: Kings Heath depot visit in Northampton. To contact the Midlands Area, please call Julia Stanyard on 0121 345 5030 or email midlands@railwayoperators.org

YOUNG PROFESSIONALS

Thursday 3 May: Informal networking at Euston Flyer, between St Pancras and Euston (see map on website for

location). Starting from 17:30 onwards.

Monday 21 May: Len Porter, chief executive of the Rail Safety and Standards Board will be giving a talk on how safety legislation impacts on our industry, evolving group standards and their effect on the operational railway. Union Jack Club, London, opposite Waterloo East Station. 18:00 for 18:30.

Please go to www.iroyoungprofessionals.org.uk/events to register for this event.

Thursday 7-Saturday 9 June:

There will be a visit to Siemens train building factory in Germany.

Numbers are limited – please book early for this.

Contact www.iroyoungprofessionals.org.uk/events Please register for all events at www.iroyoungprofessionals.org.uk/events. We welcome any feedback or enquiries.

Contact us at comms@iroyoungprofessionals.org.uk or check our website at www.iroyoungprofessionals.org.uk

also excellent. Active in-car maps on the Yamanote Line around Tokyo are truly world class. LCD screens show the line map with the train's current location and journey time to stations en-route, both in Japanese and English.

Also shown are details of interchanges at the next station and the location of platform facilities. This equipment can also be dynamically updated with details of any service disruptions.

The existing passenger information displays in the saloons have been upgraded to provide news headlines for travellers.

BUSINESS RESULTS

JRC is an extremely successful business that has benefited from a substantial growth in patronage on the Shinkansen lines post

privatisation. This has enabled it to hold fare increases for the last 18 years, though this is in an economy in which inflation is currently zero per cent.

This has made the railway very competitive with other modes, particularly air. Profit for the fiscal year ending 31 March 2006 totalled ¥1bn (£4.5m). Positive relationships with staff have dramatically improved profitability. Front-line employees have reduced by 5,000 since 1988, and passenger kilometres per employee grew from 2,131 in 1988 to 3,774 in 2006.

Mark Phillips is the operations and planning director at One; Ian Rawlings is operations engineer SSR at London Underground; and John Barlass is fleet and engineering director at Central Trains.

MEMBERS' NEWS

The following employers operate a corporate membership scheme, by paying a one-off annual fee that covers all their employees' affiliate or associate membership subscriptions:

Network Rail ● Eurostar UK Ltd ● First ScotRail ● First Great Western ● One ● Railnews ● Iarnród Éireann (Irish Rail) ● EWS Railway ● Northern Ireland Railways ● Central Trains ● Virgin West Coast ● Virgin Cross Country ● First Transpennine Express ● Southern ● Corus Rail Consultancy ● London Underground Ltd ● Docklands Light Railway ● Transport for London ● Stagecoach Rail ● South West Trains ● Sheffield Supertram ● Arriva Trains Wales ● Southeastern Railway ● Island Line ● London Lines ● Silverlink Trains ● c2c Rail ● Gatwick Express ● RWA Rail ● Midland Mainline.

Those with full membership will continue to pay their subscription personally, irrespective of whether they can subsequently claim it back. Please note that, as the IRO's subscriptions are tax-deductible, a receipt will be issued for all payments – whether by cheque, standing order or internet payment.

If your company would like to explore the benefits of corporate membership of the institution, please contact us. We welcome applications from all industry companies, suppliers and associations – please contact Chris Daughton: on 01444 248931 or admin@railwayoperators.org