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Report to Partnership Meeting 7 February
RESEARCH AND STRATEGY DELIVERY

HML Unfazed

HITRANS commissioned SYSTRA to undertake a review of the current operation of, and investment in, the Highland Main Line (HML) between Perth and Inverness. This report is almost complete, and the draft summary appears below.

The report seeks to understand the possible interventions required to address journey time and connectivity issues that previous investments have not resolved.

The Highland Main Line runs for 118 miles through the Scottish Highlands between Perth in the south and Inverness in the north. The route provides long-distance links between Inverness and Edinburgh, Glasgow and London, as well as providing local connections for intermediate stations between Inverness and Perth.

The route is currently served by 12 daytime trains per day in each direction, with all except one daytime and one sleeper service to London operated by ScotRail. Analysis of the changes to the timetable over the last 20 years indicates that the number of daily services between Inverness and the Central Belt has increased by three or four (depending on the direction). However, the existing timetable still falls short of the frequency of services to Edinburgh and Glasgow found on other ScotRail 7-Cities routes, with journeys often requiring an interchange at Perth, further increasing end-to-end journey time and customer inconvenience on an already relatively slow service. In addition to this low frequency and long journey time, it is currently not possible to arrive in either Edinburgh or Glasgow from Inverness prior to 9am. This contrast poorly with promises (discussed below) of headline journey times of 2 hours 45 minutes and average journey times of three hours that have been promised since 2008.

Analysis of Generalised Journey Times (i.e the perceived journey time including frequency and connectional issues) over the last 20 years demonstrates that there has only been a 7% improvement between Inverness and Perth since 1998, with no improvement at all since 2013; services to the Central Belt have seen similar levels of improvement and have also remained relatively constant since 2013.

In contrast, the A9 trunk road corridor is receiving significant investment (approximately £3bn) that will generate anticipated journey time savings that could make rail less competitive against road. This necessitates a step-change in investment in order to equal or better these journey times, compete with the upgraded road corridor and attract more users to rail.

In terms of rolling stock, the recent introduction of ScotRail's refurbished 7-Cities High Speed Trains (HSTs) has increased capacity and journey quality, but their operation has reduced service flexibility and their fuel consumption and greenhouse gas emissions

mean that they are not compatible with the Scottish Government's zero carbon targets in the long term. Given the age of the HSTs, they will require replacement in the medium term, presenting an opportunity to invest in decarbonisation and journey time reductions through an electrification programme.

A significant number of investment and service enhancement promises have been made over the last decade or so, but many of these have not been delivered. Average journey times between Inverness and Edinburgh and Glasgow have not improved significantly since 2006, when an intended sub 3-hour journey time from Inverness to Glasgow and Edinburgh was announced in the "Scotland's Railways" report, and later the Strategic Transport Projects Review. Similarly, services between Inverness and Perth have increased in frequency but have not achieved the 2-hour timing proposed as the average journey time in the 2011 Initial Industry Plan.

Transformational station investments have also remained elusive, with promised investments at Inverness and Perth yet to be delivered. Without these promised improvements, the necessary modal shift from road to rail, the opportunity to decarbonise Scotland's transport network and the wider economic benefits that enhanced rail connectivity will bring to communities along the HML will continue to be out of reach.

In order to deliver these promised investments a number of possible interventions have been identified that would deliver the aspirational 2 hours 45 minutes journey time between Inverness and the Central Belt as soon as possible.

Given the significant planned investment in dualling the A9 trunk road corridor, it should be argued that a similar "step-change" level of investment is required on the HML that would deliver competitive journey times compared to highway journeys and allow the line to perform at a level that a key strategic route demands. This investment would also respond to the current climate agenda; the Scottish Government's declaration in 2019 of a climate emergency has brought into sharp focus the contribution of transport to emissions, with a commitment to decarbonise Scotland's passenger rail services by 2035 through the continued electrification of the network.

Electrification of the HML would make a significant contribution to meeting both these key objectives, allowing the rail service to compete on journey time with the upgraded A9 corridor, delivering improved journey times, increased reliability and resilience, and delivering the zero carbon benefits that have been pushed to the forefront of the political agenda. Full electrification would deliver the greatest benefits in both these areas, and should remain the ambition. However, given that continuous electrification may prove to be challenging from an engineering perspective or too costly to represent a value for money investment, it is possible that a discontinuous electrification programme – including the use of battery or hydrogen powered trains – should be considered as a potential first step towards the longer-term benefit of full electrification.

In terms of station improvements, a programme of investment in the smaller stations along the route, creating high quality community centres – or localised mobility hubs, with linkages with local bus services, and vehicle and cycle charging stations – would provide benefits for the local rail users. Significant station investment such as this at stations would also enhance the visitor experience at destinations such as Aviemore and Pitlochry, facilitating the growing rail tourism sector in this region.

The following target for a transformational future service specification that would achieve the level of service required has been the stated ambition for the HML for the last 20 years:

- Inverness to Edinburgh and Glasgow Queen Street:
- An **average** journey time across the day of 2 hours 45 minutes.
- A balanced service between Edinburgh and Glasgow Queen Street throughout the day.
- Inverness to Perth:
- A sub-2 hour average journey time (this is essential to the delivery of the overall 2 hour 45 minute journey time to Edinburgh and Glasgow).
- Improvements to the interchange at Perth for connecting services to Edinburgh and Glasgow Queen Street.
- A late evening (after 9pm) stopping service departing Inverness.
- An early morning service giving pre 0900 arrivals in both Edinburgh and Glasgow

Improvements in direct services from Inverness to England via the West or East Coast Mainlines.

Improved sustainability of services to address the carbon agenda and reduce the carbon footprint of the rail network.

The delivery of transformational station investment at the key interchanges of Inverness and Perth, as well as the development of community and mobility hubs at local stations such as Pitlochry and Aviemore.

Improvements in the punctuality and reliability of services and resilience of the route.

In order to achieve the future outputs set out above, the following infrastructure investment would be required.

Electrification – full electrification of the route should be the long term objective, with discontinuous electrification a key interim solution to bring-forward some of the benefits of electrification.

Line speeds – electrification may allow increased maximum speeds on sections with steep gradients, and more “differential” speed restrictions where lighter, higher performing trains can operate at a higher speed than other trains may be appropriate.

Capacity – in the long term, the aim should be to introduce more passing places or develop “dynamic” loops to provide more service flexibility.

Rolling stock – the future replacements of HSTs may allow a return to multiple unit operation, and will also need to have a significantly lowered (or zero) carbon impact.

This study demonstrates that, whilst the relative lack of progress on the HML can be seen as regrettable, through a combination of circumstances a number of opportunities are emerging to develop the case for investment in the route to provide both a more attractive, faster and sustainable service. It is recommended that support be sought from all potential stakeholders for a “Task Force” approach to developing a comprehensive cross-industry consensus based on local needs.

Next Steps

Once finalised the report will be used to help to make the case for further funding during Control Period 6 2019-2024, and to help decision-makers with investment decisions on electrification and future rolling stock.

RISK REGISTER

RTS Delivery

Impact – Journey time, frequency

Policy

Impact – Connectivity, economy

Financial

Impact – The study is fully funded

Equality

Impact – Accessibility

Recommendation

1. Members and Advisors are recommended to note the report.

Report by: Frank Roach
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