



Stoke and Staffordshire can be key
HS2 beneficiaries – as well as Crewe

Greengauge 21
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This report sets out the opportunity to serve both Stoke-on-Trent and Stafford with a regular direct HS2 service, while protecting the wide set of benefits from accelerated development of the route to Crewe.

Introduction

The aim of HS2 is to provide the nation with modern reliable transport capacity and create the opportunity to grow stronger regional economies.

It does this by offering much faster journey times between a set of major cities and by freeing up capacity on existing main lines to increase services for places that cannot be well connected on today's congested rail network. It also means more room on the rail network for railfreight, so fewer lorries, and more local passenger services. This wider capacity benefit means that intermediate places, those parts of the country through which HS2 passes, benefit from it as well as the cities at either end.

Earlier this year, the idea of extending the first phase of HS2 so that it would reach further north sooner emerged. Sir David Higgins, Chairman of HS2 Limited, set out on 17th March 2014 his ambitions to:

*"accelerate Phase Two as soon as possible to take the line 43 miles further north than planned in Phase One, to a new transport hub at Crewe which could be completed by 2027, six years earlier than planned."*¹

This section of route crosses Staffordshire. It allows Scotland and North Wales as well as North West England to benefit from greater journey time reductions. But the question has not yet been satisfactorily answered about whether and how the proposed HS2 route to Crewe can benefit Stoke-on-Trent and Staffordshire.

There are three main parts to the answer:

¹ HS2 Plus, A report by David Higgins, March 2014

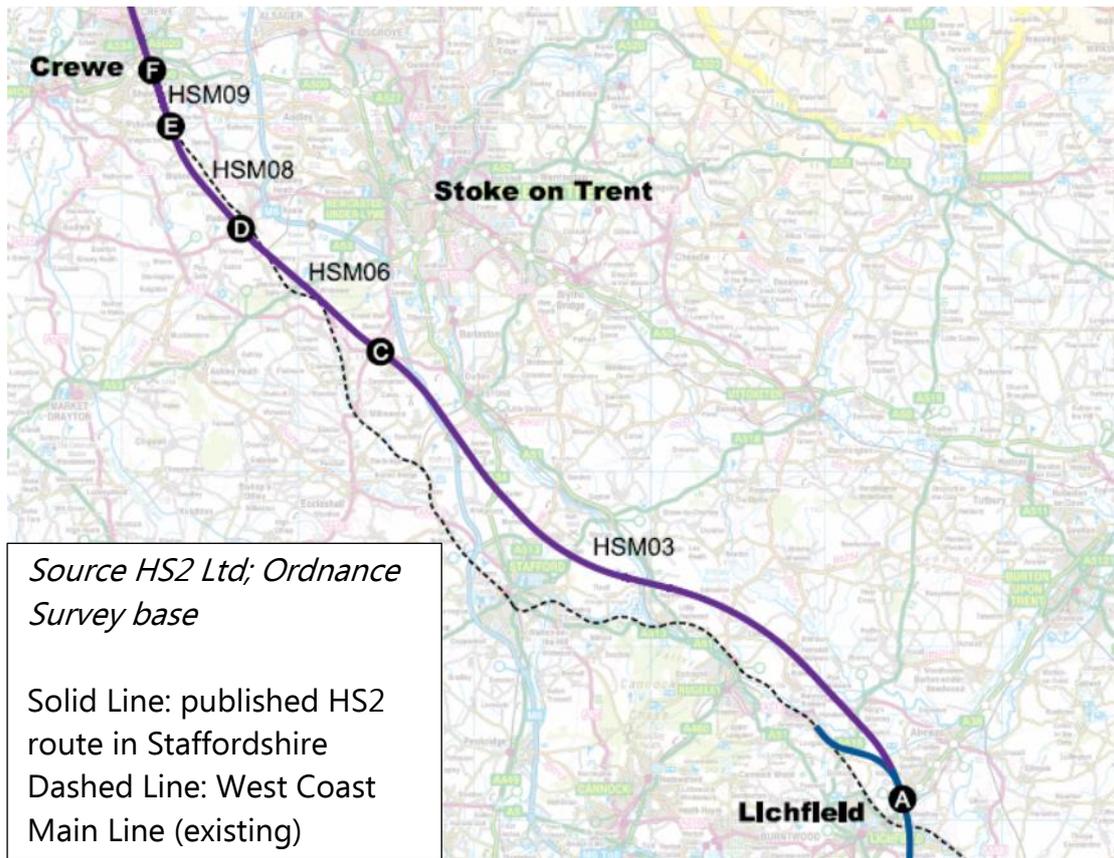
1. The scope the extension to Crewe raises for direct HS2 services to London from Stoke-on-Trent and Stafford
2. The release of capacity constraints on railfreight and fewer lorry movements across Staffordshire
3. The potential to use capacity released to improve local rail passenger services.

To this there is a fourth – and possibly unique – benefit: the scope to take a stretch of railway that will become redundant when HS2 is built out of service completely.

Analysis of each of these factors needs to be considered in the context of the case that has been made that the route of HS2 across Staffordshire should be radically changed, and should go to Stoke-on-Trent and not Crewe.

Quite reasonably, the authorities in Stoke-on-Trent don't want to miss out on the benefits that HS2 could bring. They believe this entails re-routing the HS2 route through Stoke-on-Trent. Whatever benefits this might bring, it would mean losing at the very least the advantages of directly serving Crewe (with its unrivalled rail catchment); it would also mean losing time (measured in years) because the consultation process would have to be re-started; and it risks worse environmental impacts because of the need to create an as yet little defined route northwards from Stoke-on-Trent across rural Cheshire to the West Coast Main Line, rather than the published preferred route that follows the West Coast Main Line, including through Crewe itself. Overall it adds uncertainty to the implementation of HS2.

The proposed route of HS2 which is planned for the Crewe extension is shown in the diagram overleaf, which also shows the West Coast Main Line and the planned connection to it north of Lichfield at Handsacre, and Stoke-on-Trent and Crewe.



Direct HS2 Services for Staffordshire and Stoke-on-Trent

The 'business case' service plans published by HS2 Ltd have no HS2 services shown to Stoke-on-Trent. Stafford would be served by an hourly train path from Liverpool, joining the HS2 route at Handsacre junction just north of Lichfield. But this has the unfortunate consequence of extending the length of route that this Liverpool service would run over the slower existing line, rather than the 43 miles of new HS2 route that comes with the 'Crewe early' approach. An altogether better approach is clearly needed.

The combined value of the London rail travel market from Stoke-on-Trent, Stafford, Macclesfield and Stockport is large, yet (aside from the Liverpool service stop for Stafford) none of these places is shown as being served in the business case Phase 2 service plan assumptions by HS2 Ltd.

Train paths on HS2 are limited, and there are several towns and cities with ambitions for a direct HS2 service. But Staffordshire has an advantage in that it is possible to serve Stafford, Stoke-on-Trent, Macclesfield and Stockport with a single train path. On their own, services to these locations might not be

justifiable; served together as a string of key North Staffordshire/Cheshire destinations they would be viable for HS2 service.

The route to be used would be London Euston – HS2– (*via* Handsacre junction, the original northern limit of Phase 1) – Stafford – (*via* the junction at Norton Bridge which is currently being improved and grade-separated and Stone) – Stoke-on-Trent and onwards to Macclesfield and Stockport. Services could be terminated at the planned new HS2 terminus alongside the existing station at Manchester Piccadilly. Fast HS2 trains to/from Manchester would use the route *via* Crewe.

Journey times for Stoke-on-Trent would be a little longer than those achievable if the HS2 route was diverted *via* Stoke-on-Trent. Broadly, journey times would be around half an hour faster than on today's Pendolino service for each of the stations served. Stoke-on-Trent, in other words, would get a similar level of benefit that will be enjoyed by other HS2 destinations.

Insofar as there is a business case to do so, the plans for a new station at Stoke-on-Trent can still be adopted. The regeneration ambitions of the city can still be fulfilled. And Stafford would have a secure HS2 service too.

Capacity for more railfreight means fewer lorries through Staffordshire

The unextended Phase 1 plan allows for an additional ten railfreight trains/day to operate over the West Coast Main Line.² The capacity gain would be much higher with the extension northwards to Crewe. This is because the constraints at Colwich Junction and between there and Stafford would be bypassed by most HS2 services, using the Crewe extension freeing up the existing West Coast Main Line for more freight.

As the Greengauge 21 report 'Capturing the Benefits' of February 2011, written before the possibility of a Crewe extension was made known explained:³

"...in practice the main constraint on the WCML post-HS2 will be the short two-track section between Whitehouse Junction and Colwich Junction, which will be a critical location. The WCML timetable shown in the chapter has been planned around this constraint, but the work has

² The Strategic Case for HS2, DfT, Figure 6.1, October 2013

³ <http://www.greengauge21.net/publications/capturing-the-benefits-of-hs2-on-existing-lines/>

illustrated that considerable additional benefits would arise if works were undertaken to relieve Colwich Junction.”

Colwich Junction, where the four-track West Coast Main Line shrinks to two tracks as far as Whitehouse Junction and the existing ‘Pendolino’ route to Stoke-on-Trent diverges. Note the speed restriction



It is likely that the full aspirations of the rail freight sector to secure additional train paths on the busy West Coast Main Line could be met once HS2 is in operation as far as Crewe. A report by WSP⁴ suggested that HS2 could take 500,000 HGV lorry journeys off the M1, M40 and M6 motorways each year leading to environmental benefits worth over £45 million per annum and saving over 65,000 tonnes of carbon dioxide emissions per annum from reduced lorry movements.

⁴ (<http://www.wspgroup.com/en/Welcome-to-WSP-UK/WSP-UK/Press-centre-UK/?item=20665>). See also <http://www.greengauge21.net/publications/the-carbon-impacts-of-hs2/> which shows that getting more freight on to rail can significantly improve the carbon impact of HS2

Better local rail services for Staffordshire

With the existing network largely relieved of supporting long distance non-stopping intercity services a large part of Staffordshire can be provided with better local services. Trains could be run on a regular interval pattern, timed to connect both with one another and with local bus services.

The plan developed for Greengauge 21 by timetabling specialist Jonathan Tyler in February 2011⁵ for the West Coast Main Line (WCML) post-HS2 included a twice hourly fast service between Stafford and the Trent Valley stations to London Euston using the WCML.

With stops on a regular interval pattern, the scope to use the Staffordshire rail system as a fully inter-connected network, with local hubs at Rugeley and Lichfield as well as Stafford for the first time becomes a real possibility.



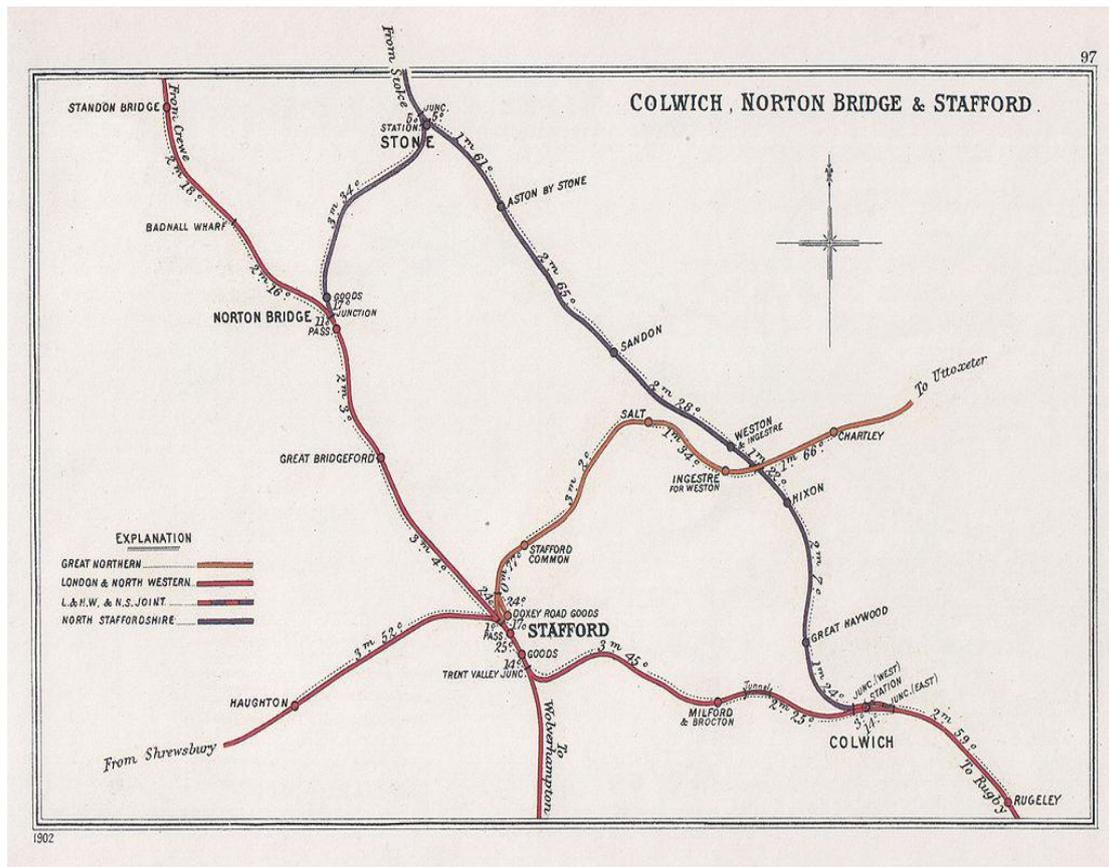
⁵ Greengauge 21 *op cit* Capturing the benefits

The diagram above illustrates the connectivity with railway routes radiating from Birmingham. But it is also possible to see the potential of the mini-hubs at Stafford, Rugeley and Lichfield forming key public interchanges and effectively serving the wider catchment across Staffordshire with connecting bus services.

The release of an existing railway for community benefit

The fourth (and unique) benefit category in Staffordshire stems from the fact that with the service plans for Stafford and Stoke-on-Trent identified here, the route between Colwich Junction and Stone – which has no intermediate stations or freight terminals, could be taken out of use. This line is only used regularly by Pendolino services today, and these would be replaced by the proposed HS2 services from Stoke-on-Trent operating *via* Stafford. There are many benefits.

The key section of route through Staffordshire is illustrated in the diagram below, which shows the choice of routes available and identifies the key junctions. The route that could be closed (between Stone and Colwich) is shown in blue – the intermediate stations at Aston by Stone, Sandon, Weston & Ingestre, Hixon and Great Haywood have long since closed.



Source: Railway Clearing House, 1902

The advantages and opportunities locally would be for local communities to assess. The not insubstantial villages of Little Haywood and Great Haywood could gain direct open access to the Trent and Mersey canal and its amenities, for example. The disused track-bed could be used to create a useful off-road long-distance cycle path, as has been achieved with many older railway line closures. Noise nuisance from passing trains at places such as Shugborough Park, Weston and Stone would be reduced. This is important because the planned HS2 route (whether it goes to Crewe or Stoke) passes through this area. The line closure approach could therefore bring some important environmental mitigation benefits.

There are also some wider benefits from line closure. Three road level crossings would be eliminated, enhancing safety and reducing delays. The junctions at Colwich and Stone would be eliminated, and in the case of Colwich, this should allow a useful increase in line speed on the West Coast Main Line, shortening journey times, (including for the proposed HS2 services to Stafford and Stoke-on-Trent) and reducing track maintenance costs. There would be similar savings at Stone where it may be possible more easily to implement the platform extensions needed to enable Cross Country services on the Stoke-on-Trent – Stafford route to make stations calls that are

currently not possible. And the materials retrieved from the line (track, ballast etc) should be re-usable on other parts of the network as replacements fall due.

Conclusion

We have shown how the preferred route to Crewe – a line that could be delivered by the mid-2020s accelerating and increasing the benefits for North West England, North Wales and Scotland – can bring significant benefits to Staffordshire and Stoke-on-Trent.

It is not necessary to discard the preferred route for Stoke-on-Trent and Stafford to be provided with an hourly (or possibly half hourly) HS2 service to London. The scope to regenerate Stoke-on-Trent will be just as strong as is the potential at other cities served by HS2. It too can serve as a transport hub. And the proposed hub for HS2 at Crewe is unaffected by this proposition which avoids making a bogus choice between benefitting one location or another. High speed rail can serve both.

What is needed is commitment from Government to the kind of service plan that includes HS2 services for Stoke-on-Trent (and Stafford, Macclesfield and Stockport) as described in this report.