

Department for Transport, High Speed Rail Consultation.

Evidence submitted by the South Yorkshire Passenger Transport Executive (SYPTe) on behalf of the South Yorkshire Integrated Transport Authority (ITA) and Sheffield City Region (SCR)

Summary

1. **SCR partners agree that there is a strong case for the development of a High Speed Rail (HSR) network**, serving the core city regions of the UK and including Sheffield City Region (SCR). Serving core city regions outside of London with HSR will deliver substantial benefits and help economic growth. Estimates indicate that the Eastern arm of the proposed HSR link (serving SCR) will deliver £60bn in standard transport benefits and at least a further £2.3bn in wider economic benefits (of which approximately £400m¹ are direct to SCR). Furthermore, HSR's role in reducing journey times between key markets along the Eastern arm will provide over £4.2bn² in productivity benefits.
2. Development of **HSR must be seen as part of an integrated strategy for developing our rail network**. This must include local rail improvements to maximize the connectivity of the high speed rail stations, and strategic use of the released capacity on 'classic rail' to maximize the connectivity and capacity between city regions. This capacity release will better integrate our regional centres and towns and cater for future growth.
3. **Ahead of HSR there must be interim improvements in the Midland Mainline (MML) and East Coast Mainline (ECML)** as part of any national rail strategy to support our economic growth. We believe 21 years is too long to wait for better rail connectivity and capacity.
4. **We also urge Government to accelerate its delivery programme for high speed rail**. And we also believe Government needs to demonstrate commitment for the whole planned Y network. Government must consider how the next round of franchises will integrate with the HS2 scheme and maximize overall benefits.
5. We would like to see the full Y network developed. However, evidence suggests that the economic benefits and associated business case are greater for **Eastern arm of the Y**, indicating that this link must be built before, or in parallel with, the Western arm of Phase 2.
6. **We would like Government to explore in more depth a connection to the MML** in the same way that it is proposing a link to the West Coast Mainline (WCML). This would potentially provide improved journey options for all of the North prior to building the full Y, and ensure regional parity.
7. We would also welcome further information on the details of the potential service patterns of the proposed connections to **Heathrow Airport and the HS1 line to the Channel Tunnel**. Both are considered vital to the North.
8. SCR welcomes the approach taken in appraising the route options and associated benefits, however, we suggest that these were somewhat conservative and that the case for high speed rail is potentially much stronger than the Government's work suggests.

¹ Economic Case for HSR to Leeds and Sheffield City Region [Arup & Volterra 2010]

² Study for Eastern network partnership [Arup & Volterra 2011]

1. Do you agree that there is a strong case for enhancing the capacity and performance of Britain's inter-city rail network to support economic growth over the coming decades?

Yes – If Britain is to remain a key global competitor then we must address capacity and performance constraints on our intercity networks. High Speed Rail (HSR) is the best solution to achieve this, with the greatest economic benefits being achieved by serving substantial markets such as Sheffield City Region (SCR).

Enhancing Capacity

- 1.1 We recognise the strain that the ever-growing demand for UK inter-city rail travel is placing on network capacity and how these constraints will stifle economic growth if left unaddressed.
- 1.2 Growth has been particularly evident on the UK's three main north-south routes: the East Coast, West Coast and Midland Mainlines. Despite infrastructure upgrades to manage capacity, the quantum of growth has resulted in overcrowding, especially on peak services. Demand growth is forecast to continue, with Network Rail projections suggesting that by 2036³, patronage on long distance journey types has a potential growth up to:
- 78%** on East Coast Mainline
77% on Midland Mainline
89% on West Cost Mainline
- 1.4 We agree that investment in the 'classic' network in isolation would only form a temporary solution. Demand will reach such a point that additional capacity solutions will be exceptionally expensive, there will be substantial disruption during construction, and fares are likely to be higher to choke off excess demand.
- 1.5 As such, there is a strong case for a major intervention to improve capacity and enhance performance. This should include a HSR link serving the East Midlands, South Yorkshire and West Yorkshire.
- 1.6 We also agree that the operational savings associated with a conventional line would be overshadowed by significantly reduced financial benefits that the link would deliver.
- 1.7 Investment must provide a **long term** and **globally competitive** solution. We therefore support Government proposals to increase capacity using HSR. This must be complemented by investment in the classic network to ensure the benefits are spread across the city regions.

Faster Journey Times

- 1.8 Because journey times between London and SCR on the Midland Main Line (MML) are so poor, for our city region the journey time savings offered by HSR are important and non-marginal. Therefore HSR will provide SCR businesses with a level of connectivity more comparable to other core city regions, and help make the city region a more attractive location of business inward investment.
- 1.9 HSR would cut rail journey times from Sheffield to London by **40%** with an estimated journey time of 1hr 15 minutes⁴ (the journey currently takes 2hr 07 minutes or more on the Midland Mainline).
- 1.10 As well as improving north-south links in the UK, HSR would open up the larger business and leisure opportunities of European destinations, providing a realistic, sustainable alternative to air travel. With a link from HS2 onto HS1, the journey time from Sheffield to Paris could potentially be less than 5 hours.

Supporting Economic Growth

- 1.11 The business sector within South Yorkshire recognises the economic benefits HSR will bring to the region. In a recent survey **91%**⁵ of South Yorkshire businesses are in favour of a national HSR network.

3 Network RUS – Scenarios, Network Rail [2009]

4 [see ref 1]

5 British Chamber of Commerce sector survey [2010]

- 1.12 The proposed Eastern arm of HS2 serves the markets of several large conurbations which will benefit from their proximity to the route and contribute significantly to the overall business case. Studies undertaken on behalf of Leeds and Sheffield city regions show that the route north of Birmingham will serve up to **6.7 million people** and **3 million jobs**⁶.
- 1.13 Working with the North Eastern Local Authorities, Leeds City Region and the East Midlands, SCR undertook a comprehensive study on the economic benefits of the Eastern arm of the proposed HS2 network⁷ and estimated that;
- The total wider economic impacts of the Eastern arm will be **£4.2bn**, comprising business productivity benefits of **£2.6bn**, imperfect competition benefits of **£0.8bn** and released classic network capacity benefits of **£0.8bn**⁸.
 - The productivity benefits of bringing businesses closer together of the eastern arm of the network (**£2.6bn**), are around 20% higher than those for the western arm (**£2.1bn**)⁹.
 - **70%**¹⁰ of the productivity benefits are the result of faster journeys to London.
 - **30%**¹¹ of the productivity benefits are the result of faster journey times between other major cities

The study concluded that the economic benefits will only be maximised if HSR is planned and integrated with a strategy for improving rail services on existing lines. HSR must be complemented by investment in the existing rail infrastructure (the 'classic' network) as well as investment in local transport solutions (such as bus and Supertram links) which will provide access to the network.

- 1.15 We welcome the economic opportunities that HSR will bring to SCR. On balance we believe there is evidence that, properly planned, substantial benefits can be realised. For example, case studies on the German Inter City Express line at Montabaur and Limburg indicate that the GDP of areas adjacent to stations grew on average by 2.7% more than surrounding areas¹². There is also anecdotal evidence of similar long term impacts in France.

6 [See ref 1]

7 Emerging HSR Eastern Network Partnership study, [Arup 2011]

8 [See ref 8]

9 [See ref 8]

10 [See ref 8]

11 [See ref 8]

12 Economic adjustments to HSR; Ahfeldt, Gabriel M and Feddersen [University of Hamburg 2010]

2. Do you agree that a national high speed rail network from London to Birmingham, Leeds and Manchester (the Y network) would provide the best value for money solution (best balance of costs and benefits) for enhancing rail capacity and performance?

Yes – We support the Y shape HSR solution, however, stress that this must be delivered alongside investment in the classic network (MML and ECML), and must include a stop in the East Midlands and South Yorkshire.

The ‘Y’ network outperforms other options

2.1 The consultation document itself concentrates on comparisons made between the Y shaped network and alternative interventions on the classic network. To give a fuller comparison, our Figure 2.1 indicates the Benefit Cost assessments undertaken on the options to date by HSR and other key stakeholders.

Fig 2.1 HSR options - Benefit Cost Ratio (BCR) analysis.

Route	HS2 Demand Analysis ¹³	Arup / Volterra Analysis ¹⁴	High Speed Rail Strategic Alternatives Study ¹⁵	High Speed Rail Strategic Alternatives Study ¹⁶
Inverse A	2.3	N/A	N/A	N/A
Reverse E	1.9	N/A	N/A	N/A
Reverse S	1.8	1.88	N/A	N/A
Y Shaped Network	N/A	2.46	2.6	N/A
Classic Network Scenario A	N/A	N/A	0.4 [leased rolling stock]	0.6 [capital rolling stock]
Classic Network Scenario B	N/A	N/A	0.9 [leased rolling stock]	1.4 [capital rolling stock]
Classic Network Scenario C	N/A	N/A	0.5 [leased rolling stock]	0.7 [capital rolling stock]

2.2 Our evidence indicates that the Y shaped network presents a BCR of 2.46 compared with 1.88 for the ‘reverse S’¹⁷. This is due to the increased population on the Eastern Network that the Y shape network serves, and shows that Government was right to reject the reverse S option. HS2’s own work indicated the Y network offered better returns than other network shapes, although we have not tested this work ourselves.

2.3 We have undertaken further assessments on the business case for the Eastern arm of HS2. This builds on the previous work undertaken by HS2. The analysis indicates that the Leeds extension achieves a BCR of **5.61** in comparison to **2.58**¹⁸ for Manchester. In other words, the value for money of the eastern arm is over double that of the western arm.

High speed is not the whole answer

2.4 The evidence cited above suggests that a Y shaped HSR serving SCR is therefore the best solution. But this must be supported by appropriately phased, complementary investment. In particular, ahead of HSR, investments must be made to electrify the Midland Main line north of Bedford and onto Leeds, and improve the capacity and reliability of the East Coast Main line. The north cannot wait until 2032 for better connectivity to London and these interim investments will be critical for business competitiveness.

Maximising Success of the Y

2.5 Success of the ‘Y’ network relies on there being sufficient capacity to run up to 18 trains per hour to Euston and Old Oak Common, and to handle the passenger flows at these stations.

13 Demand Analysis [HS2 February 2010]

14 [See ref 1]

15 High Speed Rail Strategic Alternatives Study [Atkins February 2011]

16 [See ref 17]

17 [See ref 1]

18 [See ref 1]

- 2.6 Whilst we understand the logic (on cost grounds) of a single trunk line into London, we would like Government to ensure that the numbers of paths to the Eastern Network are adequate and believe these paths must be protected. We believe the 6 trains per hour assumed in the consultation document to serve the Eastern arm should be a minimum, and that sufficient train path capacity must be protected for the Eastern arm.
- 2.7 Furthermore, we would like to see further details on the operational capacity of the Y network. This will help inform a decision on the amount of train paths required across the wider Y shape configuration. Should the Government wish to provide a sustainable HSR network covering the whole of the country, providing a system which can add trains and patronage is imperative to the business case of HSR.

The importance of released capacity

- 2.8 The use of released capacity will be critical to ensure that the benefits of HSR spread beyond the immediate network. We have undertaken some analysis on how the 'released capacity' from HSR would be best used. The clear conclusion is that capacity released on existing rail routes (MML and ECML) by high speed rail should be used to retain existing long distance inter-urban rail services to the Eastern Network with new stopping patterns, and not lost to, for example, additional London commuter services.
- 2.9 The released capacity should allow more regular services to London from places in the Eastern Network Partnership area that do not have them currently. This provides a strong, indirect benefit of HSR to those places not directly serve

<p>3. Do you agree with the Government's proposals for the phased roll-out of a national high speed rail network, and for links to Heathrow Airport and to the High Speed 1 line to the Channel Tunnel?</p>

We recognise that to ensure HS2 is deliverable, a phased approach may be required, but would press for a single programme with strong commitment for the whole route. We support links to Europe and Heathrow, and want Government to consider a link to the Midland Main line as part of the proposed HS2 project to the West Midlands.

- 3.1 We would much prefer a single Hybrid Bill if it were possible, as it would bring much greater certainty that the whole proposed network will be built. However, for such a substantial project, we understand the principle of bringing separate Hybrid Bills forward for London-Birmingham and the Y shape in order to make the process manageable. But, we want as much commitment as possible to the whole network in the first Hybrid Bill and associated Government policy. At the very least this commitment should include the full network in any 'National Infrastructure Policy Statements'.

Phasing

- 3.2 While we wish to see both arms of the Y progressed together, we have considered the relative merits of building the East or West arm first. There is a strong economic case for building the Eastern Network arm before the West, with benefits of **£1.8bn** to the eastern regions as opposed to **£1.3bn**¹⁹ for the western regions. Any current West Coast Mainline capacity constraints will be offset once HS2 is in operation, so the imperative to invest is in the Eastern arm.
- 3.3 We would like to see the current timescales for delivery of the wider Y shape network accelerated, due in part to the expected crowding we expect ahead of HSR being delivered. We believe Government should consider all options to deliver the network as fast as possible.
- 3.4 It is important that HS2 is financed from major infrastructure funding and does not abstract from mainstream rail, or Integrated Transport Block funding.

A link as part of HS2 to the MML should be explored by Government

- 3.5 The benefits of HSR can be spread more widely at an earlier date, if HS2 included a link to the Midland Main line (for example using the Wichnor junction link near Lichfield). This would provide parity with the proposed link at Lichfield to the WCML. Our analysis indicated that this would facilitate a journey time reduction of

¹⁹ [See ref 2]

37min²⁰ between Sheffield and London, with associated agglomeration benefits of some **£445m**²¹ over the 60 year appraisal period.

- 3.6 However, net benefits are dependant on electrification of this connection (alongside existing MML electrification proposals), rolling stock and enhanced signalling or passing loops. Our analysis indicated the cost of providing the link and aforementioned enabling works is in the order of **£65 - £100m**²². On balance we believe this link merits further investigation by Government.

SCR values the links HSR will provide to Heathrow and continental Europe

- 3.7 We support the construction of a link to HS1 and the Channel Tunnel in order to provide the opportunity for improved connectivity to continental Europe from the UK regions.
- 3.8 However, the current consultation does not show details of service options to Heathrow or the HS1 link. Further information on this will be particularly important for inward investment and business confidence.

Franchise renewals should consider how to dovetail with HS2

- 3.9 As part of demonstrating its commitment to HS2, the Government should be considering how the next round of franchise renewals could integrate with HS2. For example, considering how hybrid HSR trains could be used on the ECML, (in the context of the link to the MML discussed above).

4. Do you agree with the principles and specification used by HS2 Ltd to underpin its proposals for new high speed rail lines and the route selection process HS2 Ltd undertook?

Yes – The same principles and lessons learnt should be used to provide route analysis for the wider network

- 4.1 We agree with the six appraisal principles set out in the consultation document;
- Exploiting maximum benefit from high speed capacity.
 - Long distance city-to-city journeys.
 - High speed trains only.
 - Integration with the classic network.
 - Greater segregation from the classic network over time.
 - Integration with other transport networks.
- 4.2 It is important that the analysis undertaken for the Y shape network echoes these principles and any conclusions made are supported by equally robust evidence sources.
- 4.3 The consultation documentation states that external challenge groups have provided independent expert scrutiny of the Government's work; this approach is most welcome. SCR also seeks these commitments to schemes before the Y shape is constructed.

5. Do you agree that the Government's proposed route, including the approach proposed for mitigating its impacts, is the best option for a new high speed rail line between London and the West Midlands?

Yes – The Government has undertaken a thorough analysis of options for phase 1 of HS2 and selected a route transparently against the criteria.

- 5.1 The Government have taken the previous Parliament's route proposals, appraising the details thoroughly. This appraisal has included meeting with local stakeholders and people who will be affected by HSR.
- 5.2 We welcome the interest that the Secretary of State for Transport has taken in HSR and are heartened that the Government has amended the plans in the light of consultation responses. For example, during the first months of the Coalition Government, the Secretary of State for Transport undertook local consultation along

²⁰ Emerging HS2/Midland Mainline connection data [Arup 2011]

²¹ [See ref 21]

²² [See ref 21]

the route, assessing environmental and stakeholder issues. As a result, construction changes to almost half of the route have been made.

6. Do you wish to comment on the Appraisal of Sustainability of the Government's proposed route between London and the West Midlands that has been published to inform this consultation?

- 6.1 It is important to present a fair picture of the appraisal process including all potential benefits and costs associated with HSR. It is necessary to acknowledge that the business case considered the environmental impact and followed the DfT WebTAG and DMRB guidelines.

7. Do you agree with the options set out to assist those whose properties lose a significant amount of value as a result of any new high speed line?

Yes – We agree that those whose properties are significantly devalued as a result of HSR should be appropriately compensated. We recognise the potential implications this can have on scheme cost and programme as well as local support, so stress the importance of a clear and consistent approach and early consultation.