

High Speed 2 (HS2) and '51m Alternative' Impact Maps

51m have produced two maps which show the benefits of the 51m "Optimised Alternative" compared with the mixed impact of HS2

The Impact of High Speed 2

The first map shows the impact of HS2.

A small number of major cities (Birmingham, Manchester, Leeds) get significant medium term (2026/2033) benefits. But many more towns and cities will see no improvements to their train services in the meantime, with many having worse services when frequencies are cut and additional stops added when major city to city flows are transferred to HS2. Also, some cities which are shown to have HS2 services (York, Newcastle) will have no increase in capacity, as frequencies with HS2 will not be increased and train capacity will be at best no greater – yet the Government claims both that passenger numbers will treble with HS2, and that capacity is the critical issue!

There are also disbenefits on other routes not obviously affected, particularly the routes from Paddington to South Wales and the West of England, as journey times will be extended by c5 minutes as all trains will stop at the new Old Oak Common station.¹ The paper shows the journey time extension disbenefits are considered to outweigh the interchange benefits. Both ATOC² and Greengauge21³ were also particularly concerned about the journey time disbenefits

The source information for this map is material published by the Government:

- The December 2009 "*Day 1 train Service Assumptions for Demand Modelling*"⁴ which sets out the assumptions on remaining services on the existing West Coast Main Line after HS2 Phase 1 has opened
- The "*Service specification assumptions for the Y network*", as set out in the "*Economic Case for HS2: Updated Appraisal*" report⁵.
- Three tables (A1, A2 and A3) providing "*Future Year Service Specification for key TOCs without HS2*", and "*...with HS2 day 1 London to West Midlands*"; and "*...with HS2 extension to Manchester and Leeds*" as set out at Para 2.5 and Appendix A of Demand and Appraisal report⁶, HS2 London to West Midlands (Report for HS2 Ltd by MVA Consultancy, in association with Mott McDonald and Atkins, April 2012).

¹ This is described in detail in Appendix 9 of 51m's consultation response

(<http://51m.co.uk/sites/default/files/uploads/App%209%20-%20Impacts%20on%20GWML.pdf>)

² <http://www.atoc.org/clientfiles/File/HS2final.pdf>

³ <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmtran/1185/1185we09.htm>

⁴ <http://webarchive.nationalarchives.gov.uk/20110131042819/http://www.dft.gov.uk/pgr/rail/pi/highspeedrail/hs2Ltd/technicalappendix/pdf/report.pdf>

⁵ <http://assets.dft.gov.uk/publications/hs2-economic-case-appraisal-update/hs2-economic-case-appraisal-update.pdf>

⁶ <http://www.hs2.org.uk/assets/x/85308>

The August 2012 economic update of the business case shows a saving of £7.7bn⁷ (Net Present Value) as a result of service reductions on the existing network. This has increased since January 2012 HS2 business case where the figure had been⁸ £5.1 billion.

Appendix 1 provides a detailed commentary on the impacts of HS2 for individual towns and cities.

The Impact of the '51m Alternative'

The Optimised Alternative increases standard class capacity on the West Coast Main Line by **215%** by a combination of longer trains, some reconfiguration from first to standard class and limited, specific infrastructure enhancements to enable some frequency increases. These improvements can be delivered much sooner and more flexibly, in line with rising demand, and fully meets the Government's long term demand forecasts. In contrast, HS2 is an "all or nothing" solution, delivering no benefits until 2026/2033.

The illustrative service pattern for the 51m alternative provides an attractive all day stopping pattern, with improved journey times and intermediate journey opportunities, as shown below:

- Doubling fast commuter capacity to Milton Keynes and Northampton – these are the services for which there is an overcrowding crisis *now*.
- Additional capacity to Manchester and the North West
- An hourly "fast" Manchester service – non-stop to Wilmslow
- Glasgow trains accelerated by omission of north west stops, and alternate trains running fast from Preston to Carlisle
- New through services to Blackpool/Windermere (alternate hours)
- Major improvement for Nuneaton, Tamworth and Lichfield.
- Improved Rugby service (almost half hourly interval)
- Watford gains a Crewe/Manchester service, giving a step change in access to the North West

This illustrative timetable has been "proved" through external expert analysis, and has been accepted as deliverable by Network Rail.

Most importantly, the 51m alternative costs less than 10% of HS2. This would allow major capital investment to be available to other, more overcrowded routes throughout the country.

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⁷ Day 1 and Y costs ('cover sheet' worksheet of spreadsheet provided by HS2 Ltd) records the classic rail savings figures at <http://www.hs2.org.uk/2012-august-economic-case-update>

⁸ "Economic Case for HS2: Updated Appraisal" (January 2012), Table 8, page 36 (<http://assets.dft.gov.uk/publications/hs2-economic-case-appraisal-update/hs2-economic-case-appraisal-update.pdf>)

Appendix

Detailed commentary on “The Impacts of High Speed 2” map

Clear benefits

Birmingham	Faster journey times from Phase 1, and increased capacity (nb ‘Y’ service specification assumptions show only three trains an hour at peak periods, instead of four in Phase 1)
Stafford, Crewe	Journey time improvement in phase 1
Preston	Journey time improvement in phase 1 Further journey time improvement in phase 2
Leeds	Faster journey times from Phase 2, and increased capacity

Some benefits

Manchester	Faster journey times from Phase 1, but a reduction in overall capacity Further journey time improvements in Phase 2, with increased capacity
Liverpool, Runcorn	Journey time improvement in Phase 1 No benefit from Phase 2
Glasgow	Journey time improvement in phase 1 Further journey time improvement in phase 2 But inadequate capacity to meet forecast demand
Edinburgh	Journey time improvement in Phase 2 But inadequate capacity to meet forecast demand Loss of fast services to ECML destinations
Nottingham, Sheffield	No improvement until 2033 Faster journey times from Phase 2 HS station likely to be away from city centres, with poor interchange with local transport
Newcastle, Darlington, York	Journey time improvement in Phase 2 But inadequate capacity to meet forecast demand Only 1 HS train an hour shown at York and Darlington

Potential disbenefits

Euston commuter route (stations to Northampton)	No capacity increase until 2026 Major disruption during reconstruction of Euston
Rugby, Nuneaton, Tamworth, Lichfield	No improvement in services and journey times until 2026
South Western Main Line, Brighton Main Line, Great Eastern Main Line	Unlike the West Coast Main Line, these routes already have significant overcrowding, with capacity fully utilised in peak periods and trains at maximum length. No prospect of significant upgrade as other major enhancements unaffordable during HS2 construction

Clear disbenefits

All Thames Valley, South Wales and West of England destinations	All journeys to and from Paddington decelerated by c5 minutes as a result of stopping at Old Oak Common (the disbenefit of the time extension outweighing the interchange benefits)
Coventry	Frequency reduced from 3 to 1 train an hour from 2026 Longer journey times as a result of more stops
Wolverhampton, Sandwell and Dudley	Longer journey times as a result of more stops
Stoke on Trent	Frequency reduced from 2 to 1 train an hour from 2026 Longer journey times as a result of more stops
Stockport	Frequency reduced from 3 to 1 train an hour from 2026 Longer journey times as a result of more stops
Wilmslow	Expected to lose through London services
Warrington, Wigan	Shown to have HS trains in Phase 1, but no HS services in Phase 2 From 2033, longer journey times as a result of more stops
Lancaster, Oxenholme, Penrith Carlisle	No HS services shown Longer journey times as a result of more stops
Leicester, Loughborough, Derby, Chesterfield	Electrification, journey time reductions and increase in capacity not taken forward in advance of HS2 Longer journey times and reduced frequency from 2033
Peterborough	Reduced frequency from 2033
Doncaster	Longer journey times from 2033 as a result of more stops
Wakefield	Longer journey times and reduced frequency from 2033
Durham, Berwick on Tweed	No HS services shown Longer journey times as a result of more stops Unclear whether Berwick will retain through London services

No change

Chester and North Wales	Services expected to remain as now – no benefit from HS2
Grantham, Newark, Retford	Services expected to remain as now – no benefit from HS2
Wellingborough, Kettering, Market Harborough	No change expected following recently announced Midland Main Line electrification