

APPENDIX S1

CONNECTIVITY IMPROVEMENTS
ACHIEVED BY **HS2** AND **HIGH SPEED UK**
FOR:

SHEFFIELD

*and South Yorkshire
conurbation*

(extract from *HS2 - High Speed to Nowhere*)

| | |
|-------------------------|--|
| Appendix S1 : Sheffield | |
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Sheffield and South Yorkshire conurbation

| | |
|---|------------------|
| Town/City | Sheffield |
| Population of built-up area** | 690,000 |
| Ranking amongst UK cities** | 10 |
| Number of cities directly linked by existing rail network (out of 31) | 18 |

References:

HSUK Yorkshire Rail Strategy
 HSUK Regional Map 07
 HSUK Sheffield Network Map
 HSUK Sheffield Victoria Brochure
All available on HSUK website
www.highspeeduk.co.uk

** https://en.wikipedia.org/wiki/List_of_urban_areas_in_the_United_Kingdom

Sheffield : Intercity Connectivity with HSUK and HS2

| Sheffield | Average journey time reduction | Cities directly linked (out of 31) | Journeys made faster (out of 31) | Journeys made worse (out of 31) | Best performer (out of 31 journeys) |
|----------------------|--------------------------------|------------------------------------|----------------------------------|---------------------------------|-------------------------------------|
| High Speed UK | 53% | 31 | 30 | 0 | 30 |
| HS2 | 8% | 3 | 5 | 11 | 0 |

Sheffield's location on the Midland, CrossCountry and South TransPennine main lines places it at a key hub of the national rail network. This, and its status as a UK primary city with a population of over 500,000, make it imperative that Sheffield occupies a similarly pivotal position in any future UK high speed rail network, with a centrally-located station from which high speed services would radiate to all principal UK cities.

The engineering difficulties of building a high speed line through the Pennine foothills surrounding Sheffield were a major factor in the 2012 decision to align HS2's route to closely follow the M1 to the east of the city, and to site the HS2 station at Meadowhall, 5km from the city centre. This proved highly unpopular with Sheffield City Council, and incompatible with the Northern Powerhouse requirement for 'HS3' journeys between city centre stations.

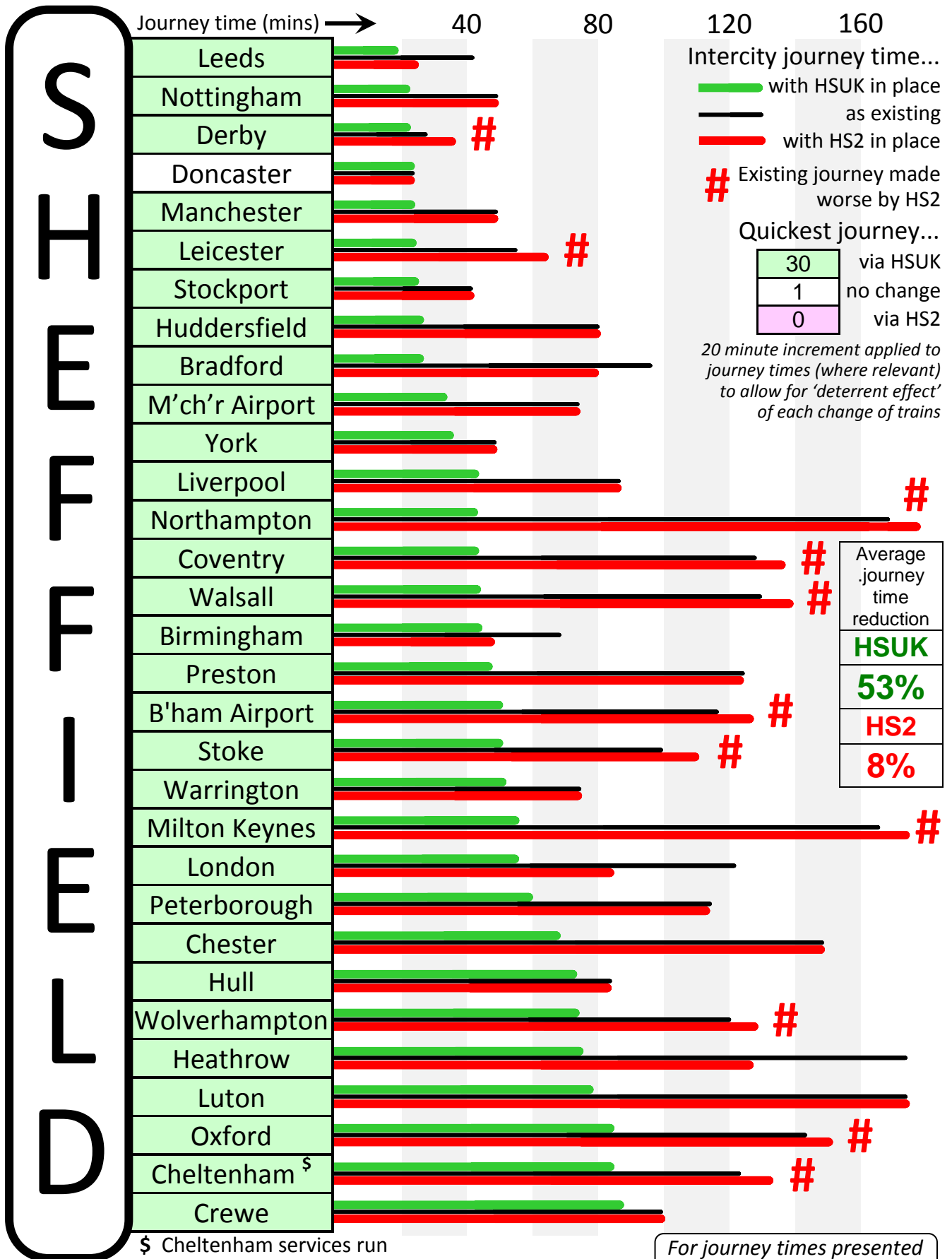
As a consequence the revised HS2 proposals published in June 2016 abandoned Meadowhall in favour of a more easterly 'M18' route entirely bypassing the South Yorkshire conurbation, with Sheffield served at its existing 'Midland' station. Connections to Sheffield would be provided at Alfreton (42km to the south) and at Thurnscoe (22km to the north). The timing 'penalty' for HS2 services calling at Sheffield, compared with running non-stop on the bypassing route, is calculated at 25 minutes. This effectively places Sheffield on a very long siding, resulting in slow journey times and only 3 connections by HS2 to other UK cities. No credible proposals have yet emerged for Sheffield's crucial transpennine HS3 link to Manchester.

HSUK will directly connect Sheffield to all principal UK cities (including all centres considered in this study), with journey times reduced by an average of 53%; transpennine links to Manchester, Manchester Airport and Liverpool will meet all requirements of the Northern Powerhouse. HSUK services will operate from a restored Sheffield Victoria station, with interchange platforms on the approaches to Sheffield Midland. This will allow major enhancements to the local rail network and full access to HSUK services from key communities such as Rotherham and Barnsley.

HIGH SPEED UK

& HS2 LINKS TO

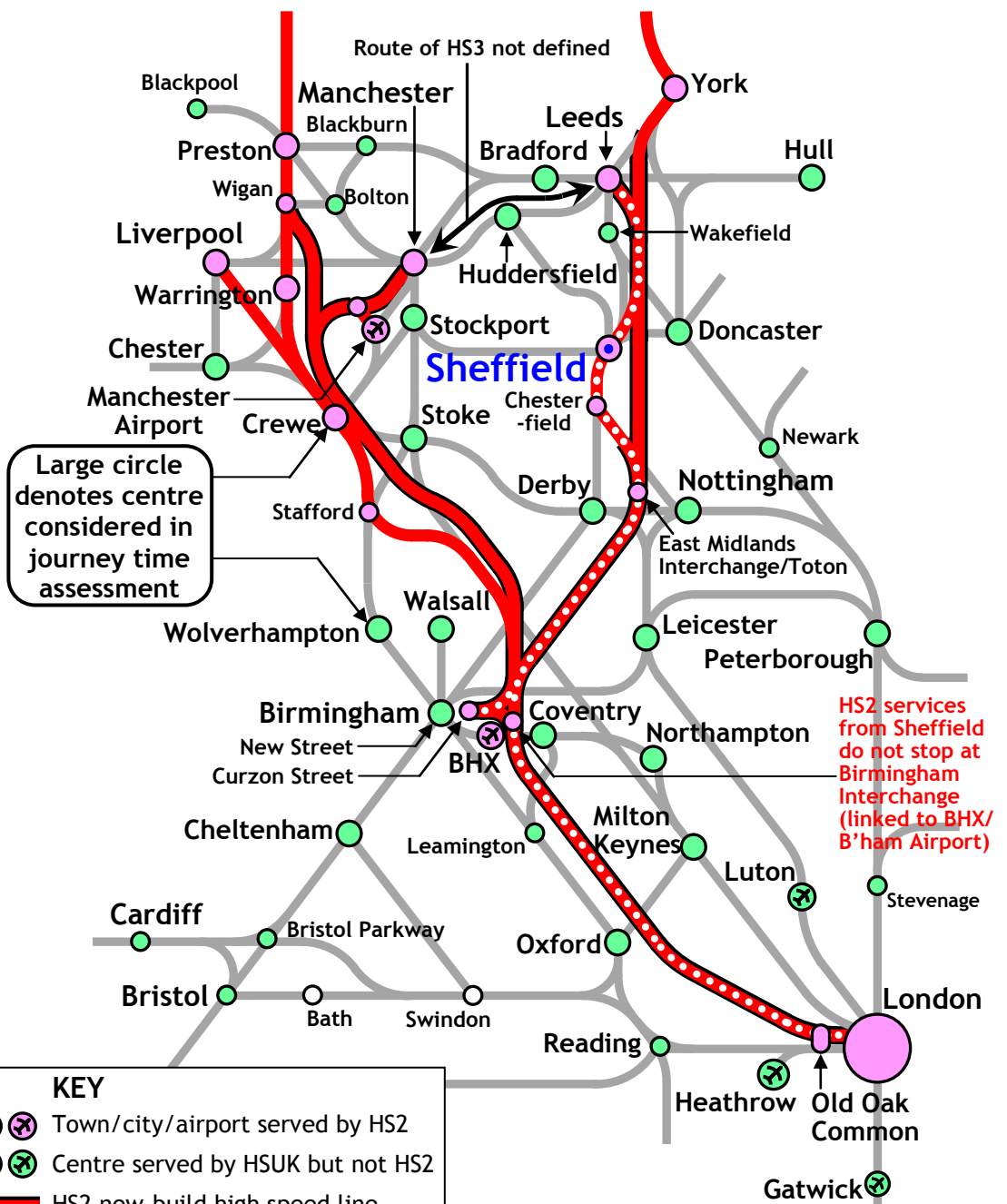
SHEFFIELD



SHEFFIELD

Bypassed by HS2 trunk route, HS2 direct links only to London, Leeds and Birmingham

| |
|----------------------------------|
| HS2 |
| Average journey time reductions: |
| 8% |
| No. of cities directly linked: |
| 3 |
| No. of journeys made faster: |
| 5 |
| No. of journeys made worse: |
| 11 |

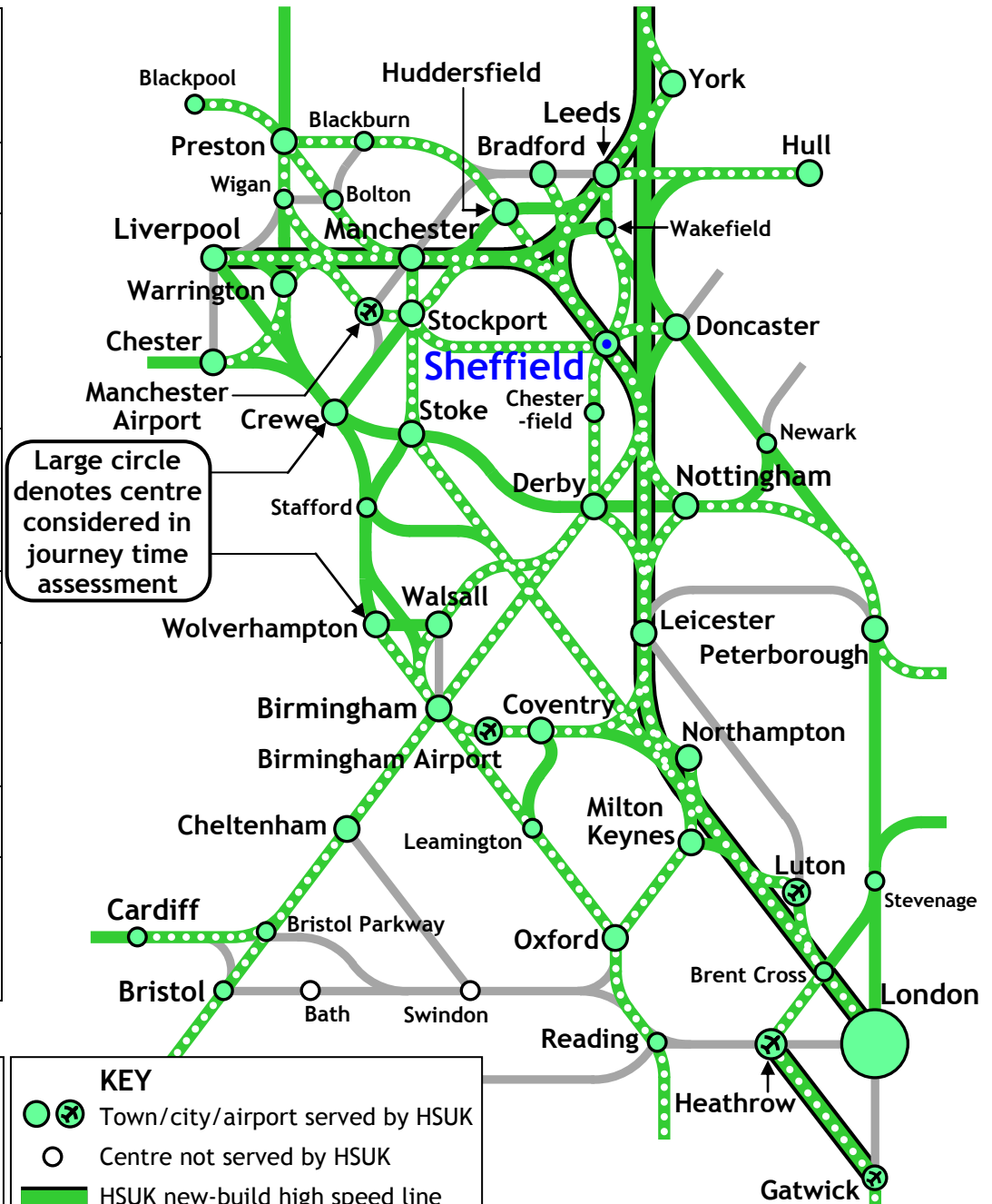


HIGH SPEED 2
ROUTES & CITIES SERVED

SHEFFIELD

*Fully connected to national high speed network,
direct high speed links to all principal UK cities*

| |
|----------------------------------|
| HSUK |
| Average journey time reductions: |
| 53% |
| No. of cities directly linked: |
| 31 |
| No. of journeys made faster: |
| 30 |
| No. of journeys made worse: |
| 0 |



Sheffield served by
 HSUK01,02,03,06
 HSUK08,09
 HSUK22,26,28
 HSUK41,42,44,45
 HSUK46,71,72
 HSUK92
 See Appendix A1

www.highspeeduk.co.uk

**HIGH SPEED UK
 ROUTES & CITIES SERVED**

Comparative Journey Times from Sheffield

| Quickest via: | HSUK | No change | HS2 | Journey time adjusted for number of changes | | | HSUK | | Existing | | HS2 | | Journey made worse by HS2 |
|---|----------------|-----------|------|---|-----|--------------|---------------|--------------|---------------|--------------|---------------|--|---------------------------|
| Origin | Destination | | HSUK | Existing | HS2 | Journey time | No of changes | Journey time | No of changes | Journey time | No of changes | | |
| S H E F F I E L D | Birmingham | 44 | 69 | 48 | 44 | 0 | 69 | 0 | 48 | 0 | | | |
| | B'ham Airport | 52 | 118 | 118 | 52 | 0 | 98 | 1 | 98 | 1 | # | | |
| | Bradford | 27 | 96 | 80 | 27 | 0 | 76 | 1 | 60 | 1 | | | |
| | Cheltenham | 84 | 124 | 124 | 84 | 0 | 124 | 0 | 124 | 0 | # | | |
| | Chester | 68 | 149 | 149 | 68 | 0 | 129 | 1 | 129 | 1 | | | |
| | Coventry | 43 | 128 | 128 | 43 | 0 | 108 | 1 | 108 | 1 | # | | |
| | Crewe | 85 | 100 | 100 | 65 | 1 | 80 | 1 | 80 | 1 | | | |
| | Derby | 21 | 28 | 28 | 21 | 0 | 28 | 0 | 28 | 0 | # | | |
| | Doncaster | 23 | 23 | 23 | 23 | 0 | 23 | 0 | 23 | 0 | | | |
| | Heathrow | 77 | 238 | 128 | 77 | 0 | 198 | 2 | 108 | 1 | | | |
| | Huddersfield | 26 | 80 | 80 | 26 | 0 | 80 | 0 | 60 | 1 | | | |
| | Hull | 74 | 85 | 85 | 74 | 0 | 85 | 0 | 85 | 0 | | | |
| | Leeds | 19 | 41 | 25 | 19 | 0 | 41 | 0 | 25 | 0 | | | |
| | Leicester | 23 | 56 | 56 | 23 | 0 | 56 | 0 | 56 | 0 | # | | |
| | Liverpool | 43 | 107 | 107 | 43 | 0 | 107 | 0 | 107 | 0 | | | |
| | London | 56 | 122 | 85 | 56 | 0 | 122 | 0 | 85 | 0 | | | |
| | Luton | 79 | 150 | 150 | 59 | 1 | 130 | 1 | 130 | 1 | | | |
| | Manchester | 23 | 50 | 50 | 23 | 0 | 50 | 0 | 50 | 0 | | | |
| | M'ch'r Airport | 34 | 73 | 73 | 34 | 0 | 73 | 0 | 73 | 0 | | | |
| | Milton Keynes | 56 | 166 | 166 | 56 | 0 | 146 | 1 | 146 | 1 | # | | |
| | Northampton | 43 | 168 | 168 | 43 | 0 | 148 | 1 | 148 | 1 | # | | |
| | Nottingham | 21 | 50 | 50 | 21 | 0 | 50 | 0 | 50 | 0 | | | |
| | Oxford | 85 | 144 | 144 | 85 | 0 | 144 | 0 | 144 | 0 | # | | |
| | Peterborough | 60 | 93 | 93 | 60 | 0 | 93 | 0 | 93 | 0 | | | |
| | Preston | 49 | 126 | 126 | 49 | 0 | 106 | 1 | 106 | 1 | | | |
| | Stockport | 26 | 41 | 41 | 26 | 0 | 41 | 0 | 41 | 0 | | | |
| Stoke | 53 | 100 | 100 | 53 | 0 | 80 | 1 | 80 | 1 | # | | | |
| Walsall | 43 | 130 | 130 | 43 | 0 | 110 | 1 | 110 | 1 | # | | | |
| Warrington | 52 | 76 | 76 | 52 | 0 | 76 | 0 | 76 | 0 | | | | |
| Wolverhampton | 76 | 122 | 122 | 76 | 0 | 102 | 1 | 102 | 1 | # | | | |
| York | 37 | 49 | 49 | 37 | 0 | 49 | 0 | 49 | 0 | | | | |

A = Change introduced by HS2 B = Change via shuttle between Birmingham International and Interchange

= Journey made worse by intervention of HS2 (no adjustment made to existing journey time)

Generally, journey times adjusted by 20 minutes to allow for each change of trains. 30 minute adjustment applied for the special cases noted above ie A – extra change introduced by HS2 and B – shuttle connection between Birmingham International and Birmingham Interchange.