

Dissecting the Integrated Rail Plan

Stand-alone Executive Summary

An unprecedented quantified review of the Government's Integrated Rail Plan, determining its connectivity and its efficacy as a national network, and thereby assessing its performance in Levelling-up the UK economy, in moving towards Net Zero emissions, and in Building Back Better after the Covid-19 pandemic

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Dissecting the Integrated Rail Plan : Executive Summary

In November 2021 the Government published its long-awaited Integrated Rail Plan (IRP).

The Integrated Rail Plan is intended to guide development of the national railway network over the coming decades, and it is predicated upon the core proposition that improvement of connectivity between communities in the UK regions is vital to deliver the Government's flagship agendas of:

- **Levelling-up** the national economy and eliminating regional imbalances;
- achieving **Net Zero** greenhouse gas emissions (especially CO₂);
- **Building Back Better** after the Covid-19 pandemic.

The Integrated Rail Plan has already attracted strong criticism, in particular from the House of Commons Transport Select Committee which has identified as critical deficiencies the IRP's failures to define either a Benefit-Cost Ratio or its potential to Level-up the UK economy.

This study aims to determine whether the Integrated Rail Plan will deliver – as the published IRP document strongly asserts – the step-change enhancements in national network connectivity and capacity that are necessary to Level-up the UK economy, achieve Net Zero and Build Back Better.

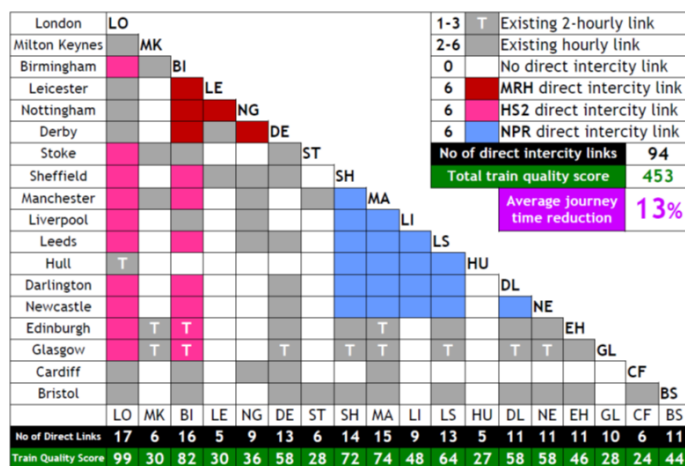
This study also aims to build upon the work of the Transport Select Committee by providing for the first time a rigorous assessment of national rail network performance, with the proposed Integrated Rail Plan interventions in place; such an assessment is necessary to define its connectivity gains, and hence allow Benefit-Cost Ratio and Levelling-up potential to be determined.

In this assessment, it is not appropriate to consider the Integrated Rail Plan in isolation. Instead, 3 candidate schemes have been considered in *Dissecting the Integrated Rail Plan (DIRP)*:

- The Integrated Rail Plan as published in November 2021 (refer Section 4 of **DIRP** study);
- The Predecessor Scheme i.e the HS2 'Y-network', Northern Powerhouse Rail (NPR) and Midlands Rail Hub (MRH), comprising the official proposals prior to the IRP;
- The High Speed UK (HSUK) Exemplar Alternative (refer Section 5 of **DIRP** study).

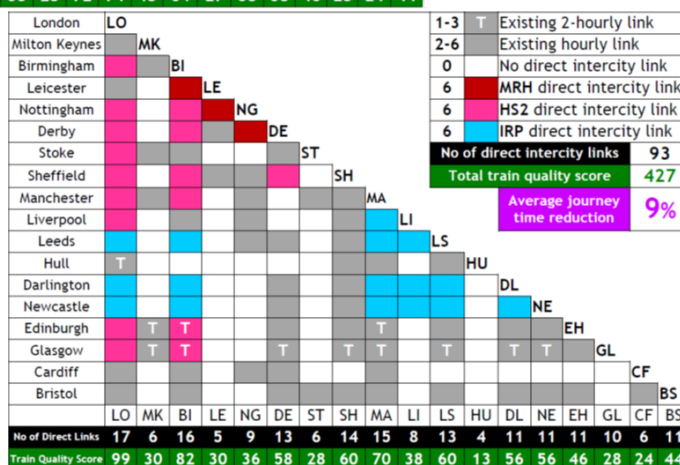
This study's holistic assessment of national network performance – as summarised in Figure A.1 – informs 7 key judgments upon the Integrated Rail Plan:

1. The Integrated Rail Plan offers relatively minor connectivity gains, and is fundamentally unfit for purpose as an intervention intended to transform the national rail network.
2. The IRP's performance in connecting the UK's principal cities and in reducing intercity journey times is worse than that of its Predecessor Scheme (i.e. the HS2 'Y-network', NPR and MRH).
3. With greater connectivity gains in London than in the UK regions, the IRP cannot Level-up.
4. The Integrated Rail Plan's inefficiency as either a regional or a national network is revealed by the vastly superior network performance of the High Speed UK (HSUK) Exemplar Alternative; while the IRP will deliver 9% average journey time reductions, HSUK will deliver 43%.
5. The IRP's severing of the Crosscountry corridor in Birmingham and its failure to improve Crossborder links to Scotland threaten the basic integrity of the national rail network.
6. The predication of the Integrated Rail Plan upon the established HS2 proposals appears to be the principal reason for the IRP's hugely suboptimal performance.
7. The connectivity failures of the Integrated Rail Plan will lead directly to failure of the Government's flagship agendas for Levelling-up, Net Zero and Building Back Better.



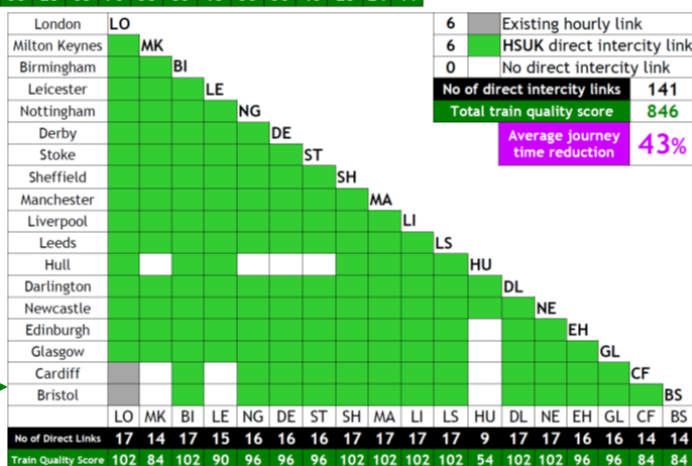
NATIONAL NETWORK INTERCITY CONNECTIVITY

HS2/NPR/MRH
Predecessor Scheme



Integrated
Rail Plan

High Speed UK
Exemplar Alternative



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Candidate Scheme	No. of Direct Connections	Gain	Total Service Quality Score	Gain	Average Journey Time Reduction
Predecessor Scheme	94	1%	906	16%	13%
Integrated Rail Plan	93	0%	854	9%	9%
High Speed UK	141	52%	1692	117%	43%
(Existing Network)	(93)	----	(780)	----	----

Figure A.1 : National Network Intercity Connectivity for 3 Candidate Schemes

Key Tests of the Integrated Rail Plan's Fitness for Purpose

The Integrated Rail Plan's fitness for purpose as a national railway network intervention is best demonstrated in the form of responses or 'findings' in respect of the 7 key Tests set out below, all referenced to the respective sections of *Dissecting the Integrated Rail Plan (DIRP)*:

Fitness for Purpose Test		Finding	DIRP Ref
1	Will the IRP deliver significant connectivity benefits to major regional cities, and thereby support the Government's Levelling-up and Net Zero agendas?	<i>The Integrated Rail Plan's connectivity benefits are small (only 9% ave. journey time reduction across UK, worse than its Predecessor Scheme), with little if any potential to Level-up. This is attributable to the IRP's basic lack of integration, and its predication upon the established London-centric HS2 proposals.</i>	6.1
2	Will the IRP meet the long-standing journey time targets for the Northern Powerhouse, and provide the necessary step-change in capacity on Transpennine routes?	<i>The Integrated Rail Plan will fail to meet every single official target for improved intercity journey times across the Northern Powerhouse, and it will fail also to deliver the step-change Transpennine capacity enhancement necessary for either Levelling-up or for achieving Net Zero.</i>	6.2
3	Are the IRP's proposed main line upgrades compatible with emerging proposals for a West Yorkshire Mass Transit System?	<i>The Integrated Rail Plan's proposed West Yorkshire main line upgrades, with faster and more frequent services on key Transpennine routes, are fundamentally incompatible with emerging proposals for a West Yorkshire Mass Transit System.</i>	6.3
4	Can the IRP transform local rail networks in the Midlands and the North, and provide the additional capacity to spur the development of regional 'powerhouse' economies?	<i>The Integrated Rail Plan provides no evidence to demonstrate that it will deliver either the transformation of the railway network or the 'local capacity dividend' necessary to drive regional 'powerhouse' economies in the Midlands and the North, and thereby support the Government's Levelling-up agenda.</i>	6.4
5	Will the IRP maintain and enhance the integrity of the national railway network?	<i>The Integrated Rail Plan will fail to improve Crossborder journeys to Scotland, and it will compel passengers on Crosscountry journeys to make a walking transfer between adjacent terminus stations in central Birmingham. This threatens the fundamental integrity of the national railway network.</i>	6.5
6	Will the IRP deliver significant connectivity benefits to smaller regional communities, and thereby support the Government's Levelling-up and Net Zero agendas?	<i>The Integrated Rail Plan is incapable of delivering significant connectivity benefits to the 'Small Town' communities that it has pledged to protect; again, this is attributable to the Integrated Rail Plan's fundamental lack of integration and its predication upon HS2.</i>	6.6
7	Are the IRP's claimed journey time and route capacity benefits feasible, achievable or optimal?	<i>Many (around 40%) of the journey time and route capacity benefits claimed in the Integrated Rail Plan appear to be either unachievable, or prejudicial to the development of efficient national and local networks.</i>	6.7

Table A.2 : Key Findings of Fitness for Purpose

Integrated Rail Plan Performance vs HSUK Exemplar Alternative

The extent of the Integrated Rail Plan's failure only becomes truly apparent when its technical performance is contrasted with that of the High Speed UK Exemplar Alternative, developed to radically different principles of optimised network performance and full integration between new high speed line and existing network. Table A.3 below provides a sample of the yawning gulf in performance between IRP and HSUK, all referenced to the respective sections of the **DIRP** study.

Technical Performance Criterion			IRP Performance	HSUK Performance	DIRP Ref
1.1	Average journey time reductions in Midlands		9%	48%	Section 6.1 Figure 6.1B
1.2	Average journey time reductions in North		11%	39%	Section 6.1 Figure 6.1E
1.3	Average journey time reductions across UK		9%	43%	Section 6.1 Figure 6.1H
2.	Performance against specification for journey times on 11 key Northern Powerhouse routes		0/11 targets met	9/11 targets met	Section 6.2 Table 6.2H
3.	Compatibility with West Yorkshire Mass Transit System (WYMTS)		IRP services along key WYMTS routes, no proposals for additional tracks	Key HSUK interventions provide additional capacity for local services	Section 6.3 Figure 6.3D Figure 6.3F
4.	Developed schemes for transformed local networks in UK regions:	West Yorkshire	No	Yes	Section 6.3.5
		Gr. Manchester	No	Yes	Section 6.4.3
		Merseyside	No	Yes	Section 6.4.4
		South Yorkshire	No	Yes	Section 6.4.5
		North-East	No	Yes	Section 6.4.6
		West Midlands	No	Yes	Section 6.4.9
		Potteries	No	Yes	Section 6.4.10
5.1	Crosscountry connectivity: direct Crosscountry links (o/o 21) from key Northern & Scottish cities		0/21	21/21	Section 6.5.2/4 Figure 6.5E Figure 6.5H
5.2	Crossborder connectivity: major English/Welsh cities (o/o 48) with direct links to Edinburgh/Glasgow		5/48	35/48	Section 6.5.5/9 Figure 6.5J Figure 6.5K
5.3	Journey times from London to Edinburgh and <u>Glasgow</u>		238 min <u>230</u> min	150 min <u>172</u> min	Section 6.5.5/9 Table 6.7A
6.	Average Journey time reductions for 12 small town communities		7%	38%	Section 6.6 Table 6.6H Table 6.6I
7.	Maintenance of balance in intercity journey times from Leeds (LS) and Manchester (MA) to London (LO)		LS-LO : 113 min MA-LO : <u>71 min</u> Differential 42 min	LS-LO : 77 min MA-LO : <u>76 min</u> Differential 1 min	Section 6.7 Table 6.7Q

Table A.3 : Direct Comparisons between IRP and HSUK Network Performance

The Findings of *Dissecting the Integrated Rail Plan* are presented in abbreviated form on the following pages. For the full version of *Dissecting the Integrated Rail Plan*, please refer to <http://highspeeduk.co.uk/A16%20220706%20Dissecting%20Integrated%20Rail%20Plan.pdf>.

Finding 1

The Integrated Rail Plan's connectivity benefits are small (only 9% average journey time reduction across UK, worse than its Predecessor Scheme), with little if any potential to Level-up. This is attributable to the IRP's basic lack of integration, and its predication upon the established London-centric HS2 proposals.

Figure F.1A below sets out average journey time reductions for 18 principal communities of the Northern Powerhouse, and for 10 principal Midlands communities. Blue shows the journey time reductions offered by the Integrated Rail Plan and green shows the HSUK Exemplar Alternative.

HSUK's comprehensive superiority for all communities is shown clearly, with HSUK outperforming the Integrated Rail Plan by an order of magnitude in the North and in the Midlands, and by a factor of almost 2 in London. This will result in vastly superior overall economic performance, and HSUK's markedly greater connectivity gains in the UK regions compared with London should also translate directly into transformational Levelling-up. By contrast, the IRP's greater connectivity gains in London can only exacerbate the North-South Divide.

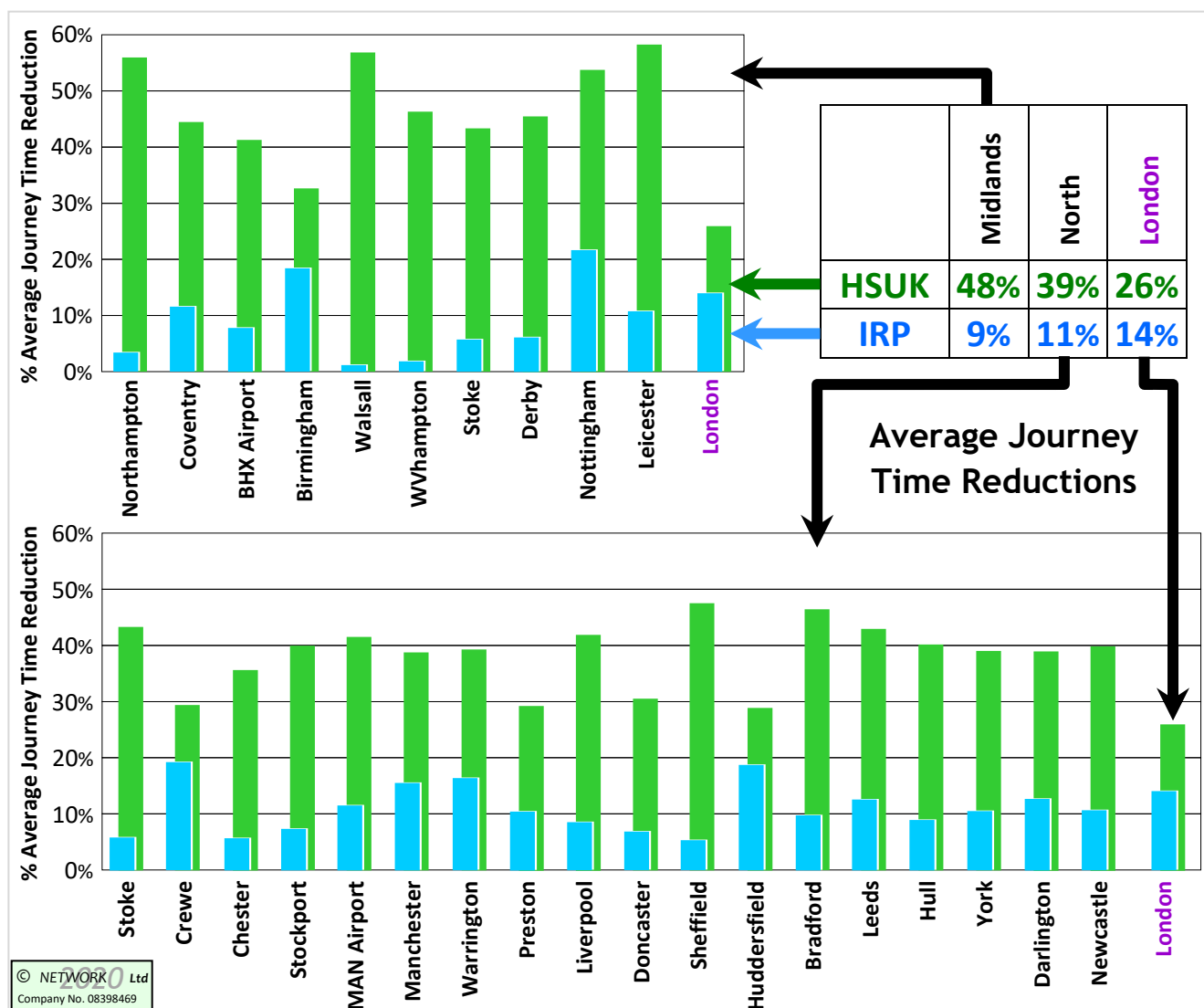


Figure F.1A : Journey Time Reductions for Major Northern & Midlands Communities

For further details, including assessment of Levelling-up potential, see **DIRP** Section 6.1.

Finding 2

The Integrated Rail Plan will fail to meet every single official target for improved intercity journey times across the Northern Powerhouse, and it will fail also to deliver the step-change Transpennine capacity enhancement necessary either for Levelling-up or for achieving Net Zero.

The Northern Powerhouse initiative was launched in 2014 with the promise of major reductions in intercity journey times across the North, with headline timings of 30 minutes between the core cities of Leeds, Sheffield and Manchester. The HSUK Exemplar Alternative shows that the 'Northern Powerhouse Specification' set out in Figure F.2A below was perfectly achievable, with only minor exceptions; however, the Integrated Rail Plan now fails to meet every single journey time target.

Journey between Northern Powerhouse centres	Existing journey time (mins)	Specified journey time (mins)	NPR journey time (mins)	IRP journey time (mins)	HSUK journey time (mins)
Liverpool - Manchester	32	20	28	35	20
Manchester - Sheffield	48	30	40	40	23
Manchester - Leeds	49	30	26	33	26
Sheffield - Leeds	40	30	28	41	20
Manchester - MAN Airport	13	10	15	15	15
Leeds - MAN Airport	62	40	51	58	38
Sheffield - MAN Airport	73	30	66	66	34
Liverpool - MAN Airport	65	30	34	41	26
Leeds - Newcastle	87	60	68	76	51
Leeds - Hull	55	45	38	55	38
Sheffield - Hull	86	60	60	76	59

Journey time meeting specification
 Journey time failing to meet specification

Notes:

1. Timings to MAN Airport (Manchester Airport) assessed to existing centrally-located station.
2. NPR (Northern Powerhouse Rail) part of wider 'Predecessor Scheme' considered elsewhere in this study.

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Figure F.2A : IRP & HSUK Performance against Northern Powerhouse Specification

This 'epic fail' can be explained by the huge and malign influence that HS2 has exerted upon the development of Northern Powerhouse Rail. Despite the fact that northern elements of HS2 were designed with no thought for Transpennine connectivity, these routes were still used as the basis for NPR's design, and the result was a deeply flawed and inefficient design (i.e. the Predecessor Scheme) which failed to meet the majority of its journey time targets.

With the Integrated Rail Plan's cancellation of all new-build routes east of the Pennines, the failure to meet the established Northern Powerhouse journey time targets is now complete, and compounded by the IRP's failure to deliver the capacity necessary for Levelling-up.

For further details see **DIRP** Section 6.2.

Finding 3

The Integrated Rail Plan's proposed West Yorkshire main line upgrades, with faster and more frequent services on key Transpennine routes, are fundamentally incompatible with emerging proposals for a West Yorkshire Mass Transit System.

The Integrated Rail Plan's proposed introduction of faster and more frequent services on both the Huddersfield-Dewsbury-Leeds line (Transpennine Main Line) and the Bradford Interchange-New Pudsey-Leeds line (Calder Valley Line) will hugely compromise the capacity of these key corridors to accommodate enhanced local services. This will exacerbate current capacity pressures on these routes which have already greatly restricted the present service offer; this will in turn compromise development of the West Yorkshire Mass Transit System, which to date has been predicated upon a new-build Northern Powerhouse Rail main line via Bradford, clear of existing rail routes. As yet, there is no explanation as to how the conflict between IRP and local services can be resolved.

The huge potential for existing West Yorkshire rail routes to be developed for more intensive local services (Huddersfield-Leeds line) and additional local stations (Bradford-Leeds line) is demonstrated in the HSUK scheme for a heavy-rail-based Mass Transit System illustrated in Figure F.3A below. These enhancements are only possible through HSUK's fully integrated development of local, regional and national services, including:

- primary Manchester-Leeds flows diverted to a new Transpennine line;
- a new cross-city link in Bradford to connect the networks to north and south of the city and enable through intercity flows along the Calder Valley corridor.

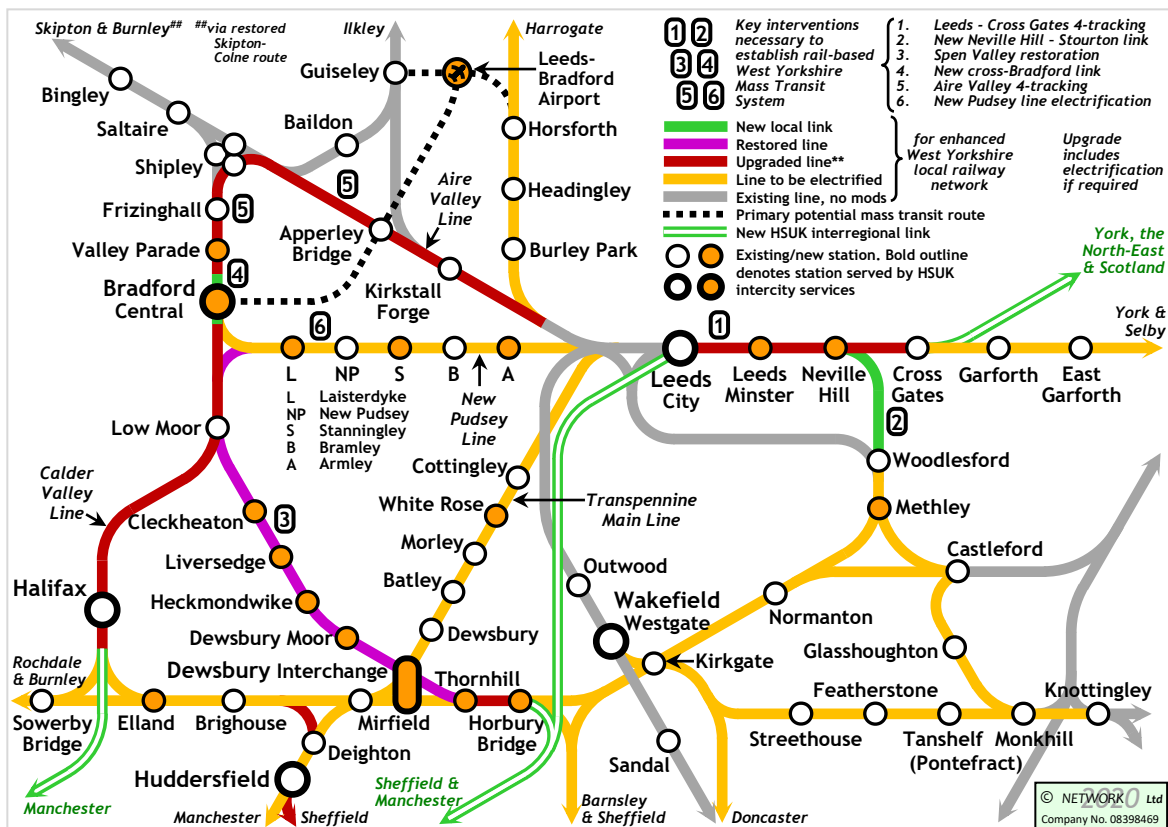


Figure F.3A : HSUK Scheme for 'Heavy Rail' West Yorkshire Mass Transit System

For further details see **DIRP** Section 6.3.

Finding 4

The Integrated Rail Plan provides no evidence to demonstrate that it will deliver either the transformation of the railway network or the 'local capacity dividend' necessary to drive regional 'powerhouse' economies in the Midlands and the North, and thereby support the Government's Levelling-up agenda.

There are no maps in the Integrated Rail Plan to show how its proposed interventions will deliver a transformed network in any UK region. There is no ambition demonstrated for such a network, that might see all principal centres within a UK region directly interconnected with high quality, high speed and high frequency intercity services – and with massively increased capacity for local services. There appears to be no concept that such a network, capable of supporting Government's Levelling-up agenda, and capable of bringing about the desired regional 'powerhouse' economies, might even be possible.

The lost opportunity for network transformation in the Midlands and the North is best demonstrated in 'Tube Map' format in Figures F.4B and F.4D. These illustrate the Integrated Rail Plan's massively inadequate network coverage in both regions, with no worthwhile enhancement of most interurban links. By contrast, Figures F.4C and F.4E show the near-complete interconnectivity that High Speed UK would deliver, as the 'Midlands Ring' in the Midlands, and as 'Network North' in the Northern Powerhouse. This is a level of connectivity that the Integrated Rail Plan cannot even remotely match.

For further details, including HSUK schemes for local network transformation in the principal conurbations of the Midlands and the North (as set out in Table 6.4A below), see **DIRP** Sections 6.3 and 6.4.

DIRP Ref	Test/Comparison
6.3	Network Comparisons in West Yorkshire
6.4.2	Network Comparisons in the Northern Powerhouse
6.4.3	Capacity Improvements in Greater Manchester
6.4.4	Network Development in Liverpool City Region
6.4.5	Network Development in Sheffield City Region
6.4.6	Network Development in the North-East of England
6.4.7	New Transpennine Railfreight Route
6.4.8	Network Comparisons in the Midlands Engine
6.4.9	Capacity Improvements in West Midlands
6.4.10	Network Development in Potteries Region

Table F.4A : Local Network/Capacity Comparisons presented in DIRP Sections 6.3/4

The proposals for local rail network development indexed in Table F4.A complete the 3 essential elements of HSUK's holistic connectivity offer for all major regional conurbations:

- Transformed connectivity to other UK regions (see **DIRP** Section 6.1);
- Transformed connectivity within Midlands and North (see **DIRP** Sections 6.1 and 6.2);
- The 'Local Capacity Dividend' for improved local services (see **DIRP** Sections 6.3 and 6.4).

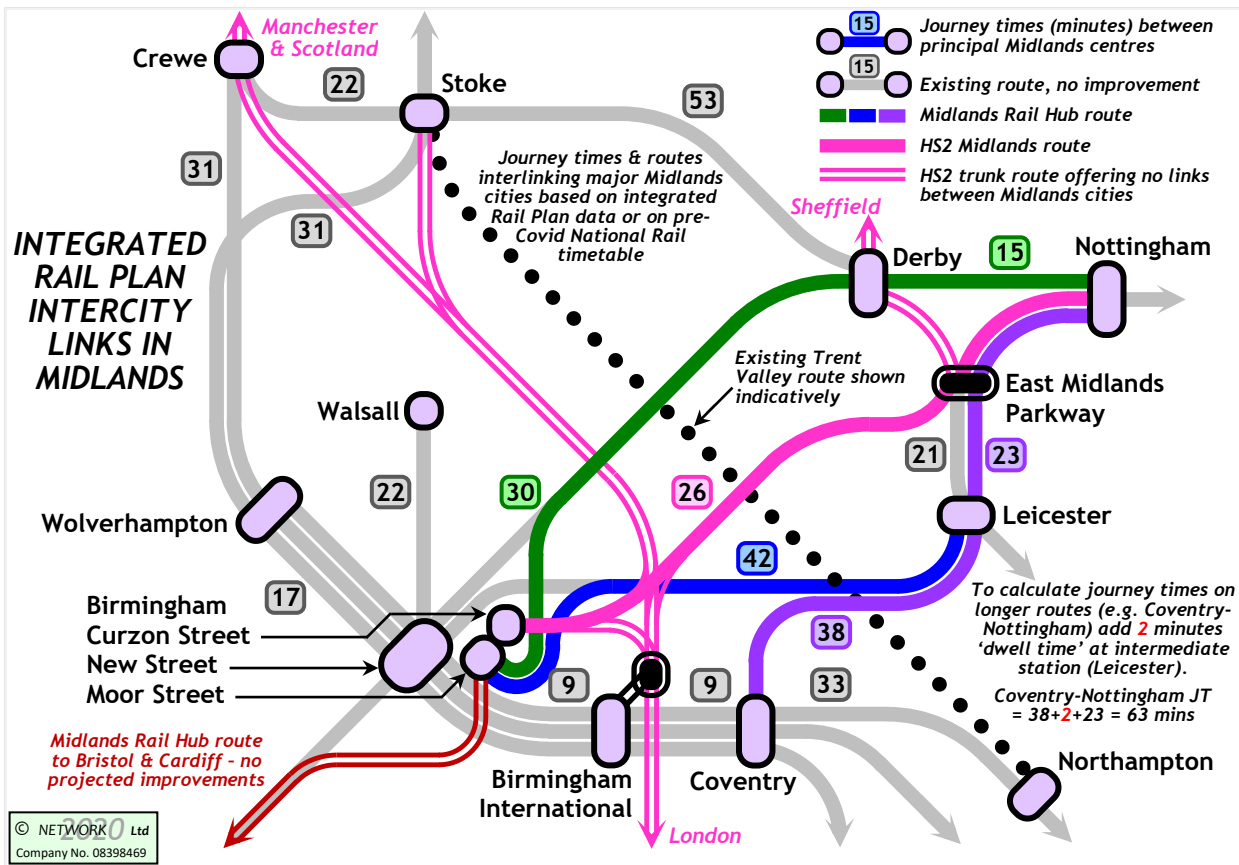


Figure F.4B : Midlands 'Tube Map' illustrating principal IRP services

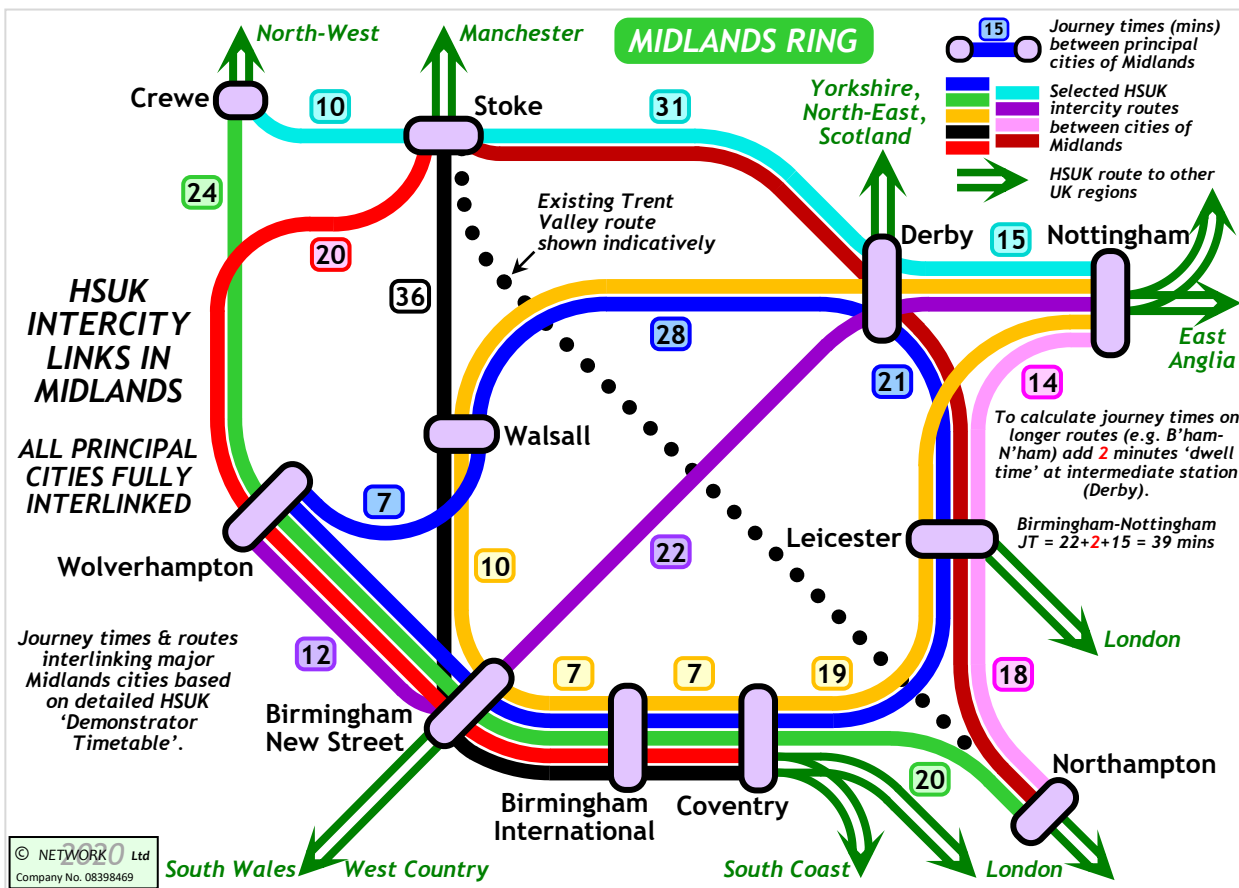


Figure F.4C : Midlands Ring 'Tube Map' illustrating principal HSUK services

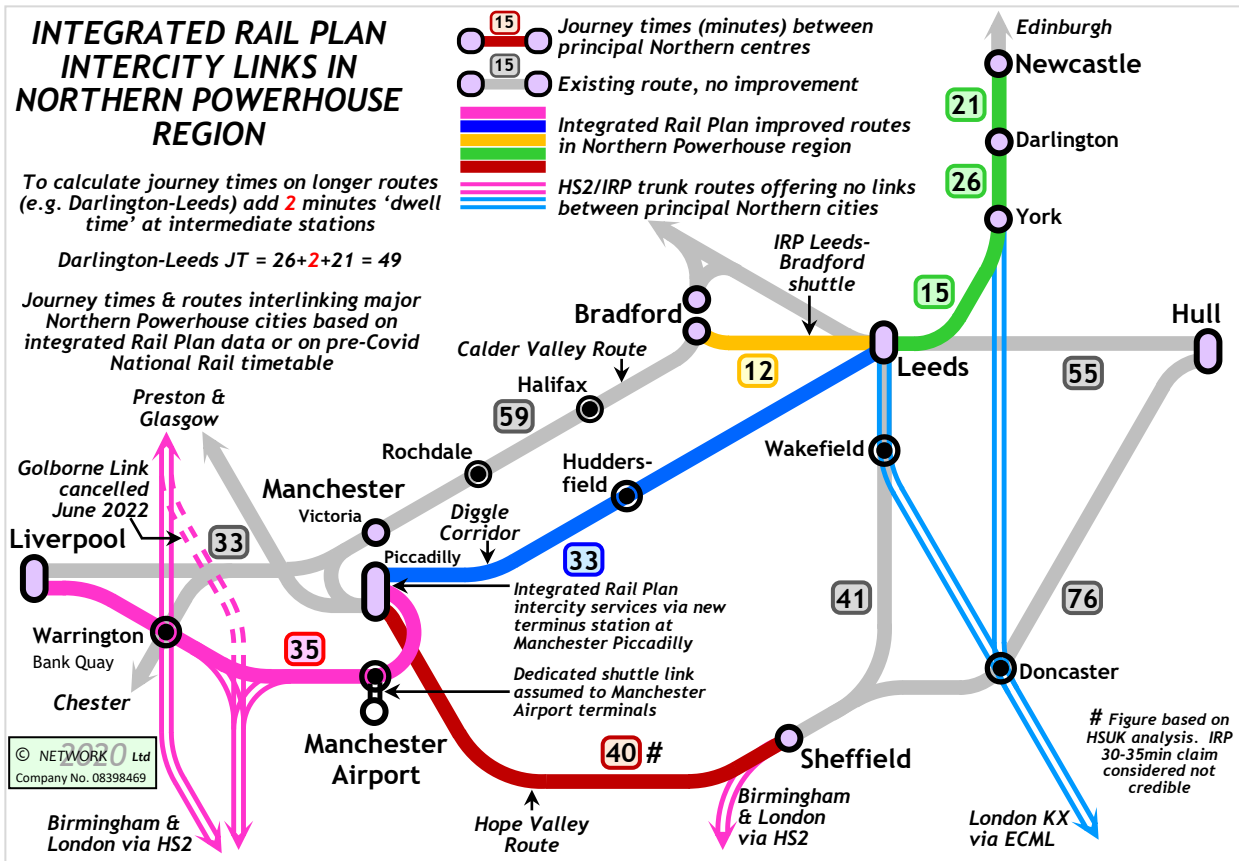


Figure F.4D : Northern Powerhouse 'Tube Map' illustrating principal IRP services

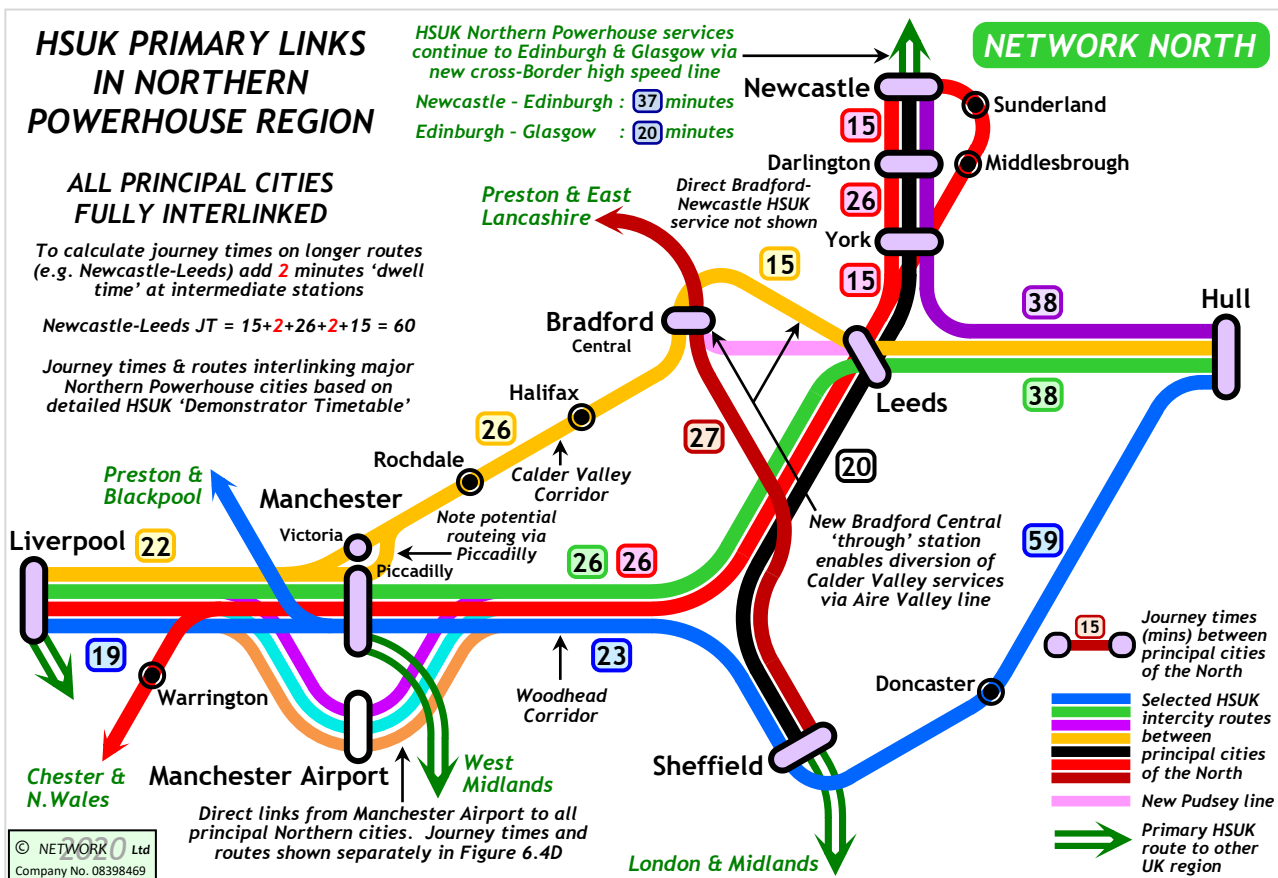


Figure F.4E : Northern Powerhouse 'Tube Map' illustrating principal HSUK services

Finding 5

The Integrated Rail Plan will fail to improve Crossborder journeys to Scotland, and it will compel passengers on Crosscountry journeys to make a walking transfer between adjacent terminus stations in central Birmingham. This threatens the fundamental integrity of the national railway network.

The Integrated Rail Plan has endorsed the established proposals for HS2/IRP high speed services from Manchester, Leeds and other Northern cities to serve a new terminus station at Birmingham Curzon Street, while Midland Rail Hub services from the adjacent Moor Street terminus will continue south-west to Bristol and Cardiff. The enforced walking transfer between the two stations will effectively sever the Crosscountry rail corridor that is most critical to connecting the nation.

The IRP's fragmented station strategy in Birmingham represents a catastrophic failure of integrated railway design. As set out in Figures F.5A and F.5B on the following page (see also **DIRP** Section 6.5.3), it will fail to offer any direct intercity links from Scotland and the North of England to South Wales, the South-West and the South Coast, and it will also fail to deliver significantly improved local rail links in the West Midlands.

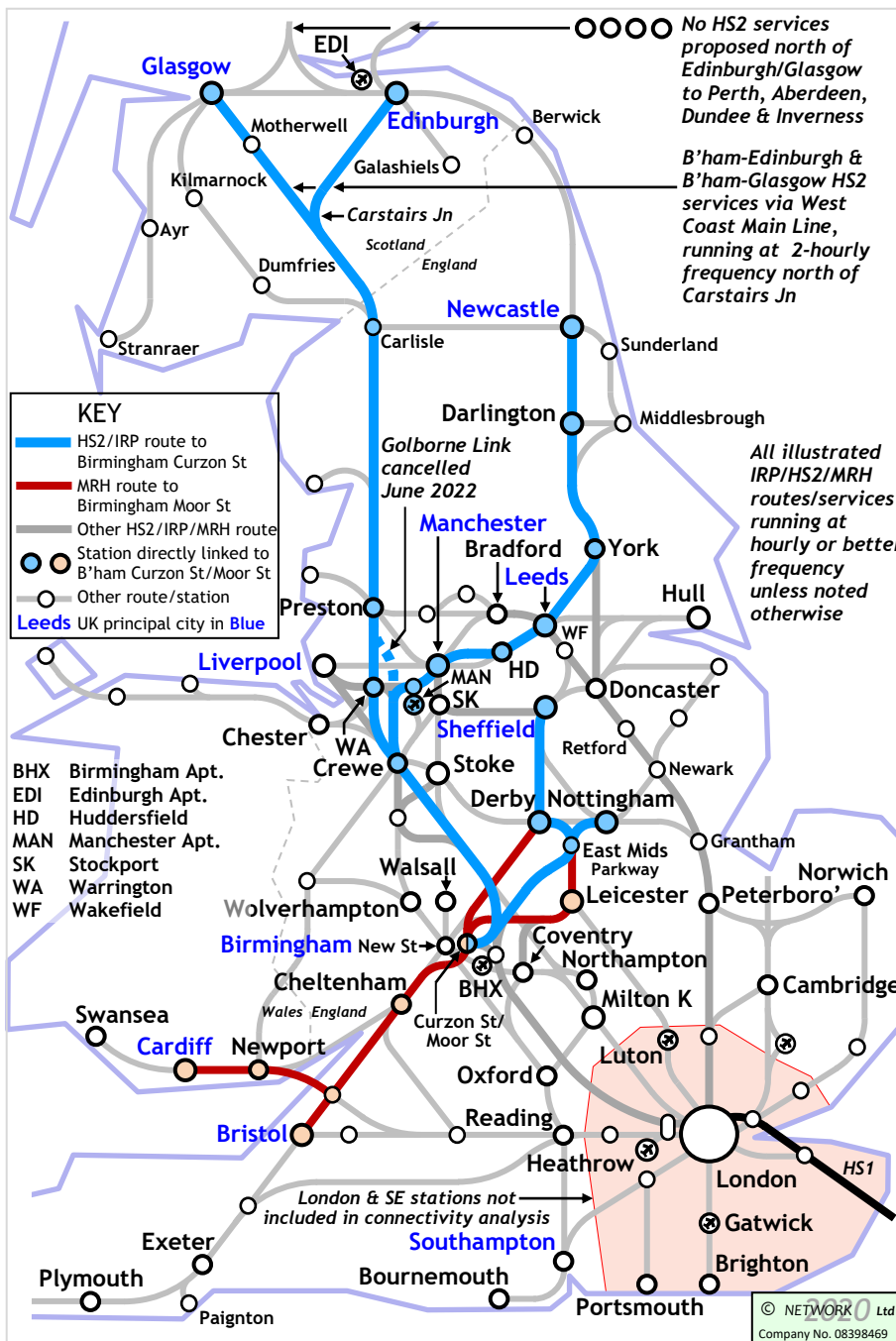
By contrast, High Speed UK's radically different strategy, of 4-tracking the existing approach routes to Birmingham New Street, will allow the capacity of the existing station to be massively increased (see **DIRP** Section 6.4.9). This will enable a huge enhancement of local, regional and national Crosscountry services, with comprehensive direct links from Northern and Scottish primary cities to the principal cities of South Wales, the South-West and the South Coast (see **DIRP** Section 6.5.4).

Figure F.5B also demonstrates the highly inadequate connectivity that the Integrated Rail Plan will deliver between English and Scottish cities. Aside from the planned HS2 service from London to Edinburgh and Glasgow (with split of train at Carlisle), the illustrated HS2 services from Birmingham to Edinburgh and Glasgow via the West Coast Main Line represent the only improved links that the IRP will offer between an English regional primary city and the 2 principal cities of Scotland.

Overall, the IRP's Anglo-Scottish service offer is extremely poor. Due to the split of route at Carstairs Junction, HS2 services from Birmingham will only run at 2-hourly frequency to each Scottish city. There will be no improved direct link from any Northern primary city (i.e. Sheffield, Manchester, Liverpool, Leeds or Newcastle) to Scotland, and the existing Crosscountry links via the East Coast Main Line to Scotland are projected to be curtailed at Newcastle.

Moreover, with few viable intercity links created along HS2's favoured West Coast route to Scotland, it has not been possible to establish a business case for a dedicated Crossborder high speed line. This makes it impossible to reduce journey times between London and Edinburgh/Glasgow significantly below 4 hours, and that in turn will leave high-emitting domestic aviation dominating the primary Anglo-Scottish routes. This will have huge adverse implications for the Government's Net Zero ambitions.

For details of the vastly superior Crosscountry and Crossborder connectivity offered by the HSUK Exemplar Alternative, see **DIRP** Section 6.5.



			Glasgow
			Edinburgh
			Newcastle
			Leeds
			Liverpool
			Manchester
			Sheffield
Cardiff	Bristol	South'ton	

Figure F.5A :

IRP – No Direct Links between Principal Cities on Crosscountry Corridor

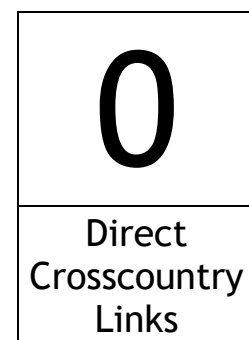


Figure F.5B :

HS2/IRP/MRH Direct Crosscountry Links to north from South Wales, South-West & South Coast

Finding 6

The Integrated Rail Plan is incapable of delivering significant connectivity benefits to the ‘Small Town’ communities that it has pledged to protect; again, this is attributable to the Integrated Rail Plan’s fundamental lack of integration and its predication upon HS2.

The Integrated Rail Plan has, at least in part, justified its massive cuts to HS2 Phase 2b (east) and Northern Powerhouse Rail by highlighting the connectivity needs of 12 ‘Small Town’ communities on existing main line routes which would have seen major reductions in services if HS2 and NPR had been constructed in full.

The connectivity analysis set out in this study has been extended to cover these communities, and average journey time reductions have been calculated for each ‘small town’. Again, HSUK’s far superior network performance allows it to deliver connectivity and journey time improvements that are an order of magnitude greater than what the Integrated Rail Plan can offer. See Figure F.6A below.

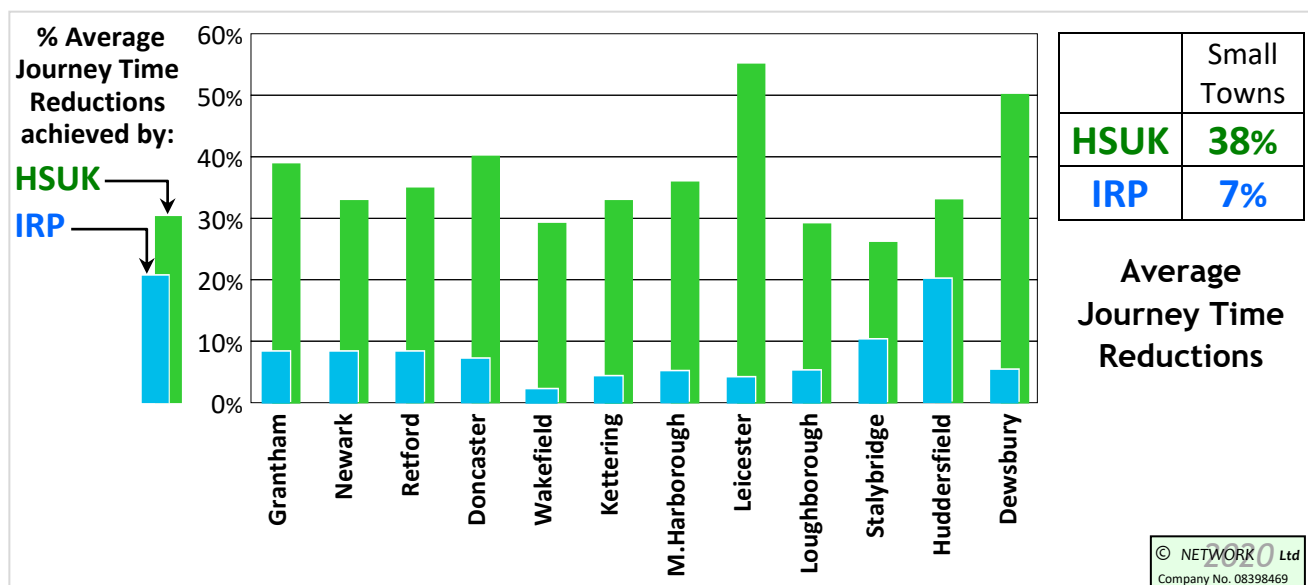


Figure F.6A: Average Journey Time Reductions for ‘Small Town’ Communities

The analysis set out in Figure F.6A refers specifically to the following 12 communities cited in the Integrated Rail Plan: **Grantham, Newark, Retford, Doncaster, Wakefield, Kettering, Market Harborough, Leicester, Loughborough, Stalybridge, Huddersfield and Dewsbury.**

However, there is no reason to suppose that HSUK would not show very similar massive superiority if the same analysis were applied to a different group of 12 communities, for instance: **Durham, Sunderland, Middlesbrough, Harrogate, Halifax, Barnsley, Chesterfield, Altrincham, Bolton, Blackpool, Burnley and Carlisle.** Connectivity/journey time results for these communities will shortly be published.

For further details see **DIRP** Section 6.6.

Finding 7

Many (around 40%) of the journey time and route capacity benefits claimed in the Integrated Rail Plan appear to be either unachievable, or prejudicial to the development of efficient national and local networks.

Desk studies have been undertaken to determine feasible journey time and capacity improvements for all of the routes listed below (for numbering of journeys see **DIRP** Section 6.7, Table 6.7A).

Journey 01 : Upgrade of East Coast Main Line between London and Leeds

Journey Time (min)		Capacity Benefit?	IRP Implementation Strategy	Table F7.A
Existing	Claimed			
133	113	Not stated	Upgrade/accelerate existing line, with trains running at 225kph (140MPH) maximum speed.	

Raising the linespeed from 125MPH to 140MPH will only deliver the claimed 20 minute journey time reduction with the elimination of all intermediate stops. Under more realistic operating conditions that respect the needs of major communities such as Peterborough, Doncaster and Wakefield, a London-Leeds journey time of circa **123 minutes** might be achieved.

Journey 04 : Upgrade of Transpennine Route between Manchester and Leeds

Journey Time (min)		Capacity Benefit?	IRP Implementation Strategy	Table F7.B
Existing	Claimed			
51	33	Existing capacity doubled	New high speed line from Manchester to Marsden, remainder of route upgraded and electrified. 4-tracking presumed where vacant trackbeds exist, not possible on Dewsbury-Leeds section.	

The claimed journey time and capacity improvements are technically feasible only if the key 2-track Dewsbury-Batley-Leeds section is devoted to intercity traffic, with no possibility of improving local services. This is incompatible with the IRP ambition for a West Yorkshire Mass Transit System.

Journey 05 : Upgrade of Calder Valley Line between Bradford and Leeds

Journey Time (min)		Capacity Benefit?	IRP Implementation Strategy	Table F7.C
Existing	Claimed			
19	12	Not stated	Upgrade and electrify existing line from Bradford Interchange via New Pudsey to Leeds.	

Again, the claimed 7 minute (37%) journey time reduction can only be achieved with huge impact upon available capacity for local services, and upon any future West Yorkshire Mass Transit System.

Journey 07 : Upgrade of Hope Valley Line between Manchester and Sheffield

Journey Time (min)		Capacity Benefit?	IRP Implementation Strategy	Table F7.D
Existing	Claimed			
50	30-35	3 rd fast train/hour	Upgrade of existing route, no commitment either to electrification or diversion of existing freight traffic.	

Detailed analysis of the Hope Valley Line indicates no potential to ease any of its many curves, and hence very little potential for significant journey time reductions. **40 minutes** would be the best possible time, probably still unachievable due to the line's continued use by heavy railfreight traffic.

For further details see **DIRP** Section 6.7.3.

The inadequacy of the Integrated Rail Plan as a holistic intervention designed to Level-up the UK economy can be clearly seen in the huge differentials that the IRP introduces into headline journey times from Manchester and Leeds to London – see Table F7.E below. Currently, both Manchester and Leeds enjoy very similar journey times to the capital, and this symmetry would have been broadly maintained by the HS2 ‘Y-network’ under the Predecessor Scheme.

Journey	Ref	Journey time (minutes)				
		Existing Network	Predecessor Scheme	Integrated Rail Plan	IRP Assessment by HSUK	HSUK Exemplar Alternative
Leeds-London	01	133	81	113	123	77
Manchester-London	12	127	71	71	71	76
Differential		+6	+10	+42	+52	+1

Table F7.E : Differentials between Leeds and Manchester Journey Times to London

However, the IRP’s cancellation of HS2 Phase 2b to Leeds, and its adoption instead of a strategy to upgrade the East Coast Main Line, will transform this equitable situation. The **71 minute** HS2 journey to Manchester will be **42 minutes** faster than the claimed **113 minute** IRP journey to Leeds. This differential will rise to **52 minutes**, based upon the likely outcome of a **123 minute** IRP London-Leeds journey as set out in **DIRP** Section 6.7.3.

This is plainly not the balanced approach required to bring about the greatest possible Levelling-up for the UK regions.

By contrast, the High Speed UK Exemplar Alternative maintains the necessary equity between Leeds and Manchester, with almost identical journey times to London. For further details, refer to **DIRP** Section 6.7.4.

Dissecting the Integrated Rail Plan : Conclusions

The Integrated Rail Plan was to be the culmination of the Government’s decade-long UK high speed rail project, the ‘grand reveal’ to explain to a sceptical UK public how HS2’s disconnected high speed lines would somehow integrate with more local projects to deliver the hugely enhanced national railway network that the nation so clearly needs. Yet the Integrated Rail Plan plainly fails to provide this explanation; and as this study demonstrates (see Table A.3), the IRP spectacularly underperforms in every conceivable way.

There are many possible reasons that might account for the Government’s development of an Integrated Rail Plan that fails so comprehensively to meet the needs of the people of the United Kingdom, in any region or nation. But they all revolve around the failure to recognise the central illogicality of the HS2 project – its design as superfast, stand-alone lines between poorly connected fixed points, a concept fundamentally at odds with the basic need for an integrated national network that efficiently connects all parts of the UK, a need that is now explicitly expressed in the Government’s own Integrated Rail Plan. This failure is perfectly encapsulated in the IRP’s severance of the critical Crosscountry rail corridor, as depicted in Figures F.5A and F.5B on previous pages.

A very simple lesson emerges from the failure of the Integrated Rail Plan, itself directly attributable to fundamental mistakes made at the very start of HS2's development. If an integrated and efficient national network was always the core requirement (as the IRP initiative now confirms), then all its elements (HS2, Northern Powerhouse Rail *et al*) should have been designed from the start to fulfil this purpose. This is the philosophy that has driven the design of High Speed UK from the outset, and the catastrophic extent of the Integrated Rail Plan's failure is demonstrated by every aspect of HSUK's comprehensively superior network performance.

The Trillion Pound 'Opportunity Cost' of the Integrated Rail Plan

Sadly for the UK, the Integrated Rail Plan has been shackled by the Oakervee Review's misguided and premature approval of the plainly un-integrated HS2. This has left the Integrated Rail Plan incapable of delivering its key objectives of Levelling-up, Net Zero and Building Back Better, with a cost to the nation that will be measured in trillions of pounds – as set out in **DIRP** Section 7.

The IRP's failure, and the vast and demonstrable superiority of the High Speed UK Exemplar Alternative, pose a critical challenge not only to the Government, but to every professional advisor, every consultant of whatever discipline who has supported the Government in the development of the Integrated Rail Plan and all its predecessor projects.

A Challenge to the UK Transport 'Consultocracy'

These professional consultants as individuals are members of a variety of Institutions obliged by their Royal Charters to serve the public interest; yet collectively they form a sprawling consultocracy that has developed a public project which manifestly fails to serve the public interest.

This consultocracy must explain how the Integrated Rail Plan is the optimised scheme that it is claimed to be, capable of fully delivering on the Government's Levelling-up, Net Zero and Building Back Better agendas. In particular, they must explain how Levelling-up can happen when the Integrated Rail Plan will deliver its greatest connectivity gains in London.

The Responsibility of Government

Wherever and however blame for the IRP (and HS2) fiasco might be precisely apportioned, two facts remain indisputable. Development of a truly Integrated Rail Plan is essential to ensure a Levelled-up, Net Zero and 'Built Back Better' United Kingdom, and it is the Government's fundamental responsibility to make this happen, for the good of all UK citizens.

From these two facts, a further truth emerges. The outcome of a Levelled-up, Net Zero and 'Built Back Better' nation is so crucial to the UK's future, that neither underperformance nor failure can be contemplated; and however much it might cost to cancel HS2 and its associated Integrated Rail Plan schemes, this cost will always be far smaller than that of pressing on regardless, and saddling the nation with the hard-wired dysfunctionality of a national railway 'network' based upon HS2.

A responsible Government has no choice but to face up to the mistakes of the past, and to develop an Integrated Rail Plan that is capable of delivering its committed policy aims; it cannot hide behind the failures of its discredited professional advisors. The High Speed UK Exemplar Alternative would now appear to be the only option available to a Government that must be serious about achieving a Levelled-up, Net Zero and 'Built Back Better' United Kingdom.