

Exploring the purpose of major rail investment proposals



Source: HS2 Ltd

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Summary

Across Britain, currently, there are several major rail investments in-hand, and another struggling to get underway.

Here we explore what lies behind the current batch, looking at four major projects. We find that they are *either* intended to support a wider economic development proposition – a vision – *or*, more prosaically, are designed to meet an identified transport network need, in order to overcome a totally foreseeable problem. Quite different purposes, we suggest, and we conclude both are valid.

But at a time when funding is especially constrained, *clarity* of purpose is paramount. Without it, it is understandable why funding may be hard to secure. And clarity of purpose must be a constant guide through the implementation phase to avoid ‘scope creep’.

Whether the idea is to support a wider vision or address a clear network need, it is common-sense to consider explicitly design and route *options*. Amazingly, this hasn’t always been done (or has remained invisible), leaving the question of whether apparently better design/configuration solutions exist hanging. At a time when ‘planning’ has been identified as a block on progress, it is still necessary to go through the process of making strategic choices, based on the evidence available. This is the positive aspect of planning.

We point to the recent Treasury Green Book revisions and how they could help rail projects based on meeting a wider economic vision. We explain why decision-making in such cases must be carried out on a devolved basis, where a wide range of interested parties can be convened around a table.

But it is also evident that the owner/operator of the national rail network should be appreciated as knowing where priorities lie, and recognised as a key partner in identifying coherent solutions. The process of establishing Great British Railways must not be allowed to suspend this essential input to any project development process.

We also identify a key investment priority that lies ahead, for which only very partial solutions are on the table, when what is needed is a comprehensive plan.

Vision-led planning

If you were to ask Nicola Kane, current chair of the Transport Planning Society (TPS), how best to go about developing suitable plans, she would answer: “make sure they are vision-led”.

This approach can be contrasted with the previous transport planning tendency, the now disdained ‘predict and provide’ approach. Here the project with the best cost benefit performance was selected as the best way forward, essentially as a means to address forecast traffic & travel growth.

The vision-led approach allows consideration of a wider range of issues, broadening the focus and probably using a multi-criteria analysis to select the preferred ‘solution’. Rather than a narrow focus on ‘user benefits’, impacts on different social groups – the needs of residents, visitors, businesses, the elderly, cyclists (and so on) – can be assessed. Opportunities can be examined and tested against desired outcomes, even if Government grant funding will still require project-based appraisals, consistent with HM Treasury’s Green Book¹.

The Green Book itself has recently been updated, partly driven by a shift in thinking about testing whether transport investments support desirable wider planning outcomes. In a nod to vision-led planning, the key Green Book change is to make investment appraisal ‘place-based’. This explicitly allows for developments and investment in multiple fields to be assessed jointly; so changes in housing, in land use, in other utilities, for example, as well as in transport can be examined together, across a common ‘place’ geography. So, a vision of place, with a coherent approach to transport arrangements.

Any such vision would likely be rooted in wider considerations of how to tackle identified social problems and economic opportunities. From this could flow an understanding of suitable measures to strengthen local communities, to meet education and training needs, attract new businesses, address weaknesses in the local housing stock....and so on.

This means joint consideration of measures to be taken in transport and related fields, and local (‘devolved’) authority leadership. This is the level where it is feasible to look at these issues together, with interested parties convened as necessary around a single table. Clear accountability, where relevant interested parties can examine a place-defined vision together can give renewed purpose to local and devolved authorities. They can join things up in a way that central Government, with little experience of cross-departmental place-based working, cannot.

In short: putting this into practice validates the devolution mantra which Government Departments always regard with scepticism. The Infrastructure and Planning Bill presumes that strategic planning is set to make a return with an obligation to produce joined up strategic plans at sub-regional level.²

But funding remains the challenge. There is little (or none) to spare locally, and European sources once regularly used as starter funding for localised transport sector investment³ are an increasingly distant memory.

¹ [The Green Book \(2022\) - GOV.UK](#)

² [Guide to the Planning and Infrastructure Bill - GOV.UK](#)

³ Including the European Investment Bank, which while not an EU institution has played a significant role in rail investment – see for instance [EU and EIB funds for UK transport projects - Search](#)

Investment in transport networks

It remains to be seen how the new Green Book place-based guidance is to be taken up by authorities facing key transport challenges. In other countries an obligation to have prepared a coherent plan has been seen as a necessary precursor to central Government funding contributions – for Light Rail Transit schemes across France for instance.⁴

For *rail*, it can be taken that there is plenty of scope for vision-led planning when new stations are under consideration. Indeed, the case of the King's Cross lands in London has attracted interest from major cities across Britain, looking for a 'me too' opportunity. The creation of St Pancras International benefitted from the public-private partnership approach to the development of the channel tunnel rail link. Redundant railway land at Stratford and around King's Cross/St Pancras formed part of the public sector assets put into the PPP deal.

But those looking to replicate even a scaled-back version should look carefully at the complex development processes behind the success of the King's Cross regeneration, which has been well documented.⁵ It relied on strong local authorities with very firm outcomes in mind, working alongside developers and planners over a considerable period of time.

For station re-openings and new builds elsewhere, there may yet be some redundant railway land on offer, even if it's unlikely to be at such scale, with substantial railway land sell offs through the 1970s/80s. In any case, there is generally scope to create at least a local transport hub, and community engagement and provision of relevant amenities will help ensure that full value is obtained from wider rail sector investment.

Vision-led planning can be at a large or small scale, as appropriate. But, as we will suggest, there are some much greater, London-scale, development opportunities ahead, provided the new sub-regional planning process fully engages with the national rail network body.

But first, we look briefly at recent large-scale investment plans for other transport modes. Do they offer examples of for vision-led planning?

Recent larger scale investment decisions in transport: highways and airports

It feels like the wrong question to be asking when it comes to the 'vision' and the idea of 'place' behind recent major Government transport sector investment choices. We have in mind those made this year to proceed with the Lower Thames Crossing highway scheme, and with additional runways at London's two largest airports.

Formulation of these projects has most decidedly remained under the old 'predict and provide' model. Traffic volume growth is expected (in air travel, in road use), and the question seems to be what to do about it. Predict and provide lives on when at a national scale, it seems.

If asked about the vision behind these large-scale investment decisions, Ministers would probably also point to the national growth agenda – and perhaps as well, to the wish to show Britain being 'open for business'.

Consideration of the Green Book's 'place' concept in these cases could possibly be expressed at a whole nation level. But the economic policy driver means that decisions to proceed are for HM Treasury, with

⁴ This was an obligation put in place in France, and now, 50 years later, there are 26 French cities with LRT systems (there are just 8 in the UK)

⁵ See *Planning, Politics and City Making – a Case Study of King's Cross*, Peter Bishop and Lesley Williams, RIBA Publishing, 2016

DfT support. Other Government departments with sectoral interests, (in air quality, health and well-being, housing, education, etc,) are left out of it. It is indeed hard to see how to build a place-based vision around an additional runway.

Instead, local and devolved authorities will be left to field local and regional impacts as best they can. They may not have been formally consulted, but their views on such large-scale projects could be predicted. Local authorities in Essex and Kent, at Public Inquiry, for instance, are both opposed to the Lower Thames Crossing.

For a Government intent on restoring the trajectory of national economic growth, near-stagnant for around 17 years, a more muscular approach to project planning, it seems, is to be the order of the day.

As for Heathrow's c£50bn third runway, there were two main competing proposals. Neither was troubled by considerations of improved rail airport access arrangements, which are critical to any attempt to mitigate increases in local air pollution and highway congestion as the airport expands. They differed in terms of impact on the country's busiest motorway at its busiest segment. Awkwardly, the chosen approach has the greatest impact on the nearby M25 which will need to be relocated into a tunnel – and on local housing.

Are airlines going to accept landing charge increases to support (say) £50bn debt on the owners of Heathrow's books? It seems likely that HM Government will end up with a major funding contribution here.

Expansion will trigger a need for investment across airport access transport modes. Long-planned western/southern rail access lines will inevitably become important in gaining planning consents in due course, but a sensible strategic planning process would have made this a commitment, part of the deal, early on. Instead the scene is set for a lengthy planning battle, given the inevitably adverse impacts on local housing, the expected increase in airport access traffic and the fact that poor air quality around Heathrow is attributable in near equal measure to emissions from aircraft and from road traffic on the surrounding highway network.

So, a wider vision for the Thames valley west of London might come in due course. But, for now, we are invited by the Chancellor of Exchequer to buy into a *national vision*, in which Heathrow expansion is deemed essential so that:

“the UK increases its airport capacity to ensure the things that we make here in Britain can be exported and sold throughout the world. It will create new jobs, not just around Heathrow, but all around the UK, as it gives new export opportunities to businesses right across Britain”.

Crucial to securing buy-in to a vision is establishing a strong body of evidence which underpins it. For Heathrow expansion, the trend and mix of demand for air travel post-COVID does not favour the investment case. CAA passenger survey data shows that Heathrow lost 2.4m business passengers between 2019 and 2024 and that the growth in leisure passengers is dominated by outbound domestic tourism (which represents a leakage to UK economic growth). In addition to major concerns about achieving the planned path to Net Zero emissions, this led the Environmental Audit Select Committee recently to conclude:

"Whilst the Government support for airport expansion has been largely based on its expectation of economic growth, the Government has been unable to direct the Committee to any evidence that supports its assertion."⁶

So this is a contemporary example of where a vision-led approach is worryingly weak, especially so given the lengthy process of achieving planning success ahead.⁷

⁶ [Airport expansion could put net zero in “serious jeopardy” without further safeguards - Committees - UK Parliament](#)

⁷ See: [Transport Times Events | News/Blog | Is Heathrow expansion now ready for take-off?](#)

Rail projects: their origins, place and purpose

So, turning to major rail network investment, first of all it is necessary to note the recent dominance of London/South East in this space, largely driven by Transport for London (TfL).

Over *the last 20 years*, three major rail projects (along with multiple expansions of railways in Docklands/Thames Gateway) have opened in London & the South East:

- the London Overground - opened in 2007,
- Thameslink 2000 (where services started in 2018); *and*
- Crossrail (where services started as the Elizabeth Line in 2022).

In respect of the London Overground and Crossrail, Transport for London (TfL) played the lead role as project sponsor, supported by the Strategic Rail Authority (SRA), before it was abandoned, and DfT; Thameslink 2000 was originally a British Railways Board (BRB) project, taken forward by Network Rail and then the SRA.

Although never published together as a coherent regional plan, they collectively form a regional express rail network in the style of Paris' RER, with an added orbital rail service too (the 'Overground') . They are separate from (but have valuable interconnections with) the London Underground network.

The intersection of Thameslink 2000 and Crossrail/Elizabeth Line at Farringdon in the middle of London, for example, creates a viable single-interchange rail alternative to many journeys otherwise reliant on the M25 orbital motorway – for travel across the south east, for example between Cambridge and Heathrow; Chelmsford and Gatwick; Chatham and St Albans.

Who knew? There is no network map highlighting this exceptional regional-scale public transport asset. On-train announcements on the Elizabeth Line approaching Farringdon merely announce an opportunity to transfer to 'National Rail', with no mention of the direct rail services available to Gatwick (and Luton) Airports. Great projects but a failure at a regional level to extract full value across the TfL/national rail boundary – reconcilable of course.

The following, current, large-scale new railway line plans can be listed in order of their *planning* start dates – the year in which a recognisable plan was first published:

- East West Rail (Oxford-Cambridge)⁸ - 1994
- HS2⁹ - 2002
- Trans Pennine Route Upgrade¹⁰ – 2011
- Northern Powerhouse Rail¹¹ – 2014.

The scene had been set for these projects by the transformational investment in the London and South East rail network which has inevitably prompted calls for a regional catch-up. Interestingly, of these four projects, only HS2 reaches London.

East West Rail

One of the most egregiously silly network cutbacks following the Beeching era was the removal of the Oxford-Cambridge rail link. Compared with the rail networks across mainland Europe which were largely developed by Government *fiat*, Great Britain's rail network was created in the 19th century by competing railway companies.

⁸ In a study carried out by a consortium of local authorities, led by Ipswich BC

⁹ Recommended in a study of options by Atkins and others commissioned by the Shadow SRA released by DfT three years later

¹⁰ See [The Transpennine Route Upgrade Programme \(Summary\)](#)

¹¹ By Chancellor of Exchequer George Osborne

Main lines were profitable, branch lines were cheap, but joining the network together often involved multiple inter-company agreements – hard to reach and expensive to build. Oxford-Cambridge was the only east-west rail link for 100 miles north of London, and it closed in 1970.

A consortium of local authorities in the 1990s came together to explore its revival. Its re-instatement would improve connectivity for multiple towns and cities which, although having good links with London, were otherwise badly served by rail, so that many journeys other than those made by car would involve expensive, time-consuming three-legged rail trips via London. At this stage, better transport connectivity was the aim. Its delivery would create a substantial network of rail hubs at Oxford, Bletchley (Milton Keynes), Bedford and Cambridge.

The **Oxford to Cambridge (O2C) Arc initiative** was launched in 2003 by three of the now departed English [regional development agencies](#) (RDAs), [EEDA](#), [EMDA](#) and [SEEDA](#). “The aim of the initiative is to promote and accelerate the development of the unique set of educational, research and business assets and activities that characterise the area and in doing so, create an "arc of innovation and entrepreneurial activity that would, in time, be 'best in the field'".¹²

In November 2017, a report for the [National Infrastructure Commission](#) (NIC) noted that: "in 2014, the Gross Value Added (GVA) of the "corridor" was £90.5bn (2011 prices); by doubling housebuilding rates in the area, and delivering [East West Rail](#) and the [Oxford–Cambridge Expressway](#), this [would] increase by £163bn to a GVA of £250bn,"¹³

In 2023, it was announced that a huge Universal theme park was to be established in Bedfordshire (on the site of a former clay pit) and this too would be served by the East West Rail (EWR) Link (as well as the nearby Midland Main Line).

The vision of EWR can be seen to have evolved from a specific transport enhancement, to a much wider development opportunity, with expansion of existing housing and academic & research institutions, and with a key later addition (of the sort that otherwise would trigger the separate need for fresh investment in access transport) in the form of a major leisure attraction. By now the ‘Arc’ has multiple wider development implications, and indeed the definition of the EWR scheme itself continues to evolve, now including, for example, an extension eastwards at Cambridge with a new station to serve the development zone that was formerly Cambridge Airport.

What looked to some observers as an unlikely plan with a less direct alignment to act as a successor to the original rail line, has assumed a catalytic role in supporting economic growth across the ‘English Economic Heartlands’. In other words, the vision for the rail link and the ‘arc’ has evolved – and now, with a parallel road ‘expressway’ abandoned, the role of EWR rail investment is central to a much wider development vision.

Its purpose, loosely defined at first, has become clearer over time.

HS2

High Speed Two emerged from a major investigation into the long term viability of Britain’s north-to-south transport arteries in terms of their capacity. Commissioned by the (then shadow) Strategic Rail Authority, the 2-year study nonetheless looked dutifully at all transport modes, in work carried out by WS Atkins and others over the years 2000-2002.

With rail use growing strongly in these early years of privatised rail franchises, where the various companies involved had set their own ambitious revenue targets, pressure on the network was growing. Already, a major rail renewal (with an add-on upgrade) programme was underway along the west coast corridor. Upon its completion, Virgin Rail Group planned to double service frequencies and speed up travel times. GNER on the east coast was also doing well, and in a restricted competition that GNER

¹² Source: Wikipedia

¹³ National Infrastructure Commission. See: [The Oxford-Cambridge Arc: Government ambition and joint declaration between government and local partners](#). The major highway scheme, the Oxford-Cambridge Expressway was subsequently dropped.

would ultimately win, the idea had been floated by Virgin that a high-speed line over part of the east coast route would allow a speed-up and the extra network capacity needed for service frequency increases that would become essential in a 15-year franchise life-span.

This was an idea that was widely supported by stakeholders along the corridor. And at a time when the Channel Tunnel Rail Link was progressing through its construction phase, Government wanted to get itself across the issues provoked by this idea for high-speed rail in the east coast corridor.

The WS Atkins study accordingly was set a wide-ranging brief. Besides a raft of different ways to increase north-south transport capacity – enhancement of existing motorways, or of existing rail lines, or increasing air services, was building new infrastructure (road or rail for freight or passenger or both). But there was also a completely different response to predicted demand pressure that was given due consideration: a range of pricing measures to contain demand on a ‘make do with today’s networks’ basis.

Here then, the traditional and likely views of engineers and economists were each under examination, as the Atkins team looked at issues in detail, including the likely costs associated with, for instance, a new high-speed rail line. And within such a scenario, the inevitable next level of detail too: for example: would it make sense to have an intermediate station wherever HS2 would cross the up-coming East West Rail Link?¹⁴

In short this was a comprehensive and detailed study designed to look at all the options and to identify how best to solve a particular problem – capacity shortfalls expected 20 years hence. The likely, indeed inescapable, scenario was that the nation was going to run out of transport capacity between London & South East and the Midlands, the North and Scotland by the mid-2020s.

And for HS2, the question “What problem are we trying to solve?” is not in doubt. The Study had provided an important validation and clarity of purpose for the HS2 initiative that was to follow a few years later. It was known from the start what problem HS2 was designed to resolve, the study having established how best to address a predictable capacity crunch. It would be an act of neglect if the Government were to ignore the conclusions of the study it had commissioned and leave the trunk national transport network to decay and decline through over-use.

Of course, new capacity comes with speedier journeys, in effect bringing Scotland, the North and Midlands closer to London, in a way expected to strengthen regional economies. It also brings relief to lines which operate today, in truth, too close to capacity, which means that HS2 will bring better train service reliability too. With non-stop trains removed from existing main lines, a whole string of intermediate places can get a better train service and more freight can be switched from motorway to rail – this alongside new high-speed services linking the nation’s major cities. Carefully planned, capacity gains come in multiple forms and bring a raft of wider benefits. But more network capacity is the inescapable purpose of HS2.

Trans Pennine Route Upgrade

By 2011, a number of schemes were underway to improve connectivity across the Pennines and so support better connectivity between major northern cities. The **Trans Pennine Route Upgrade (TRU)** is a ‘bundling’ of various schemes, which will upgrade the existing busiest route across the Pennines between Manchester, Huddersfield, Leeds and York. West of Manchester, it incorporates the completed ‘North West Electrification’ project.

¹⁴ The answer was no. Creating an interchange where these lines crossed would be incompatible with regional and local planning policies creating huge development pressure in a rural area. Not that this hasn’t stopped the question being raised ever since. The extra connectivity that can be created by conjoining EWR’s east-west connectivity gain with north-south rail routes is planned to be provided, of course, at Bletchley (WCML), Bedford (MML) and Tempsford (ECML) on existing lines where there will be services available to stop at intermediate stations (unlike on HS2).



North West Electrification
Source: railadvent.co.uk

The NW Electrification programme had created an electrified line between Liverpool and Manchester (subsequently extended to Stalybridge). The Manchester Hub proposal (subsequently retitled the Northern Hub) had the reinstatement of the Ordsall chord and addressing the Castlefield corridor at its core (the latter subsequently abandoned).

The complementary TRU project was started to the east in Yorkshire and provided electrification between York and Leeds. Rather than a wider economic vision driving this project, its creation largely rested on management of the national rail estate, with a careful programme of renewal and upgrades where needed. The rail network in the North was falling behind, with limited lengths of electrified route, and an inability to carry much in the way of railfreight. Services were slow and unreliable.

The central section of the TRU route across the Pennines is proceeding in stages. Currently the line between Leeds and Huddersfield is being electrified, and major works are in hand to increase capacity at key junctions and at Huddersfield. This will leave the Huddersfield-Stalybridge section to be addressed, which, when complete, will allow electrified train operation across this prime trans-Pennine route, with shorter journey times, better service reliability and, for the first time, an hourly 'path' for standard height intermodal (container) freight trains.



Huddersfield station rebuild

Photo: HuddersfieldHub.co.uk

Separately, some improvements had been made to the parallel Sheffield-Manchester route to the south, but the expectation that these would allow an increase in service frequency has not materialised. Constraints remain unaddressed at Sheffield and Manchester, at either end of the route.

While TRU is expected to deliver a lot of benefit, it has shied away from tackling the key rail network challenges lying *within* the major northern cities. It is here that upgraded east-west lines will connect with the north-south routes – the West Coast, Midland and East Coast Main Lines, and with a number of commuter routes which converge on the main cities.

In Liverpool, Manchester, Sheffield and Leeds, multiple routes come together to form network ‘hubs’. Here, junctions and stations remain largely unmodernised, with very low operating speeds. The key stations are operating under pressure, and in some cases are overcrowded.

Compare and contrast with the position in the south, where key hub stations – Reading and London Bridge – for example, have been transformed, and have brought not just the opportunity to transform rail services and connectivity, but also regenerate and transform surrounding areas.

The vision behind TRU is yet to embrace the essential and inevitably expensive works needed in the large northern cities. Rail’s Network Operator has singled out Manchester as being the most critical – and by far the most expensive to resolve. It’s the same conclusion as the North’s leaders had reached in ‘Northern Way’ days 15 years earlier. So addressing this weakness could be a perfect alignment of stakeholder views on priorities.

Yet, astonishingly, there is no project in-hand to identify the best approach to resolving the Manchester hub ‘problem’.

In effect the TRU is a classic network operator’s approach designed to modernise existing assets. It responds to a clear ambition to improve east-west connectivity across the North – an ambition fuelled by a wish to embrace and complement the improved north-south connectivity that HS2 is designed to bring. In practice the aim of TRU is to overcome network neglect in this part of the country.

Northern Powerhouse Rail

Last on the scene is Northern Powerhouse Rail (NPR), launched by Chancellor of the Exchequer, George Osborne in 2014. When asked about funding he replied: “the money will be found”. But, eleven years later it still hasn’t been, and not for the want of impressive lobbying.

NPR is built on a vision – of creating a Northern Powerhouse – a collective of the major northern cities which together it is argued, could build a strong inter-connected group and act as a valuable economic counterweight to London. The pitch is to HM Treasury.

NPR is, in short, the epitome of vision-led planning for transport, and on a multi-regional scale. The question ten years later is: why hasn't it been progressed?

One reason is that with its emphasis on creating fast/high-speed links *between* the major northern cities, its virtues are diminished year-by-year by the progress made on implementing the Trans Pennine Route Upgrade, which delivers part of the NPR improvement using the existing railway network.

Choosing between an upgrade approach and new build is always challenging; they are hard to compare (differing impact groups, land take etc). Doing both in parallel would likely be seen as wasteful by HM Treasury. But a combination of some new line and some upgraded existing lines could yet make sense...

NPR shares with the TRU a lack of definition of what is to be done *within* the major northern cities where the greatest challenge and the biggest benefit opportunity lies. This will entail new build, and in the case of Manchester, will almost certainly involve tunnelling. It is not a problem soluble with a single new rail link.

The investment needs of Liverpool, Sheffield, Leeds and York are more likely to be incremental improvements to existing stations: significant and important, but less costly. Each of these hub developments could certainly also be associated with a wider surrounding 'place' vision.

Meanwhile, a part of NPR is proposed to be extracted for adoption as a new city-city link. This would be a new Liverpool-Manchester line built *via* Warrington. It would use the HS2 Phase 2B tunnelled alignment to approach central Manchester from the south.¹⁵ But its purpose has shifted from the original NPR vision. It leans more towards supporting housing and related development across what has been described by some as a northern counter to the Ox-Cam Arc: a '*Northern Arc*'.¹⁶ This part of NPR at least, is seen as an agent of new development *between* cities, rather than an integrator of major city economies.

It will therefore need to adopt a revised vision and purpose, with no pretence at creating a faster route between the two large north western cities, especially since in this case, the fastest connection between Liverpool and Manchester will in practice remain the existing, now electrified, 'TRU route' between the two cities, using the original straight and direct 1830 alignment *via* Newton-le-Willows.

It may appear that the proposed new Liverpool-Manchester railway (it will be the 4th: there are three existing lines) has scooped a 'free pass' to access central Manchester using a tunnelled alignment previously planned for HS2 services. But there is a problem. The relevant connection southwards to HS2 *via* Crewe that would make this a joint line and so sharing its (substantial) cost, is now abandoned, lost in the October 2023 'Network North' debacle.

That said, new development in this prosperous part of North West England has some echoes of the Ox-Cam arc, even though this rail line serves neither of the recently announced 'New Town' developments in the region. The new Liverpool- Manchester railway could support the 'Northern Arc', and it may yet support an emerging wider vision, supporting development and regeneration at a number of intermediate locations, anchored by two University cities.

Meanwhile, it lacks a clear purpose, and alternatives appear not to have been examined in the rush to create a plausible way to spend the multiple-£bn capital funding supposedly saved from cancelling the southern half of the Crewe-Manchester section of HS2.

But lower cost variants exist. Much could be achieved by a westward extension of the railway from the Manchester Airport's existing railway station. On the face of it, this could offer better value for money, not

¹⁵ This section of line remains partway through its Parliamentary Bill stage, although the necessary powers for the section of HS2 southwards to Crewe have been abandoned.

¹⁶ The 'Northern Arc' across a part of NW England where socio-economic characteristics are quite similar to those of the Ox-Cam Arc was first suggested by Ian Wray of the Heseltine Institute, Liverpool University

only costing less, but achieving much better connectivity at Manchester Airport. It is a long-standing proposal, remaining only as a reserved alignment across the airport for future implementation.

Its implementation now may throw up obstacles not present when it was first conceptualised. But if supporting the wider Northern Arc vision is now the aim, it would likely make sense to examine whether using this ‘western connection’ from the Airport station which is integrated into the airport terminal building (rather than a new station on the HS2 alignment to the west of the airport), is a better approach. It has multiple benefits: joining up cities with extensions of existing trans-Pennine services, relieving the Airport station of the operational pressures from train turn-rounds, linking more effectively with Chester/North Wales as well as Warrington/Liverpool, and achievable at lower cost than a solution requiring construction of the lengthy HS2 tunnel to access central Manchester.

The simple transport planning step of testing alternative design configurations has been skipped, it seems. The work needn’t take long, but is surely essential, if value for money for the scheme is to be proven.

Conclusions

Since HS2 emerged as the preferred solution from an Atkins study of over 20 years ago, there have been no other comprehensive studies of options for major rail investment against clearly defined, objective, needs. The results of the study that led to HS2 were inescapably – if somewhat reluctantly at first – ‘owned’ by Ministers. That didn’t mean Government needed to act immediately but in due course of course it did – and the project was given the go-ahead to seek Parliamentary Powers, with cross-party support (surely a prerequisite of large scale projects with delivery timescales exceeding Parliamentary terms) and a firm evidence base of its ‘need’ – not to mention the apparent benefit of not having to fund Heathrow’s 3rd runway.

Other new line projects (EWR and NPR) have instead focused on a wider economic vision, with rail alignments emerging without published comparative studies (although the EWR route variants have been subject to widely drawn public consultations). With transport investment assessed on its merits, even when attempts are made to quantify the wider benefits from a supporting economic vision, the result has been business cases that perform relatively poorly, leaving Governments unsure how to act.

Government commitment to the Ox-Cam Arc rail project is based not so much on a strong (transport) business case but on:

- Government confidence – justified or not – in the value of transport investments in SE England. Oxford and Cambridge, together with London, shape the so-called ‘Golden Triangle’ where R&D based economic growth is expected to centre on life sciences and tech sector developments, building on expanding and prospering University and R&D establishments. From an HM Treasury perspective, this can look to be a low risk investment (provided that housing costs can be kept affordable)
- A wider vision of the Ox-Cam Arc and its likely contribution to national economic growth outcomes.

Continuing Government hesitancy on Northern Powerhouse Rail (NPR) probably reflects several concerns, by way of comparison:

- Continuing delivery of sections of the Trans Pennine Route Upgrade which diminishes the value of a parallel new build approach.
- A weak business case, with very high capital costs and a reliance on potential economic uplift across multiple major cities that today have relatively limited economic interplay. Nobody can be sure whether the ‘chemistry’ of the Northern Powerhouse vision would actually materialise.

But there is a bigger issue. As senior rail industry figures have pointed out, the rail network problem to be addressed in fact lies *within* the major cities which also form rail network hubs. Of these, Manchester is by far the biggest concern. The connections *between* the cities can be made good by TRU and similar exercises at far less cost than new build – and a good proportion of the identifiable *line-of-route*

limitations are being addressed in this way right now¹⁷. But the *transport hub challenge* is left untouched. The problem that so blatantly needs to be solved has been duly unmasked – and it most certainly needs to be addressed.

It would be wise for the North to embrace this problem and set up a strategic choice exercise in which the various ways of tackling it are assessed and the best approach is selected. And no – this isn't to suggest spending a long time on 'planning'. All that's needed is a well-managed strategic planning exercise.¹⁸

Here the available choices can be set alongside one another and assessed to establish *the problem to be solved*. Yes network hubs are complex. But their solution – and we have a number of great national precedents to guide us – show how major rail investment at hubs can be brilliant at generating an accompanying major land-use development.

The choice of how best to address the Manchester rail network hub problem in particular needs to be set out without delay (taking into account suitable development opportunities) so with full regard to the Green Book's 'place' perspective) – and also taking into full account the development potential and needs of the Manchester Metrolink network. It should be carried out by the rail network owner/operator (even as it transitions to GBR), working alongside the relevant city/regional planning authorities in an integrated team as a national priority. It can't be held up any longer.

¹⁷ Although not so far for Sheffield, a short-coming that needs to be addressed

¹⁸ See [Planning Under Pressure | John Friend, Allen Hickling | Taylor & Francis](#)