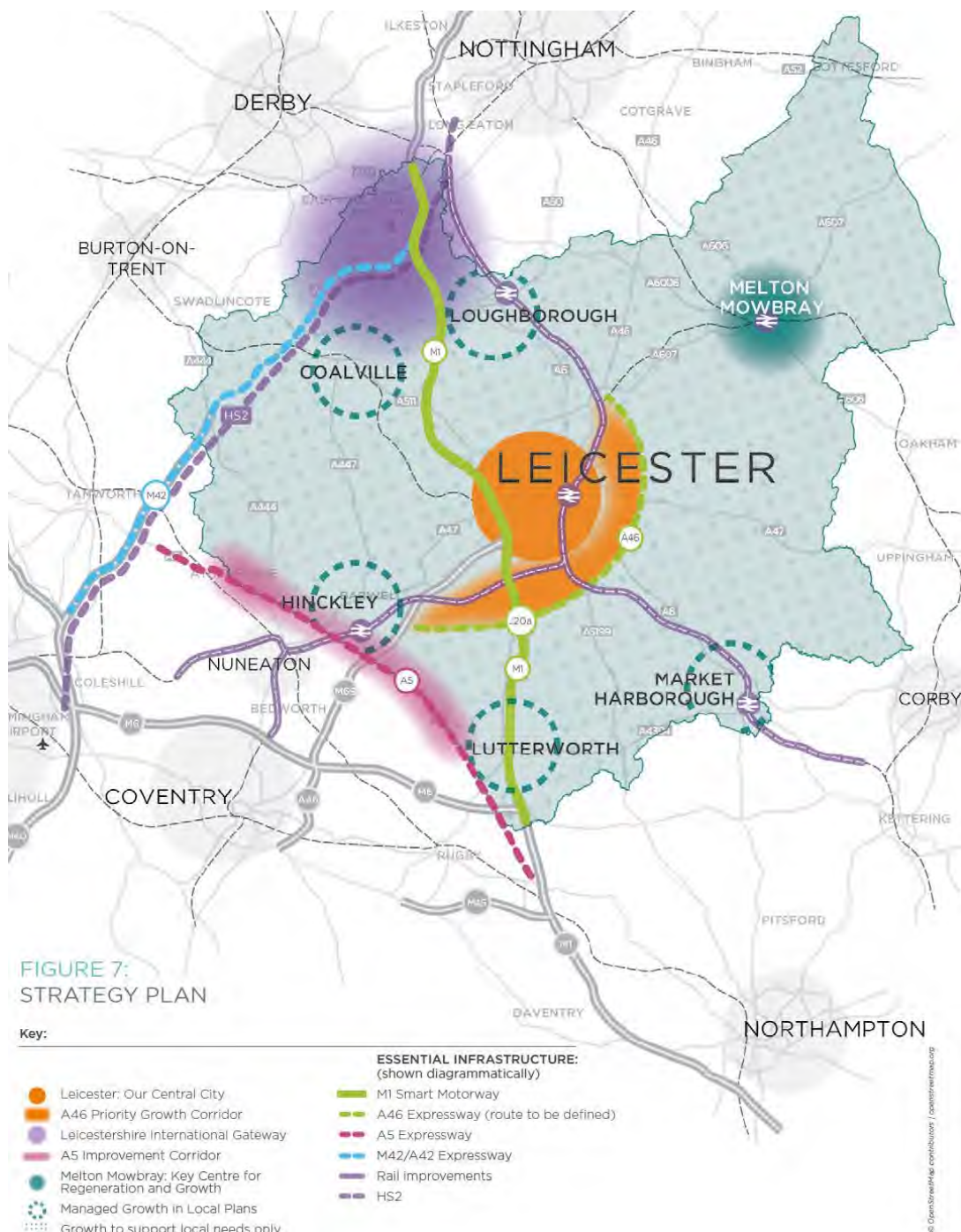


National Infrastructure Commission:  
**Rail Needs Assessment for the Midlands and the North**

‘Call for evidence’

**Joint Response of Leicestershire County Council and  
Leicester City Council, May 2020**



**Figure. 1:** Extract from the Leicester and Leicestershire Strategic Growth Plan, 2018 (p.22)

## Executive Summary

In March 2017, Leicestershire County Council and Leicestershire City Council published the “[Leicester and Leicestershire Joint Rail Strategy<sup>1</sup>](#)”. This strategy recognised the role of rail investment in economic growth and set out how Leicester and Leicestershire currently have relatively poor rail connectivity between major centres of economic activity.

Subsequently in December 2018, a [Strategic Growth Plan for Leicester & Leicestershire<sup>2</sup>](#) was published. This is an overarching plan, setting out aspirations for delivering growth (housing, infrastructure and the economy) across the geographic regions of Leicester and Leicestershire. Significantly, the plan was, prepared and published jointly by all nine local authorities (all districts, along with the City and County councils) as well as the Leicester and Leicestershire Local Enterprise Partnership (LLEP).

Both these plans highlight the role that rail infrastructure has to play in wider transport connectivity, meeting future demand, and enabling growth in the long term. This response to the National Infrastructure Commission (NIC) ‘call for evidence’ to inform the planned Integrated Rail Plan sets out how rail, and HS2, play a key role in delivering these plans.

This joint submission to the National Infrastructure Commission reinforces the need for rail investment that benefits the residents and businesses of Leicestershire and Leicester (and the region and country more widely), as part of an integrated approach to HS2 and Midlands Connect developments.

This joint submission also sets out the key priorities as the Councils see them, building on and consistent with the response of our partners in Midlands Connect and TfEM. These priorities are listed in a sequential order given delivery inter-dependencies - it should not be

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<sup>1</sup> <https://www.leicester.gov.uk/media/180873/rail-strategy-march-2017.pdf>

<sup>2</sup> <https://www.llstrategicgrowthplan.org.uk/wp-content/uploads/2019/01/Final-LL-SGP-December-2018-1.pdf>

interpreted that an item lower on the list is of a lesser priority to the Councils than those higher on the list:

1. providing a direct rail link between HS2 and the Midland Main Line at the HS2 East Midlands Hub (Toton)
2. investing in Leicester station to improve both capacity and quality
3. completing full electrification of the Midland Main Line
4. improvements to wider rail services as proposed by Midlands Connect.

These priorities will deliver rail network resilience. They will provide opportunities to free up capacity both on road and rail networks through increased freight movements and improved passenger connections from much further afield – links connecting Scotland to Europe via London St Pancras. Improved connections and capacity to local commuter routes will bring prosperity to towns and settlements along the existing Midland Mainline, connecting them cross country via East West Rail and opening opportunities to the vast ThamesLink network via Bedford<sup>3</sup>. In addition, the opportunity these investments create to provide a modal shift from road to rail and make a sustained difference to decarbonising the transport system has never been more tangible.

All these improvements hinge on the direct link with HS2 and Midland Main line which is key to unlock these future opportunities. The ability to run high speed trains onto the classic rail network will ensure the benefits of HS2 are distributed as widely as possible.

The questions, asked by the NIC ‘call for evidence, are answered on the following pages.

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<sup>3</sup> <https://www.emcouncils.gov.uk/write/Case-for-Upgrading-Electrifying-Midland-Main-Line251111.pdf>

## Contents / Compendium of responses to 'call for evidence' questions

- Q1. What potential investments should be in scope of the Commission's assessment ?
- In answering this question, please consider the **terms of reference** for the **Integrated Rail Plan**, particularly that HS2 Phases 1 and 2a are out of scope.

The follow investments are key to the future delivery of quality rail services within the Midlands region and Leicester and Leicestershire Councils would commend the NIC include these within their assessment:

- a classic compatible link at the HS2 East Midlands Hub (Toton)
- investment and improvements to Leicester station
- completing full electrification of the Midland Main Line (MML)
- delivery of Midlands Connect rail hub projects.

More detail can be found in paragraph 1.3

- Q2. Which set of rail investments do you believe would, together: a. best unlock capacity and b. improve connectivity – within the Midlands and the North?
- a) Capacity would be most effectively unlocked by the development of HS2 in its entirety and providing linkages between the high-speed network and the classic compatible network to provide greatest flexibility for passengers. Adding the classic compatible link between Leicester and Toton would have a profound positive effect on capacity in the Midlands region and much wider across the UK, with countless benefits to Leicestershire and its neighbouring counties.
- b) As above, providing the link between the classic compatible network and HS2 East Midlands Hub at Toton will hugely improve rail connectivity. It will provide much needed high-speed connections between the midlands and the Northern cities, and also links south through Leicester towards London, making connections to the Thameslink network and East West Rail via Bedford and then south to St Pancras where there are the benefits of rail connections to continental Europe. In addition, it will provide resilience to the HS2 network through provision of this additional route to London from Toton.

More detail can be found in section 3

- Q3. Within the set of investments you identified, which individual investment(s) should be the highest priority?
- Please explain your rationale for this and how this would affect the phasing and sequencing of the full set of investments you identified.

Leicester and Leicestershire view the following investments in this order of priority (further detail can be found in the sections referenced under each bullet point):

- a classic compatible link at the HS2 East Midlands Hub (Toton) to enable high speed rolling stock to access the Midland Main Line (section 3)
- investment and improvements to Leicester station – to allow increased capacity, better quality customer interface and improved rail connections (section 4)

- electrification of the Midland Main Line (MML) – to allow classic compatible high-speed trains to run on the both the HS2 and classic network (section 5)
- delivery of Midlands Connect rail hub projects – to provide a robust and accessible train service throughout the region which complements and benefits from HS2 (section 6).

Delivery of the HS2 East Midlands Hub station at Toton to include the classic compatible link must be progressed at the earliest possible opportunity to ensure these elements are included within the HS2 design. Ideally this link, along with Midland Main Line Electrification, should be operational from day one of HS2 Ph2b operation, to maximise the benefits it would bring. Nevertheless, improvements to Leicester station must be made first to ensure that operation of the electrified line doesn't need to be curtailed while these critical improvements are made. The Midlands Connect rail hub projects are also key to regional rail improvements but do not share the same construction dependencies as the link to HS2 at Toton, Leicester station improvements and the MML electrification. See section 1 onwards for more detail.

- Q4. What supporting policies need to be in place to deliver the benefits of the investments you identified? If there are any dependencies with other investments/policies, how confident are you that these supporting policies will be put in place?

The above key investments carry a number of dependencies between them and as described, sequencing will be key to achieve the greatest benefits. Midland mainline electrification will also allow links between the North and London which will provide resilience to the HS2 network.

Leicester station development is crucial to resilience to enable this station to act as a critical hub and interchange for passengers and freight, such upgrades are dependent on works to improve Wigston junction (section 6).

- Q5. What impact would the investments you identified have on greenhouse gas emissions? In particular, how would they affect the UK's ability to meet its domestic and international targets, including the Paris Agreement and net-zero?
- In answering this question, it would be helpful if you could consider the expected decarbonisation of road transport, as set out in the Commission's National Infrastructure Assessment and Freight Study.

Linking the MML to HS2 at Toton will provide additional connectivity and flexibility to passengers through the linkages south from Leicester to Bedford/St Pancras and then north between Leicester and Leeds via HS2. It will also bring significant journey time reductions as well, particularly north bound, through linking to the high-speed services to Leeds. This will widen the distribution of passengers across the highspeed and classic networks thus freeing up capacity on board trains and encouraging people to choose rail travel over road or domestic flights. The construction of HS2 will also provide additional line capacity for both passenger and freight trains. Currently Leicester is poorly connected to other cities via rail links. Improving rail connections is a genuine opportunity to make the modal shift in transport from road to rail which is vital in the countries carbon reduction plan. In addition, the provision of electric trains on the HS2 line and electrification of the MML will be key in reducing emissions associated with diesel trains. See paragraph 5.3.



- Q6. In addition to greenhouse gas emissions, what are the potential environmental effects (positive and negative) of the investments you have identified?

There will be a high carbon footprint associated with the construction of HS2, MML electrification and Leicester Station re-development linked to the construction process, materials, quarrying etc. The Councils would urge the Government to set stringent targets for all developers which will require them to conduct their construction processes in the most carbon efficient way.

There will also be effects of the construction process and completed HS2 on the natural environment particularly linked to severance of key habitats and in some cases destruction of habitat. However, the County Council is working positively with HS2 Ltd to ensure they consider mitigations for Leicestershire's natural environment at all stages of the railway development. We would urge to government to consider pressing HS2 Ltd to achieve biodiversity net gain along the route rather than a neutral balance – this should be achievable along the green corridor that the new railway provides.

- Q7. Aside from those delivered by improved connectivity and greater capacity, what broader impacts on people's quality of life could the investments you identified have?

These rail investments would bring economic investment to Leicester and Leicestershire through the new connectivity and capacity the railway bring. The county is currently very poorly connected by rail links to other major economic centres (paragraphs 2.5 & 2.6). Better rail connections will encourage more key businesses to locate in Leicester and it will bring employment opportunities to people from outside of the County. It will also open up the employment market outside of Leicestershire to its residents through improving rail commuter routes to other major cities.

- Q8. How would the costs and benefits of the investments you identified be distributed economically, socially and geographically

The additional connectivity provided when HS2 will allow jobs and employment to spread upwards from the South and contribute to balancing the economy further North. This coupled with the additional regional connectivity provided by the classic rail network will distribute these benefits even wider across the country. It will allow more people better access to quality rail services into the major economic centres.

- Q9. Which set of investments would best improve rail connectivity with Scotland?  
- If these are different to the investments you identified above, please explain why.

Provision of the classic compatible link at the HS2 East Midlands hub (Toton) and the MML electrification will open up connections between the south and north as it will allow classic compatible high-speed trains to run on both networks. Therefore, there will be faster services between Leicester and Leicestershire stations and the North via the Toton HS2 junction which will allow more efficient onwards connections to Scotland (sections 3 & 5).

- Q10. What would be the impact of the investments you identified on connectivity between the Midlands and the north, and other parts of the UK?
- Please explain where and how impacts would occur.

As described above the impacts of the investments would greatly improve connectivity between the Midlands and the North and other parts of the UK. The positive impact of integrating the high-speed network with the classic rail network will allow greater connectivity options for passengers, increased capacity for both passengers and freight and opens up greater employment options to a wider market. The economic effects of improving connection options between London and the North aids rebalancing the economy and future investment in a wider variety of economic centres.

- Q11. What would be the impact of the investments you identified on international connectivity across the Midlands and the north?

These investments would provide direct connections from the HS2 network at Toton via Leicester to the Eurostar services at London St Pancras, providing faster and increased connections to continental Europe. In addition, the integration of HS2 and the classic rail network will provide better connections to regional airports e.g. East Midlands and Manchester, therefore relieving pressure on London Airports (section 5).

## 1. Introduction and Purpose

- 1.1 HS2 is important for Leicestershire. Phase 2b is planned to pass through the County along the M42/A42 corridor. Although no stations are proposed along this route, its construction and operation is expected to support significant improvements to transport connectivity for County and City residents.
- 1.2 This document sets out the Councils view of how an integrated rail plan could be developed so that the full potential of an integrated rail network can contribute to the economic, social and environmental wellbeing of the East Midlands, the wider United Kingdom, and beyond - to London St. Pancras International and via the Thameslink network to Luton Airport and Gatwick Airport. It evidences how an integrated rail network can be maximised to improve efficiency and value for money.
- 1.3 The key areas where these benefits can be realised, in deliverability priority order, are:
- A classic compatible link at HS2 East Midlands Hub (Toton). This link (in conjunction with the following two points) is fundamental to introducing service enhancements enabled by HS2 that directly benefit Leicester and Leicestershire, as well as many other locations (section 3)
  - Investing in the capacity and quality of Leicester station - along with the infrastructure serving it - to ensure that these benefits (and possibly opportunities for other more localised benefits) can be delivered (section 4)
  - Completion of full electrification of the MML (section 5)
  - Securing the benefits of the Midlands Connect proposals to enhance the connectivity of the East Midlands to a wide range of poorly-connected regional and national centres (section 6).
- 1.4 As set out in the Executive Summary, the Councils actively engage on rail planning and strategy matters in collaboration, recognising rail transport as a key driver for economic growth, vital to improve connectivity and as a contributor to social inclusion. In addition, improved passenger rail connectivity and greater capacity for rail freight will help to reduce road travel and domestic flights, thereby bringing about overall transport decarbonisation benefits.
- 1.5 The Councils are active as members of Midlands Connect and of Transport for the East Midlands (TfEM), supporting and influencing planning functions of those bodies. The Councils' active engagement with these bodies is also a reflection on Leicestershire's relatively poor rail connectivity to key regional and national hubs.
- 1.6 The Councils work with Midlands Connect on local and regional improvements. These improvements are vital and complementary to the delivery of HS2. We have strongly supported and engaged with Midlands Connect's work on the business cases for Midlands Rail Hub, new services between Coventry and Leicester and on classic compatible services between Bedford, Leicester and Leeds via the Eastern leg of HS2. We are also engaging with Network Rail's study into future capacity needs in the Leicester area through their Continuous Modular Strategic Planning (CMSP) process which is currently underway.



## 2. Policy and Strategic Background

2.1 As described in the executive summary, the Councils published Leicester and Leicestershire Joint Rail Strategy in March 2017. The strategy sets out five key priorities:

- to maximise benefits from Midland Mainline services
- to maximise benefits from of HS2
- to improve connectivity to major economic centres
- to ensure rail access and economic development are planned together
- to support modal shift from road to rail.

2.2 The Rail Strategy supports The Leicester and Leicestershire Strategic Growth Plan<sup>4</sup>, published in 2018, by the area's local authorities and Leicester and Leicestershire LEP (LLEP). The Strategic Growth Plan sets out:

- how expected population and economic growth will be accommodated and supported
- how existing problems can be resolved
- what type of development is needed and by when
- what is the most appropriate location for these developments
- which environmental assets should be protected and enhanced
- what investment in services and infrastructure is required where and by when.

2.3 It forecasts a need for 96,600 additional homes by 2031, and a potential need for 187,100 by 2050. Similarly, large scale increases in land allocated to employment are also projected. The Plan also clearly states the need for investment in infrastructure to support this growth, for example, page 6 says:

- *"We are very clear that significant new development cannot be accommodated within Leicester & Leicestershire without significant investment in infrastructure and services. We welcome government's recognition of this problem at a national and regional level...."*

2.4 The map on the front cover (**Figure 1**), taken from the Strategic Growth Plan, shows the current thinking on where and how this growth will be accommodated and the essential infrastructure required to support it.

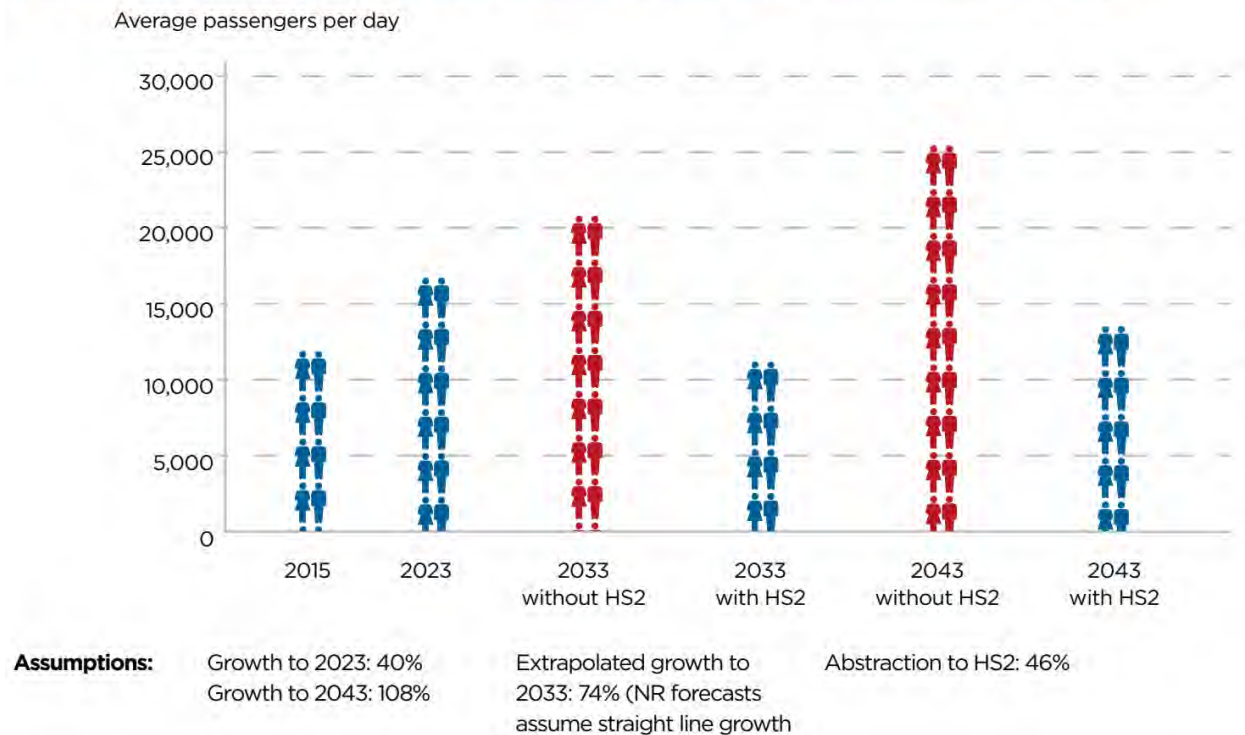
2.5 The Leicester and Leicestershire Rail Strategy identifies that, despite their location in the centre of the UK, Leicester and Leicestershire are poorly connected to many of the key regional economies of growth - especially compared to other economies of similar size in the Midlands. For example, Leicester has no direct services to Manchester, Leeds, the North East, Coventry, the Thames Valley or the South West. The service between Leicester and Birmingham is slow – between 48 and 56 minutes for a journey of 40 miles. Connectivity to East Anglia and the east coast ports is also slow and infrequent.

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<sup>4</sup> <https://www.llstrategicgrowthplan.org.uk/wp-content/uploads/2019/01/Final-LL-SGP-December-2018-1.pdf>

- 2.6 Research by *The Independent* in August 2019, and reported widely in the press, showed that Leicester is “the worst-connected big city in Britain in terms of rail links”; and that “the East Midlands city has a narrower range of train services than a village in Cornwall”.
- 2.7 The strategy focuses on targets for improved services both in the medium and longer term. Local services, especially between Leicester and Birmingham are currently crowded at peak times, and in the future inter-city services on the MML between Leicester and London will also face similar challenges if HS2 Phase 2b is not delivered. This is illustrated in **Figure 2**.

**Passengers leaving Leicester on a London Service** (Source: SLC using HS2/NR forecast)



**Figure 2:** Passengers leaving Leicester on a London service

- 2.8 Leicester City Council declared a ‘Climate Emergency’ in February 2019, and Leicestershire County Council did so in May 2019. Detailed environment strategies will emerge to address this emergency. This strategy has sets a commitment to reduce Carbon Emissions for Leicestershire to net zero by 2050.
- 2.9 The Government is developing an ambitious plan to accelerate the decarbonisation of transport in the UK. Its recently published document published document ‘Decarbonising Transport’ (March 2020)<sup>5</sup> sets out 6 strategic policies for transport decarbonisation which include ‘Accelerating modal shift to public and active transport; Decarbonising how we get our goods; and Reducing carbon in a global economy. All of these objectives can be supported by improved rail connectivity and capacity through a less carbon intensive (electrified) rail network. The document identifies passenger and freight rail travel as less carbon intensive and having less greenhouse gas emissions than road or air travel.

<sup>5</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/878642/decarbonising-transport-setting-the-challenge.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/878642/decarbonising-transport-setting-the-challenge.pdf)

2.10 A better connected rail transport system with increased opportunities to travel locally and over long distances by rail (including links abroad via London) will cut down our reliance on roads and flights as a mode of transport and support this modal shift which our National and Local Climate Change policies advocate.

### **3. Direct rail link between the Midland Main Line and the HS2 East Midlands Hub Station at Toton**

- 3.1 The Councils welcome the economic benefits from HS2 which will be felt not only by the residents of Leicestershire but also by the wider region and on a national scale. Whilst HS2 phase 1 will bring some benefits to those at the south end of the county who may currently use the West Coast Main Line, the principal benefits of the new railway for Leicester and Leicestershire will derive from HS2 phase 2b. The MML is likely to remain more attractive for most London-bound journeys from the County.
- 3.2 The construction of a junction at the East Midlands Hub to enable connection of the MML and HS2 is critical to connectivity and maximising the benefits of the rail network. This connection supports the Bedford-Leeds business case developed by Midlands Connect and actively worked on by DfT and HS2 Ltd.
- 3.3 Though the main benefits this connection at Toton are will only be realised in conjunction with electrification of the Midland Mainline, at a minimum, this link should be included within the HS2 design as early as possible to allow this option to progress. The design of HS2 is already underway for phase 2b and the addition of the junction at Toton within this design process will allow the future MML link to be added when the electrification project is ready to progress, this removing its dependency on the timelines for HS2 delivery.
- 3.4 This link to HS2 will also be key to future transport efficiency allowing classic compatible high-speed trains to run seamlessly from the HS2 line onto the MML – removing the need for passengers to change trains between these networks.
- 3.5 The best result for Leicestershire and Leicester is for the Eastern leg of HS2 to be built and opened in its entirety as soon as possible and include this connection at Toton. This is because for most residents of the county the principle benefit will be for northbound travel (to Sheffield, Leeds and the North East) and this will require the Eastern Leg to be built in full. The Councils would not be adverse in principle to the concept of a phased construction, providing that this:
- is delivered in the context of an ongoing commitment to complete the Leg in its entirety
  - does not result in delays to the completion of the Leg
  - aids the integrated delivery of the Leg with other projects, especially where such integration brings forward the earlier realisation of benefits
  - phasing does not adversely impact the delivery of wider growth and economic strategies aligned to, and dependent on, delivery of the Eastern Leg.
- 3.6 The Councils would wish to see an end to planning blight and uncertainty for homeowners and business along the course of the proposed route through Leicestershire as soon as possible. We are urging Government, therefore, to resolve the continuing uncertainty regarding the route, the legislative process and a commitment to construction. Certainty is needed at the earliest opportunity, to allow investors to make appropriate and timely business decisions.

- 3.7 If the junction at East Midlands Hub is not included in the scope of HS2 then significant connectivity gains would be lost. Recent work by Network Rail for the CMSP Project forecast an improvement in Generalised Journey Time<sup>6</sup> of 94 minutes, along with similar significant improvements for other stations on the MML in Northamptonshire and Bedfordshire.
- 3.8 One of the key connectivity “gaps” for Leicestershire and Leicester is to Manchester. The indicative service pattern for the MML after the Eastern Leg of HS2 has opened is included in the HS2 business plan documentation<sup>7</sup>. This shows that a consequence of HS2 is likely to be the curtailment of one of the two trains per hour between London St. Pancras and Sheffield at Derby, because HS2 service will provide the London – Sheffield link. A significant potential benefit of an integrated approach is that this service could be extended to Manchester, delivering direct connectivity between Leicestershire and the North West that is currently lacking.
- 3.9 As described above, the classic compatible connection to the HS2 East Midlands hub station at Toton must be included with HS2 designs at the earliest opportunity. Similarly, upgrades to Leicester station must be completed before electrification of the MML takes place otherwise there is a risk to the fundamental operation of the station to allow electric trains to pass through.

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<sup>6</sup> Generalised Journey Time is a measure of perceived journey time for passengers, including “in vehicle” time, a frequency penalty and an interchange penalty.

<sup>7</sup> PfM V8.0



#### 4. Leicester Station capacity and quality improvements

- 4.1 Leicester Rail Station has been passed over for investment for over thirty years. It is now no longer adequate in terms of capacity or quality to support the demand that is forecast or the future expectations of passengers.
- 4.2 All of the Midlands Connect projects and the proposed shuttle services between Leicester and the East Midlands Hub will put additional pressure on the operation of Leicester station and the rail infrastructure supporting it. It will therefore be vital to address much needed improvements to Leicester station to enable the wide-ranging connectivity benefits to be realised. Such improvements will rely on upgrades to:
- the station itself – its capacity, its quality, and its ability to function as a high-quality gateway
  - the infrastructure – its capacity in terms of approach tracks and platforms to cater for the additional trains envisaged.
- 4.3 Leicester City Council, East Midlands Railway and Network Rail, with the support of all other industry stakeholders, are determined to address this, and during 2019 worked to develop a Masterplan for the station and the area around it. The Masterplan seeks to make the station a high-quality gateway to the City, support regeneration of the area around it, and make it a destination in its own right.
- 4.4 The Masterplan has the following features:
- a widened entrance from the platforms with more ticket gates to cater for future demand and reduce journey times
  - an opened out and refurbished ticket hall with a new entrance to the city centre
  - development of the attractive Victorian Porte Cochere into a retail and eat and drink destination
  - better arrangements for transport interchange and enhanced public realm
  - a multi-storey car park to replace the current at-grade station car park, with more capacity and with the use of the released land for office development, of which there is shortage in Leicester city centre.
- 4.5 A visualisation of the scheme is shown in **Figure 3**. The scheme has a BCR of 2.7:1, and a scheme to develop a first phase of the Masterplan was the subject of an unsuccessful Transforming Cities Fund bid in late 2019. However, the fundamental need for the scheme as part of an integrated rail plan for Midlands remains unchanged. The Strategic Outline Business Case developed for the scheme will be submitted to the NIC along with this response document. The CMSP project being led by Network Rail (see paragraph 1.6 above, and the following two paragraphs) will include a more detailed analysis of forecast passenger movements around the station and is expected to confirm that the on-station capacity works incorporated into the Masterplan will be needed in any event.



**Figure 3:** Visualisation of an improved Leicester Station

- 4.6 The CMSP project is also reviewing the other central requirement to facilitate the improvements in connectivity described in this document: namely, enhancement of track and signalling on the approaches to and within the station area. Also critical is a need to accommodate future rail freight traffic. Some of this traffic originates in Leicestershire (quarrying and increasingly logistic) and is important to the county's and region's economy. Leicester is also a hub where long distance freight from the East Anglia ports such as Immingham - crosses the MML to reach logistic terminals in the West Midlands. The recent development of the 'East Midlands Gateway' inland port at Junction 24 of the M1 also critically relies on smooth passage of rail freight through Leicester.
- 4.7 The CMSP work is still underway at the time of writing, but the initial conclusions confirm that to achieve the train services proposed under the Midlands Rail Hub, Coventry-Leicester, the HS2 projects and projected rail freight requirements an enhancement scheme between Wigston Junction and the north end of Leicester station will be required.
- 4.8 As briefly mentioned in paragraph 3.9, the timing of the required improvement works at Leicester station and in the surrounding area is critical to the other investments the Councils seek as part of this Integrated Rail Plan. The improvement works, particularly to track and passenger capacity will need to be undertaken before the MML electrification progresses. If progressed in reverse order, i.e. electrification first, at best there is the likelihood of potentially significant abortive works (e.g. electrification equipment having to be moved to allow for the improvements) or at worst the location of equipment imposes insurmountable constraints on the scope / scale of the improvement works, leading to the delivery of sub-optimal solutions.

## 5. Midland Main Line electrification

- 5.1 Leicester – along with other locations not directly served by to the high-speed network – may see conventional services suffer with frequency and journey times being diluted by the transfer of long-distance passengers to HS2. Services may become more outer-suburban in nature, resulting in more intermediate stops and longer journey times to and from various destinations on the Midland Mainline. However, it has been estimated<sup>8</sup> that each additional call made between Leicester and St. Pancras (for example) would adversely affect Leicester’s economy by some £4m GVA, or about £1m per minute.
- 5.2 The electrification proposal has a BCR of over 2:1 and is sufficiently robust to support the electrification of the relevant route sections identified in paragraph **Error! Reference source not found.** Such a service would integrate many HS2 and classic network related benefits, including:
- journey time reductions from towns and cities at the Southern End of the MML to Leeds
  - greatly improved connectivity between Leicester and West Yorkshire
  - connectivity between the proposed East West Rail Oxford-Cambridge route and the East Midlands and West Yorkshire via interchange at Bedford
  - improved international connectivity to continental Europe via the Leicester connection to St Pancras.
- 5.3 Electrification is also vital to delivering de-carbonisation (paragraph 2.9). and efficiencies in operating costs. Operating under electric power is likely to save c.50% in vehicle operating costs per vehicle mile compared to a current Class 222s used on MML services, and c.30% compared to the proposed bi-mode trains<sup>9</sup>.
- 5.4 Electrification is currently underway as far north as Kettering. A phased completion of electrification is recommended, integrated with plans for HS2, as shown in **Figure 4**, on page 17.
- 5.5 By completing this work, the benefits of electrification can be shared by both MML and HS2 customers and operators as both projects gain from the same investment. Fully electrifying the MML would enable bi-mode trains to be converted to all-electric, and would:
- reduce carbon emissions through a reduction in diesel option
  - provide resilience to the wider rail network, including HS2, through the provision of electrified diversionary routes (giving a secondary route to London for HS2)
  - make possible additional journey time improvements on the MML, not viable with the heavier bi-mode trains
  - substantially reduce operating and maintenance costs.
- 5.6 Electrification of the Midland Mainline would also allow classic compatible high-speed rolling stock to make direct passenger journeys, with no changes, from Leeds (and beyond from the North-East and Scotland), to destinations such as Bedford (joining

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<sup>8</sup> GVA modelling by Systra in 2016

<sup>9</sup> Analysis by SLC Rail

Thameslink services, including Luton and Gatwick airports), and to London St Pancras International (for onward Eurostar services). Though slightly longer in journey time than going to Euston, the convenience of less changes for some passenger destinations (i.e. to Eurostar services) could make this their preferred route.

Phasing	Miles	Cumulative % of Route	Comment
<b>As currently existing and being built</b>	79	47%	Under construction for opening in 2020. Requires a new power supply at Market Harborough.
<b>Kettering – Market Harborough</b>	11	53%	Subject to current business case being developed by Network Rail for delivery by 2023.
<b>Market Harborough – Leicester</b>	16	63%	Market Harborough power supply sufficient to electrify to Leicester.  Required for HS2 classic compatible Bedford – Leeds services, ultimately allowing the HS2 ‘classic compatible rolling stock to make end-to-end journeys between Glasgow and ultimately London St Pancras International, via the HS2 eastern leg through Toton, with no passenger changes.
<b>Leicester – Trent Junction – Nottingham</b>	24	77%	Required for HS2 classic compatible services, including Bedford – Leeds (proposed).
<b>Clay Cross – Sheffield</b>	16	86%	Required for HS2 Phase 2b (proposed).
<b>Trent Junction – Derby – Clay Cross</b>	24	100%	Remaining gap (proposed).

**Figure 4:** Phased completion of Midland Main Line electrification, planned and proposed

- 5.7 The Councils accept that it is likely that the construction of the HS2 station at Leeds will be one of the more difficult and time-consuming elements of Eastern Leg construction and that it may be difficult to accommodate the Bedford – Leeds service in the existing Leeds station. However, if Northern Powerhouse Rail identify that early delivery of the HS2 station is essential for delivery of their projects, then the Councils would urge for this service to be introduced as soon as the station is opened.



## 6. Wider rail improvements

- 6.1 Demand for services on the conventional network is expected to continue to grow over the next 20 years<sup>10</sup>. When HS2 Phase 2b is completed, passengers from Nottingham, Derby and further north are expected to transfer to the new high-speed service. This will free up capacity from Leicester and further south to accommodate expected increases in demand, as shown in Figure 2 in paragraph 2.7 above.
- 6.2 Therefore, a key consideration of an integrated rail plan for the Midlands should be to improve and develop inter-city services on the MML in advance of HS2 Phase 2b. These services, once operational, will then act as a bedrock for further future service development. To develop the MML sufficiently to provide such services, the Councils view is that it is key to complete electrification of the route at the earliest opportunity.
- 6.3 In order to deliver on connectivity priorities from the Council's Rail Strategy, the Councils have been supporting Midlands Connect in the development of the following projects<sup>11</sup>:
- the Midlands Rail Hub project, which for Leicestershire will deliver two additional fast services per hour between Leicester and Birmingham
  - Leicester-Coventry connection. This project will see the introduction of direct fast services between these two cities. They are the only large cities at a similar distance not connected by direct trains in the country
  - Classic Compatible Bedford-Leeds, utilising the connection between Leicester and the HS2 East Midlands hub as discussed in section 3 above.
- 6.4 Additionally, the opportunity for release of capacity on the MML after HS2 opens to provide new Leicester – Manchester connectivity, as identified in paragraph 3.8.
- 6.5 These proposals address the key weaknesses in Leicester and Leicestershire's connectivity highlighted in the Councils' Rail Strategy. The current slow and poor connectivity on these routes does not support modal shift and de-carbonisation, a strategic priority as set out in the Government's 'Decarbonising Transport' document (as referenced in paragraph 2.9). **Figure 5** illustrates the current and potential rail connectivity gains.
- 6.6 **Figure 5**, on the next page, does not show the full matrix of potential connectivity benefits arising from these integrated proposals. Others include:
- links to the comprehensive Thameslink network connecting with large parts of Kent and Sussex via interchange at Bedford
  - a wide range of connectivity benefits through interchange at Bedford between classic compatible Leeds-Bedford services and East West Rail (e.g. Leeds – Cambridge c.134 minutes compared by 171 minutes today)
  - improved connectivity between Leicester and the Thames Valley either via East West Rail or via interchange at Coventry

<sup>10</sup> For example, Network Rail East Midlands Route Study 2015 forecasted an increase in passenger numbers in the East Midlands as a whole of between 53% and 114% by 2043.

<sup>11</sup> The business cases for these have been submitted to DfT and we understand that Midlands Connect will provide these to the NIC.



- improved connectivity between Leicester and the South West via an enhanced service to Birmingham.

6.7

Between Leicester and:	Current Frequency and Faster Journey Time	Potential Including Estimated Journey Time	Comment
<b>Birmingham</b>	2 tph <sup>12</sup> 48 mins	4 tph 44 mins	Midlands Rail Hub project
<b>Coventry</b>	No direct trains 48 mins	2 tph 38 mins	Midlands Connect project
<b>Leeds</b>	No regular direct trains 2 hours 27 mins	1 tph 50 mins	Midlands Connect proposal: HS2 Classic compatible
<b>Manchester</b>	No direct trains 1 hour 58 mins	1 tph 95 mins	Potential benefit of HS2 released capacity

**Figure 5:** Current and proposed train frequency between Leicester and illustrative cities

- 6.8 Improved connectivity will also increase rail freight capacity in the Midlands region. As mentioned above (paragraph 0) the new East Midlands Gateway Rail Freight terminal near junction 24 of the M1 greatly increases the opportunity to move more goods by rail and reduce reliance on road haulage. In 2013/14 the rail freight sector delivered £0.5 billion worth of benefits to the UK in terms of congestion reduction, environment and safety<sup>13</sup>. Rail freight produces 76% less carbon dioxide per tonne of cargo relative to road haulage<sup>14</sup> and each freight train removes up to 76 lorries from the road.
- 6.9 In addition to the above, any opportunities to improve rail connectivity within Leicester and Leicestershire to support future growth, such as reintroducing passenger services to the Leicester to Burton line (the Ivanhoe Line) should be actively considered. HS2 legacy works that could provide a platform to help facilitate this would be welcome.

<sup>12</sup> Tph = trains per hour each way

<sup>13</sup> <https://www.networkrail.co.uk/wp-content/uploads/2017/04/Freight-Network-Study-April-2017.pdf>

<sup>14</sup> Network Rail (2013) Value and importance of rail freight

## 7. Conclusion

- 7.1 The delivery of the benefits from investments in HS2 Eastern Arm, Leicester station improvements, completion of MML electrification and Midlands Connect projects carry a number of key dependencies between them, but as a package represent an integrated rail plan that the Councils commend to the NIC.
- 7.2 This document has set out the requirements the Councils believe are essential for achieving an integrated rail plan that meets the needs of its residents and businesses, as well as delivering wider benefits to the Midlands Region and the United Kingdom over the next 20 years.
- 7.3 In summary the Councils would wish to see included in the integrated plan:
- earliest delivery of the HS2 Ph2b Eastern arm in full
  - a direct rail connection at the HS2 East Midlands hub at Toton to enable classic compatible services to operate between HS2 and MML
  - investment in the quality and capacity of Leicester station to ensure these benefits can be delivered
  - phased completion of full MML electrification associated with, or in advance of, the delivery of the Eastern Leg of HS2, along with the carbon benefits that this will bring
  - delivery of the Midlands Rail Hub projects, phased as necessary to deliver the widest possible maximum benefits at the earliest practical opportunities.
- 7.4 A key point is that investments in the HS2 Eastern Arm (including the classic compatible link), Leicester station, MML electrification and Midlands Connect projects should come forward in this order of priority to enable a practical sequence of deliverable projects. In this order, they can deliver the most benefits for; connectivity and capacity, for rail users, for the environment, and for the operational efficiency of the rail network.
- 7.5 The Councils stand ready to assist NIC with its work in any way that would be helpful.

**May 2020**  
**Leicestershire County Council**  
**Leicester City Council**

**Questions / Clarification, please contact:**

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**Attachment:**

Strategic Outline Business Case for Leicester Station.