

Access to Toton, the HS2 East Midlands Hub

May 2020

Spreading prosperity to our communities; a transport plan to support, accelerate and maximise the opportunities presented by the arrival of High Speed Two in the East Midlands





Sir John Peace, Chairman of Midlands Connect and Midlands Engine

“The arrival of High Speed Two is a watershed moment for our region, and an opportunity that we must grasp with both hands. Now that the Government has confirmed its support for HS2, in its entirety, the East Midlands must step forward and work together to secure the transport network, economic future and social mobility it deserves.

“That means ensuring fast and reliable access to high speed rail services from the hub station at Toton. It means spreading the benefits of high speed rail to businesses and workers across the region, from our great cities of Derby, Leicester and Nottingham, to bustling towns like Mansfield and Loughborough and smaller communities that may otherwise feel HS2 won’t benefit them.

“This truly integrated transport strategy isn’t just about connecting more people to the HS2 station; it will also support the building of new homes, accelerate transformational regeneration and link some of our most deprived communities to nationally-important assets across the East Midlands.

“This plan is about more than trains, trams, buses or roads; it’s about presenting a vision for the future of the East Midlands, one which sees the creation of high-value jobs, new and sustainable technologies, and inward investment. Our message to Westminster is clear; support us in making this vision a reality.”

The Study

The Access to the HS2 East Midlands Hub study is a comprehensive, multi-modal transport plan that will create a raft of new or improved connections to the HS2 East Midlands Hub from towns and cities across the region. These plans will support, accelerate and maximise the opportunities presented by the arrival of High Speed Two (HS2) in the East Midlands.

It will do this by:



Maximising access to the East Midlands Hub station from across Nottinghamshire, Derbyshire and Leicestershire



Connecting development sites to towns, cities and local communities



Encouraging people to make more sustainable transport choices

Extensive research and modelling has provided an evidence-based account of how to best connect villages, towns and cities across the region to the HS2 East Midlands Hub, as well as identifying additional transport investments that will improve wider access to leisure facilities, educational institutions, local growth sites and employment centres. These solutions include traditional rail, trams, tram-trains, bus rapid transit, conventional buses and road improvements. Active travel, including walking and cycling routes will form a central part of the plan, and will be developed by local authorities.



State of play

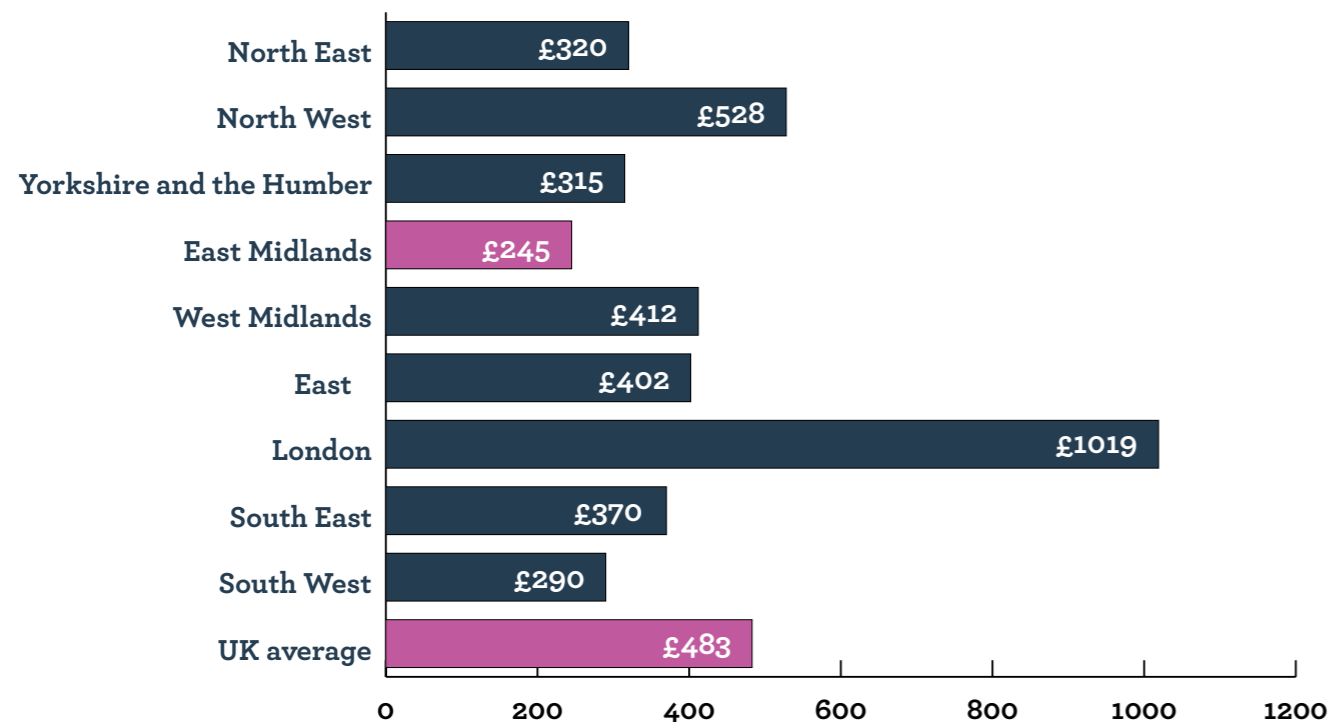
The East Midlands is home to internationally renowned businesses, world class universities and many of the UK's most exciting investment opportunities. However, despite its numerous strengths - in areas such as advanced manufacturing, textiles and life sciences - inequality is rife; for every prosperous household supported by high-skilled, high-value employment, there is another struggling to achieve social mobility and overcome deprivation.

Across the East Midlands, where a person lives has a huge impact on their life chances. While there are relatively low levels of deprivation in most of Rushcliffe, Beeston, Chilwell, Kimberley, Eastwood, rural parts of Gedling, Newark and Sherwood, South Derbyshire and Amber Valley, poverty is much higher in many parts of Nottingham, Derby, the Erewash Valley, Mansfield and Ashfield.¹

This deprivation has far-reaching social and economic consequences, and is exacerbated by decades of chronic underinvestment in capital infrastructure. In 2017-18, the East Midlands had the lowest transport spend per head of any region in the UK (£245); receiving 49% less than the UK average (£483).²

Redressing this imbalance is central to fulfilling the Government's levelling-up agenda and will reap significant economic rewards. If productivity levels in the East Midlands were raised to meet the UK average (they currently lag 23% below this figure), it would add £28 billion to the regional economy each year.³ This can only be achieved by vastly improving mobility, interregional connectivity, access to skilled employment, regeneration and investment across the whole of the East Midlands. The package of infrastructure investment outlined in this study is designed to catalyse these much-needed outcomes.

UK transport spending per head (£)



¹D2N2 Mass Transit Strategy – Index of Multiple Deprivation

²<https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2019>

³Midlands Engine Economic Observatory

The opportunity

The arrival of High Speed Two (HS2) in the East Midlands is a once-in-a-generation opportunity to boost inward investment, development and economic growth. The HS2 East Midlands Hub at Toton will provide a step change in UK-wide connectivity, linking passengers to Birmingham, Manchester, Sheffield, Leeds and beyond, vastly reducing current journey times. Once operational, it will be within 20 minutes of Birmingham, half an hour of Leeds and less than hour from London.

The site will be home to a state-of-the-art Innovation Campus; bringing together universities, start ups and established

businesses. The campus will be a hotbed of technological advancement, creating up to 10,000 highly-skilled jobs and a network of surrounding garden villages.

However, it is only once High Speed Two (HS2) is examined in the context of the wider region, the wealth of surrounding growth opportunities and nationally-significant assets nearby, that its full scale and transformational potential can be truly understood. HS2 is not just a lever for better connectivity, but for housing growth, social mobility and the creation of high-value jobs.



CGI of HS2 East Midlands Hub, the nearby Innovation Campus and planned development



The arrival of High Speed Two in Nottinghamshire will bring with it widespread regeneration, development and highly-skilled jobs. This comprehensive plan ensures that communities in our towns and villages can access these opportunities, and that the benefits of this investment are spread far and wide. This isn't just a transport project, it's about securing a prosperous future for our people, promoting prosperity and social mobility for generations to come. We need to work alongside government to ensure that the East Midlands sees benefits as soon as possible."

Cllr Kay Cutts MBE, leader of Nottinghamshire County Council and chair of the HS2 East Midlands Growth Board



The HS2 Network

Access to Toton in numbers



Increasing East Midlands productivity to UK average would **add £28bn to economy each year**



HS2 will support the creation of **84,000 new jobs** across the region

The HS2 East Midlands Hub will be:



20 minutes from Birmingham Curzon Street



52 minutes from London Euston



27 minutes from Leeds



East Midlands has lowest levels of capital investment of anywhere in the UK



Transport investment per head in the East Midlands is **49% below the UK average**



Productivity per head in the East Midlands is **23% below the UK average**

“The opening of our new high speed network will be a game changer for the East Midlands, but it’s only once the East Midlands Hub is connected with growth sites and assets from across Derbyshire that its true impact can be realised. It’s essential that these plans are brought forward, vastly enhancing connectivity across the city of Derby and beyond, with new links from the train station to the city centre, on to Pride Park, and importantly to the HS2 station at Toton. If we do this right, we can future proof our transport network and enhance connectivity across the region.”

Clr Chris Poulter, leader of Derby City Council

Integration with the East Midlands Development Corporation

To fully maximise the growth potential HS2 presents, the Government has made £2 million available to develop proposals for a locally-led development corporation. Once established, this development corporation would work to maximise growth opportunities at a number of sites near to the HS2 East Midlands Hub station at Toton, including:

Toton and Chetwynd

Plans are being refined to transform Chetwynd Barracks, a former military site in Chilwell, into 1,500 new homes and retail facilities to meet local housing demand. Blueprints are also being drawn up for a new garden village at Toton, close to the HS2 East Midlands Hub site.

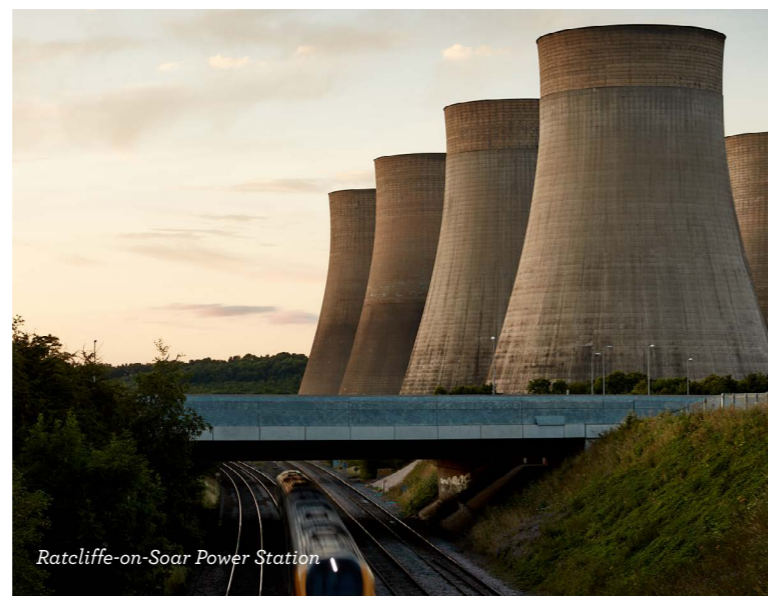


East Midlands Airport

Maximising the expansion of East Midlands Airport, the UK's biggest dedicated air freight operation, will support the airport's plans to triple freight volumes, offer additional passenger routes and create 7,000 new jobs.

East Midlands Gateway

Expertise and oversight will be deployed to support the development of East Midlands Gateway, SEGRO's purpose-built 700 acre logistics park and rail freight interchange next to the airport, which is set to create over 8,000 jobs in the next six years. Global companies including Nestle and Amazon have already signed up, with more set to follow, drawn by the ease of connectivity by air, rail and road.



Ratcliffe-on-Soar Power Station

Plans are being drawn up to repurpose this iconic site at Ratcliffe-on-Soar, with the power station due to close by October 2025 in line with government's policy to end coal-fired power generation. The vision is for the site to become a zero-carbon technology and energy hub. Options being considered include a combination of renewable energy generation and advanced manufacturing facilities, likely to complement the high concentration of world-leading businesses nearby, including Rolls Royce, Bombardier and Toyota. Similar regeneration projects have been completed by owner Uniper on sites across mainland Europe. Given the site's proximity to established supply chains and excellent road and rail links, it is anticipated that up to 25,000 jobs could be created once repurposing is complete.

The improvements

The infrastructure investments the project partnership is proposing will be implemented in three phases, with the most urgent raft of improvements to be implemented and operational within the next decade, long before high speed trains first arrive in the East Midlands. This gives developers confidence that new housing and employment sites will be connected and accessible to millions of people across the region, allowing important regeneration to be brought forward before the HS2 East Midlands Hub is open.

“This transport plan will connect every corner of Nottingham to new housing developments, leisure facilities, jobs and of course, the high speed rail network at Toton. We're passionate about sustainability in this city, and by moving these plans forward we can ensure that everyone, including our most deprived communities have access to a well-connected, green, transport network.”

Cllr David Mellen, leader of Nottingham City Council

1

Phase One

To be implemented and operational within 10 years (prior to the opening of the East Midlands Hub HS2 station)

2

Phase Two

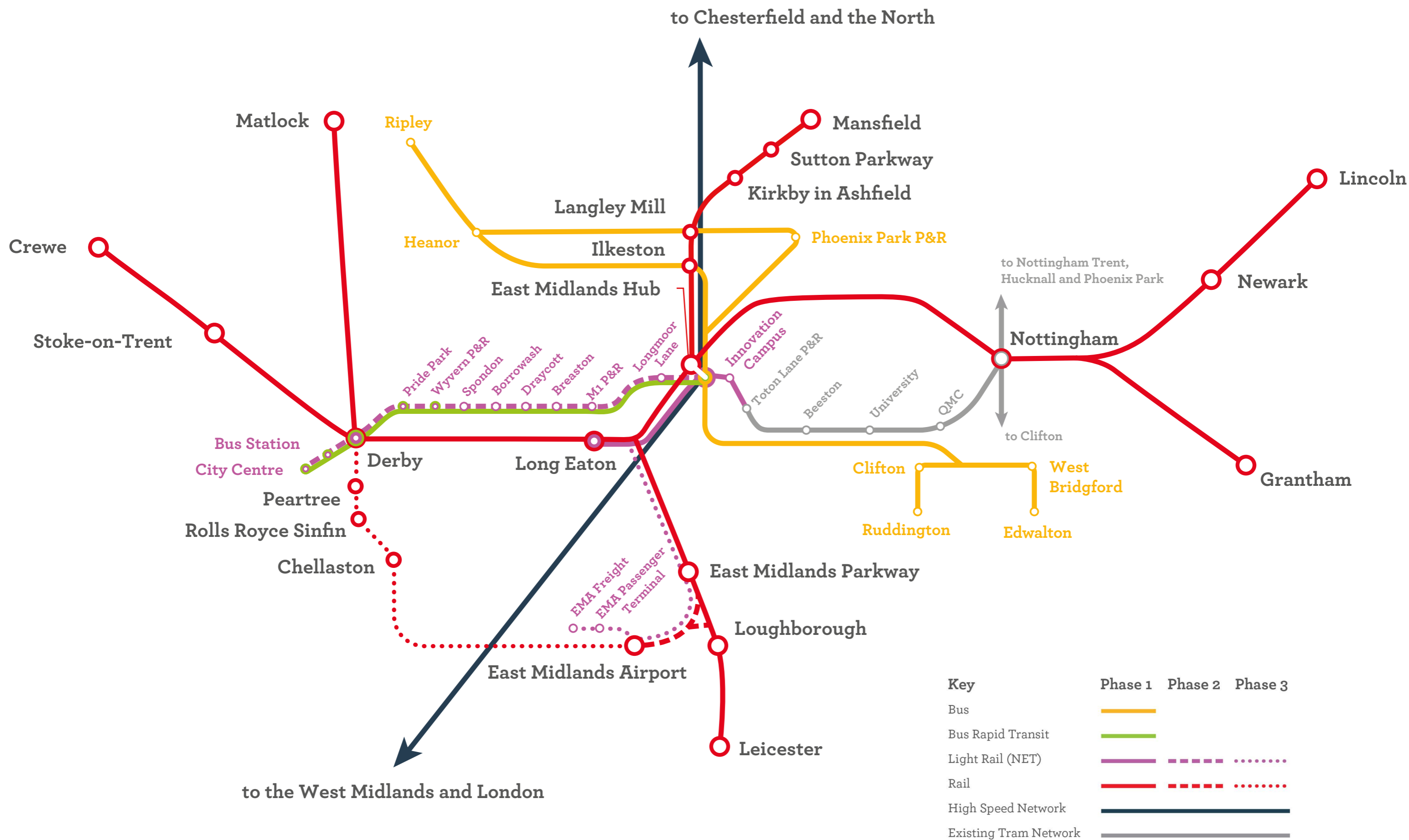
To be implemented and operational within 20 years

3

Phase Three

To be implemented and operational within 25 years

Access to Toton integrated transport map



Phase One

To be implemented and operational within 10 years

Scheme 1 | Light Rail

The extension of the Nottingham tram system (Nottingham Express Transit or NET light rail system) from the Toton Lane Park and Ride site to Long Eaton via two new stops at the planned Innovation Campus development and HS2 East Midlands Hub station. These connections will support the creation of new, high-value jobs at the Innovation Campus site, allowing local benefits to be realised earlier.

Scheme 2 | Bus

New bus services between the HS2 East Midlands Hub and Amber Valley, West Bridgford and Clifton.

Scheme 3 | Bus Rapid Transit

Bus Rapid Transit between the HS2 East Midlands Hub and Derby city centre via Pride Park and Derby railway station. This will create a new direct link from Derby centre to Derby railway station and important local growth and employment sites east of the city.

Scheme 4 | Road

Extension of the HS2 East Midlands Hub A52 highway access route to the A6005 Derby Road in Long Eaton. This link would allow local through traffic to access the East Midlands Hub station site and Innovation Campus, reducing congestion.

Scheme 5 | Road

Capacity enhancements to M1 Junction 25, increasing road capacity and improving access to the HS2 East Midlands Hub station and Innovation Campus site.

Scheme 6 | Rail

The implementation of a minimum of four direct rail services per hour linking the HS2 East Midlands Hub station to Derby, Nottingham and Leicester stations, as well as Loughborough, Matlock, Mansfield, Newark, Alfreton and Grantham, made possible by the building of a new piece of infrastructure, the Trowell Curve, which will link to the Midland Mainline. These additional connections will also create direct links to Stoke-on-Trent, Crewe, Newark and Lincoln, by extending services on existing routes.

Scheme 7 | Rail

New rail service between Mansfield, Derby and Leicester with stops at Ilkeston, Langley Mill, Kirkby in Ashfield, Sutton Parkway and HS2 East Midlands Hub via the Kirkby Freight Line (Maid Marian line).

Scheme 8 | Light Rail/ Bus Rapid Transit

Extension of the NET light rail system or enhanced Bus Rapid Transit from the HS2 East Midlands Hub station to Derby.

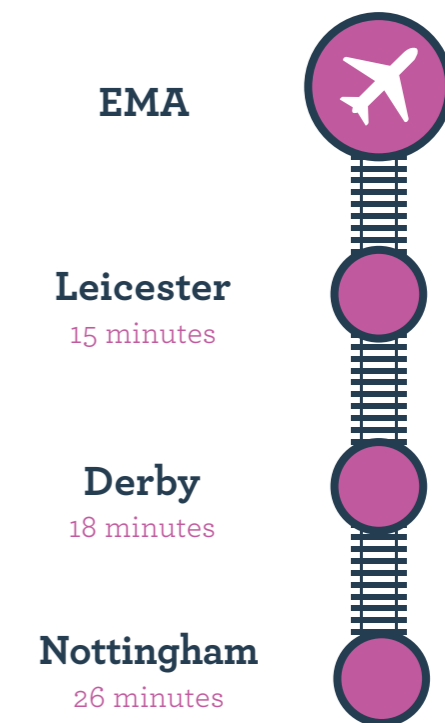
Scheme 9 | Rail

The construction of a railway station at East Midlands Airport, connected to the Midland Mainline via a spur to the south of Kegworth village, allowing new direct rail services to the airport from Derby, Nottingham, Leicester and Mansfield as well as some intermediate stations including HS2 East Midlands Hub and East Midlands Parkway. This intervention will vastly improve public transport access to East Midlands Airport for passengers and staff.

Phase Two

To be implemented and operational within 20 years

Rail connectivity to East Midlands Airport



“As well as connecting over four million passengers each year to destinations worldwide, East Midlands Airport is the UK’s largest dedicated air freight operation. We have plans to expand our operation even further and, supported by the opening of the nearby SEGRO Logistics Park, cement our place as a nationally-leading logistics centre. It’s fantastic that local partners are putting forward a case for the introduction of a railway station at East Midlands Airport, plans which would allow convenient and sustainable transport access for our staff and passengers.”

Karen Smart, Managing Director of East Midlands Airport

Phase Three

To be implemented and operational within 25 years

Scheme 10 | Rail

A new rail line between East Midlands Airport (opened during Phase 2) and Derby via the South Derby Growth Zone residential and employment developments and the Rolls Royce site, designed to support local housing and employment growth

Scheme 11 | Tram-Train

A tram-train service connecting into the NET light rail network (Phase 1) to a proposed development site (11,000 houses and other associated development) to the west of East Midlands Airport. This scheme would also serve stops within the Ratcliffe-on-Soar power station development site and could also serve Kegworth village and the East Midlands Gateway Logistics Park.



Connections to Toton, the HS2 East Midlands Hub

The table below illustrates some of the new connections this raft of improvements will create, allowing new or improved links to the HS2 East Midlands Hub from towns and cities across the East Midlands.

These frequencies and journey times are indicative estimates, and may be subject to change as the project develops.

| Location | Mode | Services per hour | Journey time to Toton HS2 East Midlands Hub (minutes) |
|---|-------------------|-------------------|---|
| Clifton | Bus | 2 | 53 |
| Crewe | Rail | 3 | 109 |
| Derby | Rail | 4 | 18 |
| | Bus Rapid Transit | 6 | 28 |
| East Midlands Airport | Rail | 2 | 18 |
| Leicester <i>via Loughborough (4tph) and East Midlands Parkway (3tph)</i> | Rail | 4 | 20 |
| Lincoln | Rail | 1 | 68 |
| Long Eaton | Tram (NET) | 6 | 2 |
| Mansfield <i>via Sutton Parkway, Kirkby in Ashfield, Langley Mill and Ilkeston</i> | Rail | 2 | 28 |
| Matlock | Rail | 1 | 62 |
| Newark | Rail | 1 | 51 |
| Nottingham | Rail | 4 | 12 |
| Stoke-on-Trent | Rail | 3 | 81 |

How does this plan interact with other initiatives?

The Integrated Rail Plan for Phase 2b of HS2

The findings of this study will be submitted as evidence to the National Infrastructure Commission as it works to inform the Government's Integrated Rail Plan for the North and the Midlands, aimed at delivering the benefits of HS2 to the East Midlands as soon as possible.

The incorporation of this holistic, region-wide transport and regeneration plan is central to maximising the benefits and long-term impact of Phase 2b of HS2. It has been endorsed by local partners across the East Midlands, and will ensure positive impacts are realised even before the first high speed trains arrive at Toton.

Midlands Engine Rail

This project is fully integrated with Midlands Engine Rail, a rail improvement plan developed by Midlands Connect to revolutionise connectivity, mobility and productivity across the region. Midlands Engine Rail includes plans for two new HS2 conventional-compatible services on an electrified Midland Main Line that will run direct from:

Bedford – Leicester – East Midlands Hub – Leeds

Nottingham – East Midlands Hub – Birmingham

These services can run on both electrified and high speed tracks, and would join the HS2 network at Toton, the HS2 East Midlands Hub, meaning that Nottingham and Leicester city centres are directly linked to HS2 without the need to change trains.



These improved connections will more than halve current journey times, with Leicester to Leeds dropping from 120 minutes to 46 minutes and Nottingham to Birmingham falling from 72 minutes to 33 minutes.

It is essential that both the improvements outlined in this document, and the corresponding plans outlined in Midlands Engine Rail are implemented to ensure maximum benefit.

Locally-led improvements

As we move towards our target of becoming carbon neutral by 2050, promoting active travel and sustainable transport choices is more important than ever. Local authority partners across the East Midlands are working to ensure that the East Midlands Hub and surrounding assets are connected by safe and appealing walking and cycling routes. This study will build upon the improvements being made following a £161million grant from the Transforming Cities Fund awarded to Nottingham and Derby in the March 2020 Budget.

East Midlands Development Corporation

This multi-modal transport plan is fully integrated with the work of the East Midlands Development Corporation and is designed to support and accommodate its ambitious plans to develop and regenerate nationally-significant sites across the region. See page 8 of this document.



Costs

It is estimated that the improvements outlined in this study will cost in the region of £2.7billion over 25 years, and will be split into three phases:

| | |
|-------------|---------------|
| Phase One | £455 million |
| Phase Two | £1.2 billion |
| Phase Three | £1.05 billion |

Phase One of the scheme can be delivered and operational within the next decade, prior to the opening of the HS2 East Midlands Hub, and would cost **£455 million**. For every £1 spent, this phase would deliver over £4 in economic benefits for local communities, enabling an additional 500,000 people to access HS2 and the associated employment opportunities nearby.

Phase One

| Scheme | Description | Estimated Cost* (£m) |
|------------------------------------|---|----------------------|
| 1 | NET tram extension: Toton Lane - Innovation Campus - East Midlands Hub - Long Eaton | 115 |
| 2 | New bus services: East Midlands Hub to Amber Valley, West Bridgford and Clifton | 5 |
| 3 | Bus Rapid Transit: East Midlands Hub - Pride Park - Derby Railway Station - Derby City Centre | 85 |
| 4 | Local highway access to East Midlands Hub: upgrade of A6005 | 15 |
| 5 | Motorway junction upgrade: Improvements to M1 J25 | TBD+ |
| 6 | Rail connectivity to East Midlands Hub (Trowell Curve)**: four services per hour from East Midlands Hub to Leicester, Nottingham and Derby, made possible by the building of the Trowell Curve | 150 |
| 7 | Rail connectivity to East Midlands Hub: new rail service to East Midlands Hub from Mansfield, Ilkeston and Langley Mill, made possible by reopening the Maid Marian Line to passenger traffic | 85 |
| Phase One cost: 455 million | | |

Phase Two

| Scheme | Description | Estimated Cost* (£m) |
|------------------------------------|---|----------------------|
| 8 | NET tram extension: East Midlands Hub - Derby | 375 |
| 9 | New railway station at East Midlands Airport: connected to Midland Mainline serving Derby, Nottingham, Leicester and Mansfield as well as some intermediate stations including HS2 East Midlands Hub and East Midlands Parkway | 820 |
| Phase Two cost: 1.2 billion | | |

Phase Three

| Scheme | Description | Estimated Cost* (£m) |
|---------------------------------------|---|----------------------|
| 10 | New rail line from East Midlands Airport to Derby: via the South Derby Growth Zone and Rolls Royce site | 620 |
| 11 | NET tram extension: Long Eaton - Housing Development Sites - Ratcliffe Power Station - East Midlands Gateway | 430 |
| Phase Three cost: 1.05 billion | | |
| Total scheme cost: 2.7 billion | | |

*Estimated costs have been calculated using 2018 prices, including the addition of a 66% 'optimism bias' designed to cover rising costs and additional construction risk over the lifetime of the project. These costs will be further refined as the project moves into its next stages of development.

+Highways England to work with Midlands Connect and other partners to develop and bring forward these improvements

**Scheme being brought forward by Midlands Connect as part of its Midlands Engine Rail proposals

What's next? Our asks of Government

A Business Case for the Access to the HS2 East Midlands Hub project was funded by local partners and submitted to the Department for Transport in Spring 2020.

To ensure that the Government delivers on its promises to level up the economy, and brings the social and economic benefits of HS2 to local businesses and communities as soon as possible, it's essential that momentum is maintained and this project is supported to the next stage of its delivery.

We now ask that the Government provides £4.5million in funding for Phase One of this scheme to be brought forward to the next stage of development, including the production of more detailed project designs, engineering solutions and costings.

Once an Outline Business Case is completed for Phase One, plans for Phase Two and Phase Three will then be brought forward.

Timing: Outline Business Case for Phase One to be completed by the end of 2021.

