

*Delivering a better railway
for a better Britain
Network Specification 2018
London North Eastern and
East Midlands*



Network Specification: London North Eastern and East Midlands

This Network Specification incorporates Strategic Routes G (East Coast & North East), H (Cross-Pennine, Yorkshire & the Humber and I (East Midlands)

This Network Specification describes the London North Eastern and East Midlands (LNE & EM) Route in its geographical context, outlining train service provision to meet current and future key markets and traffic flows for passenger and freight business.

This Specification refers to Strategic Route Sections (SRSs). SRSs cover specific parts and/or corridors of the route, and specifications for these are published as appendices to this document. They describe in greater detail the current and future requirements of each SRS to inform both internal and external stakeholders of our future strategy.

Strategic direction

In 2012, Network Rail, in agreement with the then Office of Rail Regulation (ORR), introduced a Long Term Planning Process (LTPP) which takes into account the changing industry context and looking ahead between ten and thirty years. In 2014, four Market Studies were established:

- Long Distance Market Study
- Regional Urban Market Study
- London & South East Market Study and the
- Freight Market Study.

The Market Studies look at the strategic goals of the transport sector as a whole and those circumstances where rail can contribute to those goals, before forecasting future passenger and freight demand over the next 30 years. The studies then articulate a series of service level conditional outputs to meet the strategic goals, accommodating the forecast demand.

Market Studies have informed a series of Route Studies which are disaggregated nationally by Network Rail's devolved Routes. Route Studies seek to accommodate the conditional outputs from the Market Studies onto the Network, firstly by making best use of existing capacity and secondly through infrastructure intervention, where there is an affordable and value for money business case for doing so.

The Route Studies provide choices for funders and are a key part of the evidence base for the medium term.

On LNE&EM, there are three Route Studies:

- East Midlands Route Study - established in March 2016
- East Coast Main Line Route Study - published in December 2017 for consultation, with the final version due for publication in May 2018.
- North of England Route Study - commenced in March 2017 using Continuous Modular Strategic Planning (CMSP) principles. CMSP is a rolling programme of prioritised mini-studies which inform the enhancement pipeline, based on a range of different and focussed demand scenarios. The System Operator Strategic Business Plan provides more information on CMSP.

This document also interfaces with the Network Studies. These studies consider issues relevant to all Routes in Great Britain. At present the following studies have been published:

- Stations - published November 2011
- Passenger Rolling Stock - published November 2011
- Passenger Rolling Stock Depots Planning Guidance - published December 2011
- Alternative Solutions for Delivering Passenger Demand Efficiently - published July 2013
- Freight Network Study - published in Spring 2017
- Investment in Stations guidance document – updated 2017.

This Network Specification also aligns with the Strategic Freight Network. The Strategic Freight Network (SFN) has built on the recommendations of the Freight Market Study which was produced in the autumn of 2013. The Freight Market Study forecasts freight growth from 2019 – 2043, and identifies a network of core, and diversionary, routes to allow more and longer freight trains to operate. The Freight Network Study provides options to funders on the basis of the Freight Market Study forecasts

The integration of each of these strategies is crucial to the development of each route, as between them, they cover the future needs and requirements of both passenger and freight operators.

Route context

LNE & EM Route is made up of three sub-routes:

- East Coast Main Line and North East
- Cross-Pennine and Yorkshire & Humber
- East Midlands

East Coast and North East

The East Coast Main Line (ECML) forms a key artery on the eastern side of the country and as such, it is vital to the economic prosperity of a significant area of the United Kingdom. It is the electrified, high speed, route linking London and South East England with Yorkshire & Humberside, the North East, and Eastern Scotland. It provides the direct link between the English and Scottish capital cities. Its total length is approximately 420 miles and it is designated as being of Trans European Network high speed route status. It carries key commuter flows to the north of London, as well as some of the United Kingdom's fastest growing Long Distance High Speed (LDHS) flows. It forms a vital part of the cross-country, and cross-Pennine, long distance networks linking Scotland, the North East and Yorkshire with Liverpool, Manchester, the West Midlands, the Thames Valley and the west of England. Parts of the ECML also handle regional commuter, and local, passenger services and carry heavy tonnages of freight traffic, particularly over the northern sections. The Moorgate to Finsbury Park line, the Hertford Loop and the Hitchin to Cambridge line form an important part of the London commuter network. In 2018, the connection from the ECML to the Thameslink core will allow direct travel between Peterborough/Cambridge and locations in Sussex/Kent.

The Great Northern / Great Eastern Joint Line, between Peterborough and Doncaster, via Spalding and Lincoln, provides a valuable local rail link to the communities along the route. It is also a crucial alternative route to the ECML for freight traffic. To enhance the latter role, it has recently been the subject of major upgrade work.

The North East part of LNE & EM Route provides passenger links to Newcastle, Middlesbrough, Sunderland and Darlington, thereby giving a wide range of rail connections to other parts of the United Kingdom. It also includes services from Middlesbrough – Hexham and longer distance routes from Tyneside – Carlisle and western Scotland. There are branches to Saltburn, Bishop Auckland and Whitby.

Freight traffic in the North East is substantial, particularly in connection with the numerous freight facilities in the Tees Valley, whilst there is strong growth also developing from the Port of Tyne. The Blyth & Tyne lines form a dedicated freight only network to the north of Newcastle. The busiest section in the North East is between Sunderland and Pelaw, with an intensive light rail Metro service, hourly heavy rail passenger services, and freight trains to and from the Port of Tyne. The route from Northallerton to Ferryhill, via Eaglescliffe and Stockton (and to a lesser extent Stockton to Newcastle via Sunderland), forms a diversionary route for the ECML.

Cross-Pennine, Yorks & Humber and part North West

The Yorkshire & Humber rail network varies greatly across the area. The largest conurbations are centred around Leeds and Sheffield, each of which have a high concentration of heavily used urban and interurban service. The less populated areas to the east have a greater proportion of more lightly used rural services. Some parts of the network, such as around the Port of Immingham, are very heavily used by freight traffic, whilst others are purely for passenger services. The transport interests of the principal urban areas are currently represented by West Yorkshire Combined Authority and Sheffield City Region, as well as Transport for the North.

The rail routes within Yorkshire & Humber are predominantly two track, non electrified, secondary routes, many of which are focused on Leeds and Sheffield. Meanwhile, the Leeds North West electrified network links Leeds with Bradford, Ilkley and Skipton. The Chesterfield – Sheffield – Doncaster – Barnetby line is a major freight, and longer distance, passenger artery and is designated as a primary route, whilst the routes to Scarborough and Hull form significant interurban corridors. Some lines, like those to Hull and Bradford, and between Leeds and York, are also used by some LDHS services.

In addition to the primary and secondary rail routes, there are some rural lines, including Barnsley – Huddersfield, the Barton-on-Humber branch, and the Hull – Scarborough line. The rural lines have significant sections of single track.

The Yorkshire & Humber area is characterised by having very significant volumes of freight, with some of the highest freight tonnage movements in the UK, consisting of coal, biomass, iron ore, steel and oil products, operating on the south bank of the Humber between the Port of Immingham, Scunthorpe, Doncaster and power stations.

East Midlands

The rail network in the East Midlands serves a diverse set of markets ranging from long distance and commuter travel into London, commuting and leisure travel into the three cities of Derby, Leicester and Nottingham, plus a mixture of long distance and commuter travel on the interurban services that pass through the area, together with some lesser used services to the east.

The Midland Main Line (MML) connects much of the East Midlands (along with the northern half of the Thameslink corridor) with London. The electrified corridor between London and Bedford supports an intensive inner and outer suburban service, in addition to LDHS services proceeding further north, principally to Leicester, Derby, Nottingham and Sheffield. The northern part of the route also provides a key element of the north east – south west cross-country route, giving access from Scotland, the North East and Yorkshire to Birmingham and places beyond. It allows LDHS services to operate at speeds of up to 125mph. The MML is designated a primary route between London and Nottingham and via Derby to Sheffield, together with the Derby to Birmingham line, and comprises a mixture of two, three and four track railway. The remaining lines within the East Midlands are typically double track, secondary, or freight only, routes whilst the Nottingham – Grantham and Ambergate – Matlock lines are designated as rural routes, and the latter is single track throughout.

The East Midlands is also of vital importance to freight, particularly as a link in the intermodal network, and providing access for aggregates traffic, from quarries in the East Midlands, to major construction sites, particularly in the south east.

Key passenger markets and traffic flows

The LNE & EM Route sees a wide diversity of markets for rail passenger travel, falling broadly into four categories:

- Long Distance High Speed (LDHS)
- Interurban
- Suburban and Commuter
- Rural

Long Distance High Speed services

LDHS services on LNE & EM Route serve three main markets:

- The ECML features regular franchised, high speed, services between London and Yorkshire, the North East of England and Eastern Scotland. The typical frequency is currently two trains per hour. Certain trains extend through to Aberdeen, Glasgow Central, Harrogate, Hull, Inverness, Lincoln and Skipton. Additional to these are a range of open access operations linking London to Hull, Bradford and Sunderland, which, in total, amount to a broadly hourly pattern frequency to London. There is also a franchised service operating hourly between London and Newark North Gate, extending, on alternate hours, from Newark – York. These trains typically consist of up to nine coaches in fixed formation operating, for much of their journey, at a linespeed of 125mph.
- The MML links London with the East Midlands and South Yorkshire. There are typically two trains per hour between London and Nottingham, Derby and Sheffield, and one train an hour between London and Corby. A small number of services to Sheffield extend further into West & North Yorkshire, one service each day extends beyond Nottingham to Lincoln, and a service runs beyond Corby to Melton Mowbray and Derby. All services share the same intensively used route between London and Kettering and are operated by trains of four, five, seven or ten-car fixed formation, the latter being High Speed Train (HST) stock comprising eight passenger cars plus two power cars. At peak periods, nine or ten-car Class 222 trains are formed by coupling two shorter units together.

- Cross country services provide a range of links from the South West, the Thames Valley and Birmingham to Yorkshire, the North East and Scotland. Typically, two trains per hour enter the EM route from Birmingham. They use the MML from Derby to Sheffield, then travel via Leeds and Doncaster where they access the ECML. These trains are mostly four or five-car formation, with longer trains operating at busy times. They are able to exploit their 125 miles per hour capability whilst on the ECML, but due to both pathing and infrastructure considerations, achieve lower average speeds on some other parts of the network

Interurban services

Interurban services operate across the northern section of LNE & EM Route and provide what are primarily east – west links throughout much of the north of England.

These services serve the following routes:

- Hull, Scarborough, Middlesbrough and Newcastle through Leeds to Manchester, Manchester Airport or Liverpool
- Cleethorpes, through Doncaster and Sheffield, to Manchester Airport
- Norwich to Liverpool, which passes through Nottingham and Sheffield. In combination with the Cleethorpes service, this provides two fast trains per hour between Sheffield and Manchester
- Birmingham New Street, via Leicester, to Peterborough and Stansted Airport
- Birmingham New Street, via Derby, to Nottingham
- Nottingham to Leeds.

Frequency is generally hourly with two trains per hour between Birmingham New Street and Leicester, and Birmingham New Street and Nottingham. Characteristically, these interurban services are operated by two, three and four-car diesel units, with a small number of longer formations on peak trains. There has been strong growth in recent years, and as a result, expansion in terms of train length and frequency is a priority.

Suburban and commuter services

These can be clearly divided between those serving the London and South East suburban commuter market, and those which enable Regional Urban commuting.

London & South East Suburban

An extensive network of both inner and outer suburban services is operated at the southern end of the LNE & EM Route serving a large, and growing, market for commuting journeys into London, comprising:

- stopping, and semi fast, services from London King's Cross and Moorgate to Hertford North, Welwyn Garden City, Peterborough and Cambridge
- a half hourly King's Cross to Cambridge fast service, one of which, extends each hour through to King's Lynn. In terms of operational characteristics and passenger profile, this service is more akin to a LDHS service
- stopping, and semi fast, services from Brighton, Sutton and other places on the Kent and Sussex Routes which travel on the London to Bedford corridor. These services have experienced strong growth in recent years, which is being met, in the short term by the lengthening of some trains from eight-car to twelve-car following the implementation of platform extensions and other infrastructure work.
- longer distance commuting into London, which is delivered by LDHS services, predominantly from stations in the Luton to Leicester, and Corby, corridor.

Regional Urban

A comprehensive network of local services caters for commuter travel in other parts of the route, including:

- large urban centres such as Leeds, Sheffield and Manchester
- smaller urban areas such as Doncaster, Bradford, Hull, Middlesbrough and Newcastle
- at Newcastle, a primary mode for travel to work is the Tyne & Wear Metro which, whilst largely self-contained, operates over Network Rail infrastructure between Pelaw, Sunderland and South Hylton
- longer distance commuting also takes place on some of the LDHS and interurban services, for example Peterborough to London .
- significant commuter flows into Derby, Leicester and Nottingham which are accommodated on London LDHS services, and on local stopping services, mainly operated by one, two or three-car diesel units

Rural and branch line services

The LNE & EM Route has several rural and branch lines, some of which are designated Community Rail routes . These are the Barton-on-Humber branch, Darlington – Bishop Auckland, Newcastle - Carlisle, Middlesbrough – Whitby (which includes the section from Grosmont – Whitby section which sees a daily steam hauled service during the summer months), the Penistone Line, the Derwent Valley Line, Crewe – Derby and Nottingham – Skegness. Some of these routes are characterised by significant seasonal holiday/leisure demand. As such, a particular challenge is to handle short seasonal peaks of demand against a background of a substantially lower level of travel activity during the rest of the year.

Key freight customers and traffic flows

The ECML, whilst having few freight terminals directly connected to it, is vital for many long distance freight flows. A key use is still for coal (despite a major decline in volumes in the past two years) and biomass from north east England, South Humberside and Scottish ports, destined for the Aire and Trent Valley power stations. Intermodal traffic from Felixstowe and the Thames estuary ports is a particular growth area.

The Yorkshire and Humber area is characterised by having very significant volumes of freight, with some of the highest freight tonnage movements in the UK operating on the south bank of the Humber between the Port of Immingham, Scunthorpe and Doncaster. The main traffic in this area comprises imported coal and biomass for power stations, imported coking coal and iron ore for Scunthorpe steelworks, steel products to and from Scunthorpe steelworks, and oil products from local refineries for various distribution depots.

Elsewhere, intensive freight activity is very evident in the Tees Valley relating to the ports, steel, petro-chemical and potash industries. Significant freight flows are to be found on the Moorthorpe/ Doncaster – Rotherham – Beighton – Chesterfield axis and over the South Yorkshire Joint Line from Doncaster to the Worksop area. Considerable aggregates traffic originates from terminals in the Peak District, which uses the Hope Valley Line, and from Rylstone quarry, whilst, in the Sheffield area, there are a number of flows of metals traffic.

There are a significant number of freight terminals located within the East Midlands area, such as the aggregates terminals at Bardon Hill, Croft, Mountsorrel, Stud Farm, Elstow and Radlett, the power station at Ratcliffe-on-Soar and the cement works at Ketton. The East Midlands Route's geographical position means that many flows also traverse the area to, and from, terminals outside it.

The East Midlands area is vital for many long distance freight flows, with the Wichnor Junction – Toton/Derby – Chesterfield, MML, and Peterborough – Leicester – Nuneaton corridors forming part of the Strategic Freight Network. There are significant coal, steel and automotive flows, which are predominantly aligned on the axis from Water Orton – Wichnor Junction, towards Derby and Chesterfield. Intermodal traffic also uses this corridor and, increasingly, the Peterborough – Leicester – Nuneaton corridor, following completion of works to provide W10 loading gauge clearance.

Freight traffic on the LNE & EM Route can be broken down into the following broad categories:

Ports intermodal

Ports intermodal flows are container flows to and from ports. The main import locations into the UK are the east coast ports and Southampton. The flows from the latter are via the West Midlands and South Yorkshire. The flows from Felixstowe, Tilbury and London Gateway are via Peterborough, to terminals in South and West Yorkshire, or further north, plus those heading for the West Midlands, or to join the West Coast Main Line at Nuneaton for destinations in the North West that travel over the Route only in the Peterborough area.

The flows from Felixstowe to the Midlands and North West terminals operate via the North London Line joining the West Coast Main Line at Willesden Junction, or via Peterborough, through the East Midlands area to join the West Coast Main Line at Nuneaton, or proceed onwards to terminals in the West Midlands. There is a terminal at Burton-on-Trent which receives traffic from the southern ports on a weekly basis. Flows from Southampton to Yorkshire and the North East use the Wichnor Junction – Chesterfield corridor.

Domestic

- Domestic intermodal traffic is the movement of containerised consumer goods within the UK. Improved loading gauge clearances will enable the growth of domestic intermodal traffic
- A twice nightly parcel service runs in each direction between Willesden and Low Fell via the ECML. This flow is worked by 100mph electric rolling stock and is very time sensitive. Potential may exist for further expansion of Royal Mail flows
- Other flows operate from the Port of Immingham, and other ports on the East Coast, to the Aire and Trent Valley power stations.
- Aggregate flows are highly dependant on the health of the construction industry and demand tends to be project driven. Aggregate flows typically originate from the quarries in the East Midlands, Peak District and at Rylstone and traverse the route to terminals in the south east; there is also a flow from the Shap quarries on the West Coast Main Line to Teesside. There is regular traffic on the ECML of bricks from Heck to Biggleswade. There is also aggregate traffic emanating from the Peak Forest area passing over the Route, to meet both power station and construction industry requirements
- There are several major traffic flows associated with steel industry activity in the Scunthorpe, South Yorkshire and Tees areas. The metals terminal at Corby receives regular services from South Wales
- There are a number of other flows across the Route, such as automotive, network services (wagonload traffic) and power station waste.

Route Services

The Network Rail Route Services team procures freight services to supply infrastructure materials throughout the country to meet the needs of engineering and construction projects. Locations at Doncaster and Toton are key nodes for this traffic.

Performance

The Performance Delivery Plan presents, for the Train Operating companies that operate across the Route, individual planned forecast for Passenger Performance Measure (PPM) and Moving Annual Average (MAA) for Control Period 5 (CP5).

Proposed infrastructure investment - short and medium term strategy

One of the key strategic planning processes that has informed this Network Specification is the development of new timetables for the East Coast Main Line. This has emerged from the requirements of the Thameslink Programme and the East Coast Main Line 2016 Capacity Review (published December 2010). The strategy for the northern part of the Route has also been influenced by the outputs of the Northern Hub and the Electrification Programme in the north, from Manchester to York, and Selby, via Leeds.

The combined output from these strategies can be summarised as:

- an increase in the number of LDHS Services from London to the north
- the provision of improved cross-London connectivity by the Thameslink Programme
- increased frequency and capacity on the main interurban services between the north west, Yorkshire and the north east
- increased capacity on local routes into Sheffield and Leeds (mainly achieved through train lengthening)

- additional freight capacity and improved capability, particularly on the principal arteries, and from the east coast ports at Immingham, Teesport and the Port of Tyne
- accommodation of increased train lengths at station platforms for LDHS services operating on the MML.
- an electrified service from London St Pancras to Kettering and Corby.

The target numbers of passengers to be accommodated in the morning peak, at designated major stations, are shown in the Strategic Business Plan for England and Wales (January 2013). It should be noted that the number of passengers to be accommodated at London King's Cross will fall substantially around the end of 2018, as a significant proportion of existing suburban services (mainly originating from Peterborough, Cambridge and Welwyn Garden City) will be diverted via the new Thameslink rail connection, to call at London St. Pancras International before proceeding to destinations south of London.

The 'Final' Determination for funding for CP5 was announced by the ORR in October 2013. There are a number of enhancement schemes and funds specified in the High Level Output Statement (HLOS) which affect the LNE & EM Route.

Listed below are the major schemes for the LNE & EM Route. Full details can be seen in the updated **Enhancements Delivery Plan (December 2017)**.

- CR004 Thameslink Programme
- CR005 North of England Programmes
- LNE001a TransPennine Route Upgrade
- LNE001b TransPennine Route Upgrade - Intermediate Interventions
- LNE001c Yorkshire Train Lengthening
- LNE002a Intercity Express Programme (IEP) - East Coast Capability
- LNE002b Intercity Express Programme (IEP) - East Coast Power Supply Upgrade
- LNE003 ECML Traction Power Supply Upgrade
- LNE009 Stevenage Turnback
- CashDfT007 Tram Train Pilot

- EM001 London to Corby Electrification & Capacity Upgrade
- EM002 St Pancras to Sheffield linespeed improvements
- ES003k Market Harborough linespeed improvements, Leicester South journey time improvements and Derby to Sheffield journey time improvements - Phase 1.

Funds

There are national funding pots available in the ORR Final Determination. Full details can be found in the **CP5 Enhancements Delivery Plan**. The funds are:

- F001 Level Crossings Risk Reduction Fund
- F002a Stations – National Stations Improvement Programme (NSIP)
- F002b Stations – Access for All (AfA)
- F003 East Coast Connectivity Fund
- F004 CP6 Development Fund
- F005 Network Rail Discretionary Fund (NRDF)
- F006 Strategic Freight Network Fund(SFN)
- F007 Passenger Journey Improvement Fund (PJIF)
- F008 High Speed 2
- F009a Innovation Fund
- F009b Strategic Research and Development Fund
- F011 ETCS Cab Fitment Fund and ETCS Infrastructure
- F012 New Stations Fund
- F013 CP4 Station Commercial Project Facility (SCPF).

Longer-term strategy

Industry strategy will be directed by conclusions, and recommendations, developed through the Long Term Planning Process (LTPP), Government policy and transport objectives, and future customer requirements. The following section outlines some key strategic considerations which may help to shape future rail investment, subject to the prioritisation of future investment and funding, based on their benefits to the rail industry and its customers, the economy and the environment.

High Speed Two (HS2)

The first phase (Phase One) in implementation of a national High Speed Rail network will be construction of a new railway to alleviate capacity issues on the West Coast Main Line, between London and the West Midlands.

Phase Two will extend this initial route, with the creation of a ‘Y’ network, to Manchester, East Mids, Sheffield, Leeds and onto the East Coast Main Line by 2033.

Whilst the first stage is not expected to have a significant effect on this route, the second stage will, especially as a number of passenger flows, currently using the LDHS services to London, will transfer to the new high speed line. Ongoing growth in other flows should be met through services continuing to use the current route.

Transport for the North

Following recommendations from HS2 in Sir David Higgins’ “Rebalancing Britain “ report (2014), Network Rail joined central and local government, and other stakeholders, as part of Transport for the North.

The vision for rail is to improve journey times, and train frequencies, linking the six principal city regions and the North’s biggest airport (Liverpool, Manchester, Manchester Airport, Leeds, Sheffield, Newcastle and Hull) - extending the north to south link that will be provided by HS2.

An integrated ticket, across all public transport modes ,will make it easier for customers to choose the most cost-efficient, and quickest, route for their journey.

Midlands Connect

Midlands Connect is a collaboration of Local Authorities, Local Enterprise Partnerships, Network Rail, Highways England, central Government and the business community, working together to produce a Transport Strategy for the Midlands.

It is an ambitious initiative to identify and realise the transport connectivity improvements needed to maximise the region’s long- term economic growth.

- Strategy published Spring 2017
- Funding secured for 3 years to 2020

Digital Railway

The Digital Railway programme is being developed by Network Rail, and rail industry partners, to accelerate the introduction of new technologies on the rail network.

Ports expansion

There are planned port expansions at the Port of Immingham, Teesport and Port of Tyne and at various other ports throughout the country, which will see an increase in freight traffic over these routes. These include developments at Avonmouth, Bathside Bay, Felixstowe, Liverpool, Southampton and Thames Gateway. Bathside Bay, Felixstowe and Southampton will have a significant effect on intermodal demand on the LNE & EM Route.

LDHS train lengthening

Current plans for IEP rolling stock introduction envisage the use of trains of a maximum of ten-car length. This will give improved passenger capacity due to the optimisation of space within the vehicles. The IEP specification includes the ability to lengthen these trains to approximately 312 metres (twelve -car) length and, despite the high cost of accommodating this length of train at certain locations, it might still be the most viable option to accommodate continuing growth prior to HS2 reaching Yorkshire.

Leeds Station

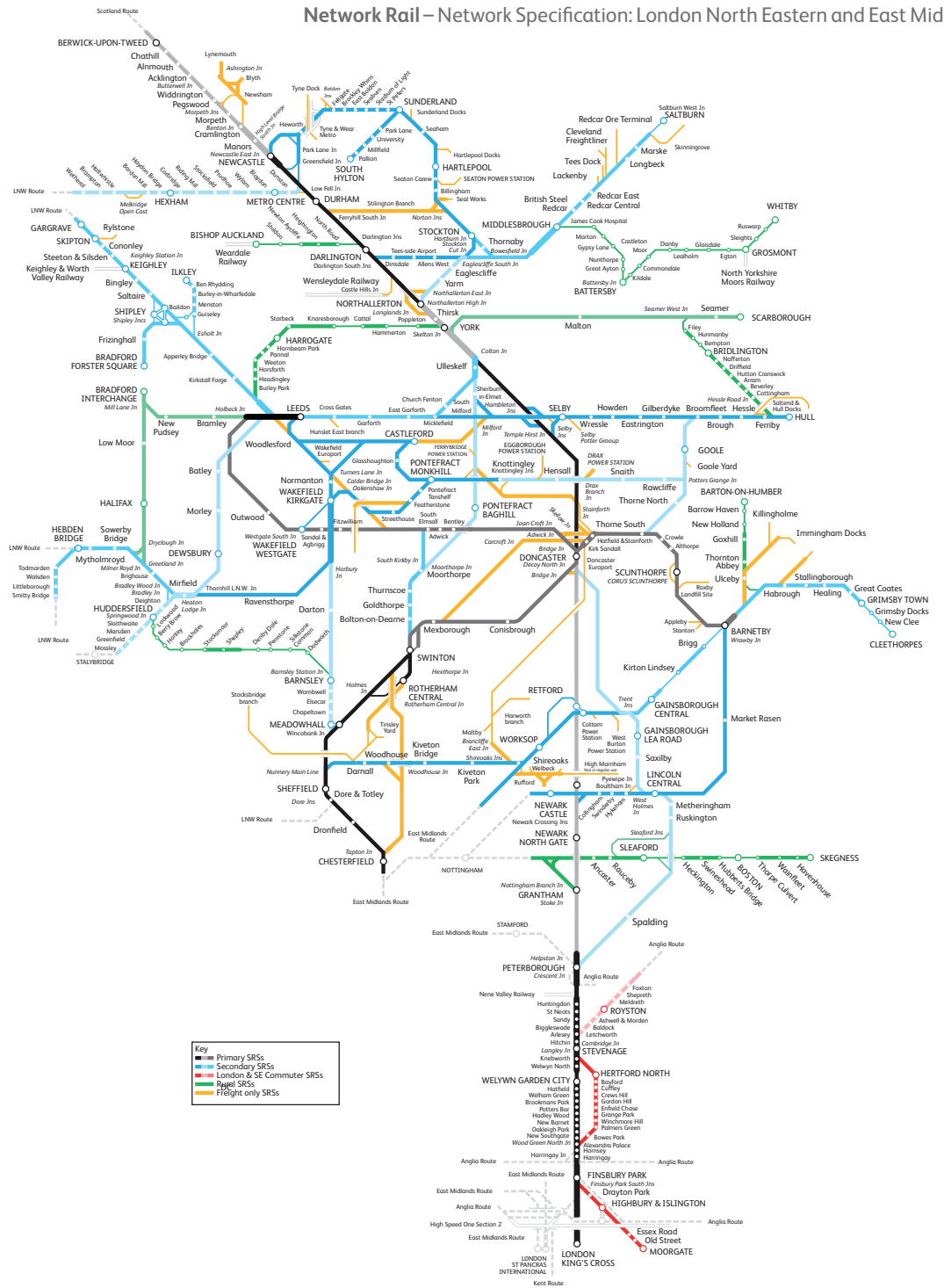
Sir David Higgins' report, "**Rebalancing Britain**" (2014) made it clear that Leeds Station is nearing full capacity, and a unique opportunity exists to upgrade the station for increased capacity on the classic network, at the same time as ensuring full advantage is taken of HS2. Network Rail is, therefore, working with HS2 Ltd, West Yorkshire Combined Authority, Leeds City Council, and other stakeholders to ensure station remodelling allows the wider city region to take full advantage of the connectivity benefits offered by HS2.

Capability outputs

The maps below show the current capability of the LNE and EM network, with regards to linespeeds, electrification, route availability and gauge. The current capability is shown in more detail in the Network Rail Sectional Appendix.

London North Eastern & East Midlands LNE Route map

April 2018



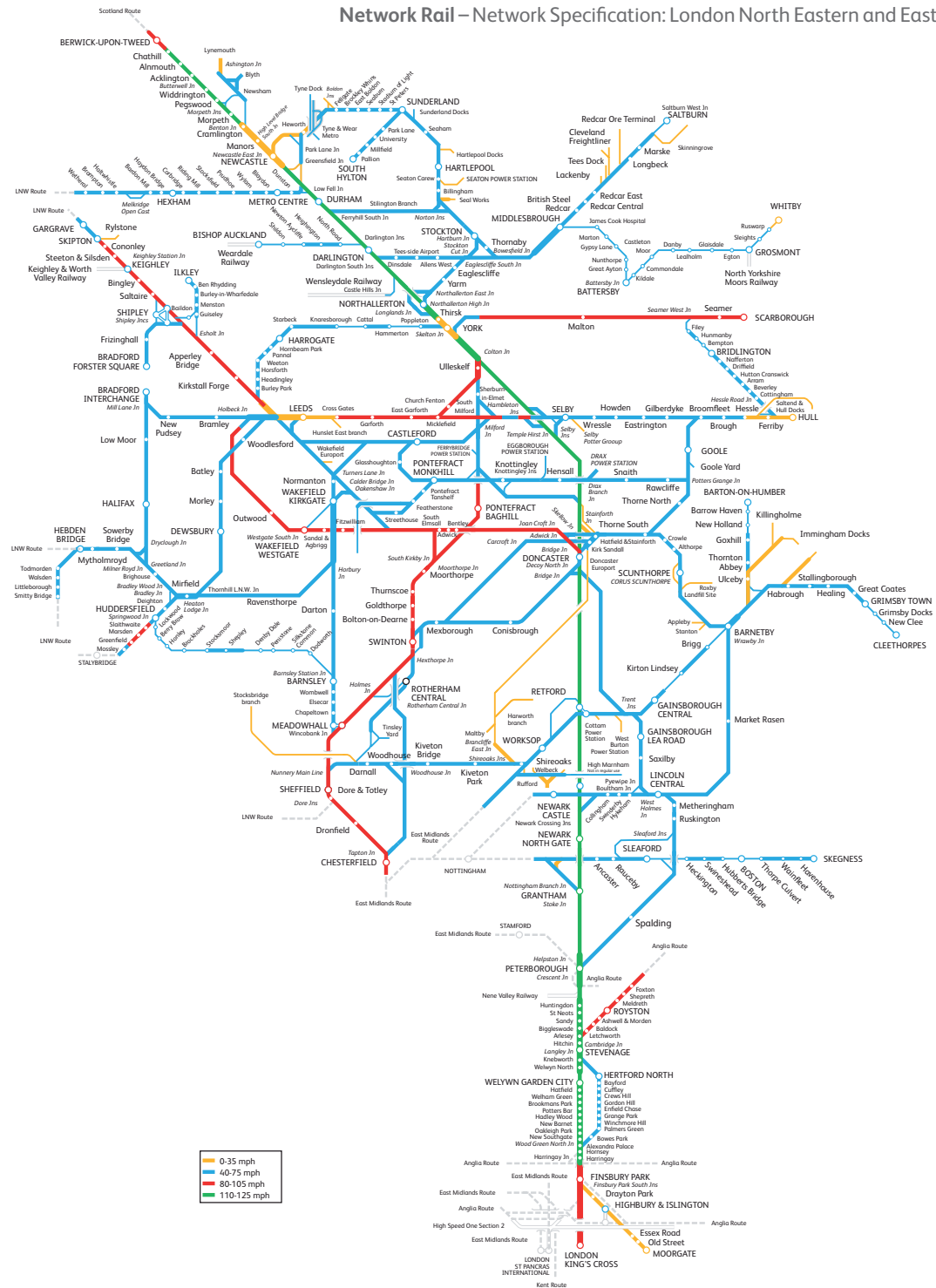
London North Eastern & East Midlands EM Route map



London North Eastern & East Midlands Capability maps

LNE Linespeed

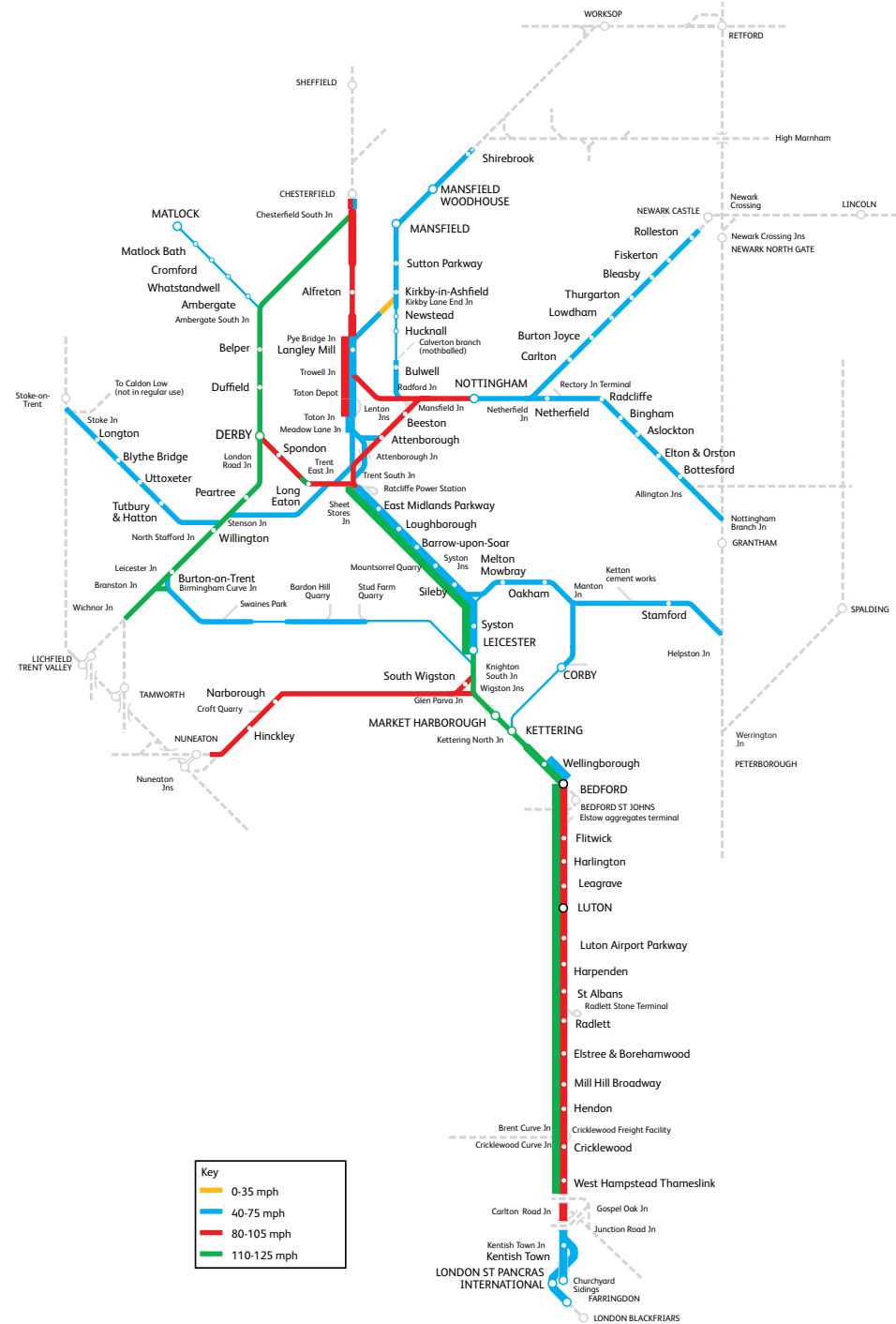
April 2018



London North Eastern & East Midlands

Capability maps

EM Linespeed

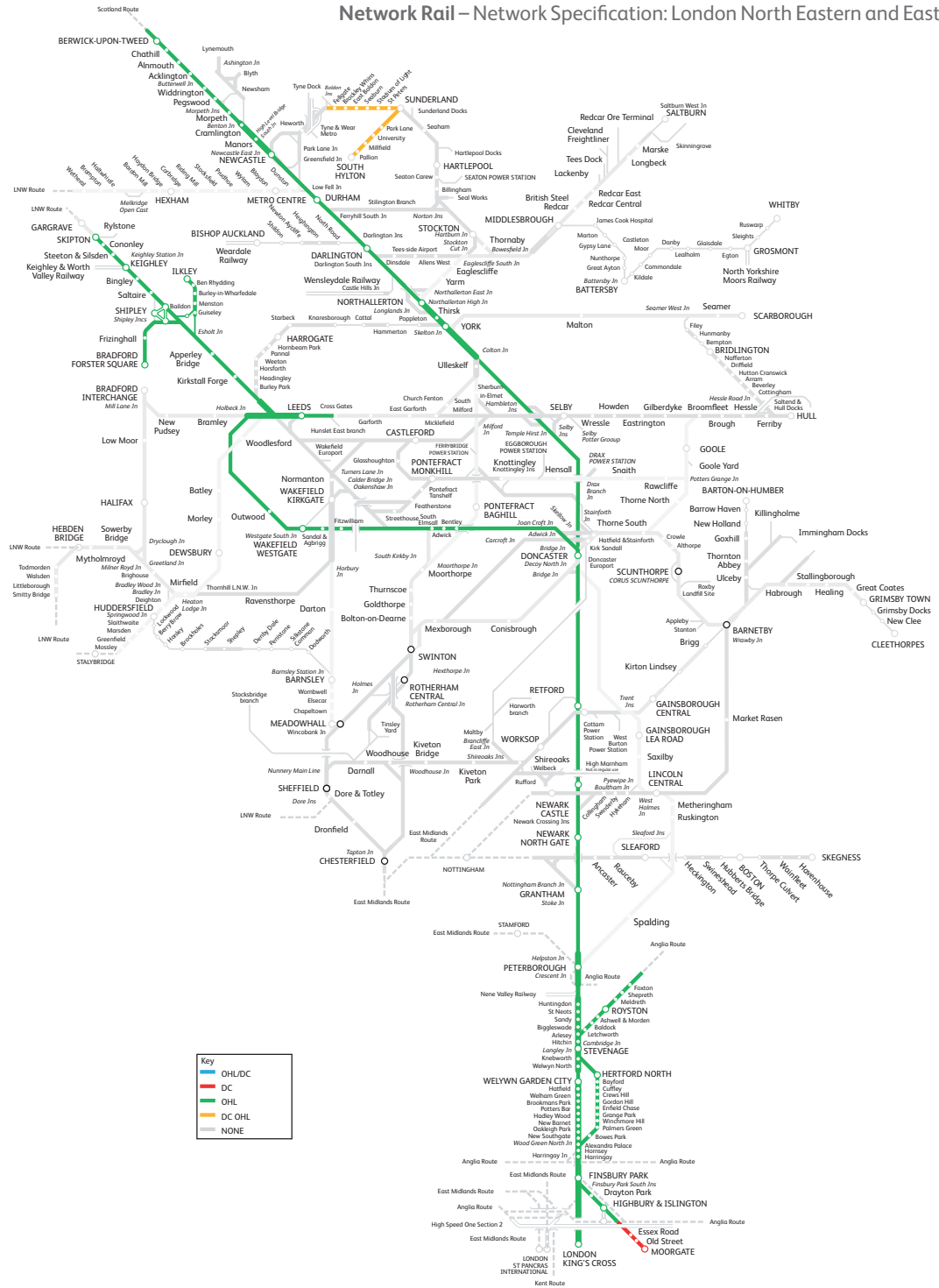


London North Eastern & East Midlands

Capability maps

LNE Electrification

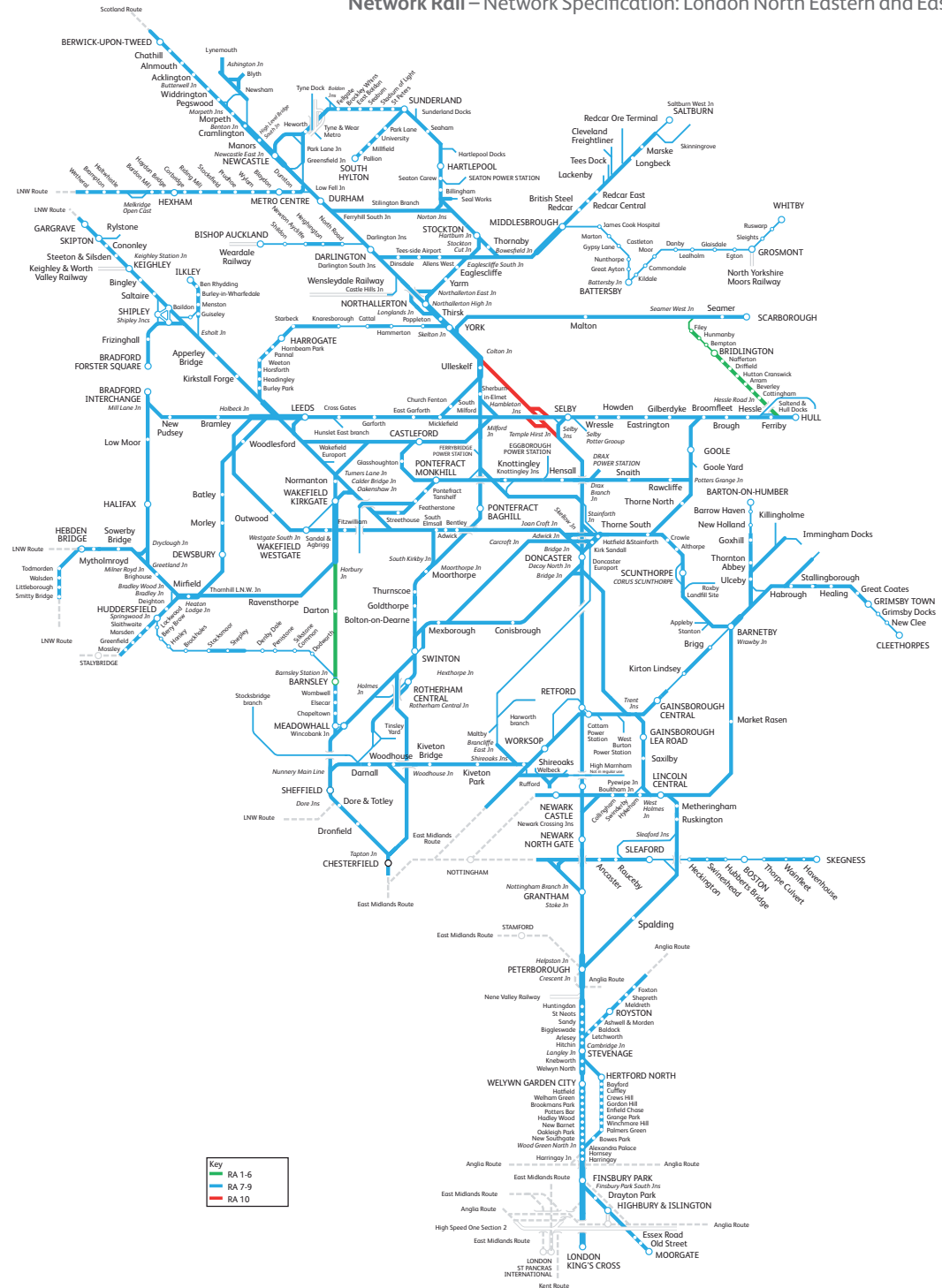
April 2018



London North Eastern & East Midlands

Capability maps

LNE Route availability



London North Eastern & East Midlands

Capability maps

EM Route availability



Key	
█	RA 1-6
█	RA 7-9
█	RA 10

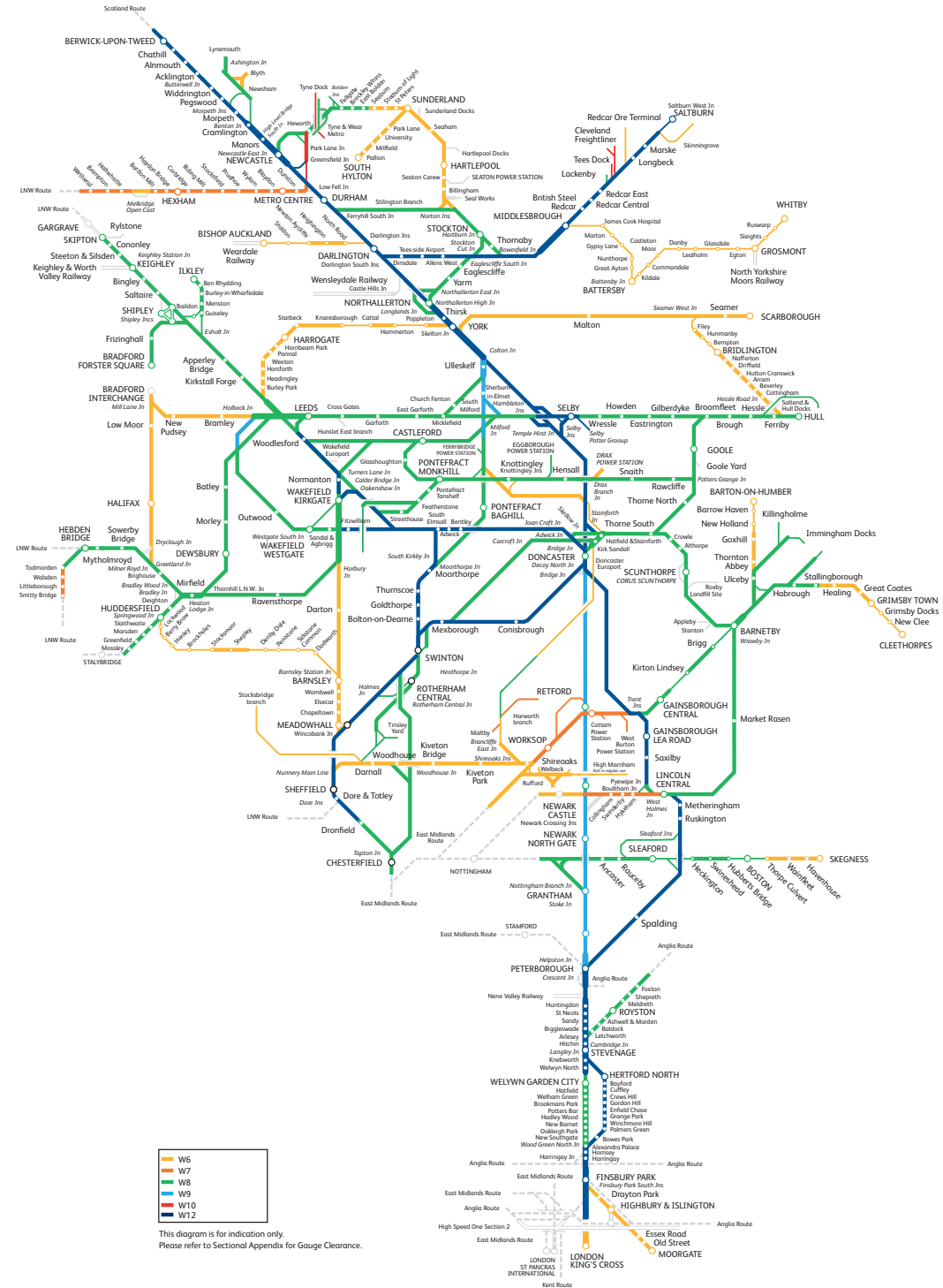
MML capability of 125mph at RAS. Please refer to Sectional Appendix for Route Availability.

London North Eastern & East Midlands

Capability maps

LNE Gauge

April 2018



This diagram is for indication only. Please refer to Sectional Appendix for Gauge Clearance.

London North Eastern & East Midlands

Capability maps EM Gauge



Network Rail

1 Eversholt Street
London NW1 2DN

Tel: 020 7557 8000

www.networkrail.co.uk