ENGLAND'S ECONOMIC HEARTLAND

Rail Strategic Objectives

A technical report produced by WSP
for the EEH evidence base

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EXECUTIVE SUMMARY

England's Economic Heartland focuses on providing coordinated transport planning representation for its members across the central belt of England. EEH covers six major counties as well as a number of major city areas such as Swindon and Milton Keynes and is home to over five million people. The EEH geography spans seven major rail routes that are the focus of this study. This study has aimed to review the existing strategic material created by EEH and their partners alongside other inputs and the use of strategic judgment based on WSP technical rail advisory experience to create a set of strategic objectives for each rail route. These objectives have then been presented to EEH member organisations for review and comment through a series of focused workshops. This has allowed the objectives to be refined and finalised for presentation to the EEH board.

Eighty-three Strategic Objectives were established across the seven identified rail routes and reviewed and given a time frame to help understand dependencies across routes. A Strategic Dashboard is provided as part of this document (Appendix A) which provides a comprehensive summary of the eighty-three objectives across each of the seven routes using a passenger and freight category allocation across a timeframe (short (up to 5 years), medium (5-20 years) and long (greater than 20 years). The dashboard also summarises how each individual objective links to the overarching business strategic objectives for the whole EEH transport strategy.

Once finalised the objectives were reviewed revealing a number of key focus areas where attention should be given. These areas will undoubtedly require close collaborative working with industry partners including Network Rail, Great British Railways Transition Team (GBRTT), East West Railway Company (EWR) and neighbouring Subnational Transport Bodies. In order to ensure these relationships and joint working is undertaken in the most efficient way possible a series of partnership agreements are being defined with relevant bodies and these relationships will be critical in undertaking and gaining support for the further areas of work outlined within this study.

The introduction of the East West Main Line and the interconnectivity this brings between almost all the routes within the EEH geography will be critical in achieving improvements in journeys by rail across the region. The core EWR route is being delivered in stages between Oxford and Cambridge but could have transformational connectivity impacts across a much broader geography should new train services to wider destinations be delivered. Local authorities are working together closely to develop and deliver these benefits through the oversight of the East West Mainline Partnership Board, and the objectives for this route are considered in this context. Given the critical nature of the East West Main Line and the extensive timescale on which it will be delivered, it is recommended that significant consideration is given to defining the strategic interfaces between stations on each of the Main Lines and the new East-West Main Line which will become a new critical main line route linking the east and west of the geography providing direct connectivity with all of the other six existing mainline routes.

Aside from EWR there are a number of areas where additional strategic planning would be beneficial including the definition of strategic multi-transport interchanges at various key locations, considerations around capacity improvements on key corridors, the optimised use of released capacity arising from the introduction of HS2 on both the WCML and MML and a number of public transport provision studies to support regional transport connectivity to areas where there is limited or

no rail access currently and to address new and emerging opportunities such as express logistics and establishment of new Strategic Rail Freight Interchanges.

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1 INTRODUCTION

1.1 CONTEXT

England's Economic Heartland (EEH) is a Sub-national Transport body within England focusing on providing coordinated transport planning representation for their members across the central belt of England (Figure 1-1 below).

Figure 1-1 - Sub-national Transport Bodies Map

As can be seen, the EEH geography covers a significant area, including parts or all of the following major counties/urban areas:

- Oxfordshire
- Buckinghamshire
- Northamptonshire
- Bedfordshire
- Milton Keynes
- Hertfordshire
- Cambridgeshire and Peterborough
- Swindon

The EEH geography covers almost all of the major mainlines on the GB rail network with many complex services across passenger and freight flows, including long-distance high-speed, inter-regional, and regional services. The mainlines which are within the EEH geography include:

- Great Western Main Line (GWML)
- Chiltern Main Line
- West Coast Main Line (WCML)
- Midland Main Line (MML)
- East Coast Main Line (ECML) and Felixstowe to Midlands and the North (F2MN) – including the route from Felixstowe to Peterborough and Leicester
- West Anglian Main Line (WAML)
- East West Main Line (EWML)

A route high-level route summary and their interdependencies and fringes beyond the EEH geography is summarised in the diagram below.

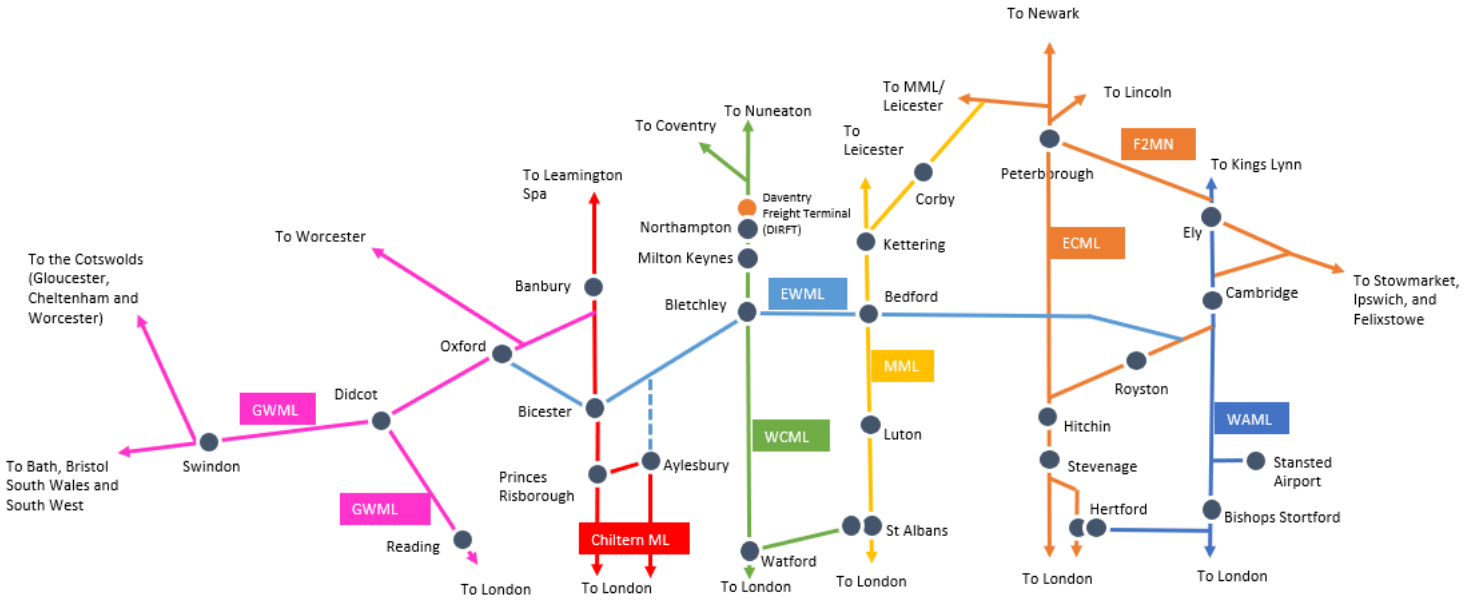

Figure 1-2 - Route line diagram of main lines within EEH geography

1.2 INDUSTRY AND NETWORK CHANGES

1.2.1 INDUSTRY CHANGES

The UK rail industry is currently undertaking a significant number of changes. The impact of restrictions and changes to working practices arising from the COVID-19 health crisis resulted in a significant reduction in passenger numbers and passenger recovery rates nationally have not recovered to pre-pandemic levels. The national picture somewhat masks regional variations with certain train operators beginning to see passenger numbers at or in exceedance of pre pandemic levels. Rail freight levels now largely exceed freight levels from before the pandemic with an increase in flows from major ports and quarries a significant contributor to this.

Overall travel trends have changed. Pre-pandemic a significant amount of passenger patronage was from the commuting and business travel markets. With working from home (WFH) facilities established in almost all service focused companies, given the restrictions imposed during the pandemic, staff are more readily able to work away from offices and as such the emerging trend is for staff to attend the office two or three days a week and for business meetings between staff in remote locations to be held virtually. Whilst there is a significant variance between regions the general trend is that office working is undertaken mid-week (Tuesdays, Wednesdays and Thursdays) with these days typically seeing the largest number of commuter and business travellers.

Whilst there has been a reduction in the volume of commuter and business passengers travelling for non-work reasons (referred to as leisure) has grown significantly from pre-pandemic levels. Patronage on Saturdays and Sundays has increased significantly with several operators' busiest days now on weekends. This report has not considered in any great detail the changing nature of the use of the network, but it is clear with major centres of tourism/leisure activities contained within the EEH geography (such as Oxford and Cambridge and shopping locations like Bicester Village) that a clear need for a greater understanding of the impact and potential demand for rail use to fulfil leisure trips should be investigated. It is recommended that in order to comprehensively understand this aspect and determine whether there are any additional objectives for consideration beyond those outlined within this study that an EEH tourist and leisure travel study is considered for development.

1.2.2 NETWORK CHANGES

The Integrated Rail Plan for the Midlands and North (IRPMN) outlines a £96billion rail investment plan to provide new and improved railways across the Midlands and North geographies. As part of this investment a commitment has been made to undertake electrification of the Midland Main Line beyond the current commitment of electrification as far as South Wigston Junction (South of Leicester).

The proposed electrification will see 25kV AC electrification infrastructure provided to Nottingham, Derby and Sheffield to enable long-distance high-speed trains to operate electrically. This electrification would also be required to support the introduction of HS2 trains onto the MML with these proposed to join the conventional rail network from the eastern leg of HS2 at East Midlands Gateway (located between Leicester and Nottingham).

The electrification of MML provides a number of potential opportunities for rail service changes within the EEH geography and where relevant the opportunity to build on the benefits of the electrification has been identified and included within the strategic objectives contained within this study.

1.3 STUDY PURPOSE

Over the past two years EEH has developed several strategies, including:

- EEH Transport Strategy[1]
- EEH Passenger Rail Study Phase 1[2]
- EEH Passenger Rail Study Phase 2[3]
- EEH Freight Study[4]

Collectively these reports identify a range of overarching and specific strategic objectives for the general EEH geography and individual rail routes within the geography. In certain circumstances, these objectives can be seen to be contradictory or in conflict with one another, with examples including where HS2 released capacity should be used to improve both passenger and freight journeys within and outside the EEH geography.

As a result, EEH has commissioned WSP to review their existing strategic information alongside other inputs and strategic judgment based on WSP's technical rail advisory experience to create a set of overarching strategic objectives for each of the seven routes within the EEH geography.

Following the initial identification of the objectives from the existing EEH strategy documentations the identified objectives were briefed to EEH members for review through a series of interactive workshops. Appropriate officer representation from each of the EEH member organisations attended alongside representatives from the relevant Network Rail regions (Eastern, North West and Central and Wales and Western). The objectives identified were presented alongside the general industry context in light of the emerging rail industry reform. Members were encouraged to review the objectives and provide comments as well as identifying individual projects which would contribute to the objectives. A small number of additional objectives emerged as a result of the review, and these were included in the updated objective list presented in this document. Some of the objectives were also amended in light of stakeholder feedback.

This document outlines the work undertaken to review and establish the strategic objectives for each of the seven mainline rail routes and presents the final objectives identified following engagement with EEH members. The report also outlines how these individual strategic objectives align with the broader strategic objectives of EEH and shows how the individual objectives on a route-by-route basis can be considered at a system-wide level.

[1] https://www.englandseconomicheartland.com/documents/405/Connecting_People_Transforming_Journeys_av.pdf
[2] https://www.englandseconomicheartland.com/documents/82/Passenger_Rail_Study_Phase_One.pdf
[3] https://eeh-prod-media.s3.amazonaws.com/documents/EEH_Passenger_Rail_Study_Phase_2_Report.pdf
[4] https://www.englandseconomicheartland.com/documents/78/Freight_Study.pdf

A list of potential solutions that could be implemented to achieve the strategic objectives is outlined alongside a list of recommended priority focus areas to ensure that resources are being appropriately allocated and to support in identifying likely resource requirements moving forward.

2 APPROACH TAKEN

The existing EEH strategies and studies outlined within Section 1 identify four over-arching strategic objectives for EEH within the rail context. These are:

- **Decarbonisation** – Focusing on supporting the net-zero 2050 legislative target through increasing the volume of goods and people traveling by rail and other public and active travel modes as well as decarbonisation of rail traction in its own right. EEH actively support both the drive for modal shift to rail to support wider transport decarbonisation and the direct decarbonisation of railway traction through the deployment of further electrification and battery trains.
- **Safety and Inclusivity** – Ensuring that that rail network is a safe and inclusive space for all passengers and travellers and making sure that facilities, trains and journeys to and from rail stations are able to be undertaken by everyone regardless of their background or protected characteristics. It is critical that the railways respond and relate to the needs of local communities. Opportunity exists through closer working with Community Rail Partnerships to support and grow the benefits of rail to local communities across the EEH geography.
- **Connectivity** – Focusing on ensuring that villages, towns and cities are seamlessly connected with each other to enable access for all communities to essential facilities such as shops, education and healthcare facilities as well as leisure, business and personal travel. There is a critical need to ensure there is a better interchange of people and freight between different modes of transport to ensure seamless end-to-end journeys can be enabled.
- **Efficient Movement of People and Goods** – Ensuring that people and goods from across and beyond the EEH geography are moved in the most efficient way possible in order to meet their needs. Multi-modal transfer will also be key for this to succeed.

Following a review of all existing EEH strategy documentation and studies, ninety-nine focus areas were identified across the seven routes in question. These are all linked to one or more of the four overarching strategic objectives outlined above. To develop these into meaningful objectives, each of the focus areas were reviewed and plotted against one of three time windows:

- Short Term (the next 5 years)
- Medium Term (the next 5-20 years)
- Long Term (20+ years)

Following this, each of the focus areas were reviewed and reworded into a suitable strategic objective with grouping of similar areas together to provide greater consistency and resolve any contradictions and conflicts. To support this, each objective was separated into rail passenger or rail freight to ensure that these two groups could identify and address any competing objectives.

This review, alongside feedback received as part of the stakeholder engagement process, resulted in eighty-three strategic objectives across the seven routes considered. These are explored in greater detail in section 3. The breakdown of objectives by passenger and freight in each of the routes for short-, medium- and long-term are summarised in Table 2-1 overleaf.

Route	Short (up to 5 years)		Medium (5-20 years)		Long (20+ years)		
	Passenger	Freight	Passenger	Freight	Passenger	Freight	Combined
GWML	4	3	3	1	2	1	0
Chiltern Main Line	2	0	5	0	2	0	0
WCML	2	2	7	2	0	1	1
MML	3	2	3	1	3	1	1
ECML+F2MN	3	2	3	1	1	1	0
WAML	2	1	2	1	2	1	0
EWR	2	1	4	0	2	2	0

Table 2-1 – Number of Strategic Objectives by Route

3 STRATEGIC OBJECTIVES

This section outlines the strategic objectives derived for each route. This information is provided on a single page output as part of Appendix A.

3.1 GREAT WESTERN MAIN LINE

This route covers the GWML between Reading and Swindon as well as the route from Didcot to Banbury and is indicated by the pink lines on Figure 1-2.

There are fourteen strategic objectives outlined for the Great Western Main Line across the three time-horizons – nine passenger objectives and five freight objectives. These are summarised in Table 3-1 below.

Table 3-1 – GWML Strategic Objectives

Short-term (up to 5 years)		Medium-term (5-20 years)		Long-term (20+ years)	
Passenger	**Freight**	**Passenger**	**Freight**	**Passenger**	**Freight**
GWP1 – Improve connectivity for local people between Swindon, Didcot Oxford, and Banbury, enabling improved journeys through Oxfordshire and onto Swindon.	**GWF1**- Increase intermodal freight flows from Southampton to the West Midlands (and North), enabling reduced HGV volumes across the strategic road network.	**GWP5** – Improve connectivity for local people between Oxfordshire, the Cotswolds and the South, Southwest, and South Wales, recognising Swindon station as a Gateway to the west enabling improved journeys to and from the region.	**GWF4**- Achieve decarbonisation of rail freight operations from Southampton to the West Midlands (and North) and from the Somerset quarries supporting decarbonisation of the wider rail network.	**GWP8** - Improve connectivity for local people to access the wider Cambridgeshire and eastern areas, enabling improved journey times across the region.	**GWF5** - Support the development of multimodal freight logistics solutions at identified SRFIs in the Swindon area, enabling the efficient movement of goods throughout the region.
GWP2 – Provide an aligned strategic multi-transport interchange at Oxford and Swindon enabling enhanced connectivity across the area.	**GWF2** – Increase aggregate rail freight flows from the Somerset quarries to enable improved efficiency in the movement of construction materials.	**GWP6** – Provide connectivity for local people to Old Oak Common Station, enabling direct interchange with HS2 services.		**GWP9** - Provide improved local and strategic connectivity to Heathrow, enabling improved journey times to the airport using public transport.	

Short-term (up to 5 years)		Medium-term (5-20 years)		Long-term (20+ years)	
Passenger	**Freight**	**Passenger**	**Freight**	**Passenger**	**Freight**
GWP3 – Enhance the public transport offering between Cowley and Oxford, enabling improved access to mainline rail services from Oxford.	**GWF3** – Optimise the transport of packages within the Oxford and Reading areas, utilising multimodal transport options enabling reduced heavy and light goods road traffic.	**GWP7** – Improve connectivity for local people between Swindon, Oxford, Northampton, and Birmingham, enabling improved journeys across the region.			
GWP4 – Provide support for the trialling and deployment of zero emissions rolling stock and infrastructure to achieve decarbonisation of regional passenger services.					

3.2 CHILTERN MAIN LINE

This route covers the Chiltern Mainline routes including Princes Risborough, Aylesbury, Bicester and Banbury and is indicated by the red lines on Figure 1-2.

There are nine strategic objectives outlined for the Chiltern Main Line across the three time-horizons all of which are passenger. These are summarised in Table 3-2 below.

Table 3-2 – Chiltern Line Strategic Objectives

Short-term (up to 5 years)		Medium-term (5-20 years)		Long-term (20+ years)	
Passenger	**Freight**	**Passenger**	**Freight**	**Passenger**	**Freight**
CLP1 – Improve connectivity for local people between Aylesbury, High Wycombe, Oxford, and Banbury, enabling improved journeys across Buckinghamshire and Oxfordshire and reducing impacts on the Strategic- and Major-Road Networks.		**CLP3** – Improve regional connectivity for local people to Oxford, Bicester, Aylesbury, Bletchley and Milton Keynes enabling direct interchange with East West Main Line services.		**CLP8** - Provide connectivity for local people to Old Oak Common Station, enabling direct interchange with HS2 services and services to Heathrow.	
		CLP4 – Provide an aligned multi-transport offering at Aylesbury enabling enhanced connectivity in this area.			
CLP2 – Improve service frequency and capacity on services from Buckinghamshire and Hertfordshire to London Marylebone and Birmingham, enabling improved journeys on services from Buckinghamshire, Hertfordshire and Oxfordshire to London and the West Midlands.		**CLP5** – Achieve decarbonisation of rail passenger operations supporting decarbonisation of the wider rail network.		**CLP9** - Improve connectivity for local people to access the wider Cambridgeshire and Eastern areas, enabling improved journeys across the regions recognising Cambridge Station as a Gateway to the east.	
		CLP6 – Provide an aligned strategic multi-transport interchange in the Oxford and Bicester areas, enabling enhanced connectivity across the area.			
		CLP7 - Improve connectivity for local people between Oxfordshire/Buckinghamshire and the South/South West and South Wales enabling improved journeys to and from the region.			

3.3 WEST COAST MAIN LINE

This route covers the routes through Watford Junction, Bletchley, Milton Keynes and Northampton and is indicated by the green lines on Figure 1-2.

There are fifteen strategic objectives outlined for the West Coast Main Line across the three time-horizons – nine passenger, five freight and one combined. These are summarised in Table 3-3 below.

Table 3-3 – WCML Strategic Objectives

<table>
<tr><th colspan="2">Short-term (up to 5 years)</th><th colspan="2">Medium-term (5-20 years)</th><th colspan="2">Long-term (20+ years)</th></tr>
<tr><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th></tr>
<tr><td rowspan="2">WCP1 - Improve capacity on services from Northamptonshire Buckinghamshire, Hertfordshire (including Milton Keynes, Watford and Tring) and Bedfordshire to London, enabling improved journeys from the region into London and Birmingham.</td><td rowspan="2">WCF1 - Increase intermodal freight flows from London to Northampton, the Midlands and the North, enabling improved efficiency in the movement of goods and reducing HGV volumes across the strategic road network.</td><td>WCP3 - Improve regional connectivity to Bletchley and Milton Keynes, enabling direct interchange with East West Main Line services.</td><td rowspan="2">WCF3 - Achieve decarbonisation of rail freight operations from London and Southampton to the Midlands, the North and Scotland contributing to decarbonisation of the wider rail network.</td><td colspan="2" rowspan="2">WCC1 - Optimise Passenger and freight services on the West Coast Mainline to enable efficient movement of people and goods across the region.</td></tr>
<tr><td>WCP4 - Provide an aligned multi-transport offering at Bletchley and Milton Keynes, enabling enhanced connectivity across the region.</td></tr>
<tr><td rowspan="2">WCP2 - Provide an aligned strategic multi-transport interchange in the Milton Keynes and Northampton areas, enabling enhanced connectivity across the area.</td><td rowspan="2">WCF2 - Optimise the transport of packages within the Watford and St Albans (in conjunction with MML) area, utilising multimodal transport options enabling reduced heavy and light goods road traffic.</td><td>WCP5 - Improve connectivity for local people between Northampton, Milton Keynes, Bletchley, Oxford and Watford enabling improved journeys across Northamptonshire, Buckinghamshire, Oxfordshire and Hertfordshire regions.</td><td rowspan="2">WCF4 - Support the development and enhancement of multimodal freight logistics solutions at Daventry, enabling the efficient movement of goods throughout the region.</td><td rowspan="2"></td><td rowspan="2">WCF5 - Enhance the rail freight offering to the Midlands and the North through efficient use of HS2 additional released capacity enabling improvement in the movement of goods and reducing HGV volumes across the strategic road network.</td></tr>
<tr><td>WCP6- Enhance the rail passenger service offering through efficient use of HS2 released capacity enabling improved connectivity between the north, Birmingham,</td></tr>
</table>

Short-term (up to 5 years)		Medium-term (5-20 years)		Long-term (20+ years)	
Passenger	**Freight**	**Passenger**	**Freight**	**Passenger**	**Freight**
		Warwickshire, Northamptonshire, Buckinghamshire, Milton Keynes, Hertfordshire and London.			
		WCP7 - Provide improved local and strategic connectivity to Birmingham International Airport, enabling improved journey times to the airport using public transport.			
		WCP8 – Provide an aligned strategic multi-transport interchange at Watford Junction enabling enhanced connectivity across the area and to South London.			
		WCP9 – Provide suitable connectivity for local people to stations at Old Oak Common, Birmingham International and Birmingham Curzon Street for connections into the HS2 network.			

3.4 MIDLAND MAIN LINE

This route covers routes through St Albans, Luton, Bedford, Kettering and Corby and is indicated by the yellow line on Figure 1-2

There are fourteen strategic objectives outlined for the Midland Main Line across the three time-horizons – nine passenger, four freight and one combined. These are summarised in Table 3-4 below.

Table 3-4 – MML Strategic Objectives

<table>
<tr><th colspan="2">Short-term (up to 5 years)</th><th colspan="2">Medium-term (5-20 years)</th><th colspan="2">Long-term (20+ years)</th></tr>
<tr><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th></tr>
<tr><td>MMP1 - Improve passenger services for local people between Leicester and Bedford, Luton, St Albans and London, enabling improved journeys within the region.</td><td>MMF1 - Optimise the transport of packages within the Watford and St Albans (in conjunction with WCML) area, utilising multimodal transport options enabling reduced heavy and light goods road traffic.</td><td>MMP4 - Improve regional connectivity to Bedford and establish this as a major interchange hub between MML and EWML, enabling direct accessible interchange with East West Main Line services.</td><td rowspan="4">MMF3 - Achieve decarbonisation of rail freight operations from the Peak Quarries supporting decarbonisation of the wider rail network.</td><td colspan="2">MMC1 - Optimise Passenger and freight services on the Midland Mainline to enable efficient movement of people and goods across the region.</td></tr>
<tr><td>MMP2 - Provide an aligned strategic multi-transport interchange at Kettering, Wellingborough, Bedford, Luton, and St Albans, enabling enhanced connectivity across the area.</td><td rowspan="3">MMF2 - Optimise the transport of packages within the Luton and Bedford areas, utilising multimodal transport options enabling reduced heavy and light goods road traffic.</td><td>MMP5 - Investigate the potential to provide direct rail services between Kettering, Corby, and Peterborough, enabling improved regional connectivity.</td><td>MMP7 - Enhance the rail passenger service offering through efficient use of HS2 released capacity enabling improved regional connectivity between Bedford, Luton, and London.</td><td rowspan="3">MMF4 - Increase aggregate rail freight flows from the Peak and Midlands Quarries to enable improved efficiency in the movement of construction materials.</td></tr>
<tr><td>MMP3 - Provide improved local and strategic connectivity to Luton Airport, enabling improved journey times to the airport using public transport.</td><td>MMP6- Improve regional connectivity between Bedfordshire and the East Midlands to strengthen economic linkages with the East Midlands and support planned local plan developments.</td><td>MMP8 - Enhance the public transport offering between Buckinghamshire and Hertfordshire, connecting Chiltern main line, WCML, MML, ECML, and WAML, enabling improved access across this corridor.</td></tr>
<tr><td>MMP9 - Provide improved local and strategic connectivity to East Midlands Airport, enabling improved journey times to the airport using public transport.</td></tr>
</table>

3.5 EAST COAST MAIN LINE AND FELIXSTOWE TO MIDLANDS AND THE NORTH ROUTE

The ECML route covers routes through Hertford, Stevenage, Hitchin, Royston and Peterborough. The F2MN route covers routes from Felixstowe to Leicester. Both routes are indicated by the orange lines on Figure 1-2.

There are six strategic objectives outlined for the East Coast Main Line and five strategic objectives outlined for the Felixstowe to Midlands and the North Route across the three time-horizons – for ECML five passenger and one freight and of F2MN two passenger and three freight. These are summarised in Table 3-5 below.

Table 3-5 – East Coast Main Line and F2MN Strategic Objectives

<table>
<tr><th colspan="2">Short-term (up to 5 years)</th><th colspan="2">Medium-term (5-20 years)</th><th colspan="2">Long-term (20+ years)</th></tr>
<tr><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th></tr>
<tr><td>F2MNP1 – Enhance the public transport offering between Wisbech and March, enabling improved access to Mainline rail services to Peterborough and Cambridge.</td><td>ECF1 – Optimise the transport of packages within the Stevenage and Peterborough areas, utilising multimodal transport options enabling reduced heavy and light goods road traffic.</td><td>ECP3 – Improve network resilience between Peterborough and London, enabling more reliable journeys for passengers.</td><td rowspan="3">F2MNF2 – Achieve decarbonisation of rail freight operations from Felixstowe, contributing to decarbonisation of which the wider rail network.</td><td rowspan="3">ECP5 – Improve connectivity for local people to access Oxfordshire and the South West areas, enabling improved journeys across the regions.</td><td rowspan="3">F2MNF3 – Optimise freight flows from Felixstowe through the most efficient routing of trains between the East-West Main Line and Crosscountry (via Ely) route enabling efficient, and sustainable movement of goods and helping to reduce HGV volumes across the strategic road network.</td></tr>
<tr><td>ECP1 – Provide an aligned strategic multi-transport interchange at Peterborough and Stevenage, enabling enhanced connectivity across the area.</td><td rowspan="2">F2MNF1- Increase intermodal freight flow from Felixstowe to the West Midlands (and North) (via Ely), enabling reduced HGV volumes across the strategic road network.</td><td>F2MNP2 – Improve connectivity for local people between Cambridge, Peterborough, Leicester and Birmingham, enabling improved journeys across the region.</td></tr>
<tr><td>ECP2 – Preserve and enhance existing suburban routes from Cambridgeshire, Bedfordshire, and Hertfordshire into London, Cambridge and Peterborough, ensuring continued service provision into London, Cambridge and Peterborough.</td><td>ECP4 – Provide an aligned multi-transport offering at the EWR-ECML interchange, enabling enhanced connectivity across all communities.</td></tr>
</table>

3.6 WEST ANGLIAN MAIN LINE

This route covers routes through Bishop Stortford, Stanstead Airport and Cambridge and Ely and is indicated by the dark blue line on Figure 1-2.

There are nine strategic objectives outlined for the West Anglian Main Line across the three time-horizons – six passenger and three freight. These are summarised in Table 3-6 below.

Table 3-6 – West Anglian Strategic Objectives

Short-term (up to 5 years)		Medium-term (5-20 years)		Long-term (20+ years)	
Passenger	**Freight**	**Passenger**	**Freight**	**Passenger**	**Freight**
WAP1 – Provide an aligned strategic multi-transport interchanges in the Cambridge area, enabling enhanced connectivity across the area.	**WAF1** – Optimise the transport of packages within the Cambridge area, utilising multimodal transport options enabling reduced heavy and light goods road traffic.	**WAP3** – Provide improved local and strategic connectivity to Stansted Airport, enabling improved journey times to the airport using public transport.	**WAF2** – Improve network resilience between Felixstowe, the Midlands and the North (via Ely), enabling more reliable journeys for the movement of goods.	**WAP5** – Improve regional and inter-regional connectivity to Cambridge, enabling direct interchange with East West Main Line services and recognising Cambridge Station as a Gateway to the east.	**WAF3** – Optimise freight flows from Felixstowe through the most efficient routing of trains between the East-West Main Line and Crosscountry (via Ely) route enabling efficient, and sustainable movement of goods and helping to reduce HGV volumes across the strategic road network.
WAP2 – Preserve and enhance existing suburban routes from Cambridgeshire and Hertfordshire into London, ensuring continued service provision to London.		**WAP4** – Improve capacity on services from Cambridgeshire and Hertfordshire to London stations, enabling improved journeys from the region into London.		**WAP6** – Enhance connectivity from Hertfordshire and Cambridgeshire into Central and South London.	

3.7 EAST WEST MAIN LINE

This route covers the core East West Main Line Route Between Cambridge and Oxford via Bedford, Bletchley and Bicester, associated links to Milton Keynes and Aylesbury, as well as considering wider rail links that this core route could enable. It is indicated by the light blue line on Figure 1-2.

There are eleven strategic objectives outlined for East West Main Line across the three time-horizons – eight passenger and three freight. These are summarised in Table 3-7 below.

Table 3-7 – East West Main Line Strategic Objectives

<table>
<tr><th colspan="2">Short-term (up to 5 years)</th><th colspan="2">Medium-term (5-20 years)</th><th colspan="2">Long-term (20+ years)</th></tr>
<tr><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th><th>Passenger</th><th>Freight</th></tr>
<tr><td>EWP1 – Improve service for local people between Didcot, Oxford, Bicester, Bletchley, and Milton Keynes enabling improved journeys and planned local plan development across Buckinghamshire, Aylesbury and Oxfordshire.</td><td rowspan="4">EWF1 – Optimise the transport of packages using the EWR corridor, enabling the efficient movement of goods and reducing heavy and light goods road traffic.</td><td>EWP3 – Improve service for local people between Oxford, Bletchley, Milton Keynes, Bedford, and Cambridge enabling improved journeys to and from Cambridgeshire, Bedfordshire and Oxfordshire.</td><td rowspan="4"></td><td rowspan="2">EWP7 – Improve regional and inter-regional connectivity from Cambridge, enabling direct services and interchange with the Midland Main Line, East Coast Main Line, West Anglian Main Line, and services to Norfolk and Suffolk. This should recognise Cambridge Station as a Gateway to the east.</td><td>EWF2 – Provide the opportunity for decarbonised intermodal rail freight from Felixstowe to the Midlands and South West, enabling reduced HGV volumes across the strategic road network.</td></tr>
<tr><td rowspan="3">EWP2 – Improve regional connectivity to Oxford, Bicester, and Bletchley, enabling direct interchange with GWR, Chiltern, and WCML services.</td><td>EWP4 – Improve regional connectivity to Bedford, enabling direct interchange with Midland Mainline services.</td><td rowspan="3">EWF3 – Optimise freight flows from Felixstowe through the most efficient routing of trains between the East-West Main Line and Crosscountry (via Ely) route enabling efficient, and sustainable movement of goods and helping to reduce HGV volumes across the strategic road network.</td></tr>
<tr><td>EWP5 – Improve connectivity between Bedford, Bletchley and Milton Keynes to the South West and South Wales enabling improved journeys between the regions.</td><td rowspan="2">EWP8 – Improve connectivity between Cambridge, the South West and South Wales enabling improved journeys between the regions.</td></tr>
<tr><td>EWP6 – Improve connectivity between Aylesbury, Bletchley, Milton Keynes, and Northampton enabling improved journeys between these locations.</td></tr>
</table>

4 OBJECTIVES ANALYSIS

Considering the defined strategic objectives, several potential solutions and approaches could be used to achieve the objectives outlined. As part of the stakeholder workshop EEH members and Network Rail were asked to identify key outcomes and projects which would contribute to the identified objectives. The combined outputs from the workshops held is summarised in Appendix B.

There are a number of emerging themes which can be seen where further thinking or work may be required. In most instances this will require joint working with Network Rail, GBRTT, EWR and/or adjacent Subnational Transport Bodies (STBs). EEH is currently actively pursuing the establishment of strategic partnerships with a number of organisations in order to support joint and collaborative working moving forward and this will be critical to obtain buy-in and support for the successful delivery of further work required. In reviewing the objectives while there is greater urgency for those in the Short-term category, there are a number of areas of strategic focus where early thinking would be useful in the medium- and long-term categories. The areas where further consideration should be provided are summarised below:

4.1 SHORT-TERM

- Further define and develop the parameters for strategic multi-transport interchange stations and determine the steps required to be taken to ensure seamless transport integration at these locations, including identifying key stakeholders who are required to be engaged with.
- Determine opportunities to deliver connectivity and capacity improvements (more direct trains, changes in calling patterns, longer trains, faster trains etc.) for those key corridors identified requiring improved connectivity and service improvements.
- Continue to support and develop a suitable public transport provision for areas of the region identified with potential for access to the rail network (i.e. Cowley and Wisbech) with due consideration to affordability and deliverability of rail schemes in comparison with other transport modes.
- Determine opportunities to deliver increased rail freight capacity from major ports and quarries for those key freight corridors identified including supporting the development of appropriate new Strategic Rail Freight Interchanges across the EEH geography.
- Develop an express logistics strategy for the areas outlined to determine the viability and practicality of introducing express logistics via non-road means. This should include considerations around zero emission last mile delivery using e-vans and cargo cycles from key rail stations.
- Continue to support the aspirations to introduce trial operations of zero emissions rolling stock into the wider Great Western and Chiltern areas alongside supporting a longer-term delivery plan for zero emissions services.

4.2 MEDIUM-TERM

- Work closely with Network Rail/GBR and train operators to support plans to reduce carbon emissions from train services through efficiency improvements in diesel operation, and the deployment of battery trains, and electrification. This should include encouraging the trials of new zero carbon trains in the EEH geography.

- Working jointly with Network Rail and East West Rail Company, developing an East-West Main Line Station Connectivity study addressing the needs and requirements for passengers interchanging with EWR at all interfacing mainlines.
- Continue to support released capacity timetable planning activities on the WCML to ensure suitable prioritisation is given to regional passenger services from the first wave of released capacity (Phase 1) and then freight as a result of additional released capacity (Phases 2a and 2b).
- Determine the viability and practicality of providing a new railway chord links in order to extend the reach of the existing rail network (i.e. Aylesbury link and a chord at Manton junction).
- Working alongside National Highways, Network Rail and neighbouring Sub-National Transport Bodies to explore freight and logistics movements across the East-West corridor to provide a multi-modal logistics vision for the wider region.

4.3 LONG-TERM

- Continue to support and work on the promotion of the Western Link to Heathrow to allow rail access to Heathrow from parts of the EEH region without requiring a change in London.
- Continue to support and work on the promotion of Crossrail 2 to allow improved rail connectivity to central and South London from parts of the EEH region.
- Begin to actively undertake conversations around released capacity opportunities on the MML following the HS2 Phase 2b (east) introduction. A focus on prioritising regional passenger services and regional connectivity should be the principal focus.

5 SYSTEMS THINKING ANALYSIS

As part of the work, a systems analysis mapping exercise has been undertaken to map the interconnectivity between each strategic objective. Overall, all of the strategic objectives identified can be grouped into summarising categories for consideration at system level. Overall analysis has indicated that ten groupings exist:

- Enabling improved journeys through Oxfordshire and Buckinghamshire
- Providing strategic multi-transport interchanges
- Connectivity beyond the EEH geography
- Connectivity between regions within the EEH geography
- Optimisation of transport of packages (Express Logistics)
- Traction Decarbonisation
- Connecting people to the East West Main Line
- Freight Growth and Optimisation
- Making use of HS2 released capacity
- Rail connectivity to airports

These ten overarching systemic themes result in clear opportunity to think and consider issues through combined research and study.

Systems analysis has been used to create an Intervention Map which is provided in Appendix C. The relevant activities across the ten groupings are provided in Table 5-1 below, and the proposed combined actions to address the collective strategic objectives are also provided.

The intervention map highlights the objective by route colour co-ordinated to the lines from Figure 1-2 and objectives summary found in Appendix A. Each objective also indicates the overarching four strategic objectives (Decarbonisation, Safety and Inclusivity, Connectivity, and Efficient Movement) which it most closely aligns to. Each box on the intervention map represents an objective and contains the unique objective ID, which can be used to find the objective in the Strategic Dashboard (Appendix A).

The objectives have been reviewed and grouped by similarity across the routes. This grouping aims to help show where common trends across routes occur. Objectives that are grouped together will form their own goal, which will have a base set of requirements that is common for each objective in the group. These shared requirements would allow for more uniform outcomes across the route, allowing for efficiencies to be realised if work on these objectives was considered as part of a collective package.

For example - A set of base-level requirements for objective Group 2 in Table 5-1 may define specific wayfinding to be applied, which would reduce the need for duplicate work but also provide passengers visiting these stations with a familiar wayfinding experience across the EEH geography.

Table 5-1 – Strategic Objective Groupings

Objective Group	Objectives	Theme	Action
1	GWP1, GWP3, CLP1, EWP1	Enabling improved journeys through Oxfordshire and Buckinghamshire.	Ensure connectivity and further rail studies consider the best options for rail connectivity enhancements in the Oxfordshire and Buckinghamshire regions.
2	GWP2, WCP2, MMP2, ECP1, WAP1, CLP4, CLP6, WCP4, WCP8, ECP4	Providing strategic multi-transport interchanges	Undertake further work to establish the base level requirements for a strategic multi-transport interchange.
3	CLP2, WCP1, MMP1, ECP2, WAP2, GWP5, GWP6, CLP7, ECP3, WCP9, EWP4, EWP5, MMP6, F2MNP2, WAP4, GWP8, CLP8, CLP9, EWP7, EWP8, ECP5, WAP6	Connectivity beyond the EEH geography	Ensure interfaces with other STBs include consideration around the best options for rail connectivity enhancements to locations beyond the EEH geography.
4	EWP2, F2MNP1, GWP7, WCP5, EWP3, EWP6, MMP5, MMP8	Connectivity between regions within the EEH geography	Ensure connectivity and further rail studies consider the best options for rail connectivity enhancements between locations within the EEH geography.
5	GWF3, WCF2, EWF1, MMF1, MMF2, ECF1, WAF1	Optimisation of transport of packages (Express Logistics)	Ensure the EEH freight strategy considers the role of rail for multimodal express logistics (packages and light freight) at strategic rail locations across the geography.
6	GWP4, CLP5, GWF4, WCF3, MMF3, F2MNF2, EWF2	Traction Decarbonisation	Undertake further work in association with partners to understand the options for traction decarbonisation across the EEH geography.
7	CLP3, WCP3, MMP4, WAP5	Connecting people to the East West Main Line	Undertake further work in association with partners on how best to connect communities to the East West Main Line ensuring robust focus on major interchange stations between the Main Lines.
8	GWF1, GWF2, WCF1, F2MNF1, WCF4, WAF2, GWF5, WCF5, EWF3, MMF4, F2MNF3, WAF3	Freight growth and optimisation	Explore how growth of existing rail freight flows can be accommodated to reduce HGV volumes across the strategic road network.
9	WCP6, WCC1, MMC1, MMP7	Making use of HS2 released capacity	Undertake further work in association with partners to optimise passenger and freight services as released capacity from HS2 becomes available.
10	MMP3, WCP7, WAP3, GWP9, MMP9	Rail connectivity to airports	Ensure connectivity and further rail studies consider how rail access to airports across the region can be enhanced including what considerations are required on trains to support travel to airports by rail.

6 CONCLUSIONS

Eighty-three strategic objectives across the seven routes considered have been defined. These have been derived from existing EEH strategy documentation and presented temporally using three timescales (short-, medium- and long-term). Strategic objectives have been sub divided between passenger and freight to provide a clear and holistic output.

It is clear from the strategic objectives that the introduction of the East West Main Line and the interconnectivity this brings between almost all the routes within the EEH geography will be critical in achieving improvements in journeys by rail across the region. Given the critical nature of the East West Main Line and the staged timescale on which it is being delivered, it is recommended that significant consideration is given to defining the strategic interfaces between stations on each of the Main Lines and the new East-West Main Line, and how improvements can be delivered alongside the core rail scheme. The approach to develop strategic partnerships with key industry members will be crucial to the success of further work with co-ordination with other bodies critical in both undertaking and gaining buy-in to any analysis work undertaken.

Alongside this, there should be a consideration and a strategy developed to define the base-level requirements for an interconnected multimodal transport hub so that the identified areas where this should be provided can begin to consider the activities needed to achieve this status successfully.

Relevant capacity and connectivity studies should be considered and contributed to for the corridors outlined with the route-specific strategic objectives. In the short-term, opportunities to increase seat numbers, lengthen trains and revise calling patterns through timetable changes and reform are likely to be the approach by which this will be achieved. This will include planning for improvements linked to the committed rail infrastructure in the EEH area, in particular the East West Main Line and HS2. In the medium- to longer-term additional infrastructure is likely to be required to achieve identified objectives in full. However, given the current fiscal position in the UK and indications from central government that rail infrastructure enhancements funding is likely to be extremely constrained over the next few years, it is recognised that very few new publicly funded enhancements are expected to come forward in the next decade. Key projects contributing to medium- and longer-term objectives identified from EEH members are summarised on the workshop outputs included in Appendix B.

The appropriate use of the released capacity from the delivery of HS2 on both the WCML and MML will be a key benefit to the region of the delivery of HS2. Work should continue to support planning and decision-making for the released capacity on WCML with an initial focus on increasing regional passenger connectivity from the released capacity as a result of Phase 1. The focus should shift to increasing rail freight capacity with the introduction of Phase 2a, and 2b as this will relieve capacity constraints north of Birmingham, where freight which currently uses WCML is largely destined.

Several specific transport studies should be considered and defined within specific locations, such as the improved public transport offering for Wisbech, Cowley, and east-west links across Hertfordshire, as well as rail specific considerations such as Manton chord and Western Access to Heathrow.

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