ENGLAND'S ECONOMIC HEARTLAND

Connecting economies:

Luton-Bedfordshire-Corby

Unlocking economic potential
through improved connectivity

// SUMMARY

The Luton-Bedfordshire-Corby corridor has seen rapid economic and population growth over the last 10 years, at levels significantly above the national average. It has a substantial presence of advanced physics and engineering businesses and is also vital for the UK freight and logistics network

The corridor is ideally located with London to the south; Milton Keynes, Oxford and Northampton to the west, Cambridge and Peterborough to the east and the Midlands to the north. London Luton Airport is the fifth busiest in the UK, while road and rail infrastructure such as the A1 and A6, the Midland Main Line and the East Coast Main Line provide strategic north-south connectivity. East West Rail stations will transform east-west connectivity and in Bedford Borough they will act as hubs to drive transformational growth. Given all this, it's easy to understand why Universal Studios are proposing to build a major new theme park just south of the town.

Yet the corridor also has a long-standing productivity deficit and levels of deprivation which are significantly above many other parts of the EEH region.

About this brochure

This brochure provides a compendium of both evidence and asks to government, which England's Economic Heartland, its local and combined authority partners, MPs, private sector and others can use to make the case for improved connectivity and infrastructure investment in our region. It provides the high-level economic narrative for improving connectivity in the corridor, based on expert analysis by Cambridge Econometrics. It then details the flagship transport improvements which England's Economic Heartland's evidence base suggests would significantly contribute towards economic growth. EEH is producing seven 'Connecting Economies' brochures in total. Of specific relevance to this area are the brochures outlining the economic narrative and priority interventions for the following corridors:

- Peterborough-Northampton-Oxford
- EEH South (includes Luton, Central Bedfordshire and Hertfordshire)
- Northampton-Buckinghamshire-Thames Valley
- Cambridgeshire and Peterborough
- Milton Keynes

New research by Cambridge Econometrics demonstrates the corridor's economic importance and provides a compelling narrative for improving transport infrastructure across its length. Doing so will maximise economic opportunities while addressing challenges and barriers to further growth.

This includes through:

- Boosting the corridor's prowess in advanced physics and engineering
- Supporting logistics and freight
- Growing productivity
- Unlocking commercial floorspace
- Keeping housing affordable

PRIORITY INTERVENTIONS

The interventions right represent investments that are essential for our region's – and our country's – economic prosperity. They all have strong strategic value, including their benefits to local and regional connectivity and economic growth – and they have strong political support from our local and combined authority partners. They form a compendium of our ask to government, MPs and wider stakeholders. These schemes must be supported, progressed and delivered at the earliest opportunity for the benefit of the region and the UK as a whole.

A Maximising opportunities from East West Rail. See pages 18-19

B Sundon Rail Freight Interchange. See page 19

C New railway station for Wixams: See page 20

D Innovation Campus. See page 20

E Access to M1 Junctions 13 and 14. See page 21

CONTENTS

F Transport movement and mobility to the south of Bedford. See page 22

G Bedfordshire-Milton Keynes Waterway active travel route. See page 23

H A6/A421. See page 23

I Prebend Street relief road. See page 23

J A509 Isham bypass. See page 24

K Sustainable travel corridor between Bedford, Cranfield and Milton Keynes. See page 24

L A1 connectivity: Huntingdon to Biggleswade. See page 25

M A1(M) junctions 6-8. See page 25

N A45 Stanwick to Thrapston. See page 26

O A14 Junction 10a. See page 26

P Northampton-Kettering road connectivity. See page 26

Q Connecting the Midland and East Coast main lines between Corby and Peterborough. See page 27

R Expansion of Luton-Dunstable busway and wider connectivity improvements including to London Luton Airport, and town centre. See page 28

S Luton Railway Station improvements. See page 29

T A505 Vauxhall Way corridor improvements. See page 29

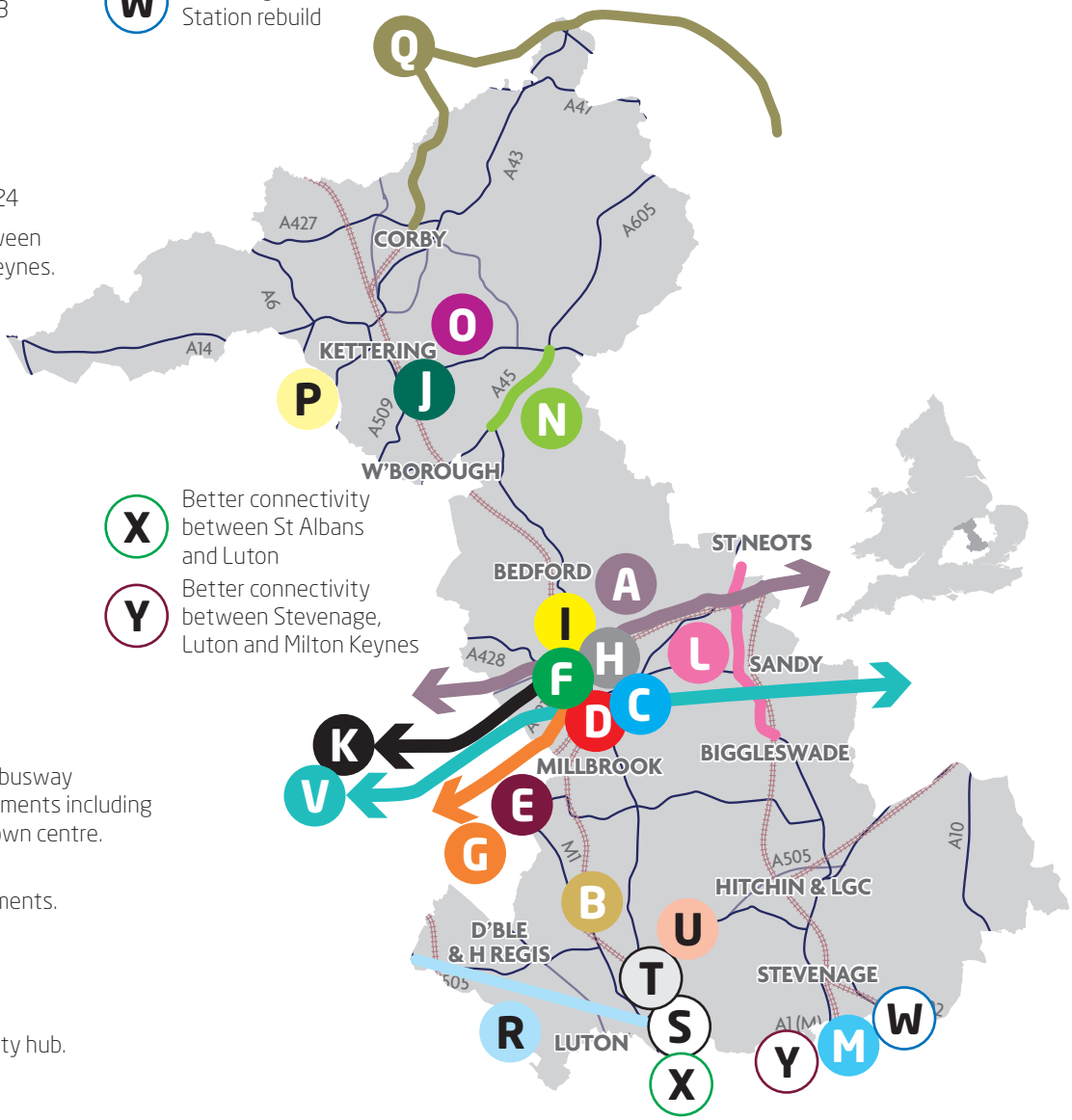
U Butterfield business park mobility hub. See page 29

V Varsity Way active travel corridor. See page 30

W Stevenage Station rebuild

X Better connectivity between St Albans and Luton

Y Better connectivity between Stevenage, Luton and Milton Keynes



GVA: £28.8BN (2021)

The area accounts for 17% of EEH's GVA (2021). Economic growth (measured by GVA, in real terms) over 2011-2019 outperformed (2.5% p.a.) the national average (2.2%), making the corridor the joint-second fastest economic growth of the seven corridors/areas featured in the Connecting Economies project.

POPULATION: 1.26 MILLION (2022)

23% of EEH's population live in this corridor. Its population grew by 148,500 between 2011-2021, approaching double the national average (1.3% p.a. compared to 0.8%). The corridor has seen the joint-second fastest population growth of the seven corridors/areas featured in the Connecting Economies project.

PRODUCTIVITY

The corridor has a long-standing productivity deficit, which as of 2021 stood at 17% below the national average. Though this is the largest productivity shortfall of the seven corridors/areas featured in the Connecting Economies project, the corridor was only one of two to see productivity growth (0.7% p.a) exceed the national average (0.6% p.a) pre-pandemic.

JOBS: 534,500 (2022)

20% of all jobs in EEH are found in this corridor. Jobs growth (1.8% p.a.) exceeded the national average (1.7%) pre-pandemic (2011-19), but lagged the rest of EEH (2.1%).

INEQUALITIES

The corridor has significant areas of deprivation and social inequalities. The Luton Borough Council and (former) Corby District Council areas are the second and fourth most deprived local authority areas in the EEH region and the 52nd and 70th out of 317 in England (based on 2019 indices of deprivation). Wellingborough, Kettering, Corby, Bedford, Luton and Stevenage all contain neighbourhoods within the 10% most deprived in the country. Corby is the 10th most deprived in England based on education, skills and training, while Luton is 22nd most deprived on barriers to housing and services.

// ENGLAND'S ECONOMIC HEARTLAND

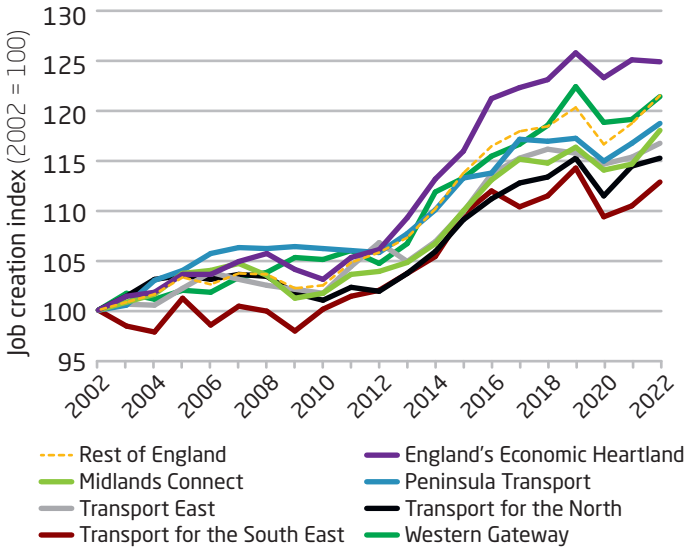
There's a reason why we're called England's Economic Heartland. Stretching from Swindon and Oxfordshire in the west through to Cambridgeshire and Hertfordshire in the east, our region is unrivalled in the country for the number of economic specialisms and clusters existing within it. Its success brings benefits and opportunities for the whole of the UK.

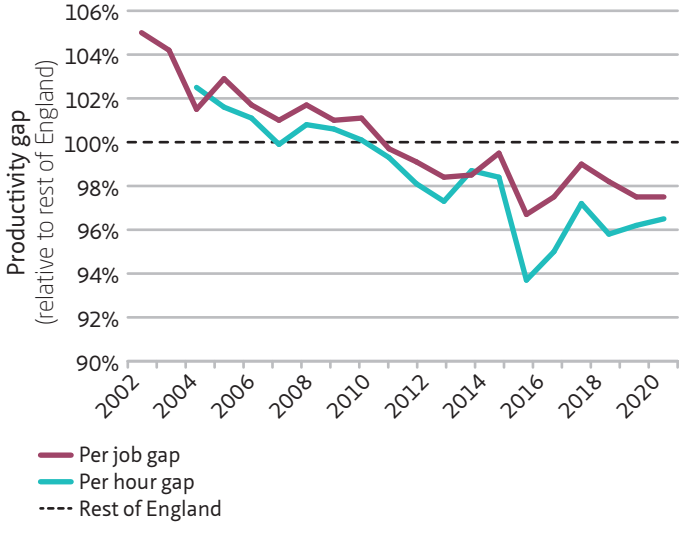
ECONOMY

For methodology see our website and p34-35

GVA: £172bn (2021) **JOBS:** 2.68m (2022) **FIRMS:** 275,400 (2023)

- **Jobs:** The region contains 10% of all jobs in England. Of the seven sub-national transport body (STB) regions which cover England outside of London, none has created more jobs than EEH over the past 20 years
- **Growth:** Economic growth (2.4% p.a. real terms) was also faster than the rest of England (2.2%), making EEH the fastest-growing STB region
- **Fast growth cities:** The EEH region hosts five of the six fast growth cities in the UK (Centre for Cities study): Cambridge, Milton Keynes, Oxford, Peterborough and Swindon
- **Exporting:** EEH has the highest exporting intensity of any STB region with total exports £56bn in 2021 (up 22% on 2016)
- **Foreign investment:** EEH also hosts significant foreign direct investment, with 7.3% of firms foreign owned (rest of England 6.4%) – only London has a higher share
- **Firm enterprise and survival:** EEH has the second highest firm enterprise rates of the STB regions and business survival rates are above average. 85% of firms are micro-sized
- **Commercial floorspace:** 55.3bn m^2 of commercial floorspace, with floorspace delivery rates 6x the average across the rest of England, 2013-23
- **Productivity:** Slow productivity growth (only 0.2% p.a) means EEH is now 3% less productive (per job) than the rest of England (20-years ago, it was more productive)





No STB region has created more jobs than EEH over the past 20 years. However, productivity growth has stalled, reversing EEHs historic productivity premium.

POPULATION

5.37 million (2021), 9% of the population of England

- **Growth:** Population growth (1.2% p.a.) was almost double the average across the rest of England (0.7%) between 2011-21, and fastest of any STB region
- **Housing:** 233,800 additional homes delivered over the past decade (2012-22), with housing delivery rates 1.4x higher than across the rest of England. Housing is 11% less affordable than the rest of England, with prices 10.4x household incomes
- **Rural:** 35% of EEH's population reside in rural areas and market towns

ENVIRONMENT

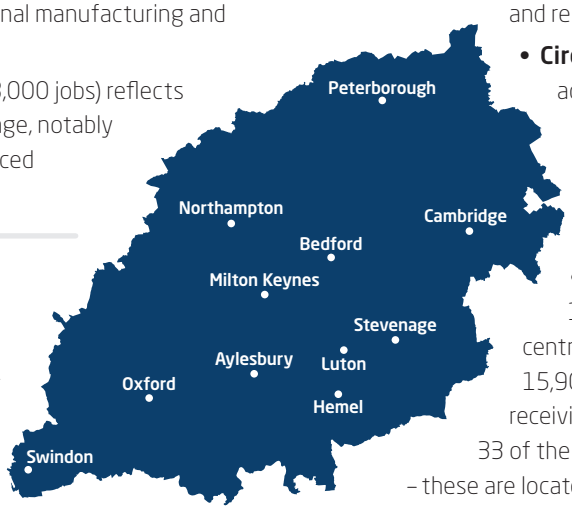
- **Total emissions:** Per capita CO_2 emissions were 4% higher than in the rest of England in 2021, & have declined at a slower rate (-24% 2005-21, rest of England -27%)
- **Transport emissions:** Transport accounts for 37% of total EEH emissions (rest of England 31%), and decreased more slowly (-8% 2005-21, rest of England -12%)
- **Agriculture:** 965,000 hectares of land in EEH is actively farmed, with 85% arable or mixed use. 50% of UK Grade 1 agricultural land is found in The Fens

PRIME SECTORS

The EEH area is home to several sectors of national importance, many of which produce knowledge, ideas and innovations that then flow across the entire national innovation ecosystem, benefiting firms across a far wider geography than the region itself. This cannot be overstated in the context of national strategic economic priorities.

Cambridge Econometric's analysis found the following sectors are 'prime' capabilities across EEH: highly-concentrated sectors that typically exhibit above average productivity, export and R&D/ innovation intensity, and pan-regional representation. These are:

- **Life Sciences** (79,400 jobs across EEH - that's 25% of all life science jobs in England!) includes the region's historic, research-based strengths related to pharma, medicinal manufacturing and bioscience
- **Advanced Physics & Engineering** (253,000 jobs) reflects diverse engineering specialisms and heritage, notably automotive, electronics, machinery, advanced materials, and related consulting
- **Logistics & Freight** (140,700 jobs) capitalising on the region's central geographic location and connectivity assets, this includes freight and goods storage, handling and transport across road, rail and air
- **Digital & Creative** (139,300 jobs) includes a wide range of digital-based activities, including software publishing, IT services and consulting, film, TV and media, and telecoms
- **Higher Education** (97,800 jobs) captures the many leading universities and higher education institutions across the region, and associated teaching, research, and support activities
- **Agri-food** (71,100 jobs) reflecting the rural and agricultural heritage of the region, this includes farm-based agriculture and support services, food and drink production and processing, and related wholesale
- **Circular Economy** (22,600 jobs) vital to addressing the region's environmental pressures, includes activities related to water and waste



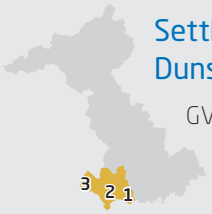
INNOVATION

- **Research and development:** Almost 1 in 10 jobs (240,000 total) in EEH are R&D-intensive, the highest share of any STB region and also London. Almost a third (28%) of EEH firms report undertaking R&D, more than any other STB region, whilst a quarter (24%) are innovation active, introducing new methods of work
- **Patents:** The World Intellectual Property Organization ranks Cambridge as the most intense scientific & technology cluster globally, with Oxford 5th. Collectively they account for 2 in 10 UK patents. EEH generated 20,700 patent filings (2010-2015; most up to date complete data) more than any other STB region and London equivalent to 46 patents per 10,000 residents
- **Innovation clusters:** There are 183 established innovation clusters centred on the EEH region, hosting 15,900+ knowledge-intensive firms & receiving £855m of public research funding. 33 of the clusters have a UK top-10 ranking – these are located in Cambridgeshire, Oxfordshire, Milton Keynes and Hertfordshire. See next page for more information on innovation clusters.
- **Universities:** University of Oxford tops The Times' global university rankings with Cambridge fifth. EEH universities employ 6,100 dedicated research staff, whilst there are 2,900 central government research staff based in the region
- **Innovate UK:** Almost 2 in 10 Innovate UK funding projects are awarded to research projects in the EEH region, more than any other STB region and London

ENGLAND'S ECONOMIC HEARTLAND SUB-NATIONAL TRANSPORT BODY

England's Economic Heartland (EEH) is one of seven sub-national transport bodies (STBs) which cover the entirety of England outside of London. It is overseen by the leaders of our 13 transport and combined authority partners, allowing us to speak with a single, powerful voice. EEH works closely with partners including Department for Transport, national infrastructure agencies such as National Highways, East West Railway Company and Network Rail, Science Supercluster Board, Arc Universities Group, Oxford to Cambridge pan-Regional Partnership and neighbouring STBs, ensuring work is joined-up across the wider region. A core role is to advise the Secretary of State on the improvements to our transport system which will realise economic growth while lowering emissions. To do this we have produced multimodal connectivity studies across several important corridors, alongside many other modally-specific studies. All our studies are aligned to the principles set out in our overarching transport strategy for the region, published in 2021.

// WHERE'S WHERE IN THE CORRIDOR



Settlements include: 1. Luton, 2. Dunstable and 3. Leighton Buzzard

GVA: £7.4bn (up 28%) / Population: 359,600 (up 13%) / Jobs: 161,400 (up 15%) / Firms: 15,000 (up 42%)

Sectors: Logistics & Freight (10,100 jobs, 7% of the EEH total) / Advanced Physics & Engineering (15,400, 6%) / Real Estate (4,800) / Transport Services (4,600) / Business Support Services (36,500)

Innovation clusters: Internet of Things / E-Commerce / In-Orbit Space Manufacturing / Food Tech / Electronics Manufacturing

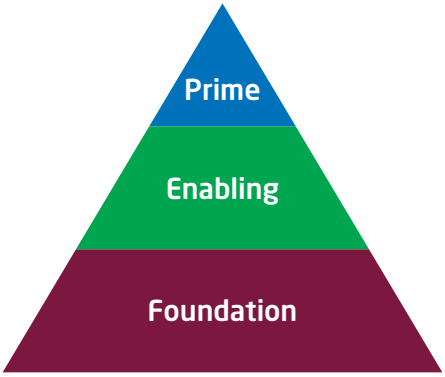
Economic assets include:

- London Luton Airport is the fifth busiest airport in the country, with 16.2 million passengers in 2023. It has ambitious expansion plans, with approval to increase capacity to 19m passengers, while it has applied for a development consent order for 32m by the mid-2040s. It is also one of the biggest private aviation hubs in Europe. Its enterprise zone is being developed to provide business space for sustainable research and finance, aerospace, engineering, advanced manufacturing and specialist support for airlines and airport operations
- University of Bedfordshire, a top 300 university in the world under 50 years old
- With Luton Town FC's recent success making headlines across the world, Power Court will be a new state-of-the-art football stadium which will also bring live music, new homes and a new retail and leisure offer to the town
- Luton and Dunstable guided busway, one of the longest guided busways in the world, with a total length of 8.3 miles, of which 4.8 is guided track

Insights:

- Economic growth (in real terms) was faster (3.2% p.a.) than the national average (2.2%) pre-pandemic, and was the third fastest growing EEH area
- Luton is projected to be the second fastest growing urban economy in 2024, behind only London, and the town often ranks UK top-10 for start-ups & survival
- The area has the lowest old age dependency ratio in the EEH, with 86% of residents young or working age (national average 81%)
- Housing is 3% more affordable than the national average, though house prices have grown (3.3% p.a. 2013-23) more than any other EEH area

SECTORS AND INNOVATION CLUSTERS



For the purposes of its analysis, Cambridge Econometrics has split the sectors within the EEH economy into three (colour-coded) layers:

- **'Prime' sectors:** these are specialist, innovative, export-focused sectors, such as advanced engineering and scientific R&D (see page 5)
- **'Enabling' sectors:** these are established, high-productivity, high-wage sectors with a largely domestic focus, such as business management support and financial services
- **'Foundational' sectors:** these are the critical sectors without which the economy would not function. They employ the majority of workers. This includes activities like food and drink, retail, education, health, leisure and social services. They have a critical role in determining the wellbeing and quality of life for residents in the region and improving productivity

The EEH website contains a full breakdown of the EEH economy, sector by sector – see page 35 for more details.

Innovation Clusters: Sectors include all firms that do a particular activity, whether they are 'innovative' or not. That's why the Department for Science, Innovation and Technology's innovation cluster data is also used. These are spatially concentrated groups of firms, research capabilities, skills, and support structures in related industries that benefit from spillovers associated with agglomeration. The clusters includes firms – regardless of sector – that are: 'Research, Development and Innovation' active; spatially co-located; engaged in related activities; actively engaged in collaboration on public funded R&D projects.

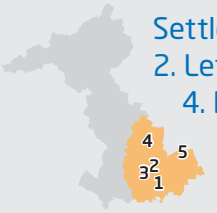
Real Time Industrial Classifications (RTICs) are used to classify innovation clusters. Many firms in EEH's prime sectors are part of, will interact with, and indeed benefit from, its innovation clusters.

The visitor economy: With its rich history, stunning countryside and modern leisure hubs, travel and tourism plays an important role in the region's economy. During 2024/25 EEH will undertake study on how our transport system supports the region's visitor economy.

Key

GVA: up = growth between 2011-19 / **Population:** up = growth between 2011-21 / **Jobs:** up = growth between 2011-19) / **Firms:** up = growth between 2011-21 / **National average**: England / **Productivity:** Per job.

Comparison to other areas: For the Connecting Economies project (which considers a total of seven corridors / areas) Cambridge Econometrics defined 18 'sub-areas' across the EEH region, using workplace density and commuter zone analysis from Economic and Social Research Council-commissioned research. The areas are separate from administrative boundaries, using middle layer super output area (MSOA) geographies. Where an area is 'ranked' in comparison to other EEH areas, it is therefore out of a total of 18 areas within EEH. See our website and page 35 for further notes.



Settlements include: 1. Stevenage, 2. Letchworth, 3. Hitchin, 4. Biggleswade and 5. Royston

GVA: £8.8bn (up 16%) / Population: 328,600 (up 9%) / Jobs: 137,100 (up 11%) / Firms: 16,000 (up 18%)

Sectors: Advanced Physics & Engineering (15,200 jobs, 6% of EEH total) / Life Sciences (4,800, 6%) / Construction (12,300) / Metal Products (4,700) / Chemicals Materials (3,300) / Wood Products (2,300)

Innovation clusters: Pharma / Computer Hardware / In-Orbit Space Manufacturing / Telecommunications / Electronics Manufacturing

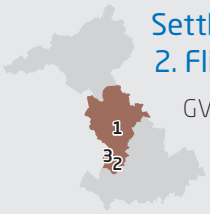
Economic assets include:

- The Bio Science Catalyst in Stevenage is a leading location for companies, including GSK and Lifearc, to develop and commercialise cutting edge therapeutics. GSK is developing a 37-hectare R&D site in Stevenage, intended to house 5,000 skilled workers, to be one of the largest life science campuses in Europe
- Airbus Defence & Space MBDA UK Ltd, a £35 million UK space and defence headquarters in Stevenage
- Johnson Matthey (JM), a global leader in sustainable technologies, is building a £80 million gigafactory at its existing site in Royston, to scale up the manufacture of hydrogen fuel cell components

Insights:

- 14,500 jobs are R&D-intensive, which as a share of total jobs (11%) is the fifth highest share among EEH areas
- It boasts the highest proportion of jobs in 'enabling' sectors of all EEH areas
- 50% of residents have received a higher education, above the national average (45%), and increasing the third most among EEH areas between 2012-22
- Its unemployment rate (2%) is also well below with national average (3.8%), and is the joint third lowest among EEH areas
- The area is the seventh most productive in EEH, with productivity similar to national average. Productivity growth was sixth fastest in EEH pre-pandemic
- Commercial floorspace average costs are 14% below national average.
- Housing is 11% less affordable than the national average, whilst house prices have grown (3.0% p.a. 2013-23) at the third highest rate in EEH.

Airbus Defence and Space in Stevenage



Settlements include: 1. Bedford 2. Flitwick and 3. Ampthill

GVA: £5.5bn (up 27%)/ Population: 227,900 (up 17%) / Jobs: 94,300 (up 19%) / Firms: 10,600 (up 27%)

Sectors: Advanced physics and engineering (10,100 jobs, 4% of EEH total) / Logistics and freight (5,800, 4%) / Construction (6,300)/ Real estate (2,700)/ Electricity (400) / Accommodation (2,800)

Innovation clusters: Food Tech/ Autonomy & Robotics / Geospatial Economy / Electronics Manufacturing / Research & Consulting (Physical Sciences & Engineering)

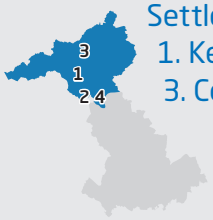
Economic assets include:

- UTAC Millbrook proving ground one of the largest vehicle testing centres in Europe. It offers over 70km of unique tracks including high speed, 4x4, alpine, durability, and facilities dedicated to connected and automated vehicles. It is particularly at the forefront of electrification, with a wide and diversified offer: a recently enlarged battery test centre, laboratories specialised in crash tests, fire tests and hills
- Aircraft Research Association, an aerodynamics research institute with the largest transonic wind tunnel in the UK. With around 150 highly skilled staff ARA provides specialist input to civil and defence system aerospace projects from the very early design concept stage, right through to mid-life upgrades of an in-service capability
- Colworth Science Park in north Bedford sits at the forefront of food and drink development with global leaders such as Unilever, Firmenich, Symrise and Kerry Ingredients on site. With over 554,000 square feet of laboratory, office and ancillary space, academia, SMEs, and life science companies come together to drive technology transfer and accelerate the commercialisation of that research into global brands and innovative products.
- Cardington Studios, host to many blockbuster movies and one of the largest indoor film spaces in Europe
- University of Bedfordshire, a top 300 university in the world under 50 years old
- Universal Studios is exploring the potential to build a new theme park to the south of Bedford. 8,000 jobs would be created upon its opening, and Universal estimates that a net additional 20,000 jobs could be supported by the project at its peak. Initial estimates suggest that over 75% of the workforce would come from Bedford, Central Bedfordshire, Luton and Milton Keynes

Insights:

- Pre-pandemic (2011-19), rates of job creation (2.1% p.a.) exceeded the national average (1.7%)
- Economic growth (in real terms) was also faster (3.1% p.a.) than the national average (2.2%) pre-pandemic, and the fourth fastest of the 18 EEH areas
- An 11% productivity gap exists relative to national average, but productivity growth was the fourth fastest of EEH areas pre-pandemic
- Commercial floorspace costs in the area are 24% below national average
- 13,800 additional homes were delivered between 2012-22, with housing delivery rates double the national average. The area saw population growth (1.8% p.a.) more than twice the national average (0.7%) between 2011-21 – the second fastest growth among the 18 EEH areas. Housing affordability is similar to the national average

Riverside, Bedford



Settlements include: 1. Kettering, 2. Wellingborough, 3. Corby and 4. Rushden

GVA: £7.1bn (up 18%) / Population: 344,400 (up 15%) / Jobs: 143,700 (up 17%) / Firms: 16,600 (up 60%)

Sectors: Logistics & Freight (14,200 jobs, 10% of EEH total) / Agri-food (9,300, 13%) / Advanced Physics & Engineering (15,000, 6%) / Wood Products (4,400) / Chemicals & Materials (3,800) / Textiles Products (1,600)

Innovation clusters: Food Tech / E-Commerce / Electronics Manufacturing

Economic assets include:

- Midlands Logistics Park, one of the biggest logistics opportunities in the UK
- Chelveston Renewable Energy Park, the largest facility of its kind in the UK, generating wind and solar power, with on-site storage
- Kettering Energy Park offers one of the best opportunities in the UK for businesses to benefit from on-site renewable energy

Insights:

- Firm enterprise rates were over 5x the national average over 2016-21, and highest among all EEH areas. 86% of firms are micro-sized
- Has EEH's largest productivity gap relative to national average (-27%), whilst productivity growth was half the EEH average pre-pandemic
- Commercial floorspace costs are 47% below national average (and second lowest in EEH)
- Housing delivery rates 38% above the national average and housing is 15% more affordable than the national average

Corby Station

// UNLOCKING ECONOMIC GROWTH THROUGH IMPROVED CONNECTIVITY

Cambridge Econometrics has identified several ways in which improved connectivity could unlock opportunities for further economic growth along the corridor

Boosting the corridor's prowess in advanced physics and engineering

The advanced physics and engineering prime sector is found at significant levels throughout the whole corridor. It supports 55,000 jobs in the corridor, more than a fifth of the total EEH employment in his sector, and aligns closely with the high-tech innovation clusters in the region.

Bedford's UTAC Millbrook Proving Ground, one of Europe's largest vehicle testing centres, and the Aircraft Research Association (an aerodynamics research institute) enhance local R&D capacity. Bedford's Electronic Systems sub-sector, including Bourns, Axis and Elma provides advanced engineering industry support, while companies including Leidos and Bluebear are pioneering advancements in security and unmanned flight systems, respectively. The Chelveston Renewable Energy Park and Kettering Energy Park in the north of the corridor provides firms with access to green energy and on-site storage facilities.

Unsurprisingly, many of the innovation clusters in the corridor align closely with the advanced physics and engineering prime sector. The Stevenage-Biggleswade area has relevant innovation clusters in computer hardware, in-orbit space manufacturing, and electronics manufacturing and is home to supporting economic assets such as the GSK Campus Development – a 37-hectare R&D facility intended to house 5,000 skilled workers – and the Airbus Defence and Space MBDA UK Ltd headquarters. Electronics manufacturing cluster and related clusters in autonomy and robotics and research and consulting (physical sciences and engineering) are found in and around Bedford. The common thread of electronics manufacturing clusters continues across the Luton-Dunstable-Leighton Buzzard and Rushden-Wellingborough-Kettering-Corby area.

Investments in transport infrastructure would increase the interactions/opportunities for collaboration between firms and support the continued growth of the sector, improving labour mobility and enabling firms in these industries to hire from a larger pool of skilled labour.

It should also be noted that the corridor's strength in advanced physics and engineering, in combination with its proximity to technological hubs in places such as Cambridgeshire, Milton Keynes and Oxfordshire (with these links due to be enhanced through East West Rail connectivity) provides further opportunities for economic development

Supporting logistics and freight

The corridor is the site of an established logistics network. There are notable logistics and freight prime sectors in the Luton-Dunstable-Leighton Buzzard; Bedford-Ampthill-Flitwick; and Rushden-Wellingborough-Kettering-Corby areas which collectively employ over 30,000 workers (approximately 20% of the total EEH employment in the sector). The sector is inherently dependent on good transport connectivity, enabling firms to leverage economic assets such as London Luton Airport in the south and the Midlands Logistics Park – one of the biggest logistics opportunities in the UK – in the north.

Growing productivity

The Luton-Bedfordshire-Corby corridor has widespread productivity challenges. The Rushden-Wellingborough-Kettering-Corby area has the largest productivity gap (-27%) to the national average in the EEH, with Luton-Dunstable-Leighton Buzzard second on -24%. The productivity gap to the national average is smaller in Bedford-Flitwick-Ampthill (-11%) and the Stevenage-Biggleswade area has productivity in line with the national average. Despite these deficits, productivity growth across the corridor (bar the northern-most area of the corridor) has been relatively strong and positive. Luton in particular is projected to sustain this rapid rate of economic growth throughout 2024. So, while productivity levels in the Luton-Bedfordshire-Corby corridor are relatively low, they are improving.

Agglomeration effects, emerging from increased interactions and collaboration/competition between businesses, are an important potential driver of productivity growth. The corridor is home to several established EEH prime sectors and provides a north-south connection that cuts across the Oxford-Milton Keynes-Cambridge region. There is an opportunity to catalyse agglomeration by improving transport connectivity between these prime sectors and the neighbouring EEH areas. Enhanced transport infrastructure would ensure that workers are better connected to productive roles in the Stevenage-Biggleswade area and that businesses across the corridor benefit from increased interactions with productive firms. Infrastructure polices could therefore be an effective framework for supporting productivity growth.

For a simple guide to the relationship between connectivity, productivity and economic growth turn to page 34.

Unlocking commercial floorspace

Investments in transport infrastructure would connect businesses in neighbouring parts of the region to the abundance of affordable commercial floorspace available across the Luton-Bedfordshire-Corby corridor. All sub-areas exhibit average costs of commercial floorspace below the national average. In particular the average cost of commercial floorspace in the Rushden-Wellingborough-Kettering-Corby sub-area is 47% below the national average and delivery rates are three times that of the EEH average. The corridor has the space, at low costs, for new and growing businesses to expand into.

Keeping housing affordable

Housing affordability gradually increases as one moves north along the corridor. Only in Stevenage-Biggleswade area is housing 11% less affordable than the national average, with house prices here growing at the third fastest rate in the EEH over the decade. While house prices are lower than average in Luton-Dunstable-Leighton Buzzard, they have also increased at the fastest rate in the EEH over the decade. In contrast despite rising house prices over the decade, house prices in Bedford-Flitwick-Ampthill are in line with the national average, whereas in Corby-Kettering-Wellingborough-Rushden they are 15% less expensive. Build out rates in the corridor over the decade have generally been high which is favourable to ensuring housing affordability and accessibility in the future.

HEADLINE CONCLUSIONS

This is a corridor with more similarities than contrasts - which brings opportunities to exploit some of its synergies and complementarities, and develop and present a clear identity and offer for the corridor.

This includes encouraging the advanced engineering and logistics and freight specialisms. These are clear and consistent strengths throughout the corridor, centred on key, nationally significant transport links and assets such as London Luton Airport, the Midlands Main Line, the M1 and A14. The advantageous location of the corridor (between Oxford/ Milton Keynes and Cambridge) should not be underplayed, with the opportunity to adopt some of the related technologies being pioneered in these knowledge clusters, notably robotics, aerospace and automotive related. Affordable commercial property and housing and an improving skills profile also provides opportunities to attract related activity to the corridor.

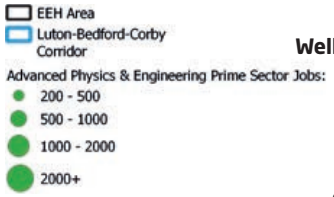
In addition, improving and promoting access to other economic centres including Oxford, Milton Keynes and Cambridge - particularly through public modes of travel - will provide residents with greater access to higher skilled and higher wage employment choices nearby. It will also benefit the region by providing workers in these centres greater access to more affordable housing in the corridor.

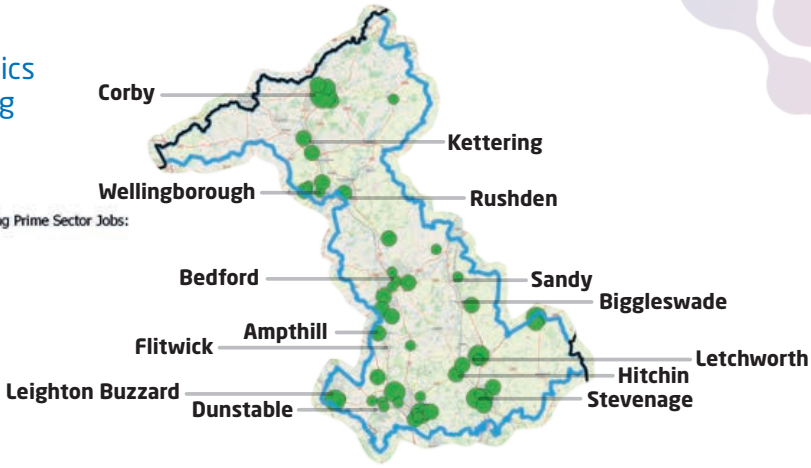
London Luton Airport

PRIME SECTORS

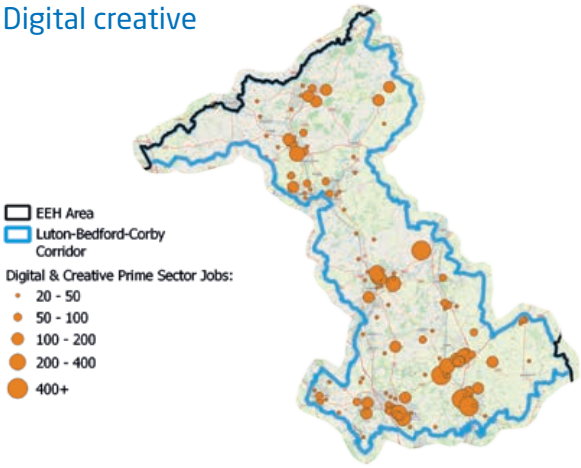
See page 5 for prime sector definitions.
The black line on the maps represents the EEH boundary.

Advanced physics and engineering

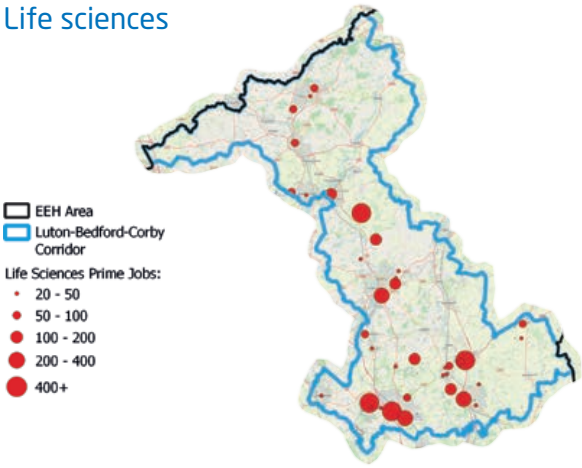




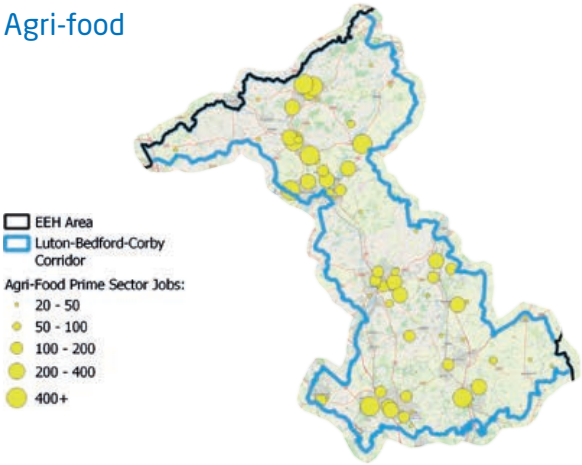
Digital creative



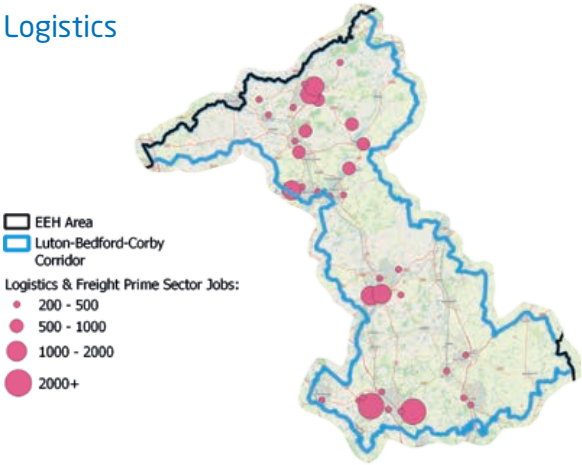
Life sciences



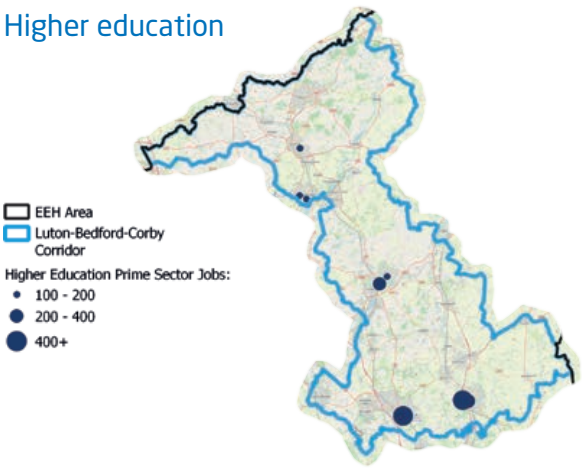
Agri-food



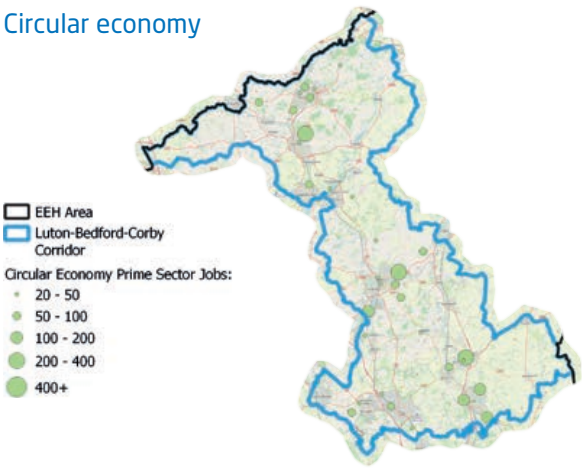
Logistics



Higher education



Circular economy



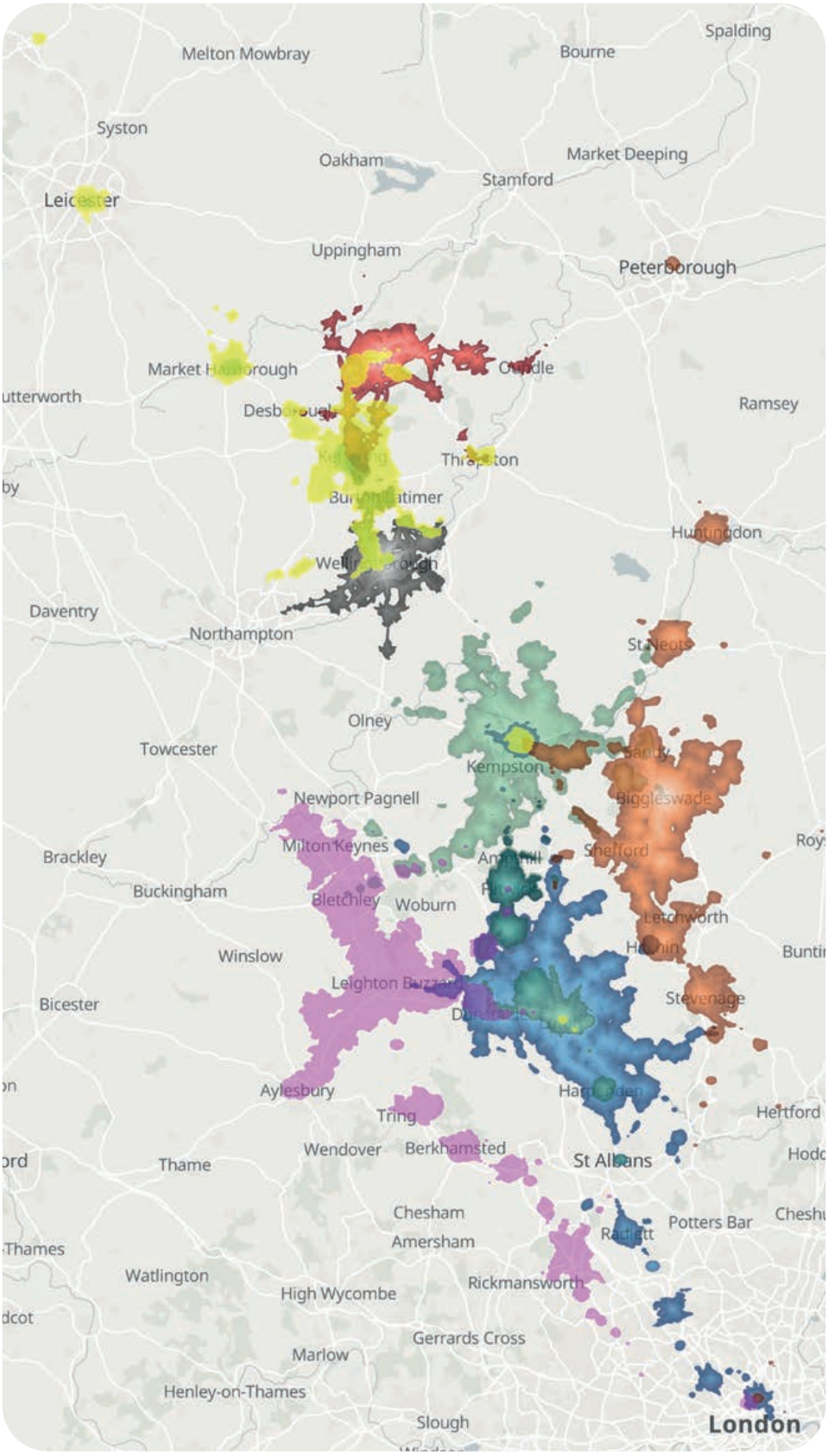
// CONNECTIVITY IN CONTEXT

This section contains a selection of maps, graphics, tables and stats which help build a snapshot of the corridor's transport system. It is by no means exhaustive – for a comprehensive range of evidence and data please see EEH's website.

PUBLIC TRANSPORT

This map factors in average journey times and service frequencies to give a balanced indication of places which can be travelled to within 60 minutes on a weekday morning from a journey starting on foot and using bus and rail. These are from Luton (blue); Bedford (green); Leighton Buzzard (purple); Biggleswade (orange); Wellingborough (grey); Kettering (yellow) and Corby (red).

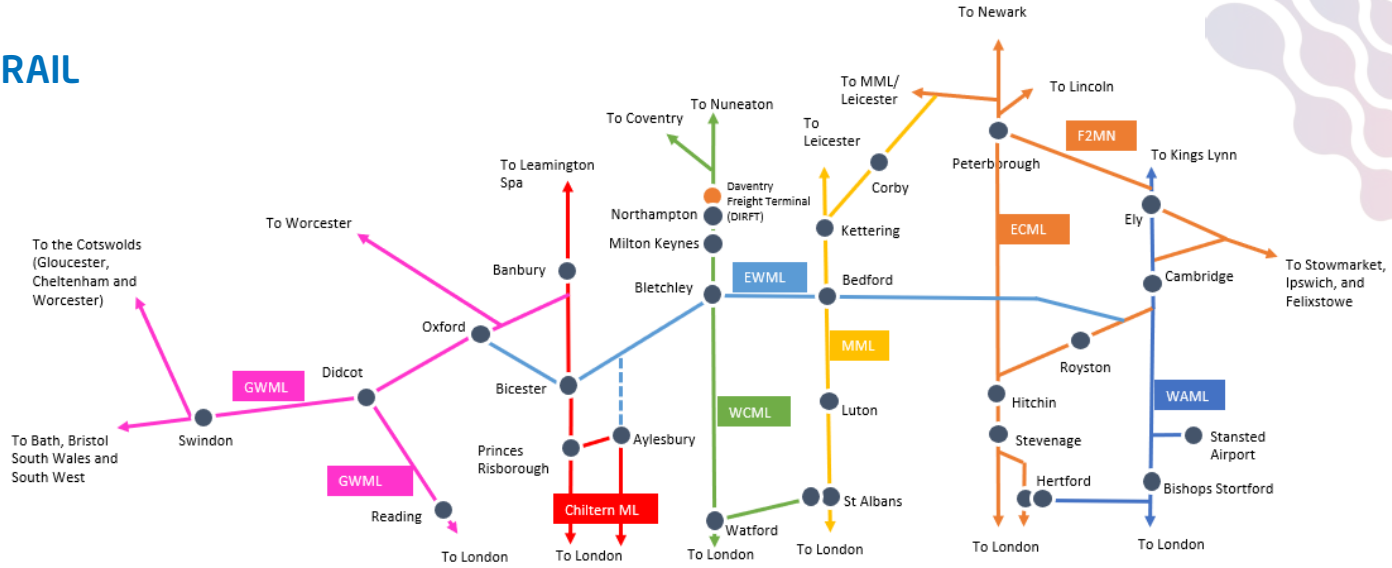
For methodology and assumptions see p34. The map visually demonstrates the relative good north-south connectivity via the radial main lines in the corridor. However, east-west connectivity is considerably more limited, though East West Rail serving Bedford will significantly improve this.



BUS

The bus network provides a clear rural-urban divide with several high frequency bus corridors between some larger settlements and smaller settlements having very low frequency or no services on some or all days of the week. Although inter-urban bus services are limited, there are several key corridors within and around the corridor, including Milton Keynes-Bedford-Biggleswade; Luton-Dunstable (via the trailblazing busway); and Luton-Stevenage-Biggleswade.

RAIL



The diagram above shows the main lines within the EEH region (including the proposed East West Rail line between Oxford and Cambridge). The Midland Main Line (London-Luton-Bedford-Kettering-Leicester) runs through the centre of the corridor, which is also served by West Coast Main Line (London-Leighton Buzzard-Milton Keynes-Birmingham) and East Coast Main Line (London-Stevenage-Biggleswade-Peterborough). The corridor also includes the Marston Vale Line and its services connecting the Midland Main Line at Bedford and West Coast Main Line at Bletchley via several smaller stations along the route. The Oakham-Corby line also operates within the corridor and connects the Midland Main Line to Corby, Oakham, and Melton Mowbray, though this has only one service a day. There is currently no rail connection between the Midland Main Line and East Coast Main Line in the area, with those needing to connect with East Coast Main Line stations and services typically needing travel into and out of London or use bus services.

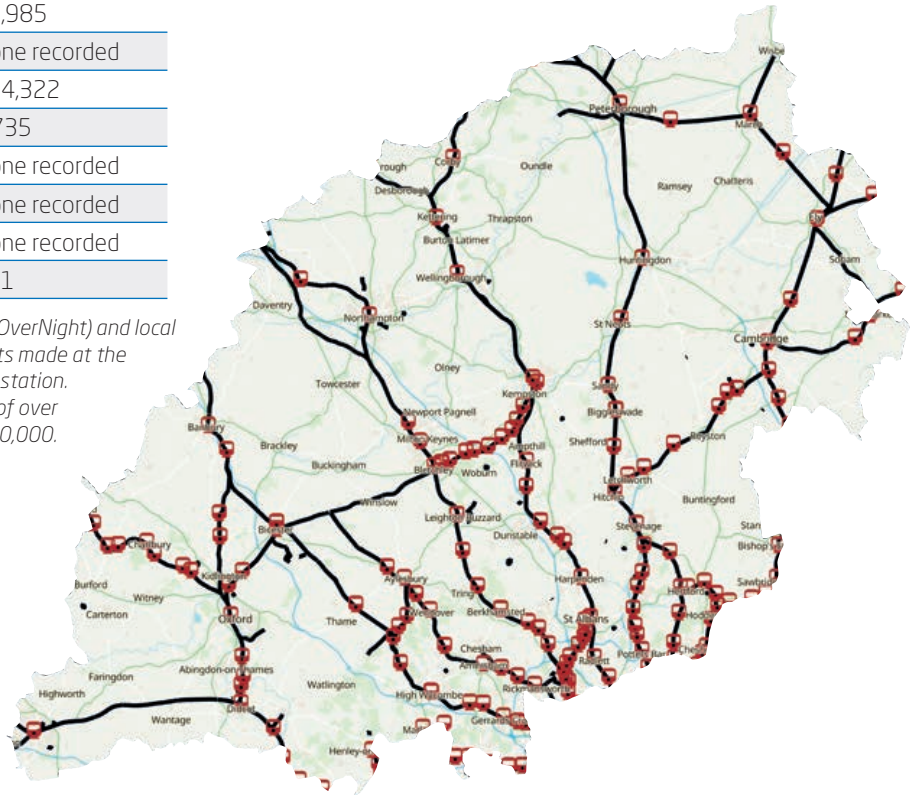
Station usage

Station	2022-23	Interchanges 2022-23
Luton Airport Parkway	4,344,390	6,576
Stevenage	4,271,680	983,398
Luton	3,646,122	50,864
Bedford	3,247,246	41,248
Hitchin	2,682,410	92,948
Letchworth Garden City	1,598,310	None recorded
Leagrave	1,483,752	None recorded
Leighton Buzzard	1,315,214	None recorded
Royston	1,272,012	42,985
Flitwick	1,207,194	None recorded
Kettering	1,063,076	394,322
Wellingborough	867,608	4,735
Biggleswade	789,284	None recorded
Arlesey	592,464	None recorded
Sandy	571,530	None recorded
Corby	498,620	361

Source: LENNON (Latest Earnings Networked Nationally OverNight) and local ticketing data. Estimated total number of entries and exits made at the station and estimated total of interchanges made at the station. Due to space, only Hertfordshire stations with a footfall of over one million are shown, and for the rest of the corridor, 400,000.

Station locations

This map shows the locations of stations in the region, and in black the entire network of rail track. Some track may currently be heritage rail or freight only, for example, the line heading northwards from Aylesbury.



CONGESTION

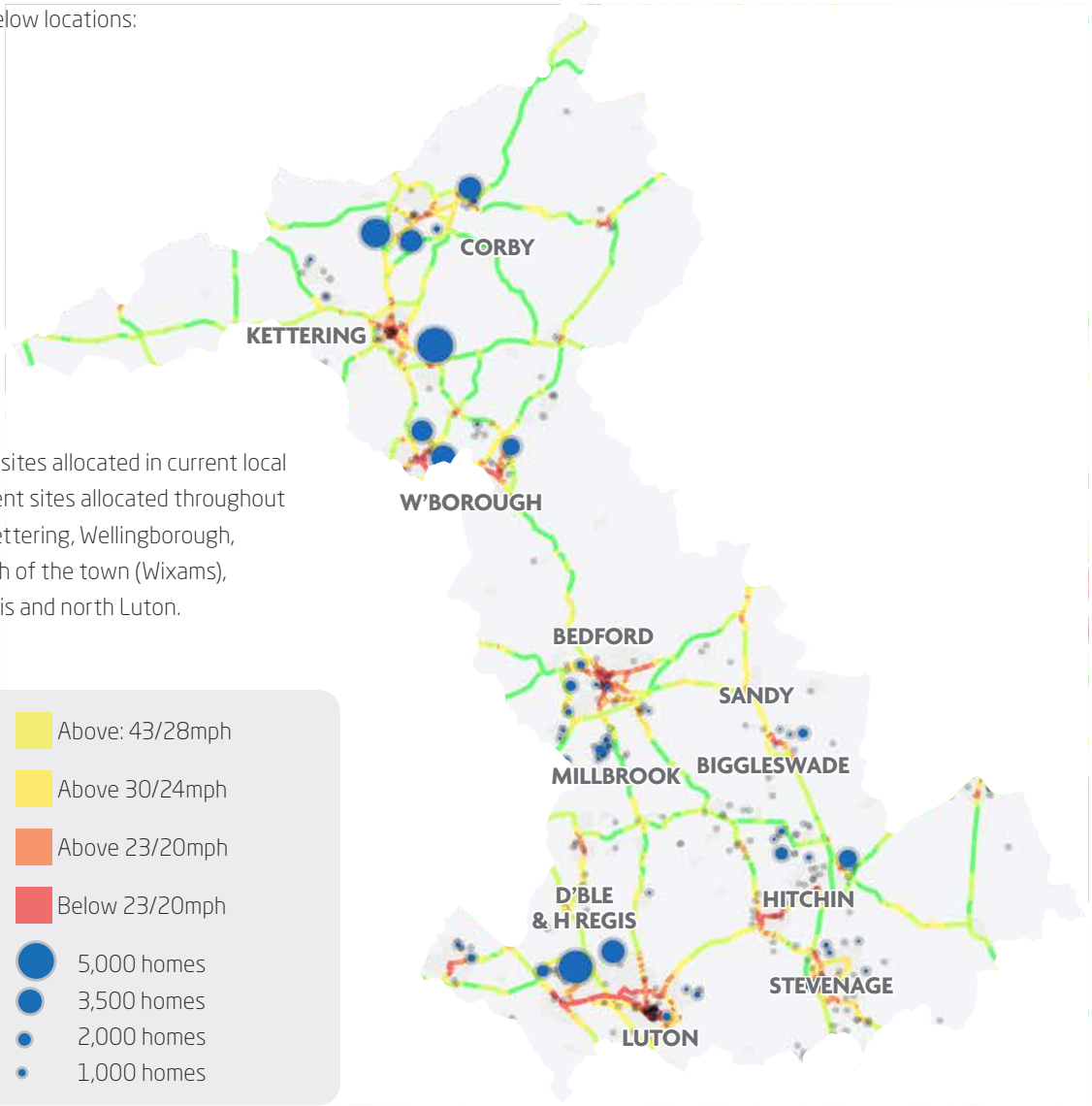
The map below scores sections of road based on how their average speed during the morning peak compares to the average across the entirety of EEH network for that road type (see definitions section on p31 for methodology and assumptions, including full list of expected speeds based on road type).

High levels of congestion can be seen in Stevenage, Hitchin, Luton, Dunstable, Leighton Buzzard, Bedford, Rushden, Wellingborough, and Kettering, as well as in the below locations:

- A45/A6 Junction in Finedon
- A1 Sandy-Biggleswade
- A600 South of Shefford
- M1 Junction 13 (Ridgemont Interchange) West of Flitwick
- M1 Junction 12 Near Harlington
- A14 Junction 10 South of Kettering
- A1(M) around Stevenage

HOUSING

The map is overlaid with housing sites allocated in current local plans. There are major development sites allocated throughout the corridor, including in Corby, Kettering, Wellingborough, Bedford and the area to the south of the town (Wixams), Marston Vale, and Houghton Regis and north Luton.



Legend:

Congestion score morning peak hour

- The average speed on this section is above 66mph for a dual carriageway/ motorway and 46mph for a single carriageway
- Above 59/36mph
- Above: 43/28mph
- Above 30/24mph
- Above 23/20mph
- Below 23/20mph
- 5,000 homes
- 3,500 homes
- 2,000 homes
- 1,000 homes

SMART JUNCTIONS

A study by City Science for EEH, due to be published shortly, identifies initial opportunities for smart junction technology for existing signalised junctions on key strategic corridors in EEH. Smart junctions are emerging as a key way in which road capacity can be optimised, easing traffic flow or supporting journeys by public transport or active travel. This is based on vehicular demand, including for HGVs, congestion, key bus routes and collisions.

It identified the A1/ A602 in Stevenage as the highest ranked potential focus area for smart junction technology, due to very high junction collisions, high congestion, high demand, and because it would support very high frequency bus corridors.

DIGITAL CONNECTIVITY

A Settlements include: Kettering, Wellingborough, Corby and Rushden

- 80% of homes are covered by ultrafast broadband, above the national average (69%)
- 46% of firms are covered by ultrafast broadband, above national average (43%), whilst download speeds are 10% faster

B Settlements include: Bedford Flitwick and Ampthill

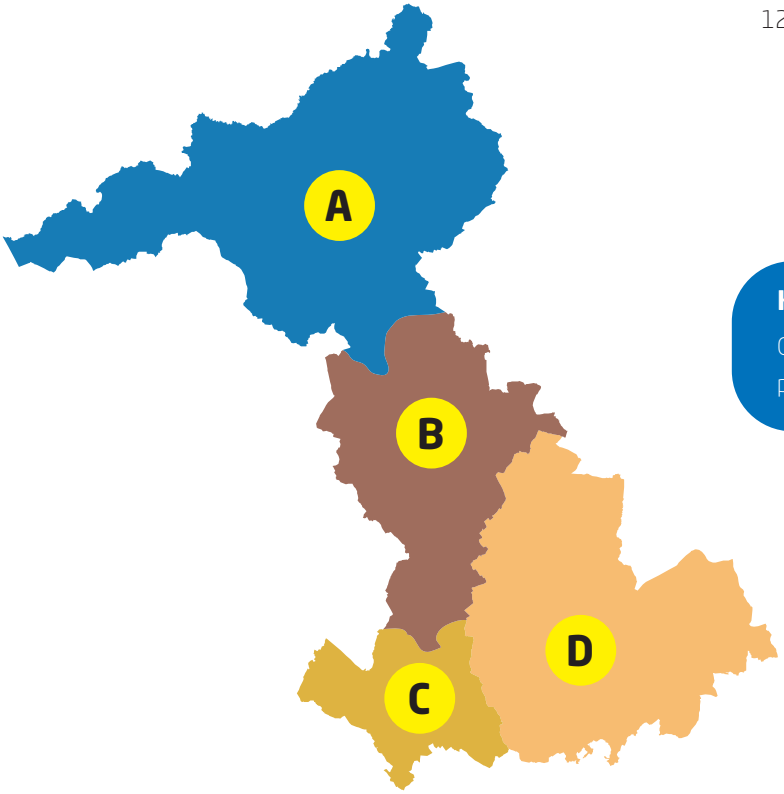
- 73% of homes are covered by ultrafast broadband, above national average (69%)
- 43% of firms are covered by ultrafast broadband, in line with the national average, whilst download speeds are on average 26% faster

C Settlements include: Luton, Dunstable and Leighton Buzzard

- 83% of homes are covered by ultrafast broadband, above national average (69%)
- 58% of firms are covered by ultrafast broadband, above national average (43%), whilst average download speeds are 28% faster

D Settlements include: Stevenage, Letchworth, Hitchin, Biggleswade and Royston

- 77% of homes are covered by ultrafast broadband, above the national average (69%)
- 36% of firms are covered by ultrafast broadband, below the national average (43%), though average download speeds are 12% faster



Key

Ofcom Connected Nations 2023. First bullet relates to home premises only, second is for commercial premises only.

IMPORTANCE OF DIGITAL INFRASTRUCTURE

Digital infrastructure is crucial to a high-performing, greener transport system and the wider economy. This includes through removing the need to travel in the first place, unlocking new technologies to enhance business productivity, and improving physical movements via intelligent transport systems and smart journey planning. Its transformative potential is particularly strong in rural areas, where digital services have traditionally been poor, yet where there is often a high reliance on journeys by private car.

ENGLAND'S CONNECTED HEARTLAND

England's Connected Heartland (ECH) is a 5G 'Innovation Region' encompassing Oxfordshire, Buckinghamshire, Central Bedfordshire, Cambridgeshire and Berkshire. EEH supported its successful grant application to Department for Science, Innovation and Technology and works closely with its project team. Acting as a 'real world' testbed, its projects, which are around transport and advanced manufacturing, are designed to be replicable within the region and across the UK.

// PRIORITY INTERVENTIONS

Having outlined the economic rationale for improved connectivity along the corridor, the following section forms a compendium of our investment requirements: the specific improvements which our evidence base demonstrates are key investments for our country's economic prosperity. They all have strong strategic value, including their benefits to local and regional connectivity and economic growth – and they have strong political support from our local and combined authority partners. Our ask to government, MPs and wider stakeholders over the coming months is to work with us, to ensure our highest priority schemes are supported, progressed and delivered at the earliest opportunity.

MAXIMISING OPPORTUNITIES FROM EAST WEST RAIL

Government's investment in East West Rail from Oxford to Cambridge is transforming connectivity across the EEH region.

The link between Oxford and Milton Keynes is opening in 2025, and (subject to funding) the sections to Bedford and Cambridge will follow by around the turn of the decade.

East West Rail will fuel economic growth and innovation; connect businesses to a significantly larger labour pool; and boost global investment in the UK. It will also help ensure that even more people can sustainably access the proposed Universal Studios site.

It is crucial that opportunities from East West Rail are maximised, leaving a lasting legacy for current and future communities and businesses within the corridor and elsewhere in the region.

Key to this is:

Bedford Station: Bedford Station on the Midland Main Line is already a regionally important railway hub. The station has the potential to act as a major interchange between East West Rail and the Midland Main Line, but also as a welcoming gateway to the town, supporting the growth and economy of its centre.

The regeneration of the station and the area surrounding it are therefore a vital part of the masterplan for the wider development of the area. Proposed improvements include improved cycle parking quality and quantity, enhancing integration with local bus services, and electric vehicle charging provision. The wider site offers a key opportunity to achieve a major new business quarter which could deliver a distinctive business scheme as a transport interchange with a clear identity and give visitors, residents, and business users a sense of arrival.

Network Rail has also recommended the construction of a fast line platform to allow for more long-distance services to stop at the station on journeys between London and the north of England.

Tempsford: East West Rail could enable an interchange with the East Coast Main Line at Tempsford, providing fast connectivity to London and the north. However , it is vital that the East West Railway Company and national Government work closely with Central Bedfordshire Council to ensure that delivery of the station and any associated growth opportunities is accompanied by necessary infrastructure and services to enable sustainable access and ensure that the impact on existing communities is mitigated.

Delivery of Wixams Station: See page 20.

Bletchley chord: Bletchley North-East chord: Currently, direct East West Rail services east of Milton Keynes to Bedford and Cambridge would not be possible. To facilitate a through route for East West Rail to Milton Keynes Central, and alleviate rail capacity constraints between Bletchley and Milton Keynes, a north-east chord is required, with supporting capacity enhancements at Milton Keynes Central Station.

Marston Vale: East West Rail will be transformational for the existing cities, towns and villages, alongside the planned new settlements and communities, along its route. But whether in a city such as Milton Keynes or a rural location such as the Marston Vale, it will only realise its true value if people can easily and sustainably access stations. EEH strongly supports the urgent need for first mile/last mile funding for local authorities.

Door-to-door connectivity: It is essential that the line is supported by superb door-to-door connectivity, enabling the most amount of people to sustainably access services as possible (EEH and its partners are engaging with East West Railway Company on its door-to-door strategy). Given the significant role that local transport authorities have in enabling integration, it is vital they are co-creators of the strategy – and that there is appropriate levels of additional funding to enable the words in the strategy to be realised on the ground.

SUNDON RAIL FREIGHT INTERCHANGE

A site is allocated for a new rail freight interchange at Sundon on the Midland Main Line, close to M1 J11a. This would enable the removal of long distance freight from roads throughout the corridor, reducing emissions and managing transport demand to make more efficient use of existing network capacity.

As well as cutting roadside emissions, the reduction in HGV miles travelled would reduce other impacts that HGVs have on local communities such as noise and perceptions of road safety risk. The facility would ensure the planned development at the adjacent employment site allocation is well connected to the sustainable transport network, enable the sustainable movement of goods and minimise the impact of freight traffic on local communities.

Next steps: The rail freight interchange is allocated in Central Bedfordshire Council's local plan, alongside new employment floorspace, and is currently awaiting delivery.

East West Rail test trains pictured at Bletchley in October 2024

Interchange hubs: Bedford is already an important transport hub and the addition of East West Rail services will make it one of the busiest interchange points in the region. Only by making interchange as seamless as possible for passengers (including high quality information and appropriate timetabling) can East West Rail's full potential be realised. For example, Wellingborough is only 10 minutes from Bedford by train, making the town a key catchment (with Kettering and Corby) for onward East West Rail services towards Cambridge, Milton Keynes and Oxford.

Coast-to-coast: Delivery of the line between Oxford and Cambridge must be accompanied by improved connectivity eastwards to Ipswich (via Newmarket and Bury St Edmunds) and Norwich (via Ely). Ultimately, there is an opportunity for an East West Main Line running from Suffolk and Norfolk through to Bristol and Cardiff, creating a coast-to-coast connected corridor of cities and towns with specialisms in science and technology innovation.

NEW RAILWAY STATION FOR WIXAMS

Situated on the Midland Main Line between Bedford and Flitwick Stations, this new station will offer access to the local and national rail network (including East West Rail) for the new settlement of 4,500 homes at Wixams. It also supports the Universal Studios proposals.

The station was originally planned to be delivered in partnership with the Wixams developers, Gallagher Estates and the railway industry. However, changes to the railway's organisation meant that they were unable to deliver the project.

In June 2022, Bedford Borough Council updated its Rail Investment Strategy, setting out its priorities for rail services and infrastructure improvements. The provision of a new railway station at Wixams was identified as a key priority.

The station represents a significant investment in the Borough's sustainable transport provision by providing new access to the rail network with regular services for local residents and businesses. It will reduce the number of road-based trips and congestion leading to improvements in air quality. All residents of Wixams will live within 2km of the new station (for the average person, this equates to a maximum 25-minute walk or a 10-minute cycle ride).

Next steps: The Wixams Station project is being delivered by Bedford Borough Council with support from the rail industry. Construction of the station began in autumn 2024. Bedford Borough Council continues to work with Network Rail to finalise a construction programme with first trains anticipated to enter into service in the second half of 2026.

INNOVATION CAMPUS

The ambitious vision for Bedford Innovation Campus is to create a 120-acre world class destination for national and regional scientific, business, and educational research incorporating manufacturing facilities for the science and innovation sectors.

The site is located around the junction of the A421 and the A6 south and improvements to connectivity are envisaged to support it.

To support the aspiration of creating a world class destination, Bedford Innovation Campus will be supported by high quality homes and amenities for workers, residents, and visitors. Bedford Innovation Campus will become a focal point of cognate organisations, linked by a commitment to tackle the biggest scientific challenges facing humankind.

To achieve this vision Bedford Innovation Campus will grow and evolve around the principles that put heritage and community at the forefront, providing high quality facilities and amenity, underpinned by a digital campus infrastructure, to facilitate knowledge exchange and future research, discovery, and commercial activity.

At the heart of the park's vision will be an on-going process of thought leadership putting 'science and innovation' at the centre of what is developed moving forward.

Best practice master-planning will incorporate ecology, providing connections, protecting features, and creating opportunities for new habitats.

Bedford Innovation Campus will be founded on a vision in designing and delivering a world-leading science and innovation development comparable to the foremost centres of excellence around the world.

Next steps: The wider site is allocated for employment and the proposed Bedford Innovation Campus identified in the emerging Bedford Local Plan 2040 as suitable for development. The draft Local Plan envisages improvements to key locations in the area to improve capacity for vehicular (and particularly non-motorised) traffic, especially the signalisation of the main A421 junction.

ACCESS TO M1 JUNCTIONS 13 AND 14

The M1 is part of the strategic road network and is a key north-south route in the EEH region and a high freight carrier.

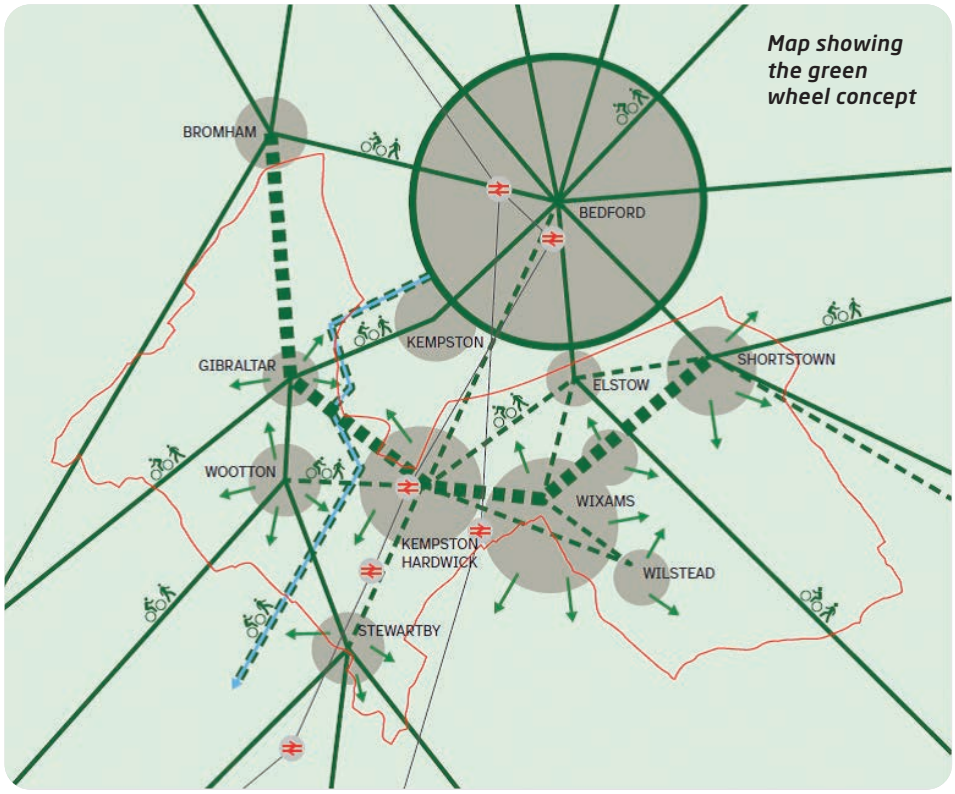
Reliability and safety improvements at junctions 13 and 14 are of urgent importance with planned growth forecast to worsen pressure on the junctions and journey time reliability (the junctions would also experience additional pressures as a result of the proposed Universal Studios development). There are regular minor incidents at peak times on this section of the M1 which result in congestion.

A joined up approach to the planning of future improvements at the junctions, including access to them, is critical for both national and regional opportunities.

Junction 13, near Ridgmont, is a key access point onto the M1 for drivers travelling to/from Bedford and Central Bedfordshire along the A421 (linking the A1 and M1). It was identified as one of the most important to be taken forward for further development by National Highway's Oxford-Cambridge roads study.

Next steps: Following the evidence gathered in the roads study, EEH is working with National Highways and DfT to ensure that appropriate interventions are designed and funded.

TRANSPORT MOVEMENT AND MOBILITY IN THE SOUTH OF BEDFORD



Map showing the green wheel concept

The South of Bedford area has been identified as a key location for growth in the emerging Bedford Borough Local Plan 2040. The plan's strategy focuses on rail-based growth which, in the South of Bedford area, includes the recently consented Wixams station on the Midland Main Line and a new East West Rail station at Stewartby / Kempston Hardwick.

Alongside progression of the local plan to adoption, the council is preparing a Strategic Placemaking Framework which focusses on the allocated sites in the South of Bedford area, their relationship to each other, existing communities and the surrounding landscape. The aim is for all developments to contribute to the overall quality of life supporting an emphasis on local, healthy, low carbon living and a strong connection with nature. In respect of transport interventions, this means focussing on low carbon transport and healthy neighbourhoods. The approach is first to avoid trips, then shift modes and finally switch energy sources in order to work towards net zero carbon in transport.

The key elements of this approach are:

- Reducing the need to travel by providing local facilities within a short walk or cycle ride
- Provision of a high-quality active travel / greenways network to be known as the "Bedford Outer Green Wheel", connecting new developments to each other and to key destinations.
- The prioritisation of train, bus and shared mobility
- Electric vehicle charging infrastructure supporting low emission / zero carbon private vehicles
- Provision of mobility hubs
- Fast reliable digital connectivity.

Next steps: Bedford Borough Council will publish a draft Strategic Placemaking Framework for consultation to provide the basis for implementation of the Outer Green Wheel and the provision of a network of mobility hubs integrated with other active travel measures.

BEDFORDSHIRE-MILTON KEYNES WATERWAY ACTIVE TRAVEL ROUTE

View of the proposed waterway from under River Great Ouse Viaduct, Kempston (credit: Bedfordshire & Milton Keynes Waterway Park)

The Bedfordshire and Milton Keynes Waterway, linking the River Great Ouse with the Grand Union Canal, isn't just about providing a new canal to boost tourism and access to green space.

The proposed phased delivery aims to encourage development and economic growth throughout the corridor, creating new jobs, leisure opportunities, and environmental benefits for the region while critically also helping to manage water.

A proposed active travel route following the proposed waterway will facilitate sustainable access to and from developments in locations including Marston Vale and around Junction 13 through to Milton Keynes.

It would be delivered in advance of the waterway itself to help to further secure the route for eventual delivery of the new canal. This would give a more sustainable alternative travel route to the A421/M1 between Milton Keynes, local settlements, and employment site allocations around Junction 13, particularly with the use of e-bikes to mitigate distances.

Next steps: The business case for the waterway is currently being updated, and work is underway to implement the first sections within Bedford Borough using monies secured from local developments. When completed, the waterway park will provide not just a new navigational link for boats, but also an active travel route alongside it linking Bedfordshire to Milton Keynes.

A6/A421

The A6/ A421 to the south of Bedford was identified as a priority for further work in the Oxford-Cambridge connectivity roads study.

It performed poorly across several metrics including congestion and safety, and its role serving HGVs was also noted.

Mitigating the impacts of the A6/A421 would help enable provision of a cycleway route between Wixams and Bedford and accommodate surface access for Wixams Railway Station.

Next steps: National Highways are conducting a study on the A6/A421 interchange.

PREBEND STREET RELIEF ROAD

This relief road would enable traffic to bypass the congested junction of Midland Road and Prebend Street in Bedford, providing release for substantial housing development.

This will provide significant environmental benefits, including enhanced air quality for local residents through reducing the total amount of queueing vehicles on Prebend Road and Midland Road. The site acquired for the link road will also have provision for further land for development.

Next steps: The scheme is included in Bedford Borough Council's forward capital programme, subject to securing sufficient external funds to ensure the required budget is fully available.

A509 ISHAM BYPASS

The A509 is an important regional north-south link providing direct access between Kettering and Wellingborough as well as the A14 and A45 strategic road network corridors which provide regional east-west strategic connectivity.

However, low traffic speeds and congestion occur on the A509 during its approach to and through the village of Isham. The proposed A509 Isham Bypass will enhance the capacity and operation of the A509 between Kettering and Wellingborough, providing improved links to the A14. The scheme is a dual carriageway which will bypass the existing A509 through the village of Isham. The scheme is essential to supporting the significant housing and jobs growth planned in Wellingborough and Kettering, including Hanwood Park (3,630 dwellings), North of Wellingborough (1,765 dwellings and 6.7 hectares of employment), West of Wellingborough (3,000 dwellings) and Appleby Lodge (52 hectares of employment).The bypass will reduce congestion and improving journey times as well as providing substantial quality of life improvements to the residents of Isham.

Next steps: The outline business case submitted to government seeks funding to further develop the bypass. Subject to further development funding being secured and a grant of planning permission, work will continue to develop the design of the bypass, secure the necessary land and develop the full business case to release Government funding to build the bypass.

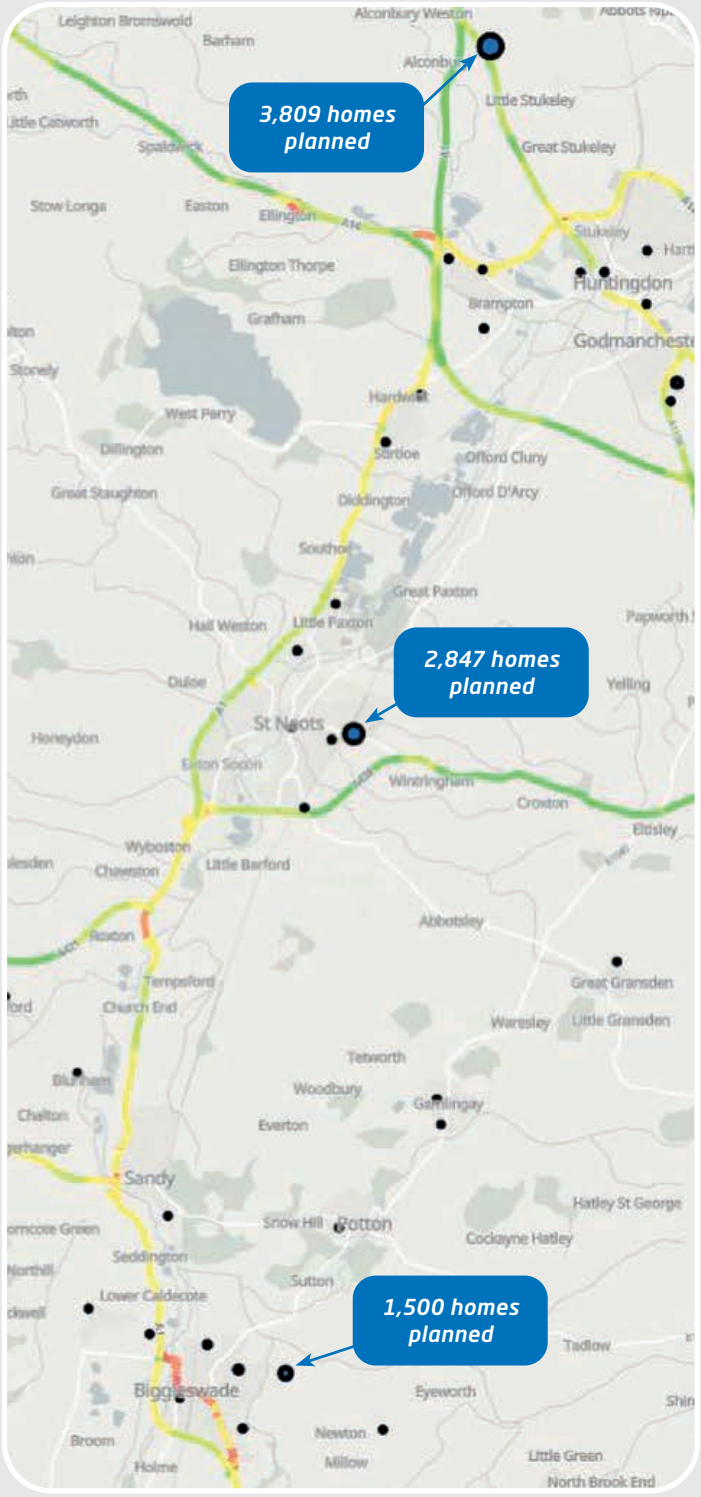
SUSTAINABLE TRAVEL CORRIDOR BETWEEN BEDFORD, CRANFIELD AND MILTON KEYNES

Cranfield is a postgraduate university, specialising in technology and management – indeed, it is ranked within the global top 30 for mechanical, aeronautical and manufacturing engineering

Located in Central Bedfordshire, it is situated between Milton Keynes and Bedford. Initial discussions about an active travel link between the Bedford, Cranfield and Milton Keynes begun during the MK:U formal partnership between Milton Keynes Council and Cranfield University, which has now ended. However, Central Bedfordshire Council still has an aspiration to improve sustainable connectivity westwards and eastwards from Cranfield.

Next steps: Facilitating further exploration of an active travel link along this corridor with partners.

A1 CONNECTIVITY: HUNTINGDON TO BIGGLESWADE



The performance of the A1 between Biggleswade and Huntingdon, with local plan housing sites also shown by the blue circles (size relative to number of homes – the number of homes included within three of the largest sites have been given as examples).

The A1 and A1(M) serves as a nationally significant artery, running through the East of England, linking the north with London and the south-east.

Stretching 350 miles from Stirling Corner junction in London to Berwick in Northumberland, it is one of the longest roads in England and forms part of the strategic highway network that is managed by National Highways. It is an important north-south route that provides an alternative to the M1 corridor and is critical to the country's logistics networks, providing access to freight distribution hubs in the Midlands and the north, and ports in the east (via the A14 and A428), and south (via the M25).

However, the A1 is one of the poorest performing roads in the EEH region, in particular on the A-road standard section between Huntingdon and Stevenage. This section currently includes five roundabouts in the short stretch between Buckden in Cambridgeshire and Biggleswade in Central Bedfordshire that create significant pinch-points in the network. While the Black Cat roundabout is being removed by the creation of a grade separated junction as part of the A428 upgrade, it will still have four roundabouts, each of which suffer from significant congestion, air quality and environmental issues and impact the quality of life of nearby residents in Buckden, Sandy and Biggleswade. These roundabouts are the only remaining roundabouts on the whole 350 mile route.

The poor performance of the A1 not only impacts on the reliability of a vital economic artery, but also contributes to air pollution, safety and severance issues. National Highways' Oxford to Cambridge roads study highlighted that the problems between Sandy and Biggleswade in particular are one of the most pressing issues for the EEH region.

There is planned growth along and in the proximity to this poorly performing stretch of the A1, with significant housing sites in Alconbury Weald, St Neots and Biggleswade (whilst the proposed Universal Studios development would be likely to add further pressure). Therefore a long-term approach to managing transport demand in the area, including tackling challenges on the A1, alongside delivery of other infrastructure such as a new East West Rail station planned at Tempsford (between St Neots and Sandy) is required.

Next steps: Further work is required to identify and deliver the most appropriate solution for addressing the challenges on the A1 from Huntingdon to Biggleswade (National Highways is conducting a study in the area). EEH continues to press the urgency for a solution to the A1.

A1(M) JUNCTIONS 6-8

The A1 from junction 6-8 in Hertfordshire is over capacity at times, especially in peak periods, resulting in strategic traffic using local routes as an alternative. This creates congestion and quality of life challenges in surrounding towns and villages, including negative impacts on bus services, active travel, air quality and carbon emissions. National Highways was planning to convert the A1(M) between junctions 6-8 to a smart motorway to provide capacity, reduce congestion, help alleviate traffic rerouting on the surrounding network and make journey times more reliable. According to National Highways, this would have provided 50% additional traffic capacity, converting the existing two lane dual carriageway into creating a three-lane motorway between junction 3 (Hatfield) and junction 9 (Baldock / Letchworth). However, the national smart motorways programme has been cancelled in recognition of the lack of public confidence felt by drivers and cost pressures. With significant housing and economic growth planned along the A1 corridor, there is now a need to identify an alternative solution.

Next steps: Work with National Highways to highlight concerns and look at potential solutions to A1(M) from junctions 6-8. There is also an opportunity to work with Network Rail to look at opportunities to increase use of the East Coast Main Line, which runs parallel to the A1(M), for strategic and local journeys, as an alternative to the car and freight where appropriate.

Legend:

Congestion score morning peak hour.

See page 35 for methodology and assumptions.

The average speed on this section is above 66mph for a dual carriageway/motorway and 46mph for a single carriageway

Above 59/36mph

Above: 43/28mph

Above 30/24mph

Above 23/20mph

Below 23/20mph

A45 STANWICK TO THRAPSTON

There is only one section of the A45 between the A14 and M1 which has not been dualled – and that is the section between Stanwick and Thrapston, just noth of Rushden.

Upgrading this road would support the major planned housing and economic growth in key settlements in the area, including Rushden, Irthlingborough, Wellingborough and Kettering, alongside that in nearby Northampton. Several new logistics and business parks are being built in the area, including at Raunds, which sits directly on the A45, and Titchmarsh, just north of Thrapston.

Next steps: Work with partners to continue to make the case for the scheme.

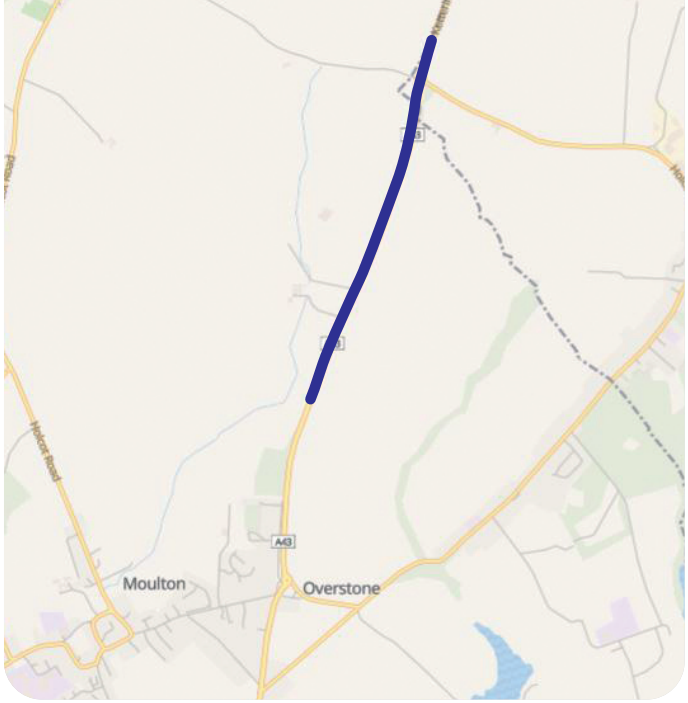
A14 JUNCTION 10A

Junction 10A on the A14 is a new road junction which forms critical infrastructure to enable the delivery of the 5,500 dwelling Hanwood Park development to the east of Kettering.

It allows the land to be opened up for development.

The scheme has a strong business case, particularly because it has a high level of developer funding, with a memorandum of understanding in place between National Highways and the developer to progress the scheme. Of the dwellings, 2,117 have been consented under an outline planning permission, of which around 1,400 have already been occupied. Delivery of the final 2,000 of these dwellings is subject to withdrawal of a holding direction by National Highways, which in turn is dependent upon delivery of Junction 10A.

Next steps: Previous statements from the Department for Transport have confirmed that subject to some additional technical work and North Northamptonshire Council providing revised planning permission, the junction would be included in the Road Investment Strategy for 2025-30 (RIS3). With all outstanding actions now completed, funding for Junction 10A in RIS3 must be confirmed as soon as possible.



NORTHAMPTON-KETTERING ROAD CONNECTIVITY

The A43 is an important regional north-south link providing access into Northampton from Kettering and Corby as well as connecting the A14 and A45 corridors along with wider access to the M1.

Improvements to the A43 corridor between the A45 at Northampton and the A14 at Kettering are being delivered in phases.

Following previous phases 1a (additional lanes at the Round Spinney roundabout), 1b (Moulton Bypass dual carriageway) and 2 (dualling from Moulton bypass to the entrance to the Overstone Gate roundabout); the phase three improvements will provide capacity enhancements to the A43 between Overstone Grange and Holcot/Sywell, reducing congestion on this section of the A43, providing benefits to the strategic movements as well as supporting planned developments to the north of Northampton.

The phase three scheme will include a shared-use cycle path, forming an extension of the existing cycling route provided via the earlier phases. It will increase local capacity, reduce congestion and support strategic housing growth including the Overstone Leys development.

While recent improvements works have reduced congestion along parts of the A43, there are still issues with slow moving traffic at pinch points north of Northampton, which the third phase of dualling works sets to address.

Next steps: The scheme forms part of the major road network and a strategic outline business case was submitted to the Department for Transport in May 2022. Work is now underway to further develop the design of the scheme and prepare an outline business case with West Northamptonshire Council acting as lead authority in partnership with North Northamptonshire Council.

CONNECTING THE MIDLAND AND EAST COAST MAIN LINES BETWEEN CORBY AND PETERBOROUGH

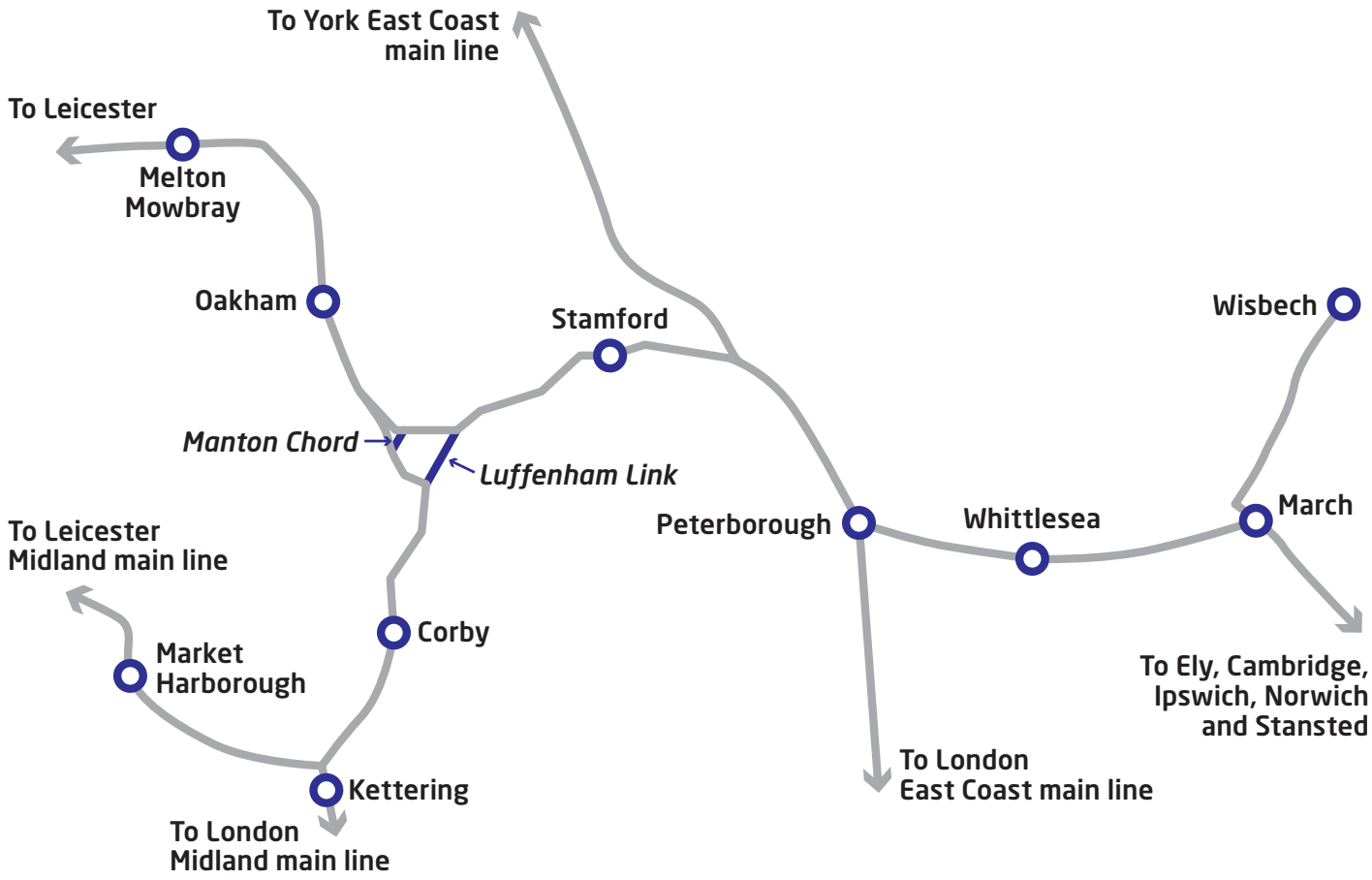
There is an opportunity to transform east-west rail connectivity along the corridor, by providing a link between Corby on the Midland Main Line and Peterborough on the East Coast Main Line.

Crucially, most of the infrastructure is already in place. However, currently, trains heading north of Corby can only turn westwards towards Oakham onto the cross-country route between Peterborough and the Midlands (used extensively for freight), rather than eastwards towards Stamford and Peterborough.

A solution requires construction of the Luffenham link and/or Manton chord, which sit just outside of EEH in Rutland. The former is a more complex, longer 3.5 mile solution, the latter a shorter, cheaper option but which would result in slower journey times.

Either way, services could be unlocked, for example, between Kettering, Corby, Stamford, Peterborough and March. According to the Welland Valley Rail campaign, utilising a Luffenham link could lead to journey times of 30 minutes between Corby and Peterborough and 40 minutes between Kettering-and Peterborough, competing with car journeys.

Next steps: England's Economic Heartland is currently progressing a detailed study of opportunities to improve rail journeys in the region, which will be published later this year.



EXPANSION OF LUTON-DUNSTABLE BUSWAY AND WIDER CONNECTIVITY IMPROVEMENTS TO LONDON LUTON AIRPORT AND TOWN CENTRE

The Luton-Dunstable busway opened in 2013 and is considered a trailblazer for other guided busway schemes.

The route of 8.3 miles (including 4.8 guided track) connects Houghton Regis, Dunstable, Toddington, Luton and London Luton Airport, with core services between Dunstable and Luton up to every seven minutes at peak times. The busway ferried more than 21 million passengers in its first 7 years, and also provides a popular active travel corridor along its length for pedestrians and cyclists.

Given this success, there is a desire to expand the opportunity of Luton-Dunstable Busway services wider both to the west toward Leighton Buzzard, and eastwards as far as Stevenage (via Hitchin), with the option for services to extend further to major locations such as Stansted Airport. However, there are several highway capacity challenges and route choices would need to be investigated further.

Nevertheless, wider bus connectivity to places such as main line rail services at Leighton Buzzard, Luton, and Stevenage, using rubber wheeled vehicle options, is supported by wider regional transport studies and responsible local transport authorities within the area.

Any improvements would be developed with due consideration of other bus services in the region such as those serving Aylesbury and rural areas of Buckinghamshire to provide significantly improved bus connectivity into Dunstable, Luton and onward to the London Luton Airport.

For example, the current Service 61 from Aylesbury to Dunstable (via Tring) exists, but only goes on to Luton once a day – this option could be enhanced by improvements to bus service frequency.

St Mary's Road, Luton

A key part of the Luton Town Centre Masterplan, this scheme would see the removal of one lane of the current, under utilised dual carriageway along St Mary's Road to improve the public realm and journeys by foot and cycle. The space will link the proposed Luton Town Football Club stadium and associated residential development with the town centre, the Stage development, the expanding Plaiters Lea district and also provide an improved setting for the historic St. Mary's Church.

Next steps: Following the approval in December 2024 of Luton 2020 Developments' planning application for Luton Town Football Club's new stadium, Luton Council will be working with the football club and their engineering consultants on the required S278 works to facilitate the development.

These works combined with S106 contributions secured will enable the provision of public realm improvements with enhanced walking and cycling routes along the St Mary's Road and Hitchin Road Corridor.

Green Horizon Park Access Road

Green Horizons Science and Innovation Park, near London Luton Airport, will be a leading European centre for innovation in mobility related industries. Promoted by Luton Rising (the Luton Borough Council organisation which owns the aiport) the site has been granted full planning permission and the proposed access road is a key enabler of unlocking the full potential of the science and innovation park, development of which has now commenced. The access road will be a grade separated dual carriageway that will connect to the A1081 and join-up with Eaton Green road through new junctions respectively. The final design of the road will be influenced by a decision on the development consent order into the airport's proposed increase in passenger numbers.

Next steps: The council awaits a decision from the Secretaries of State for Transport on the Development Consent Order, expected in early 2025.

High-flying Luton

As Cambridge Econometric's analysis has demonstrated, Luton has a dynamic and growing economy, and a key role to play in the region's success. There are several regeneration projects planned and underway, with more than £5bn of investment including a new stadium for Luton Town Football Club, who played in the Premier League in 2023/24 and major redevelopment of the town centre. Luton's airport is the busiest within the EEH region and fifth busiest in the country and its 'direct air rail transit' (DART) scheme has transformed connectivity between the terminal and Luton Airport Parkway Station on the Midland Main Line. Proposals to increase the capacity of London Luton Airport to 32 million passengers per annum (mppa), by making the best use of its existing runway, are at an advanced stage.

LUTON RAILWAY STATION IMPROVEMENTS

Used by more than three million passengers every year, Luton Railway Station is a key gateway to the town, making it vital the station provides a positive first impression and a welcoming and comfortable environment for rail users.

In the short term, a programme of access and accessibility improvements is being delivered at the station, under the governments 'Access for All' funding. This includes replacing the station canopies on platforms and the installation of a new bridge and three lifts to improve the station's accessibility. Construction is due to start in 2025.

However, given the quality of the existing infrastructure, a full redevelopment of the station is required. Doing so would maximise the value of nearby projects, including the major town centre regeneration focused on Bute Street, and Power Court – the new stadium for Luton Town Football Club, who have enjoyed unprecedented success in recent years.

Next steps: Luton Council, working with key stakeholders and politicians, will continue to make the case for much needed investment at Luton Station. The council will explore all opportunities to seek the investment needed to create a high-quality, welcoming , 21st century station that maximises the potential of development in the town and broader regeneration plans.

A505 VAUXHALL WAY CORRIDOR IMPROVEMENTS

The Vauxhall Way corridor is one of Luton's most important arterial roads and an essential part of Luton's strategic highway network and the Government's major road network.

With major developments proposed in the east of Luton area, coupled with future growth, the road will face overcapacity in the future, resulting in increased traffic, longer queue lengths and slower journey times to London Luton Airport. To address this, Luton Borough Council, with partners, is exploring the optimal highway solution to meet future demand sustainably, increasing opportunities for active travel and public transport.

The council, working with consultants and the Department for Transport, is developing designs that will future-proof the link against future demand. These schemes include options for widening the road and enhancing capacity along the junctions that serve it. The scheme will deliver a connectivity solution that considers the needs of all transport users. Realisation of highway improvements along Vauxhall Way will transform local and regional connectivity.

Next steps: Luton Council awaits a positive decision from the DfT to grant programme entry (approval to outline business case stage). Following this agreement, the council will work with consultants and partners over the next year to refine the options include in the business case and agree the preferred scheme.

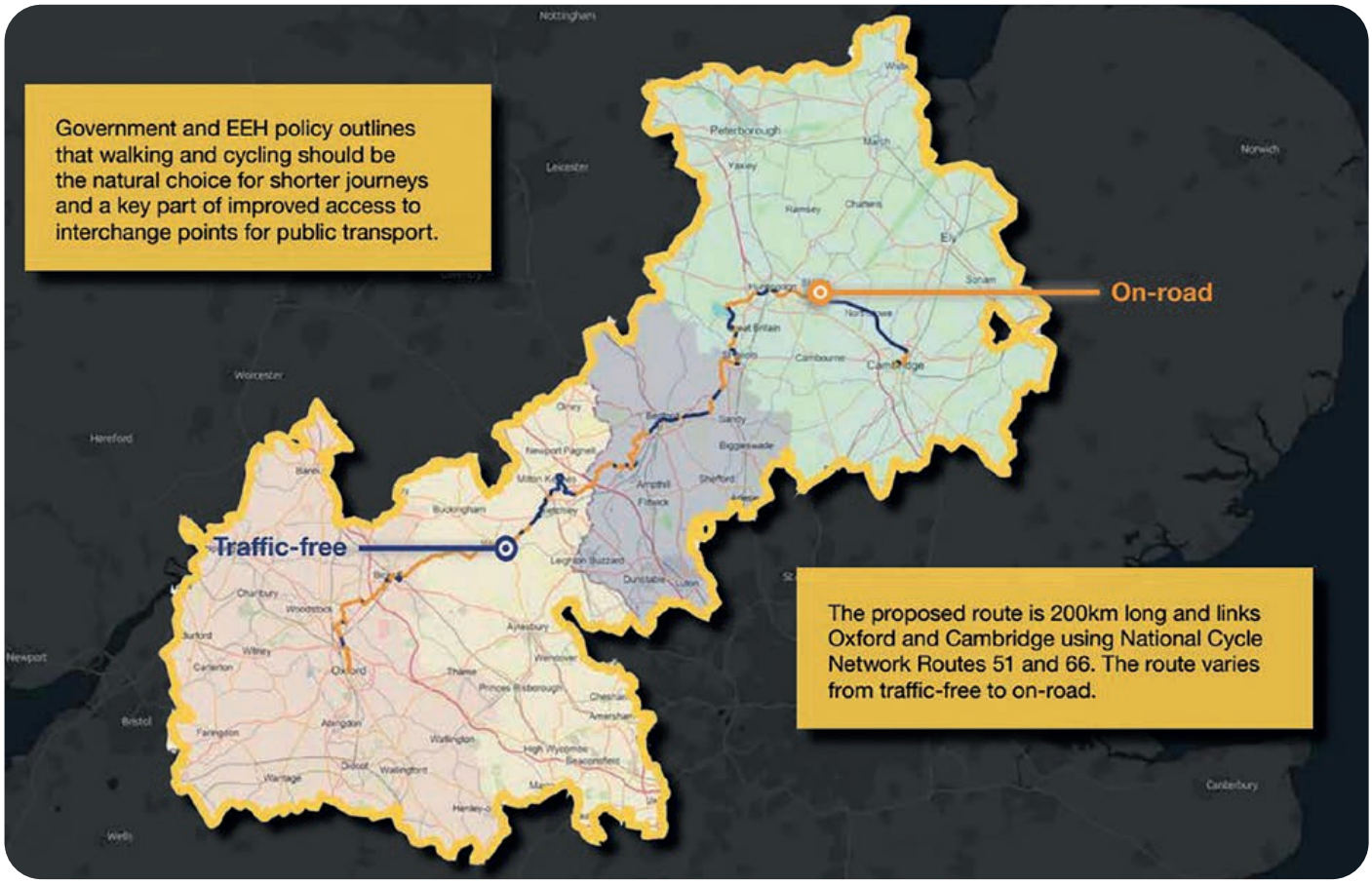
BUTTERFIELD BUSINESS PARK MOBILITY HUB

The 83-acre Butterfield Business Park, on the A505 on the edge of north-east Luton, was established in 2015 and has played a key role in supporting economic growth in the town and beyond.

More than 325,000 square feet of commercial space has been delivered, with plans for a further 454,000. A new interchange facility is proposed at the Butterfield Business Park site. This will intercept private vehicle trips destined for locations in Luton town centre along key routes. The A505 is a key corridor into Luton town centre, serving the towns of Hitchin, Letchworth, Stevenage and Cambridge as well as many smaller settlements in Hertfordshire and Central Bedfordshire. It is expected that the park and ride site will include electric vehcile charging and ancillary, microbility modes of transport, that located together will form a mobility hub.

Next steps: Planning Consent for the park and ride site was given in March 2024 with site clearance due to take place by the end of November 2024 and then site hand over in 2025. Construction of the parking surface is likely to take up to six months with other ancillary works to enable the site operation due to be completed in 2025. Funding for the project is coming from Bus Service Improvement Plan funding that awarded Luton £19.1m in 2022. A demand responsive transit (DRT) backed bus service will transport users to the town centre and station via the Luton-Dunstable Busway.

VARSITY WAY ACTIVE TRAVEL CORRIDOR



EEH's flagship Varsity Way project would see an east west active travel route linking Oxford to Cambridge.

It provides the opportunity for a 'green spine' across the Heartland; one that can act as a focal point for developing a region wide network of greenways – and attract tourists and leisure riders from across the country.

The existing route is part of the national cycle network (NCN). However, the condition of the route is varied, meaning there are opportunities where improving the route will encourage more active travel. Working with the sustainable travel charity Sustrans, partners and stakeholders EEH undertook a high-level options assessment of the route spanning from Oxford to Cambridge.

The assessment identified improvements which could be made to ensure the route is of good standard across the region to provide a high-quality link from Oxford to Cambridge. Currently 48% of the route is traffic free, with 157km of route considered 'good' or 'very good' and 133km considered 'poor' or 'very poor'. The report identified opportunities for improvements for network coherence, safety, comfort, attractiveness, and convenience in the form of interventions such as resurfacing, path widening, quiet-way treatment, traffic calming and signage improvements, amongst others.

The options assessment has laid the groundwork for collaboration with partners to unlock the full potential of the Varsity Way as a vital east-west active travel route. This initiative aims to facilitate walking and cycling, fostering seamless movement within and across the area. It also presents an opportunity to cultivate a comprehensive network of active travel routes, leaving a lasting legacy aligned with the East West Rail project.

Beyond Varsity Way, it is crucial that there is continued investment in active travel in all areas of EEH which provides greater accessibility and sustainable alternatives to the car, especially within our more rural areas.

Next steps: EEH plans to undertake detailed feasibility and costings, collaborating with local partners, alongside a specific project relating to alignment of the route in the Marston Vale between Milton Keynes, Central Bedfordshire and Bedford. This includes options for it to potentially integrate with East West Rail, current and aspirational active travel networks, the proposed Bedford-Milton Keynes Waterway, and the proposed Universal Studios development.

STEVENAGE STATION REBUILD

Stevenage Station is an important interchange between intercity, outer suburban and inner suburban services, and is used by 4.2 million passengers per year (2023/24).

The station buildings date from 1973 at a relatively early stage in the development of the new town, and are now inadequate in terms of platform widths, staircase capacity and circulation space.

The overall operation and appearance of the station is substandard for an economically significant town such as Stevenage, which is home to international pharmaceutical and aerospace companies.

The station therefore requires a significant rebuild to provide safe circulation space, a welcoming gateway to the town and integration into current redevelopment of the town centre.

Next steps: Hertfordshire County Council is starting to explore opportunities to progress the scheme, which is an aspiration in its Rail Strategy (which forms part of its current Local Transport Plan).

BETTER CONNECTIVITY FROM ST ALBANS TO LUTON

Since the removal of Midland Main Line intercity stops south of Kettering, access from St Albans (6.3 million passengers) to intercity destinations is now a minimum of two changes (for example, Thameslink from St Albans to Luton / Luton Airport Parkway; EMR Connect to Kettering; EMR Intercity to Nottingham, with a further change for Derby or Sheffield).

Hertfordshire County Council would like to see all intercity services stop at Luton Airport Parkway, but in the absence of this an additional call at St Albans for the EMR Connect services from St Pancras to Corby would remove one of the changes. The current alternative (as recommended on journey planners for many trips) is to travel south from St Albans to join intercity services at St Pancras.

Next steps: The issue of calling patterns and service frequencies impacting St Albans, as a major hub, was identified in EEH's Main Line Rail Study. EEH wil work with Hertfordshire County Council and rail partners to make the case for improved services.

BETTER CONNECTIVITY BETWEEN STEVENAGE, LUTON AND MILTON KEYNES

EEH's Main Line Priorities Study identified a gap in high speed connectivity between Stevenage, Luton and Milton Keynes, which all sit on different main lines.

Potential options to address this include bus, bus rapid transit and, longer term, light rail.

Next steps: EEH is working with partners to progress the recommendations within the main line study. EEH is also progressing its 'Heartbeat' regional bus network, which includes better services between these three settlements.

// PRINCIPLES FOR SUCCESS

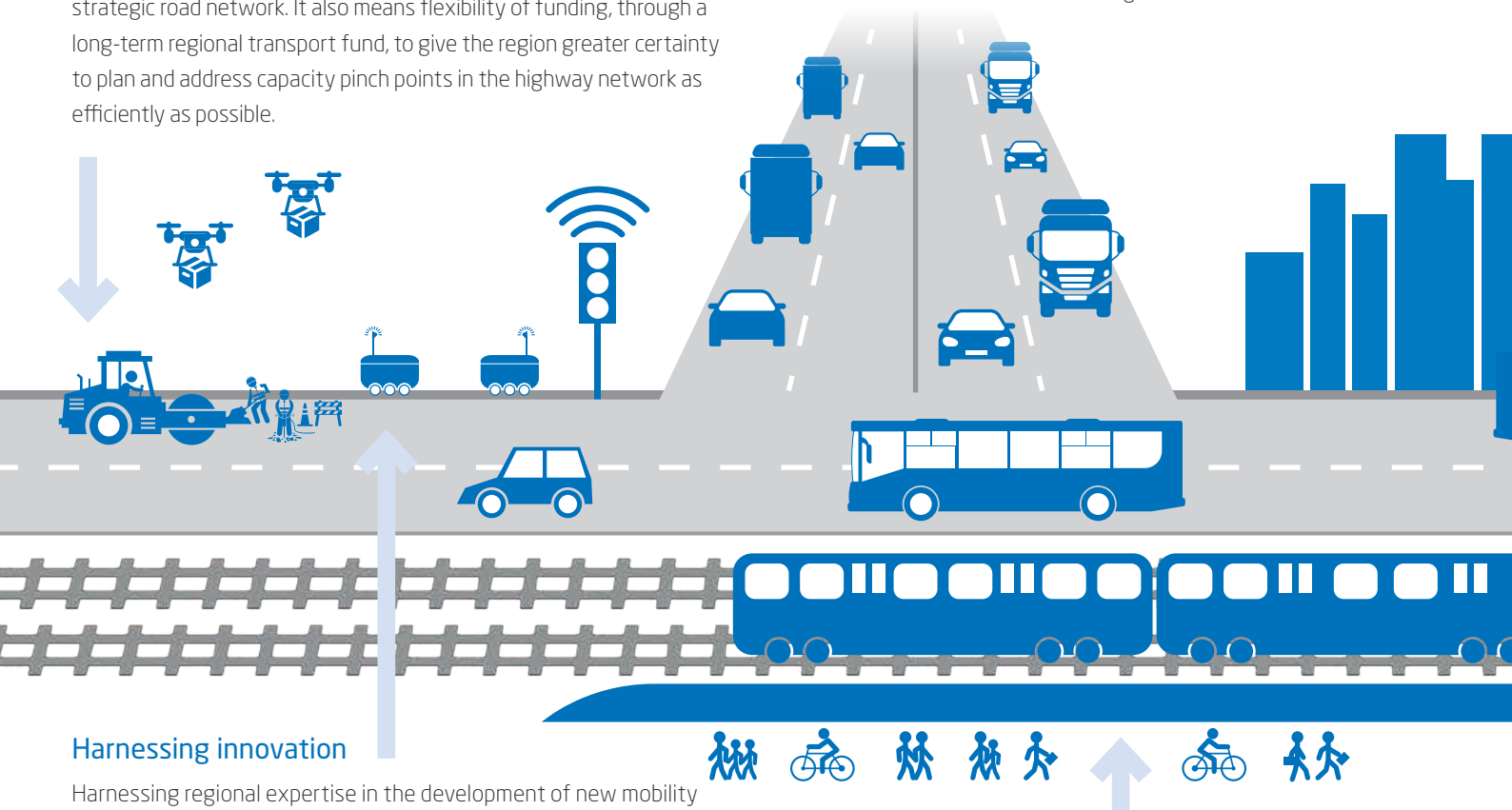
This brochure details the priority infrastructure – some major, others comparatively minor investments – which are required to improve connectivity across its geography. However, it is not just securing funding for new infrastructure that is important, we must be able to make the most of our existing infrastructure and maximise the benefits that we can extract out of new infrastructure- stretching the benefits to as many of our communities and businesses as possible.

Well-functioning roads

The region's existing road capacity must be well maintained and managed so the maximum amount of benefit can be leveraged for all road users, in line with local place-based ambitions. For local authorities this means receiving appropriate levels of roads maintenance funding which take account of the impact of climate change and also that of traffic which has been generated by the strategic road network. It also means flexibility of funding, through a long-term regional transport fund, to give the region greater certainty to plan and address capacity pinch points in the highway network as efficiently as possible.

Addressing issues on strategically important roads

During 2023, National Highways, in partnership with EEH and the Department for Transport completed the Oxford-Cambridge Connectivity: Roads Study. The work identified areas on the region's major road network (MRN) and strategic road network (SRN) which performed most poorly against expected service levels. The study identified a series of priority areas on the Heartland's road network that must be either addressed or investigated further.



Harnessing innovation

Harnessing regional expertise in the development of new mobility solutions will not only benefit the region, but also provides the UK with a competitive edge, unlocking benefits well beyond transport. It is a key part of the transition to net zero. The work underway in and around Oxfordshire, Cambridgeshire, Hertfordshire and Milton Keynes provides the region with access to experience on which it can build. But for innovation to be scalable, it must be supported by the right funding and supportive business models. EEH, through its innovation board champion and innovation working group is playing a key role in several regional projects: helping to ensure funding is in place; regulatory reform is supported where necessary; and by raising the profile of opportunities as they emerge.

A leading role in rail reform

Legislation to create Great British Railways must enable the role of sub-national transport bodies, as locally-formed partnerships of elected leaders and mayors, to be identified explicitly as partner organisations to the integrated rail body. EEH, Transport East and Transport for South East have created the Wider South East Rail Partnership. It can guide the way the rail industry, STBs and Transport for London are working together to maximise the potential of the rail network in the wider south east of England: a critical part of the UK's rail network in terms of patronage, through-journeys (by both passenger and freight) and revenue.

Collective responsibility for the success of infrastructure

Our local and combined authorities, and national government and its agencies, have signalled the importance they attach to the work of sub-national transport bodies. Our work extends far beyond advising on our region's priorities. We are working to maximise the value of infrastructure throughout its lifecycle, from concept and planning (including providing our local and combined authorities with capacity and capability, and addressing the skills pipeline), to construction and operation (including door-to-door connectivity and integration). A multi-year funding settlement from DfT would help EEH and its partners leverage the benefits that come from organisational certainty and allow our region to take collective responsibility in delivering the benefits of infrastructure investment.

Bus funding and models

In our role supporting members in our region to realise their ambitions for public transport, EEH is working with partners to ensure cross-boundary opportunities for bus are fully realised. In the context of local government funding pressures and a region with relatively small cities, market towns and large rural populations, our local authorities need to fully understand the viability of of franchising, the opportunity involved and whether there will be access to additional funding to cover this. Flexibility of approach is crucial. Government must learn the lessons of the past, including the uneven BSIP funding, and avoid creating a two-tier system between authorities which franchise and those which opt not to to.

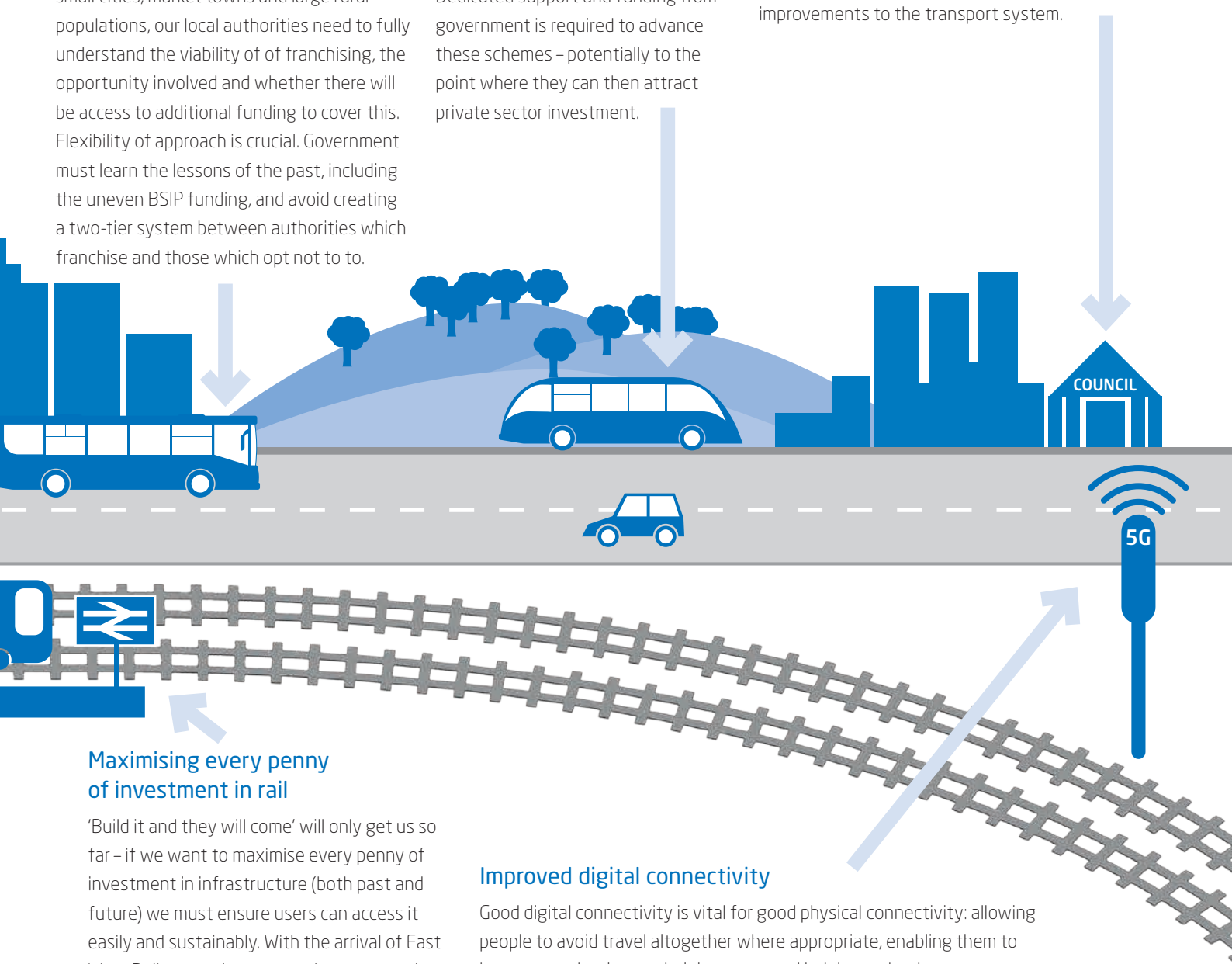
Mind the gap on MRT funding

Several of our local authority partners are developing ambitious mass rapid transit schemes for their places. However, funding to progress MRT falls 'through the gap' due to it not being covered by roads or rail funding. Dedicated support and funding from government is required to advance these schemes – potentially to the point where they can then attract private sector investment.

Long-term local transport funding

It is vital that the long term funding which benefits the strategic road network and our railways is matched by long term settlements for local transport.

Long-term funding should be available everywhere in the country: empowering local leaders to plan and deliver tailored place-based and people-focused improvements to the transport system.



Maximising every penny of investment in rail

'Build it and they will come' will only get us so far – if we want to maximise every penny of investment in infrastructure (both past and future) we must ensure users can access it easily and sustainably. With the arrival of East West Rail, a once in a generation opportunity will be squandered if the region is unable to provide high quality door to door connectivity to stations, and avoid community severance wherever possible.

Improved digital connectivity

Good digital connectivity is vital for good physical connectivity: allowing people to avoid travel altogether where appropriate, enabling them to be more productive on their journeys; and helping make the transport system itself smarter and more efficient. In a region world renowned for its science and technology innovation, it cannot be right that a quarter of all our homes and more than half of our firms lack access to ultrafast broadband, with coverage particularly poor in many rural areas.

// NOTES AND METHODOLOGY

CONNECTIVITY: THE THEORY

Connectivity is critical to enabling economic expansion and cluster development, to ensure accessibility to key centres and enabling and attracting labour supply growth, and the sustainability of existing and new communities.

Broadly, there are two ways in which improved connectivity can unlock economic growth.

Static impacts are those which capture the various direct effects on existing firms and residents:

For firms:

- Reduction in costs of shipping and freight movements
- Reduction in costs of business travel
- Access to a larger labour pool, as previously unattractive commuting movements become more viable
- Access to a larger pool of customers in physical attendance at premises

For residents:

- Interventions that improve speed, safety and reliability of local transport networks and reduce congestion and pollution
- Improvements in inter-regional or inter-national connectivity provides local residents with better access to tourism and recreation opportunities
- Increases in access to employment opportunities, providing residents with a greater choice and selection of jobs
- Increased access to education and training opportunities

Dynamic impacts are the subsequent impacts of new economic activity entering a local market as a result of better transport connectivity. Their long-term effects can significantly outweigh the scale of the initial static effects:

- Firm-worker proximity benefits: Positive feedback between the presence of workers with specific skills, and firms that require said skills
- Firm-firm proximity benefits: The co-evolution of sector value chains, with the presence of downstream actors attracting upstream suppliers, and vice versa, or firms in similar sectors co-locating/clustering
- Agglomeration-growth cycle: whereby the productivity and competitiveness benefits of co-location allows firms to win greater market share and expand operations (see right)
- Some of the other induced effects of dynamic impacts include an increase in property prices (often seen as a negative) and an increased amount of money spent locally by better-paid workers (generally seen as a positive)

Productivity and agglomeration

A key theme for the EEH region is improving productivity: the ways in which individual workers are able to produce more, or higher quality, output, as measured by the revenues the firm is able to capture less the direct costs of the inputs. Some obvious reasons for productivity growth might be: more skilled workers, better equipment, and smarter processes. Some less obvious, but equally important, reasons might be lower costs of inputs and higher prices of outputs, both of which may be a result of local economic conditions, or the firm's increased market power.

One of the most important ways in which transport systems help drive productivity growth is through agglomeration. Agglomeration benefits are the benefits that firms experience from being connected to, and interacting with, a wide number of other economic actors. This brings two benefits: efficiency, and innovation.

Agglomeration drives efficiencies through economies of scale and matching benefits. Firms that are able to access and serve larger markets, and have greater choice of suppliers and workers are often able to run their businesses more efficiently than those with smaller markets and more limited choices. This boosts revenue, decreases costs, and helps productivity grow.

Agglomeration also helps firms innovate, through expanding the network of contacts with which they are able to interact. This helps them access the knowledge and ideas that they can use to improve their business. Innovation is a major driver of productivity; in fact, many of the most beneficial ways we conceive of productivity growing, be it through better equipment, a more efficient workflow, or a better end-product, are forms of innovation. Helping firms invest and innovate, either directly or by creating the right incentives and conditions, is probably the main way of driving productivity growth in the long-run.

For Cambridge Econometrics' full methodology, including data sources, SIC codes and MSOAs used, see our website www.englandseconomicheartland.com/connecting-economies

Datasets: Datasets used were the most recent available during spring 2024. Cambridge Econometrics used middle layer super output area (MSOA) level data, rather than local authority-level data. This was necessary as the corridors and areas within these brochures do not necessarily conform to local authority boundaries. However, MSOA data is not updated by ONS as regularly or as quickly as local authority-level data – hence why in some cases it may appear there is more recent data available, but this would be at a local authority rather than MSOA level.

Use of pre-Covid data: Throughout the brochure Cambridge Econometrics has used a mixture of pre-and-post Covid data. Pre-Covid data is used to assess the longer term trends and performance of an area, avoiding the significant distortion of the pandemic on the data.

Definition of sub-areas: Cambridge Econometrics defined 18 'sub-areas' across the EEH region, using workplace density and commuter zone analysis from ESRC-commissioned research. The areas are separate from administrative boundaries, using MSOA geographies. Where an area is 'ranked' in comparison to other EEH areas, it is therefore out of a total of 18 areas within EEH. The full list of MSOA areas which make up each sub-area is available on the EEH website.

Definition of sectors: Cambridge Econometrics has identified sectors using standard industrial classification (SIC) codes, held by the Office for National Statistics (ONS). Businesses self-report the most appropriate SIC code for their area of focus. There are hundreds of SIC codes, each representing a specialism, and Cambridge Econometrics has grouped these together to form sectors. By its nature, this requires a degree of judgement on the part of Cambridge Econometrics as what specific activities form a sector: classifying sectors, particularly those involved in science and technology innovation, is as much an art as it is a science. The full list of SIC codes which make up a given sector is available on the EEH website.

CONNECTIVITY SECTION DEFINITIONS

Definitions and sources for Connectivity Today section

Congestion map: Full definition

To produce the map, City Science first analysed INRIX data to provide an indication of average road speeds by car for various road types (eg dual carriage, single carriageway) across the entirety of the EEH motorway, A and B road network between on a weekday morning. Individual sections of road were then given a rating reflecting how their average speed compared to the EEH average for that road type. Analysis conducted uses the weekday morning peak period (i.e. 0700-1000) in June 2022. The vehicle type "car" was analysed as a proxy for understanding network performance. The full list of speeds (in mph) and scores is in the table below.

Road Type	A	B	C	D	E	F
Single Carriageway	>46	>36	>28	>24	>20	<20
Dual Carriageway / Motorway	>66	>59	>43	>30	>23	<23
Traffic Island Link	>41	>32	>26	>23	>20	<20
Roundabout	>38	>33	>29	>26	>23	<23
Traffic Island Link at Junction	>36	>31	>26	>22	>19	<19
Slip Road	>53	>45	>39	>33	>24	<24

Public Transport Catchment map:

The map, by City Science, makes a number of assumptions. Walking speed is 3mph as standard, though this can vary depending on incline. For calculating journeys by rail and bus, the period 7am-10am (weekday) has been divided by the number of services within that period to give a 'headway'. The average wait time is half the value of the headway (ie, the time you'd wait if you arrived exactly halfway between two train/ bus services). The travel time is the average across all services between 7am and 10am (ie, if there is a mixture of fast and slow services to a destination, it is an average of these). These assumptions ensure the map gives a balanced view of journey times, however it may not reflect the fastest possible time it would take to get to a destination. Example:

There are 12 services between Place A and Place B from 7am to 10am, equating to one service every 15 minutes. The average wait time is therefore 7.5 minutes. Half of the services are 'express' and take 30 minutes to get to Place B, the other half are 'stoppers' and take one hour. Therefore, the average journey time is calculated as 45 minutes. In this scenario, the total 'journey' would be 52.5 minutes, plus the time it would take to walk to a station/ stop from the starting / finishing position. The bus and rail timetable information comes from the Bus Open Data Service (BODS) and Rail Delivery Group respectively.

Get in touch

England's Economic Heartland
EEH Business Unit
c/o Buckinghamshire Council
Walton Street
Aylesbury
HP20 1UA

For general enquiries please contact 01296 382703
or email businessunit@englandseconomicheartland.com

www.englandseconomicheartland.com

Sign up for our newsletter – just scroll to the bottom of our homepage

@EconomicHeart