ENGLAND'S ECONOMIC HEARTLAND

Outline Transport Strategy: Framework for Engagement

BEDFORD BOROUGH COUNCIL

BUCKINGHAMSHIRE COUNTY COUNCIL

Cambridgeshire County Council

Central Bedfordshire

Hertfordshire

Luton

milton keynes council

Northamptonshire County Council

OXFORDSHIRE COUNTY COUNCIL

PETERBOROUGH CITY COUNCIL

Swindon BOROUGH COUNCIL

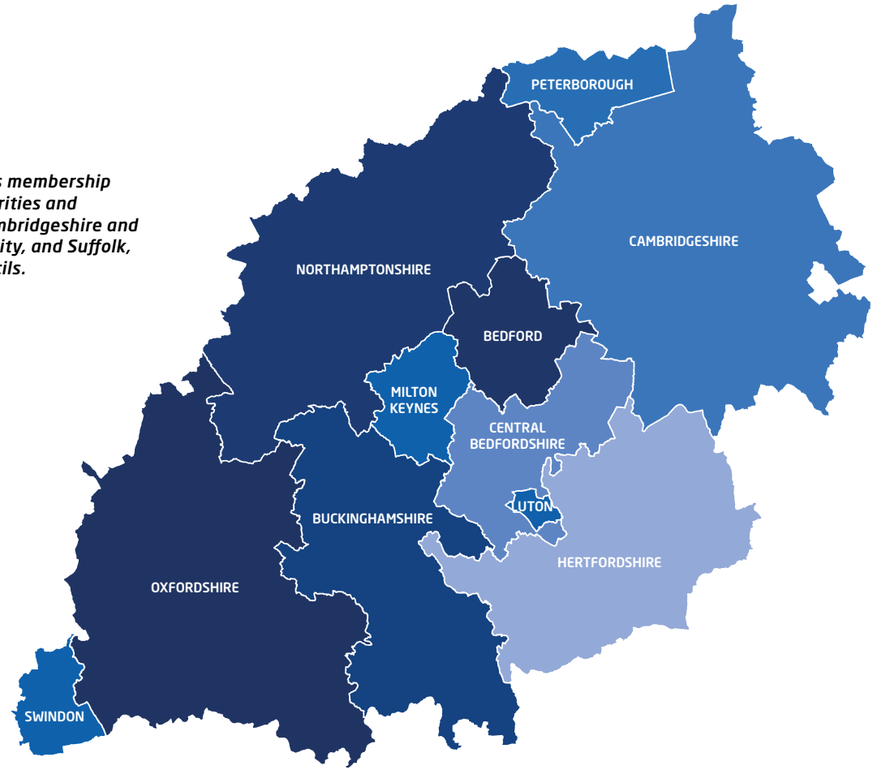
Buckinghamshire Thames Valley LOCAL ENTERPRISE PARTNERSHIP THE ENTREPRENEURIAL HEART OF BRITAIN

OxLEP driving economic growth

SEMLEP South East Midlands Local Enterprise Partnership

THE HEARTLAND

England's Economic Heartland's membership covers 11 local transport authorities and involves close working with Cambridgeshire and Peterborough Combined Authority, and Suffolk, Norfolk and Essex county councils.



Population 5.1 million

280,000 businesses employing over 2.7 million people

Gross Value Added of £155bn

Potential to double X2 or even triple X3 the size of the economy

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*Created in collaborationwith spatial design agency 5th Studio

FOREWORD

Mayor Dave Hodgson,
Chair of Strategic Transport forum

River Great Ouse in Bedford

Walkers in Wittenham Clumps

Park in Hemel Hempstead

Improving connectivity – investing in the ability to travel and communicate – creates opportunities for individuals, communities and businesses to realise their potential.

The last 10 years have seen significant changes to our transport system, with the growth in user focused services driven by the rise of smart phone apps enabling greater travel choice for some. At the same time there are others who have seen a reduction in their travel options, particularly in more rural areas.

Across the Heartland economic growth has brought with it increased pressure on our transport infrastructure and services: incidents on our networks quickly result in disruption, demonstrating how unreliability and a lack of resilience impact on the productivity of our businesses.

Economic growth should not, and must not be, at the cost of our environment – urban and rural, natural and built. The quality of our environment is part of what makes the Heartland a special place for its existing residents, and an attractive place for inward investors.

Set against this backdrop, publication of the Outline Transport Strategy is a significant milestone for England's Economic Heartland.

It marks the start of a conversation with our communities and businesses as to how the region's transport system needs to develop over the next 30 years.

It sets out the nature of the challenges and opportunities we face collectively within the framework of our vision – 'connecting people and places with opportunities and services' – and our ambition to achieve a zero-carbon transport system by 2050.

The way forward cannot be 'business as usual'. But for a region renowned for its cutting-edge science and technology-led innovation, we have the potential to develop new business models that improve connectivity, support economic growth and deliver net environmental gain.

We want to hear your thoughts as to what you think our transport system needs to deliver in the future, and just as importantly what you believe needs to change in order to help us get there.

We will use your views, together with the output from the technical work which has been commissioned, to develop our draft Transport Strategy which will be the subject of a formal consultation in the first half of 2020.

Investing in improved connectivity is fundamental in enabling individuals, communities and businesses to realise their potential.

The Heartland's Transport Strategy gives us the opportunity to make the case for the investment in infrastructure and services that will enable that potential to be realised.

Please help us start shaping tomorrow today.

Mayor Dave Hodgson
Chair, Strategic Transport Forum

INTRODUCTION

This Outline Transport Strategy – and the engagement which flows from it during the second half of 2019 – will play a crucial role in the development of the overarching Transport Strategy for England's Economic Heartland.

The primary purpose of this document is to start a wider conversation with stakeholders across the region about how the Heartland's transport system needs to develop over the next 30 years.

As such it sets out the nature of the challenges and opportunities we face collectively as a region in shaping our transport system for the longer term.

And in doing so, it asks what needs to be done differently if we are to improve connectivity in ways that enable individuals, communities and businesses realise their potential.

It seeks your views on what needs to be done in order to encourage investment in new jobs and to support the delivery of planned growth.

But economic growth must go hand-in-hand with an improvement to our quality of life, unlocking new opportunities for everyone – no matter where they live, their background or circumstances – to thrive and prosper. And it must do so in ways that result in 'net gain' for our environment.

Our transport system continues to be one that experiences change, a consequence of changes in lifestyles, the travel choices available and our expectations as users.

The questions set out in this Outline Transport Strategy are your opportunity to shape the way forward as we look to develop the detailed policies and proposals for our draft Transport Strategy.

Electric bus in Milton Keynes

St. Albans City station

The Strategic Transport Forum

The Strategic Transport Forum is the Sub-national Transport Body for England's Economic Heartland.

A strategic collaborative partnership, the Forum brings the region's Local Transport Authorities together with its Local Enterprise Partnerships and partners, to provide leadership on issues of genuinely strategic importance and to speak with one voice to the Government and its agencies.

As the Sub-national Transport Body, the Forum is responsible for preparing the overarching Transport Strategy for the region. This will provide the basis for identifying the long-term management, operation and investment needs of our transport system.

The preparation of the Transport Strategy is informed by the regional evidence base, developed by the Forum and available to all its partners.

The Transport Strategy will provide the long-term framework for investment in strategic infrastructure and services for the period to 2050. This investment – by both the public and private sectors – will be central to ensuring improved connectivity helps individuals, communities and businesses realise their potential.

In parallel to developing the Transport Strategy the Forum will prepare its detailed proposal to establish itself as a statutory Sub-national Transport Body. The powers and responsibilities sought through that proposal will be the ones required to enable efficient and cost effective implementation of the Transport Strategy.

The Forum – which includes elected leaders and cabinet members from authorities across the Heartland – regularly meets in public to agree policy positions. Papers and minutes from the Forum are available on the England's Economic Heartland website.

Have Your Say

We are seeking your views on the challenges and opportunities we face as a region.

We are keen to hear from as wide a range of people, businesses and organisations as possible to ensure we capture the widest possible cross section of ideas, views and potential priorities.

A number of engagement activities and events are planned, details of which are available on the England's Economic Heartland website.

The Outline Transport Strategy document includes a number of questions at the end of every chapter. We'd like to hear your views on these questions, as well as your thoughts on the 'future visions' that offer an insight into how our transport system might look up to 2050. And if there are issues that we have missed, please let us know: it's important we capture your thoughts.

Written responses can be submitted via our website **www.englandseconomicheartland.com** where you will also find more details about how to get involved during this engagement period.

Responses should be submitted by 6pm on Thursday, October 31, 2019.

We look forward to hearing from you.

Parked bicycles in Cambridge

PLANNING FOR THE LONG TERM

Putting 30 Years in context

This timeline shows some of the major shapers and disruptors of the transport system over the last 30 years – the same length of time covered by the Transport Strategy.

It demonstrates the scale of what can be achieved in the space of three decades. But the changes we've experienced since the 1990s – not least the profound impact of new digital technologies – also shows how trying to predict the future is filled with challenges.

No one can doubt that, with the pace of change in technology, the growth in use of data, rising consumer expectations and the need to change our relationship with the environment, the way we move around in the Heartland will change fundamentally in the next 30 years.

So to produce a transport strategy which is fit for the future, we need to make the best use of all the data which is now available to us – the scope and accuracy of which was unimaginable back in 1990.

But we must be prepared for change we cannot currently envisage – the so-called 'unknown unknowns' – which will transform the way we travel. Transport systems of the future need flexibility in order to rise to the challenges and opportunities that this change will present.

Above, the new Bicester Village Station and, inset, how it looked before redevelopment

Bicester in Oxfordshire has transformed from a quiet market town to being recognised as spearheading managed growth, sustainability and innovation. Bicester Town station was completely rebuilt and reopened as Bicester Village in 2015.

The redevelopment, which included adding a second platform, took place during a line upgrade between Bicester and Oxford, which also included constructing the new Oxford Parkway Station. Alongside creating a new rail link to London, the £320m work – of which Chiltern Railways invested £130m and Network Rail £190m – marked the first phase of the East West Rail scheme. Bicester Village retail outlet opened in 1995 and has gone on to become an international tourist destination.

1991
Tinsley in Sheffield is first in UK to introduce 20mph speed limits

1992
First electro-magnetic parking sensors available in cars

1992
Manchester Metrolink phase one opens – several other new tram systems in UK cities would soon follow

1993
Railways Bill passed by Parliament, setting the framework for privatisation

1993
Cambridge introduces UK's first bike sharing scheme – but closes following year following spate of bike thefts

1994
The Channel Tunnel opens after first being imagined by French mining engineer Albert Mathieu-Favier in 1802

1995
First supermarket home shopping service launched in UK – customers could fax over their orders

1996
First 'connected car' goes on sale, able to contact emergency services in event of accident

1997
Kyoto Protocol commits countries to reduce greenhouse gas emissions

1997
Toyota launches the Prius, the first mass-produced hybrid vehicle

1998
Amazon.co.uk launched in UK

2000
Chrysler launches first model with blue-tooth integration

2000
World's most popular hybrid car, the Toyota Prius, first goes on world-wide sale

2002
Durham introduces UK's first congestion charge

2002
World-wide use of electric bikes spirals, growing by 40% between 2002 and 2004

2002
Nissan introduces first rear-view backup cameras available on models outside Japan and US

2003
Toyota begins selling self-parking vehicles

2003
Oyster cards launched in London

2003
3G goes live in UK

2004
Last UK rail service to allow smoking finally bans passengers from lighting up

2004
TomTom releases its first generation of Sat Navs

2005
Google Maps is launched

2006
'Smart' motorway traffic management techniques, including hard shoulder running, first used on the M42

2007
Apple launches iPhone and despite lacking 3G capabilities is named 'invention of the year' by Time

2012
Uber launched in London

2012
4G goes live in the UK

2013
Tesla launches Model S which tops sales chart in Norway – a first for electric cars in any country

2016
Autonomous pods go on trial in Milton Keynes

2017
Trial begins of autonomous cars in Oxford

2019
Google launches world's first drone delivery service in Australia

A congested Magdelene Street in Cambridge in the early 1990s wasn't welcoming for cyclists or pedestrians. But today, thanks to the city's 'core traffic scheme', the street has been transformed.

Credit: The Cambridge News

The old congested Magdelene St. has been transformed

Corby Railway Station closed in 1966 but briefly reopened between 1987 and 1990, when this photo was taken of the graffiti-strewn closure notice. A new railway station opened in 2009, putting an end to Corby's unwelcome status as the country's largest town without a rail service.

Corby Railway station from past to present

STRATEGIC VISION

By bringing together the various high-tech clusters which already exist, there's an opportunity to create a regional 'super cluster' at the cutting edge of innovation. But it's not just about high-tech activity; it's about all the business opportunities – the multiplier effect – across the region. By linking things together you create the added value which will realise economic growth. The long term development of the area is going to need the public and private sectors to work together with central Government. We need to promote the opportunity and get businesses and investors excited about the future potential. Secondly, we must connect the region's assets with each other so that ideas, knowledge and opportunities can be shared. Thirdly, we need to inspire businesses to participate and become delivery partners and finally, we need to inspire and support our young people to gain the skills that the region needs.

Roz Bird
Commercial Director, Silverstone Park and chair of the Silverstone Technology Cluster Board

"The proposals for England's Economic Heartland represent an amazing opportunity for good placemaking founded on sustainable transport. Good placemaking would not only give rise to better places for people to live in. It would also create the foundations for a prosperous community. The conventional wisdom used to be that creating a strong economy came first and that prosperity and a higher quality of life would follow. Absolutely the ***reverse*** *is now true. Creating a higher quality of life is the first step to attracting new residents and jobs. That is very simply because businesses are attracted to a place where people want to live. The best brains will want to live in a place that offers them good work opportunities, as well as good schools for their children, nice parks and pleasant countryside for their family's leisure activities and so on. It is therefore better places that lead to a strong economy and a higher quality of life. Adopting these principles for the Heartland will undoubtedly create prosperity and successful communities."*

Andreas Markides
Past President of the Chartered Institution of Highways & Transportation and Director, Markides Associates

"People living and working in the Arc value highly its natural environment assets, wildlife, landscapes and greenspaces. They are the basis for attractive, resilient and productive places for people to live and work. However, they are already facing significant pressures – many are not in good condition and are fragmented. The proposed developments, if not properly designed, developed and maintained, will place additional unsustainable pressures on them. It is essential for people and the economy that the environment is properly protected and enhanced. This can be achieved if the developments are based on net environment gain and deliver the objectives of the Government's 25-year environment plan. This requires a strategic plan for the environment, with the same status as the industrial, housing and transport strategies, underpinned by the recently commissioned local natural capital plan. The environmental objectives also need to be fully integrated within the other strategies and the health and wellbeing plans. This is an exciting and challenging opportunity to leave the environment in a better state."

Professor Paul Leinster CBE,
Chair of the Ox Cam Arc Local Natural Capital Plan Steering Group, Chair of the Bedfordshire Local Nature Partnership and Professor of Environmental Assessment at Cranfield University

Summary

- We need to set a new direction for the years ahead.
- Understanding the way people want to live, work and create prosperity across the region is the basis for England's Economic Heartland's approach
- Improved connectivity is critical to realising the economic potential of the region but economic growth must not be at the expense of the environment
- The scale of the opportunity is transformational in nature and will require fresh and innovative solutions

England's Economic Heartland

The Heartland is one of the most exciting economic opportunities in Europe: an internationally renowned hub for science, technology and research – a region that has innovation at its heart.

Stretching from Swindon across to Cambridgeshire and from Northamptonshire down to Hertfordshire, the Heartland has a population of more than 5.1m, with its 280,000 businesses employing 2.7 million people. It is a net contributor to the Treasury, with an economy currently valued at more than £155bn per annum..

The region does not sit in isolation of its significant linkages with other high performing regions of England, it is central to them. As part of the wider South East, the region has strong connections with London, whilst Swindon is the gateway to opportunities further west along the Great Western corridor. Connectivity to the east links the region to one of the UK's premier ports, Felixstowe, and the innovation of the Energy Coast, whilst Northamptonshire is a gateway to the Midlands Engine and beyond that the Northern Powerhouse. The area also has an international airport gateway through London Luton Airport.

The economic importance of the region, as recognised by the National Infrastructure Commission, and its particular position at the heart of the UK's knowledge economy is a reflection of its concentration of world leading research facilities, internationally significant business clusters, track record in innovation and entrepreneurship, and the skills of its workforce.

As a result, the economic performance of the region has been consistently above national standards for some time, and we have achieved that without the levels of investment in infrastructure and services that we have needed. This has resulted in pressures on our transport, digital and wider infrastructure networks that have grown to the point where they operate close to capacity most of the time.

Improved connectivity – both physical and digital – will be at the heart of enabling our people and businesses to realise their full potentials. But economic success cannot be at the cost of the environment, the quality of which is a significant part of the attraction for people and businesses investing in the region. ***We truly have a once-in-a-generation opportunity.***

Below: Mobikes - Dockless bike sharing service outside Oxford Station

Delivery of East West Rail represents a truly transformational investment in strategic infrastructure. Together with investment in digital infrastructure and targeted investment in the capacity of the strategic road network, there will be a step change in connectivity.

As a result of such strategic investment, what is currently a series of discrete housing market areas and functional economic areas will become better connected and interrelated.

But if we are to deliver on the vision within this document and its ambition for our transport system to be zero-carbon we need to set a new direction for the years ahead.

// Case Study

World-leading engineering clustered around the home of British motorsport

Silverstone Park, located at the home of British motorsport on the Buckinghamshire/Northamptonshire border, lies at the heart of a world-leading cluster of high-tech engineering businesses, now known as the Silverstone Technology Cluster. Its potential was identified following a 2016 report by SQW which revealed 4,000 companies operating in precision engineering are based within a one-hour radius of Silverstone. This extraordinary concentration of talent globally serves a wide variety of sectors, including aerospace, automotive, defence, electronic sensors, marine medical devices and motorsport.

Furthermore, the report highlighted the beneficial interactions between its firms in terms of supply chain activity, business development opportunities and the movement of people between companies. Following the report, the Silverstone Technology Cluster company was formed to help match investors with untapped engineering firms in the cluster and provide networking opportunities for like-minded businesses and organisations.

// Case Study

A shared commitment to the region

Following the release of the National Infrastructure Commission's report on the opportunities presented by the Oxford to Cambridge Arc – including the potential to double or even triple its economy – the Government made the region a national priority. In 2019 a Joint Statement of Ambition between the Government and local authorities, local enterprise partnerships and England's Economic Heartland, set out the shared commitment to the region.

The joint statement says: "We recognise the need to plan for and deliver substantial additional infrastructure ahead of the arrival of new communities, including necessary transport infrastructure, utilities, digital connectivity, health and education. Crucially, we value the natural environment highly, and aim to meet our economic and housing ambitions while overall improving, rather than degrading, the environment in the Arc. We want better places to live, which are beautiful and inspiring, to benefit the Arc's residents today as well as tomorrow."

The Hamptons new housing development in Peterborough

Opportunity at the heart of the region

Our economic success to date provides the foundation on which to grow the region's economy further, to the benefit of residents, communities and the UK economy as a whole. It is an ambition that is shared by local partners and Government, which has identified the region as being a national priority.

However, realising growth on a scale that is truly transformational requires an approach that is inclusive, one that enables existing residents and communities to realise their full potential, in ways that respect the quality of our environment.

Our approach to investment in infrastructure and services therefore needs to be targeted towards improving the movement of people, the movement of goods and the movement of ideas.

It needs to reflect how the continued rise of the digital economy provides further opportunities to change the way in which people access services and businesses access markets. We need to seize this as the opportunity to redefine the scale and nature of future travel.

We need to look to the future and define our expectations for the region, and then align our investment in infrastructure and services to enable our vision to be achieved.

The connectivity gap

The National Infrastructure Commission identified that improved connectivity is at the heart of enabling the economic potential of the region to be realised. It warned that the region's continued success must not be taken for granted and that investment in infrastructure and services will be essential.

The Transport Strategy for the Heartland will set a framework for that investment and identify the pipeline of infrastructure capacity that is required to both support the delivery of current plans, and enable further growth to take place.

The Heartland is polycentric in nature, with major urban centres interspersed with growing towns and many smaller market towns and villages. The region is home to many clusters excelling in science, technology and research. These clusters will be at the heart of our economy moving forward. Building on them in a way that enables the whole to be bigger than the sum of its parts requires improved connectivity – we need to address the 'connectivity gap' which currently exists.

Working with partners, and local communities during this engagement phase of the Transport Strategy will allow us to develop a clearer definition of the connectivity gap that exists within the region, and agree the solutions needed to ensure its resolution.

Riverside Shopping Centre, Hemel Hempstead

In developing our detailed proposals, our approach to connectivity will be shaped by three considerations:

- Improved connectivity for local journeys – ensuring that users have access to convenient, attractive and safe choices for movement and supports the underpinning principles of being active and inclusive
- Freight and logistics – the continued success and growth of our economy will be dependent upon our businesses having access to labour and access to markets
- National/international connectivity – ensuring that connections between the Heartland and neighbouring regions are of a high quality.

A vision for change

Our vision for achieving the change that is needed across the Heartland is:

'Connecting People and Places with Opportunities and Services'

And we believe that the region should set itself the ambition for our transport system to be zero-carbon by 2050.

In developing the detail of the overarching Transport Strategy, we propose to focus on three key principles:

- *Enabling economic growth* – the Transport Strategy needs to support the delivery of planned economic and housing growth through co-ordinated investment in infrastructure and services, doing so in a way that encourages innovation and smarter use of existing assets. It must stimulate innovative and creative solutions by providing a framework that provides stability for investment by the public and private sector in ways that improve safety, reliability, and resilience of the network to maximise productivity of goods, services, and commuters.
- *Accessibility and Inclusion* – the Transport Strategy needs to actively encourage the development of a transport system that provides residents and businesses with attractive, affordable and reliable travel choices by reducing or addressing barriers to travel – be they financial, cultural, digital or physical barriers. It needs to capture and respect the diverse nature of the Heartland; reflecting differences across the region – spatially, economically and culturally – and use these as opportunities to develop new service offers that respect and enhance the richness of the region's diversity.
- *Quality of life and Environment* – the Transport Strategy must result in a system that improves the general well-being of our people and communities, unlocking opportunities for them to lead healthier, more fulfilling and prosperous lives. It is the quality of the Heartland's environment – man-made and natural, urban and rural – which makes our region an attractive place to live, work and play. We must therefore ensure that future growth is used as an opportunity to deliver environmental net gain, as embodied by the Government's 25-Year Environment Plan.

Departure screen at Milton Keynes Central

Rowing and cycling along the River Great Ouse in Bedford

Milford Street, Swindon

A motorcylist on the A421

The Parkway in Welwyn Garden City

Developing the Transport Strategy

Realising the economic opportunities that exist across the region in a way that delivers net environmental gain will require a new approach – 'business as usual' will not deliver our shared ambition for the region.

Regional Evidence Base

In looking to the future we need to be grounded in our understanding of where we start from, and to develop the tools that enable the region to develop plausible future scenarios.

We need to use the Transport Strategy to set out the framework that enables those scenarios to be realised.

Our work to put in place the Regional Database gives –for the first time – a single overview of what is currently planned for the region. The development of a Regional Policy Scenario Model builds on this database and gives us the capability – again for the first time – of exploring the relative impact of different scenarios.

The views captured in response to this Outline Transport Strategy will be used to develop a range of plausible future scenarios. We will use the tools available to explore the relative impact of those scenarios and develop detailed proposals for inclusion in the overarching Transport Strategy.

Delivering success

The Government has recognised the need to plan for and deliver substantial new infrastructure ahead of the arrival of new communities, including necessary transport infrastructure, utilities, digital connectivity, health and education. However, investment by Government is only one half of the equation. Regulatory changes can make a significant difference and support the achievement of our ambition. And investment by the private sector will have a major role to play in realising the region's economic potential.

We need to use the work to develop the Transport Strategy as the opportunity to establish a pipeline of investment that will give both businesses and communities the confidence that growth will be supported by infrastructure and services. We need to ensure that maintaining our existing assets is seen as being an integral part of that investment pipeline.

And we need to ensure that investment in transport infrastructure and services is aligned with investment in digital infrastructure and strategic utilities making better use of the mechanisms that already exist.

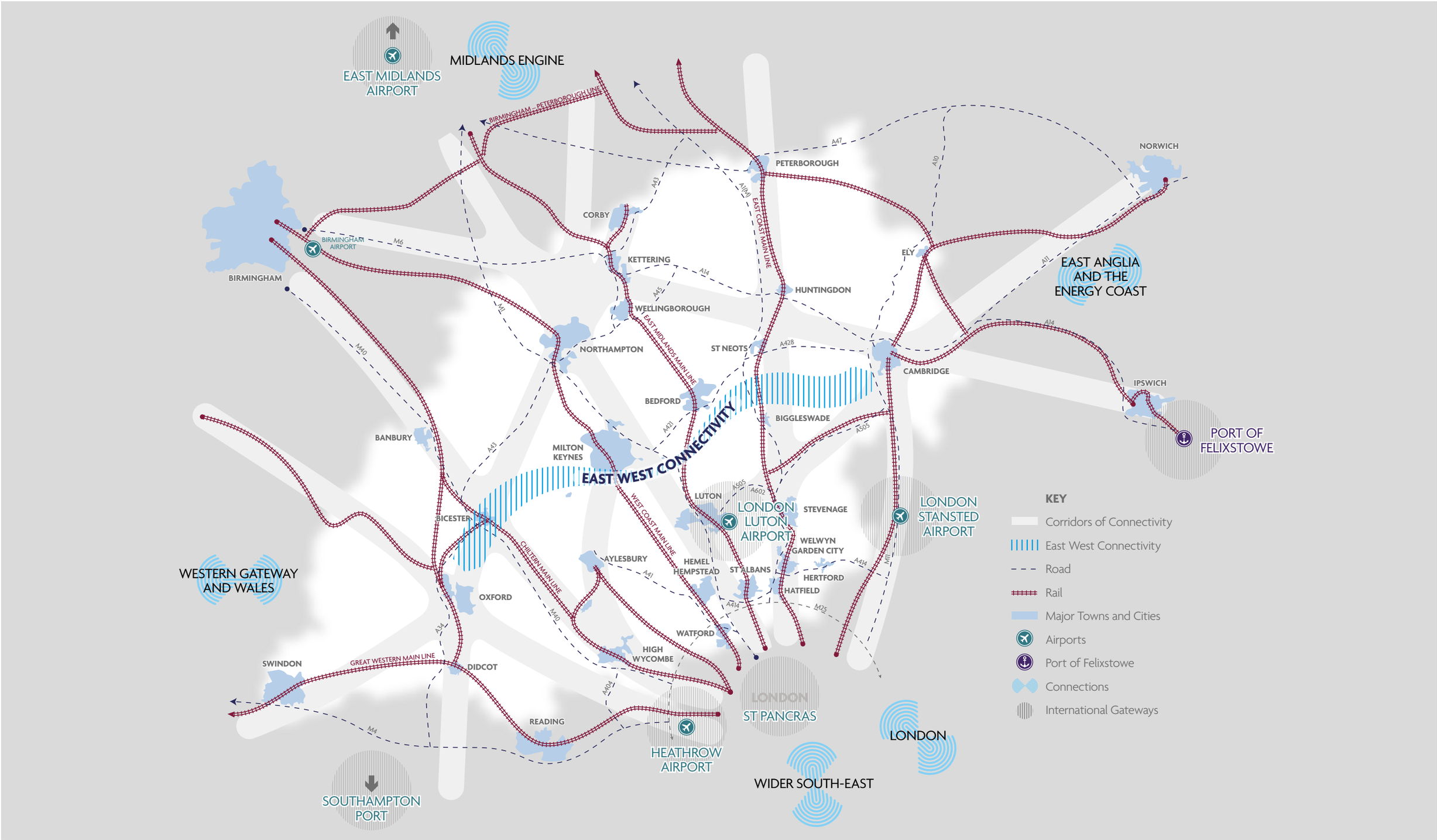
What do you think?

1. Does the draft vision provide sufficient focus for the Transport Strategy?
2. Is the ambition to have a zero-carbon transport system by 2050 sufficiently challenging?
3. Do the three key principles provide an appropriate framework within which to develop the Transport Strategy?

// Strategic linkages

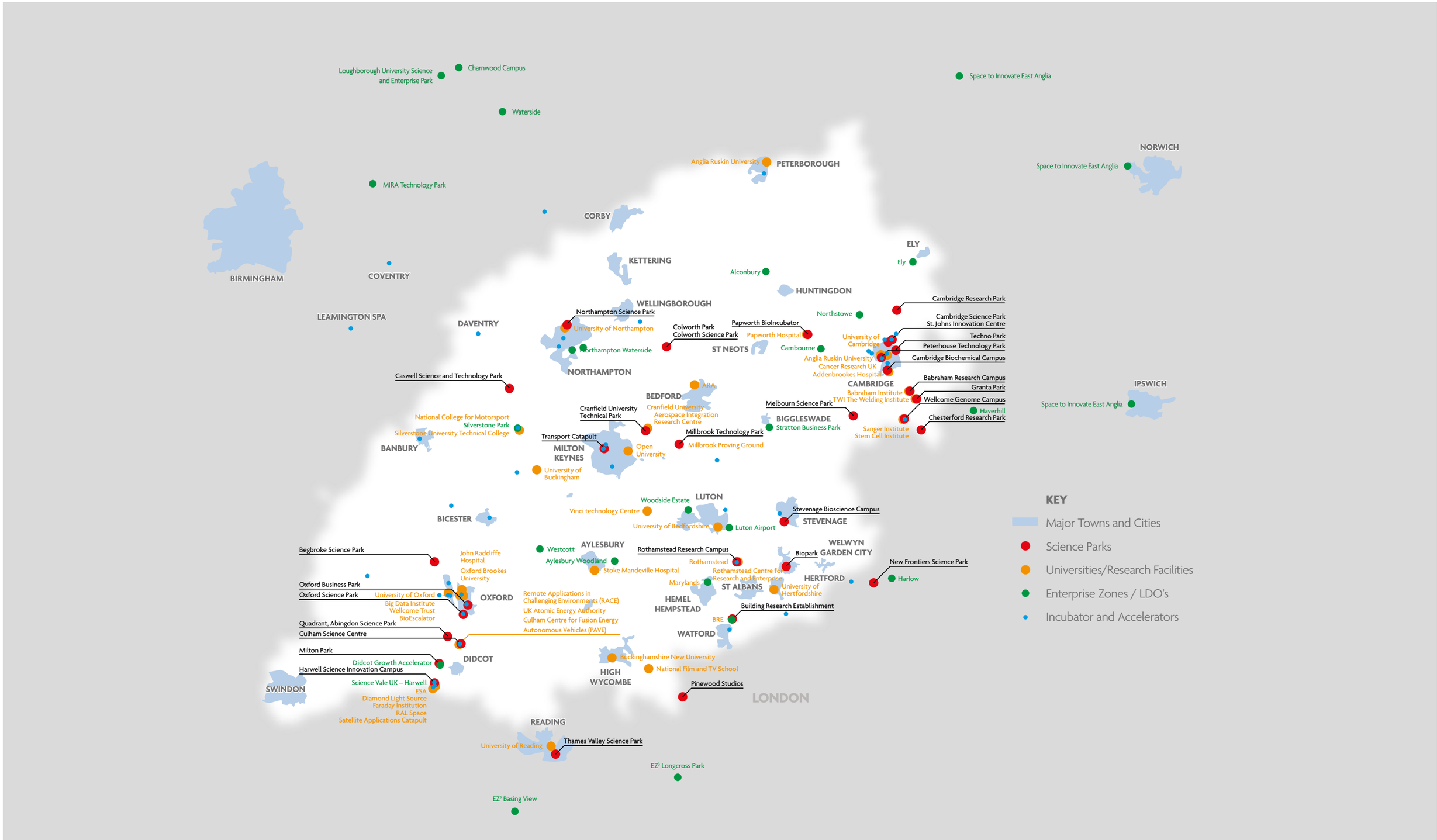
The Heartland does not sit in isolation of its significant linkages with other high performing regions of England, it is central to them. The area also has an international airport gateway through London Luton Airport, and sits in close proximity to other major international gateways.

Do you agree with our identification of these major corridors, gateways and regions?

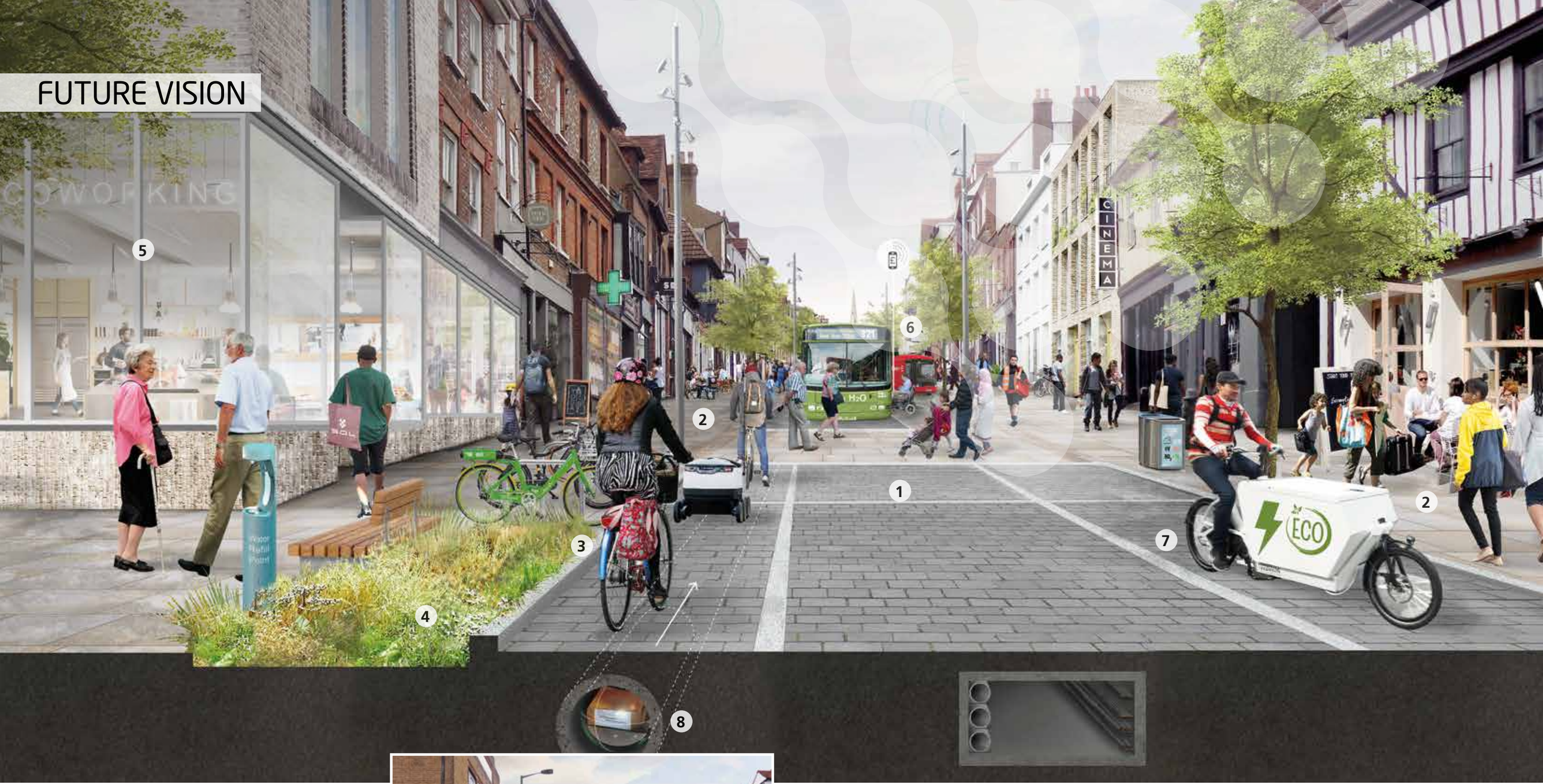


// Key clusters and enterprise zones

Clusters of businesses and organisations excelling in science, technology and research exist right throughout the Heartland, fuelling our economic growth potential. *How important do you feel better connectivity is in supporting the growth of these clusters?*



FUTURE VISION



High Street

The challenges facing our High Streets are well documented. What role can the transport system play in rejuvenating town centres by offering safer, greener and more attractive places for people to enjoy, ensuring High Streets remain a central hub for urban communities?

Business as usual

1. *Highways redesigned to support local bus routes, freeing up the street section to support walking and cycling.*
2. *New wider pavements allow for the inhabitation of the street space.*
3. *Cycle lanes and associated infrastructure including parking and charging locations for ebikes.*
4. *Introduction of sustainable drainage systems (SuDS) and tree planting to respond to the challenges of climate change and improving air quality.*
5. *Decluttering the streetscape of unnecessary signage and street furniture.*
6. *Provision for local deliveries to be made by electric/hydrogen vehicles, providing first mile/last mile logistics.*
7. *Supporting the uptake of local deliveries by electric cargo bikes.*
8. *Potential for 'parcel pipes' to be integrated beneath carriageways.*

What do you think?

Are the elements within this future vision: a) Ambitious b) Attainable c) Desirable

CONNECTING PEOPLE

"With pride, I am one of the 'cycle-army' in Cambridge's morning peak, weaving in and out of traffic, around transfixed tourists and meandering pedestrians. Traffic of all kinds is reduced to a humane pace of acceleration, raising both heart rates and the occasional temper. Saturday cycling is for city escapism – exploring destinations of seasonal intrigue, bluebells, villages and music. Hopefully, one day there'll be a decent dedicated cycling app, but for now Google leads my way. However, the technological giant provides no warning to some of cycling's treacheries – such as cows nonchalantly blocking the path ahead! Cycling holds a special place in Cambridge and much has been done to make it an attractive proposition. For me, it means freedom, but the experience – as elsewhere – is still not perfect. In a small city, space is a precious commodity; this inevitably leads to competition between modes, and to other frustrations such as lane-hogging, roundabouts, cobbles and those bad tempers. This is overlooked for the health and happiness that cycling in and around Cambridge brings – and it's cheap, too!"

Janet Hall, Cambridge resident

"Having the right infrastructure is crucial to the success and longevity of any new development. Not only is this one of the first considerations a homebuyer makes when looking for a new property, but it is also pivotal in helping to stimulate the local economy. Quality highways and transport links that connect a development to its nearest towns and cities are essential for this, regardless of whether it's an urban or rural location. Moreover, without the necessary 'green' infrastructure, which encompasses landscape and ecology, and social amenities, it will prove harder to attract people and businesses to that development and region – which, in turn, will stifle growth. The responsibility for providing this infrastructure ultimately falls on the shoulders of both housing developers and authorities alike. They must work in unison to ensure the development meets the needs of the local community with as little disruption as possible. If not, it will be more difficult to maximise the benefits of the new development for the community."

Paul Soutar, Bovis Homes Divisional Operations Director

"Young wheelchair users tell us how important accessible transport is so they can be independent and make the most of their lives, and just how challenging travelling can sometimes be. It's pointless booking a train ticket to go to work or attend a job interview if the right ramp isn't available to get their wheelchair on the train. Improving accessibility is vital for the companies developing transport in the future if young disabled people are to be included and have access to the travel opportunities many others take for granted."

Ruth Owen OBE, Chief Executive of Whizz-Kidz
a national charity for disabled children and young people

"For too long disabled people have faced barriers to being able to travel and live independently. At Scope we know that technology has the potential to transform the world for disabled people and it's absolutely right that all future transport modes and technologies need to be accessible to everyone. However, disabled people must be involved in the design and testing of these technologies if they are to succeed. A genuinely inclusive transport network is one that makes it much easier for disabled people to get to work, see family, and be part of their community both now and in the future."

James Taylor, Head of Policy
Campaigns and Public Affairs at disability equality charity Scope

Summary

- The Heartland's transport system will be centred on the ambition to offer frictionless travel across the region for the people who use it
- Investment needs to be delivered as part of a radical approach to achieving fully integrated 'end-to-end' journeys
- The transport system must address physical, cultural and digital barriers to travel
- Changes in travel behaviour, led in particular by the expansion of digital services, must shape our future investment priorities
- Integrated ticketing solutions that provides passengers with ease of access and frictionless travel between modes and service providers will be prioritised

A user-centred transport system

If we are to realise our ambition for the region then our transport system must have the needs of people and businesses at its core – offering high quality, tailored and sustainable journeys which integrate seamlessly with longer distance modes: in short, a model of frictionless travel.

We aspire to increase travel choice for the user. We need to capture the values and quality of life ambitions of residents. In many places across the region, they have a unique and admirable desire to live and work with quality of life and environmental values at the core of the life decisions they make.

We need to use these values as a catalyst for the change required that will ensure the region rises to its environmental ambitions. Easy access to information and better integration of services has a key role to play.

Our ambition is therefore to anticipate, engage with and harness the potential of a truly integrated transport system to improve levels of connectivity. We will develop a set of performances measures to identify the level of connectivity that we aspire to achieve across the region, taking into account the differing needs of urban and rural areas.

We are currently reviewing best practice to develop a toolkit of soft and hard measures which can be applied at a local level. We will use the overarching Transport Strategy to identify where the effectiveness of such measures will be enhanced through regulatory change. Our aim is for transport users to be offered choices that are attractive, viable, accessible and frictionless.

The Redways in Milton Keynes offer convenient and safe routes for people in mobility scooters

Bedford Bus Station

// Case Study

A world-leading city for cyclists

At near 30%, Cambridge has the greatest modal share for cycling in the English-speaking world. Cycling in the city was transformed in the 1990s by the 'core traffic scheme', which restricted use of motor vehicles in the centre, while encouraging bike use.

More recently, a focus has been on making the arterial routes around Cambridge more attractive to cyclists with the introduction of segregated cycle lanes. Floating bus stops have also been installed, which allow cyclists to easily overtake buses picking up passengers. Cycling use in the outlying villages is already comparatively high, but there are now plans to increase this further with the introduction of 'greenway' routes which will make cycling distances of up to 10 miles far more attractive.

Provision of cycling infrastructure is at the forefront of transport planning. A cycle path was included adjacent to the guided busway, while a cycle lane is an integral part of the A14 Cambridge to Huntingdon improvements. New housing developments are also designed with good cycling infrastructure in mind.

// Case Study

Orbital vision for growing town

The vision for an orbital route around Aylesbury is seen by Buckinghamshire County Council as a way to address existing issues with congestion caused by three A roads passing through the centre of town, and to create capacity for its population grows.

It will be realised through joining up several strategically placed new roads, linking the town's main radial routes, and drawing traffic away from the town centre.

These 'link roads' are being built on the outskirts as housing and business development is planned, and are being funded by contributions paid by housing developers along with funds from the Government.

Growth in the number of households of 40% is expected by 2033. In that time the number of local jobs is projected to grow from 62,000 to 80,000.

Two link roads are already built, one is under construction, seven are under development and two further sections are planned.

Improving end-to-end journeys

Investment in strategic transport corridors must be complemented by investment in infrastructure and services that connect people to the transport hubs on those corridors.

This is why the beginning and end of journeys in the region – the so-called 'first mile/last mile' – is the focus of a major study we've commissioned as part of the evidence base which will underpin the overarching Transport Strategy.

Providing choice, quality and reliability in these types of journeys will:

- Improve access to employment, skills, education and housing as well as health care and leisure
- Improve access to transport hubs, offering frictionless interchange for longer distance trips by mass transit (rail, coach and bus) within and beyond the region
- Link people and businesses with goods, services and markets through physical means, reducing the need to travel by private car where appropriate.

The emphasis on connectivity options will tap into a growing emphasis amongst the region's population to seek access to solutions that meet their mobility needs, as opposed to owning their means of travel.

We propose to set challenging performance measures for our transport system as a way of highlighting where investment in infrastructure and services and then work with transport service providers to achieve them.

The A5 Dunstable Northern Bypass

An emphasis on connectivity

In developing our detailed proposals for the overarching Transport Strategy we will look to:

- Enable choice in mobility options across the Heartland with supporting infrastructure and tailored services
- Encourage long distance trips onto sustainable, mass-transit modes
- Enable high quality, frictionless interchange at transport hubs at strategic locations that link people and communities to each other and to hubs on the major corridors
- Create the conditions for a suite of first mile/last mile solutions that encourage zero carbon, sustainable access to longer distance services
- Work with Government and national agencies to ensure that regulatory frameworks enable innovation in first mile/last mile solutions
- Encourage the provision and wide-scale adoption of shared travel modes, and the widespread adoption of solutions that avoid the need for traditional car ownership models
- Align and integrate planning for the transport system with land use and economic planning ambitions and urban design principles across the region.

// Case Study

Utilising technology for journeys not served by the mainstream

The Oxford Bus Company launched its on-demand ride sharing service, PickMeUp, in 2018. Covering the city's eastern arc, users request a mini-bus pick-up from any one of more than 2,000 virtual bus stops across the operating zone using a free mobile phone app. They are then matched with others wanting to make similar journeys. PickMeUp's intelligent software dynamically routes vehicles to match customer demand, and uses AI technology to optimise its calculations and predictions over time. In its first nine months, 100,000 journeys were taken via PickMeUp, and more than 20,000 people had registered to use the service.

A high-profile corporate partnership was established with Oxford Science Park, and there is optimism that – with the support of more businesses – this type of delivery model can continue to grow, and help reduce car dependency for those wishing to make journeys not served by the mainstream, high frequency bus routes in the city.

Accessible and inclusive travel

The overarching Transport Strategy must ensure that our transport system is inclusive and accessible. Priority will be given to working with infrastructure owners and service providers to develop business models that support this overarching principle.

In order to achieve a genuinely inclusive transport system, priority will be given to identifying and then removing physical, cultural and digital barriers. In particular, a focus will be given to ensuring people with a range of visible and invisible needs are empowered to access new opportunities to realise their full potential.

Our commitments to better connectivity, of which public transport plays a key role, will help address inequalities, improve social cohesion and increase social mobility.

We will work with providers to support the design and delivery of public transport services that improve the end-to-end journey experience of disabled people whilst recognising the benefits this has to all users. We can, and will, ensure that the Transport Strategy embeds best practice inclusivity principles into connectivity, providing an effective delivery vehicle for Government's inclusivity policy.

> Better transport accessibility will in its broader sense provide access to employment markets, rebalance local economies, address transport poverty and provide greater social justice.

The guided busway in Luton

// Case Study

An urban extension with transport in mind

Stanton Cross will be the biggest expansion to Wellingborough in modern times. The major residential-led development is set to deliver 3,650 homes, along with employment areas and a centrally located Neighbourhood Centre. To support the development of a thriving new community, the vision for Stanton Cross also includes new leisure and retail amenities, a 143-acre country park and three new schools, delivering social and environmental benefits to the Borough.

The development, promoted by Bovis Homes, is situated on land to the east of Wellingborough's train station. Connectivity and sustainability are at the heart of the Stanton Cross masterplan, and major infrastructure works and improvements to roads and public transport will also take place, with new routes – including roads, cycle lanes and footpaths – set to connect the area to major local roads, public transport hubs and the town centre. It is estimated that Stanton Cross will benefit the Borough's economy by creating around 300 jobs a year over the construction period, as well as more than 7,500 additional permanent jobs once completed.

The Oxfordshire village of Eynsham

Integrated ticketing

Experience from existing integrated ticketing regimes demonstrates that ease of access and simplicity of use are key considerations in delivering frictionless travel for transport users.

A key opportunity for the region – and an immediate priority for action – is to deliver an approach that targets bus and coach travel, which are responsible for around two-thirds of the region's journeys by public transport.

We will build on initiatives already underway that are being led by operators as well as local authorities, with a view to enabling a consistent integrated approach at the regional level.

We will continue to build on the work of England's Economic Heartland Bus Operators Association, the Connected Places Catapult and neighbouring sub-national transport bodies to develop a detailed proposal that will ensure passengers are able to access integrated pricing options for the journeys they are taking.

A transport system which looks to the future

People's expectations of our transport system and the services available are changing, driven in part by the growth of user centred services enabled by digital connectivity. In looking to the future our Transport Strategy must better reflect the implications for future travel demand that are a consequence of new types of working, socialising and consuming.

The pace of change is increasing, driven by user expectations. The Transport Strategy will provide the framework within which new user-focused solutions will emerge in support of the overarching ambition for the region. Delivering the ambition will act as a catalyst for new solutions that might be applied more widely beyond the region.

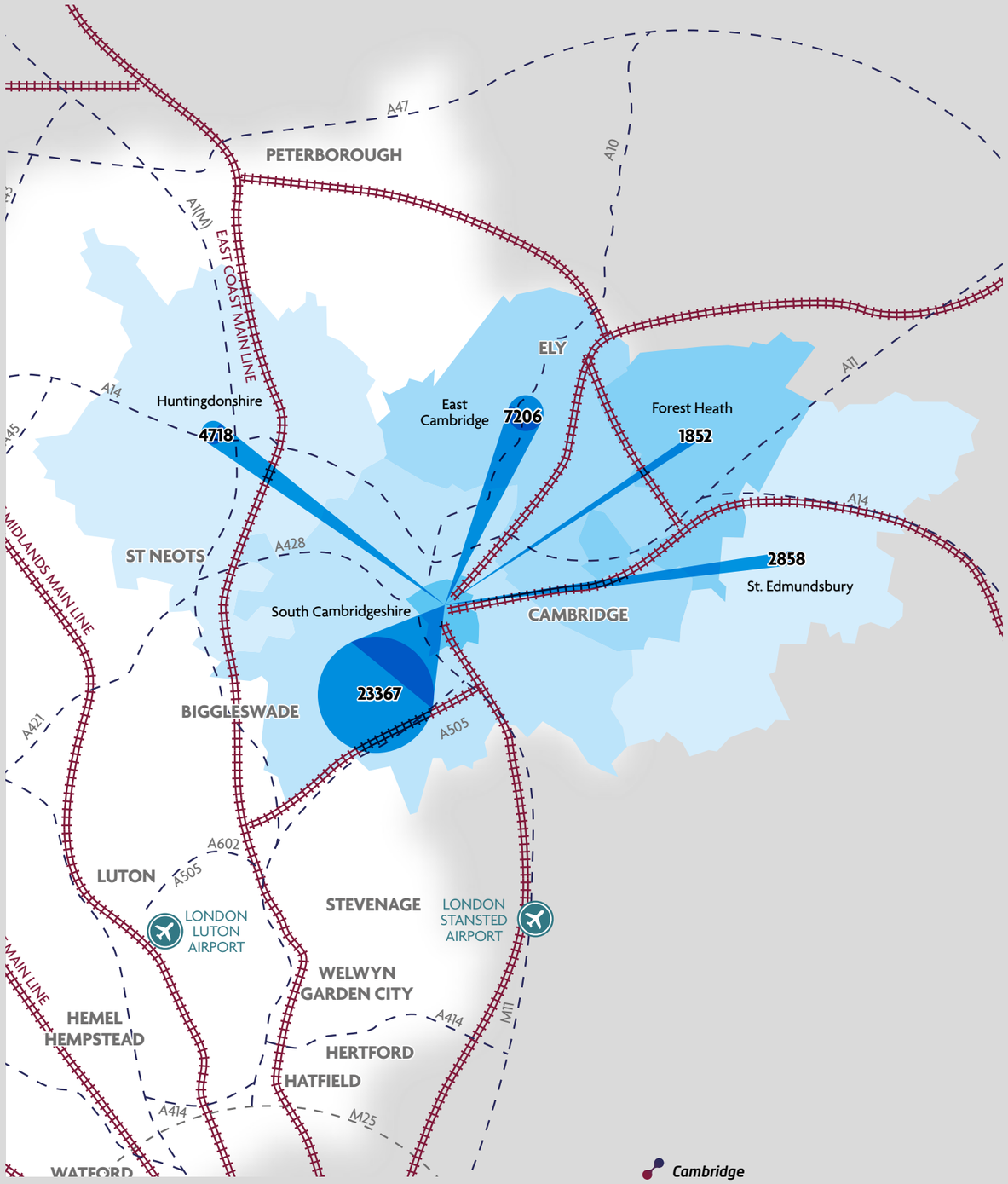
Artists' impression the Luton Direct Air-Rail Transit's central terminal. The DART will transport passengers between Luton Airport Parkway station and London Luton Airport

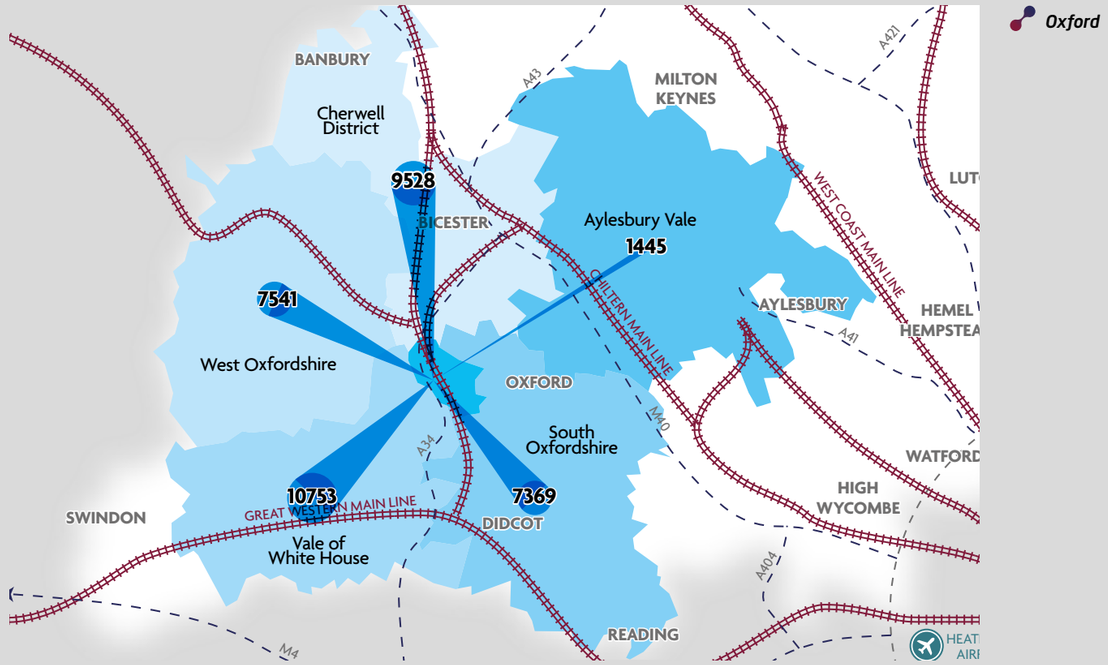
What do you think?

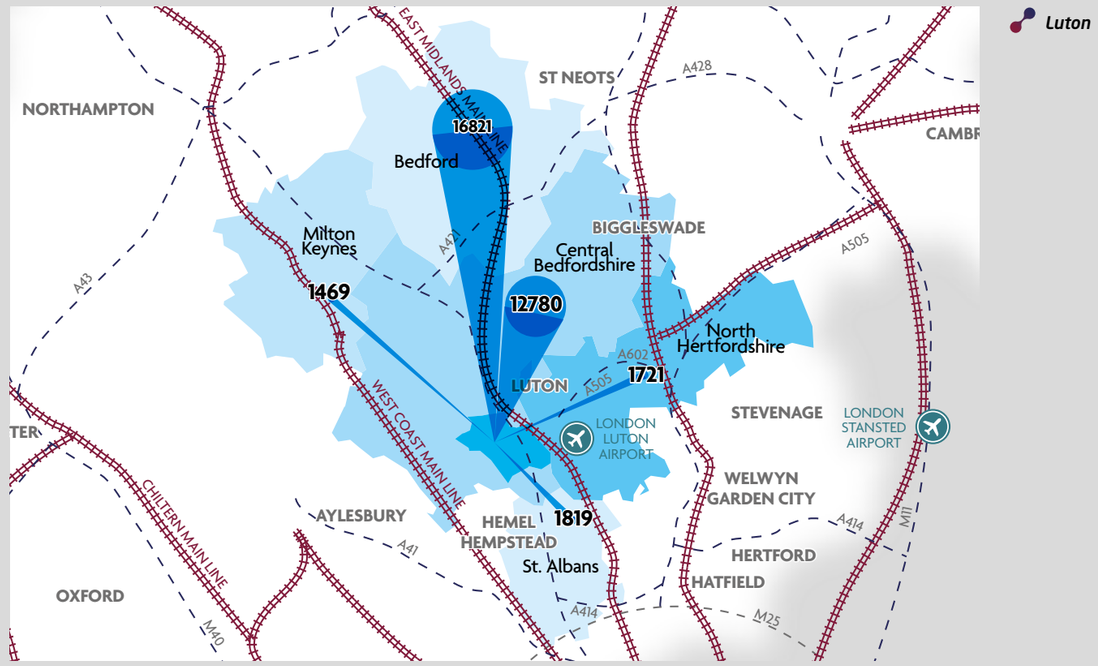
4. What are the key factors influencing people's choice of travel mode?
5. What are the key barriers that need to be addressed if we are to achieve frictionless travel?
6. What performance measures should be used to identify the levels of service users require of the transport system?
7. Should the strategy include and define appropriate 'nudge principles' (small changes which can influence user-behaviour) to encourage more people to use public transport in the Heartland area?

// Journey to work patterns

Top five origins (at planning authority level) for people travelling to work by all modes into Cambridge, Oxford, Luton, Northampton and Milton Keynes (2011 census), showing the variety of movements within and outside of the Heartland.

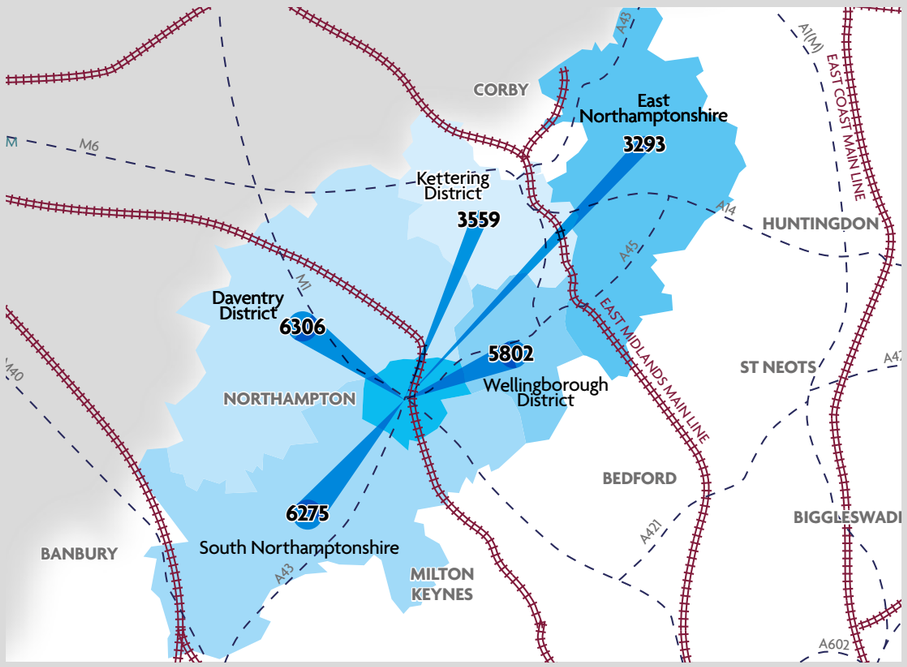


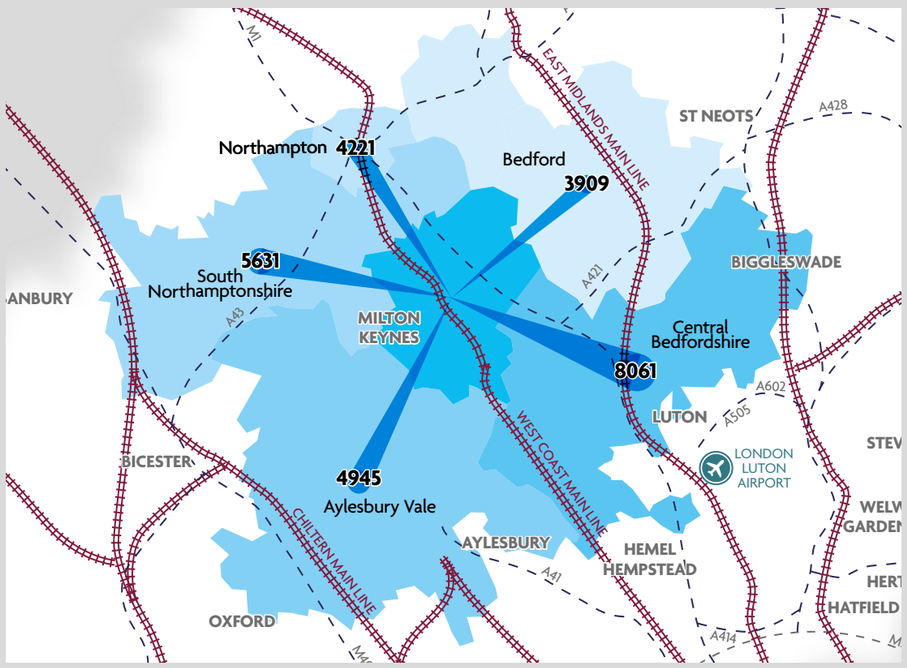


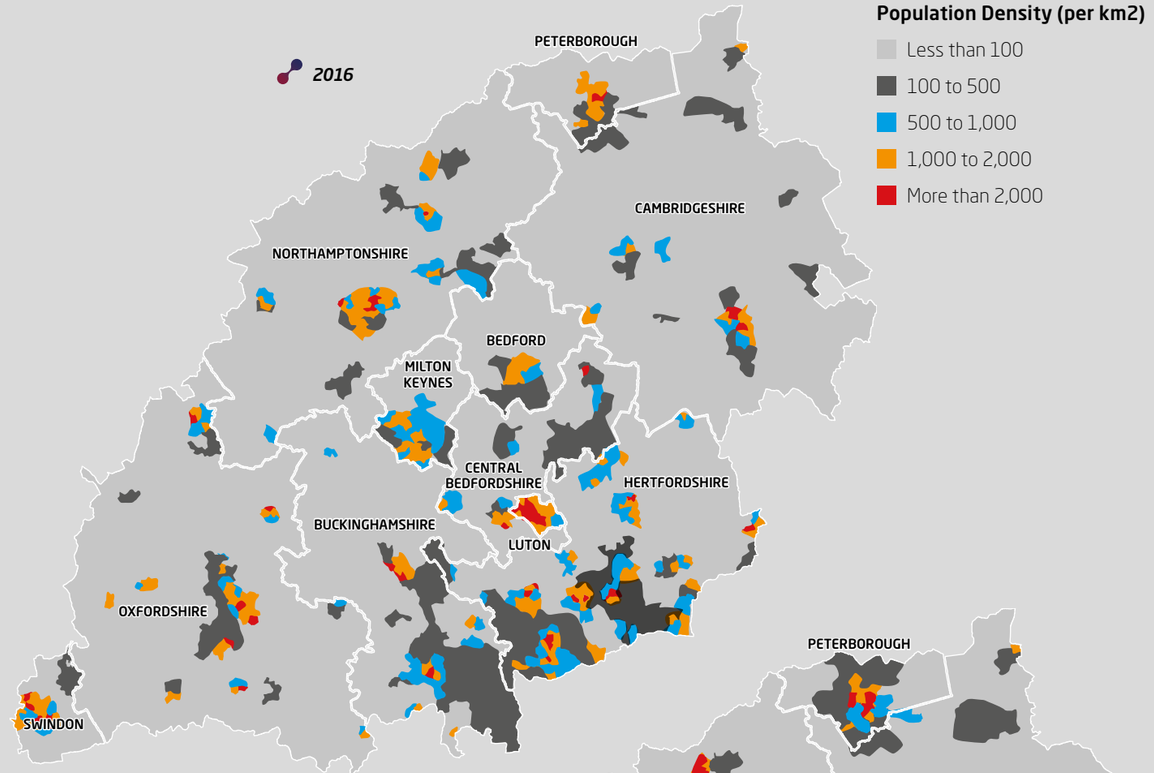


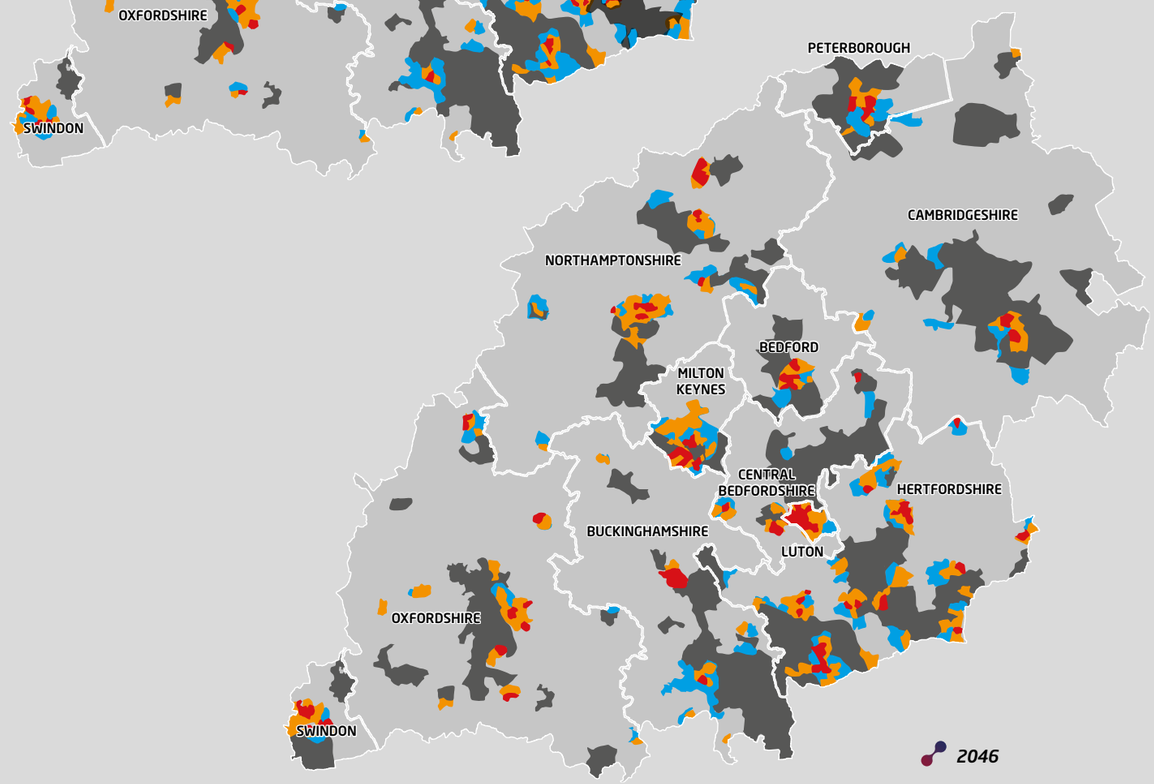
// Journey to work patterns and population densities

Population densities in 2016 and 2046, showing the areas where planned growth is forecast to be highest, and which are likely to need improved infrastructure and services to support growth.









FUTURE VISION

New Housing Development

Transport plays a key role in realising thriving new and expanded communities. The design of new homes brings the opportunity for innovation – so how do we ensure we make the most of this opportunity, rather than simply repeating the mistakes of the past?

Business as usual

1. *Attractive high occupancy rapid transit route, connecting to the rail network to relieve pressure on existing roads.*
2. *Smart highways technology facilitating rapid public transit provision.*
3. *Local hubs at the centre of new communities combining transport and civic functions.*
4. *New transport hubs incorporating rapid transport, rail, local bus routes and cycling infrastructure.*
5. *High quality greenway routes connecting communities to surrounding transport infrastructure and amenities.*
6. *A network of urban quietway routes through new and existing communities, supporting the uptake of walking and cycling.*
7. *Communities and urban extensions along the new transport route.*
8. *Consolidation centres adjacent to the road network providing first mile/last mile logistics hubs.*
9. *Driverless, on-demand delivery vehicles operating from consolidation centres to remove large vehicles from urban roads.*

What do you think?

Are the elements within this future vision: a) Ambitious b) Attainable c) Desirable

CONNECTING PLACES

"If our part of the country is to reach its potential, then how we best connect our places, communities and businesses must remain at the heart of our investment decisions. Improved east-west links, namely East West Rail and the Oxford to Cambridge expressway, are two of the major strategic transport investments identified that will open up a multitude of opportunities for residents and businesses, housing and jobs. Our challenge is to achieve this in a way that brings tangible benefits for our communities, can achieve a positive impact on our natural environment and crucially, is forward-thinking and smart in connecting in with digital infrastructure and new technology innovation- such as demand-responsive transport to positively contribute to emerging new industries and developments of the future."

Peter Horrocks CBE,
Chair of the South East Midlands Local Enterprise Partnership (SEMLEP)

"The area covered by the Heartland faces huge transport challenges: much of it has high car ownership and poor public transport, leading to traffic congestion, car dependence and in some areas poor air quality. There is also significant housebuilding planned. Yet there has been limited research on policy options to enable the counties and districts in the Heartland to tackle these issues. Transport research has tended to look at cities and inter-urban transport, not at patchworks of smaller towns and villages. The University of Hertfordshire's new Smart Mobility Research Unit is planning to change this, with a "Sustainable Transport for Counties" initiative. This will be a series of policy roundtables looking at different aspects of transport: smart mobility, better public/shared transport, governance, funding and finance, public engagement, walking and cycling, and integrating planning and housing. It is planned that out of these will come a mix of practical policies and a research programme to help decision-makers across the Heartland tackle the transport problems they face."

Dr Scott Copsey, *Senior Lecturer and Director of the Smart Mobility Research Unit, University of Hertfordshire*

"Cambridge Biomedical Campus shows what can be achieved when world leading research, patient care and those working on new drugs and devices in the life sciences industry come together in one place. However, there is a range of important considerations organisations make when deciding to locate somewhere and one of the most fundamental is the ease with which their current and potential employees, customers, contacts and suppliers will be able to get to them. Our businesses want to be located on a site which is easily accessible via sustainable transport and where congestion is kept to a minimum. That's why it is critically important for the campus's future success – and that of the wider city – that transformative and sustainable transport schemes, such as Cambridge South Station and the projects being developed by the Greater Cambridge Partnership, are delivered swiftly."

Malcolm Lowe-Lauri, *Executive Director at Cambridge University Health Partners on behalf of Cambridge Biomedical Campus*

The A6 bridge over the River Great Ouse in Bedford

Summary

- Delivering investment in strategic transport corridors will transform travel patterns, improve connectivity and help ensure that the sum of the parts is bigger than individual components
- Delivery of East West Rail and investment in the strategic road network are key elements of the new multi-modal east-west spine across the Heartland region
- Investment in north-south strategic corridors is as vital to our long term economic success
- Where investment is being made in strategic transport corridors, these should include investment in digital infrastructure at the same time
- The implications of improved digital connectivity on future travel demand needs to be reflected in the design of the strategic transport corridors

Supporting growth

Investment in strategic transport corridors will be an essential component of the overarching Transport Strategy, complementing the investment made in improving the beginning and end of journeys.

Connecting places in this way will support the ambition to deliver transformational levels of growth by expanding access to labour markets for businesses and increasing the opportunities open to people.

Improved connectivity needs to be built on the premise of providing choice, shaped by an understanding of the expectations that residents have in terms of their lifestyles, and consistent with the ambition to deliver a zero carbon transport system by 2050.

The standards to which investment in strategic transport corridors is made will need to be consistent with the vision for the Transport Strategy. It should be considered on a multi-modal basis, with the consequences of investment in one mode for the design and performance of other modes being taken fully into account.

The overall approach to the strategic transport corridors should reflect the needs of users and businesses, with the level of service provided consistent with the performance measures adopted for the transport system.

A philosophy of 'decide and provide' will be used to realise the overarching ambition for the region's transport system. Our approach should have the capacity to evolve, in order to meet the changing nature and demands on the transport network in the future.

It must also consider:

- *Changes in geography* – improved connectivity (whether physical or digital) means that traditional 'market areas' in the region are changing and will continue to change: what is currently a series of discrete housing market areas and functional economic areas will become one..
- *Pace of change* – in identifying future infrastructure requirements it will be essential to identify solutions that are consistent with the long term vision and ambition for the region as a whole. The timescale it takes to design and deliver major new infrastructure puts those very schemes at risk of being outdated by societal and economic changes before they are even completed.

// Case Study

Transport infrastructure key to Biomedical Campus's future success

The Cambridge Biomedical Campus, on the southern edge of Cambridge, is an internationally significant hub for health and life sciences. Already Cambridge's largest employment site, it is currently undergoing a major expansion. The campus is home to AstraZeneca's new global headquarters, alongside life-science company Abcam and the newly relocated Royal Papworth Hospital. Integral to the campus's attractiveness to such blue-ribbon companies are the proposed transport link improvements, including Cambridge South Station – which when delivered would become Cambridgeshire's third busiest station. With 27,000 people expected to be employed at the campus by 2031 it is critically important that transport access meets demand and economic growth is supported. A development agreement, jointly funded by the Department for Transport and local partners, is bringing forward the detailed design options for the station and local track improvements. Network Rail is working to a 2025 completion date subject to securing the necessary funding.

An aerial view of Cambridge Biomedical Campus

// Case Study

New rail corridor to support planned growth from Northamptonshire to Old Oak Common

England's Economic Heartland is working with Network Rail to realise a new north-south rail corridor which includes Northampton, Milton Keynes, Aylesbury, Wycombe and Old Oak Common. The additional connectivity will support planned growth and provide an attractive option for travel between a number of important market towns. It provides a strategic link from the Chilterns into Old Oak Common – one of London's biggest economic and transport regeneration projects – with express connections to Heathrow Airport and the City. The new corridor will be made possible by a combination of East West Rail and released capacity on the West Coast Mainline when HS2 opens. It would also require improvement work on the Chiltern line between Aylesbury and Princes Risborough.

Strategic transport corridors

Based on the work completed to date it is clear that there are a number of strategic transport corridors that should arguably form the core of the transport system moving forward

a) The east-west multi-modal spine

The National Infrastructure Commission identified east-west connectivity as one of the most significant barriers to growth across the region:

> "The arc is not currently served by high-quality, end-to-end, east-west transport links. Its principal transport arteries run north to south, providing strong links to London, the midlands and the north of England."
>
> *National Infrastructure Commission, November 2017*

// Case Study

Opportunities along the 'knowledge spine'

Improving the A40 presents an opportunity to stimulate economic growth within the 'Oxfordshire Knowledge Spine', support planned housing growth, reduce carbon emissions and increase travel by sustainable modes. Currently between 23,000 and 32,000 vehicles per day use the single carriageway road on the section between Witney and Oxford. Congestion is described by local business leaders as one of the biggest barriers to economic growth and prosperity in the west of Oxfordshire. Oxfordshire County Council's solution is to upgrade the A40 to dual carriageway between Witney and Eynsham and deliver public transport, walking and cycling improvements between Eynsham and Oxford. This will include new park and ride facilities; bus priority measures and new bus lanes alongside extra bus stops; and upgraded cycle and walking paths. Strategic modelling has suggested the scheme offers significant benefits in bus journey time reliability throughout the day as well as bus journey time savings of up to nine minutes in the morning peak with minimal impact on car journey times.

The A40 in Oxfordshire

A beautiful view at Rushmere Country Park

The Commission went on to identify East West Rail and the Oxford to Cambridge expressway as key elements of the east-west multi-modal spine.

Delivery of East West Rail will see services restored between Oxford and Cambridge and between Aylesbury to Milton Keynes – more than 60 years after the closure of the old Varsity Line. Integral to the overall project is the delivery of improved rail connections to the east of Cambridge, in particular with Norwich and Ipswich.

In addition, by providing the opportunity to develop interchanges where East West Rail crosses the radial main line corridors the project offers the opportunity to offer an expanded range of travel options for rail journeys that can currently only be made by traversing through London. The locational benefit of such interchanges may in turn provide opportunities to support future growth.

East West Rail's 'Western Section', from Oxford to Bedford and Aylesbury to Milton Keynes, is due to be completed by 2023 (the Western Section's first phase between Oxford and Bicester opened in 2016).

The 'Central Section', from Bedford to Cambridge, is more challenging, as parts of the old line have been built over, requiring a new route. Government is aiming to deliver this section by the 'late 2020s'.

Delivery of the 'Eastern Section' – with improved services east of Cambridge to Norwich and Ipswich – is also an integral element of the overall project. Delivery of these improvements could be achieved in advance of the Central Section.

In addition, installation of digital infrastructure along the rail corridor will mean both rail users, and local residents and businesses living along the corridor, will benefit from improved connectivity.

Alongside delivery of East West Rail, the Government is committed to delivering investment in strategic east-west road links between Oxford and Cambridge, via Milton Keynes and Bedford, the aims of which will improve connectivity, build network resilience and support economic growth.

The scheme includes a series of major new investments:

- In February 2019 the Government announced its preferred route for the A428 Black Cat to Caxton Gibbet improvements, removing the final piece of single carriageway between Milton Keynes and Cambridge.
- In September 2018 the Government announced its preferred corridor for strategic road solutions between Oxford and Milton Keynes. An announcement on the preferred solution for the investment is expected in 2020 following a non-statutory consultation on options.

It is important that the design of east west strategic road options are designed to complement the investment being made in delivering East West Rail (including the investment made in digital infrastructure).

b) North-south strategic transport corridors

Improved connectivity along north-south strategic transport corridors is viewed as being integral to the Transport Strategy, including:

- The Northampton – Milton Keynes – Aylesbury – High Wycombe – Old Oak Common corridor has been identified as being of strategic importance to the rail network
- The M1/West Coast Mainline corridor passes through the heart of the region. Delivery of HS2 provides the opportunity to reallocate capacity on the current West Coast Main Line, as well as relief pressure from the Strategic Road Network so as to enable this strategic transport corridor to be better supported
- The A1(M) corridor has been the subject of a strategic study undertaken by Highways England during the first Road Investment Strategy (RIS1). A long-term solution to this corridor is required in order to address existing challenges, prior to consideration of further growth opportunities through the Local Plan.

c) Cambridge Metro

- The CAM – the Cambridge Autonomous Metro – is a strategic proposal put forward by the Elected Mayor for the Combined Authority and reflects the need for a step change in connectivity if the economic potential of the Cambridgeshire sub-region is to be realised.

Connectivity studies

The benefits of investment in the strategic transport corridors will only be realised if accompanied by a complementary programme of investment in connecting infrastructure.

England's Economic Heartland has been charged by the Government to take forward a connectivity study linked with supporting access to the new emerging solutions for east-west strategic roads connectivity between Oxford and Milton Keynes. The output from this work will form part of the technical evidence supporting the draft Transport Strategy.

We have also identified the need to take forward a similar study to ensure that a similar level of connectivity to/from the strategic road network between Milton Keynes and Cambridge is achieved.

The Black Cat roundabout south of St Neots

// Case Study

Road upgrade opens up economic opportunities and sustainable travel

The dualling of the A421 from the Eagle Farm roundabout in Milton Keynes down to Junction 13 of the M1 in Bedfordshire – a stretch used by almost 30,000 vehicles a day – is due to complete in 2020. As well as easing congestion, the upgraded A421 will help improve access to planned developments, such as the 5,000 homes proposed in new villages in the Marston Vale area, as well as 40 hectares of employment land, and will support up to 2,500 new jobs. It will also help improve access to Ridgmont station – which sits on the East West Rail scheme – and will include a new cycleway and path. £23.5m funding was approved by the Department for Transport for this scheme through the South East Midlands Local Enterprise Partnership's (SEMLEP) Local Growth Fund, with Central Bedfordshire and Milton Keynes councils contributing up to £3m each.

A421 which is being upgraded

Major Road Network

England's Economic Heartland supported the proposal by the Department for Transport to identify a Major Road Network.

Our overarching Transport Strategy will restate the case made by the original Rees Jeffreys Road Fund report that the Major Road Network should be viewed as a single network – one that combines the Highways England Strategic Road Network with the more significant Local Transport Authority owned roads.

We will keep the designation of the Major Road Network under review during the development of the Transport Strategy. In particular we will ensure that the outcomes of the connectivity studies are used to inform revisions to the Major Road Network.

The long term investment pipeline associated with the Major Road Network will be developed in parallel with the work on the Transport Strategy. It is essential that the final proposal meets the needs of future growth across the region. The scale of economic opportunity and transformational nature of growth makes it likely that the scope and requirements of the MRN will evolve over time.

Realising the Potential of the Rail Network

The rail network offers an opportunity to improve strategic connectivity in a region where there is a strong propensity to use rail services when these are attractive and viable choices.

Delivery of East West Rail will in itself create significant new travel opportunities at the regional level. However, if the overall ambition for the region is to be realised we will need to grow the market share for rail services further.

Notwithstanding the on-going Williams Review of the rail industry, England's Economic Heartland has identified the need to review the current pattern of rail services with a view to determining whether this is fit for purpose moving forward.

The outcome of the review commissioned by the Heartland will be used to inform the development of the overarching Transport Strategy.

Digital Infrastructure

The ambition to create better places is dependent upon being able to ensure that investment in strategic transport infrastructure is aligned with that in digital infrastructure.

The continued growth of the digital economy, in particular the creation of new business models for service delivery (by both public and private sectors) means that the way in which people access opportunities and services continues to undergo fundamental change.

We are already seeing the growth in new business models having implications for travel patterns and future demand, and it is clear that this is a trend that is likely to accelerate with the passage of time.

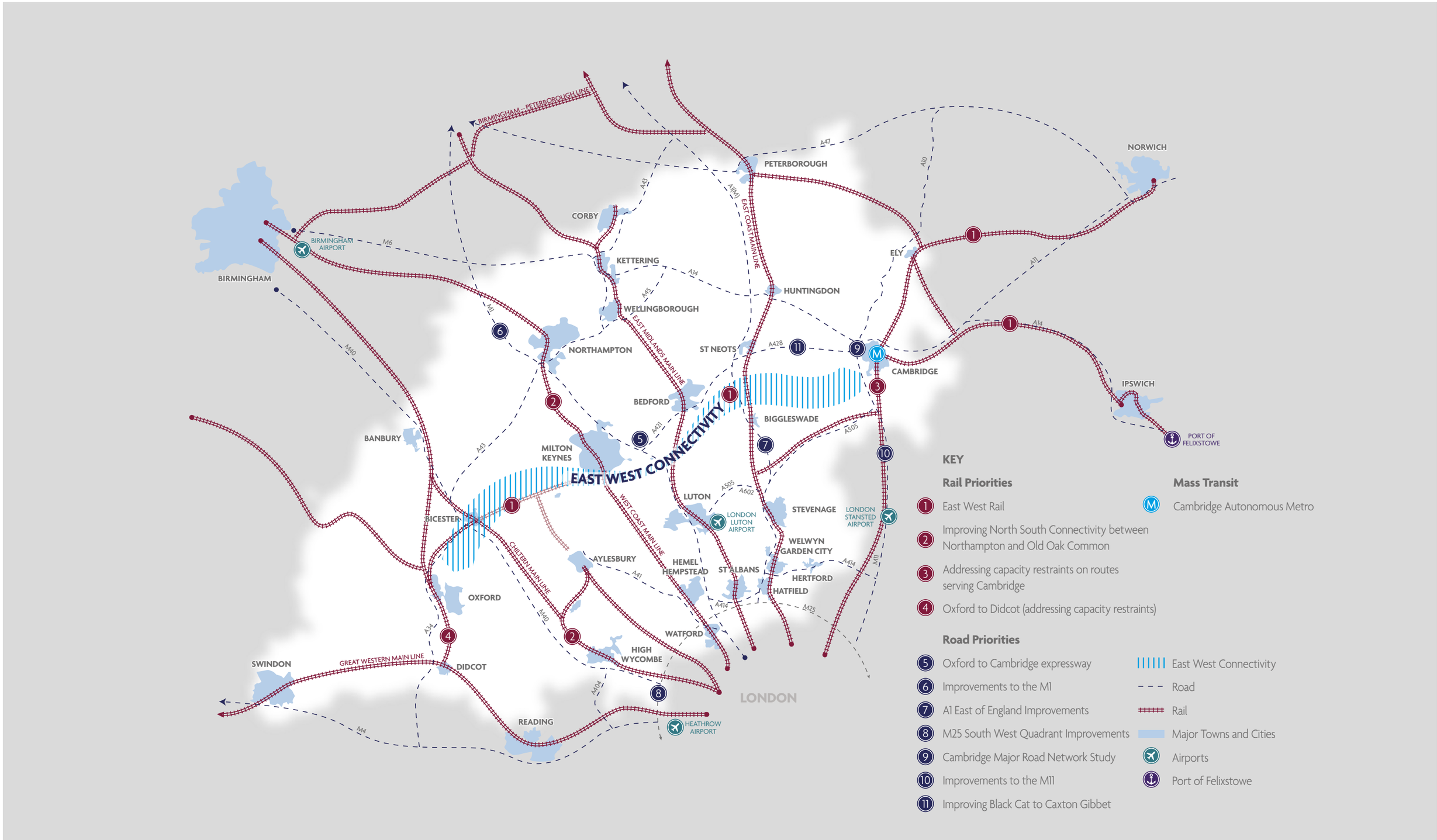
It must be embraced and encouraged if ambitions for growth are to be achieved in a way that delivers environmental net betterment.

What do you think?

8. What weight should be given to the changes in travel demand arising from the delivery of transformational infrastructure?
9. What weight should be given to the potential of the rail network to accommodate a higher proportion of future travel demand?
10. Have we identified the key strategic transport corridors?
11. Are there specific issues that should be taken into consideration as part of the connectivity studies?
12. To what extent should we look to the growth in digital services to change the nature and scale of future travel demand?

// Immediate strategic infrastructure priorities

England's Economic Heartland's priorities for development and/or business case development



// Current journey times by public transport – Oxford

These maps show current journey times from five key urban centres in the Heartland by both public transport (rail and bus/coach) and private motor vehicle. You can find the methodologies below and on the following page. The maps give a baseline understanding of the current connectivity gaps, many of which will be transformed by major infrastructure such as East West Rail. This in itself will transform housing and labour markets, creating a single 'Heartland' market.

Methodology

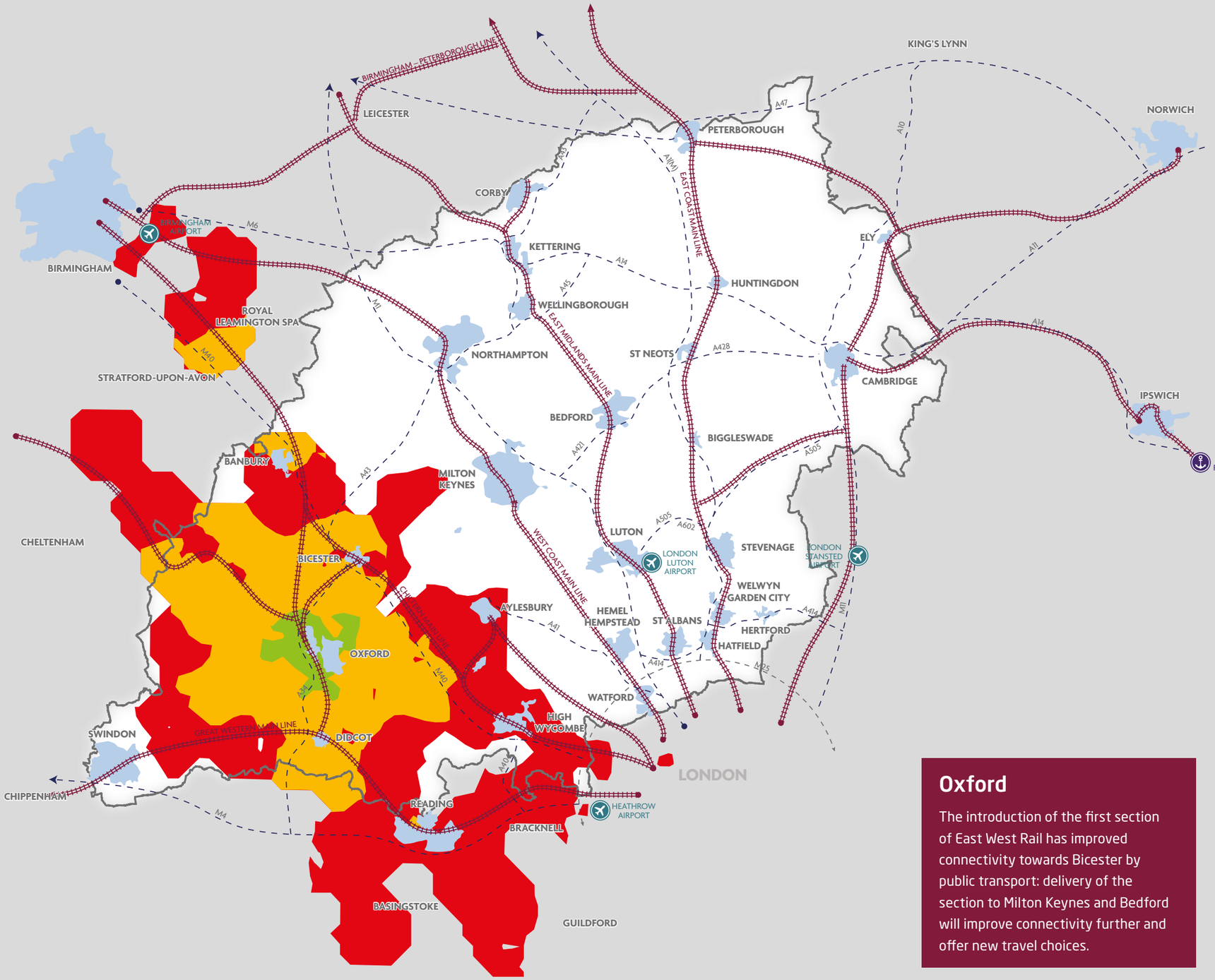
The public transport isochrones have been calculated using Basemap's TRACC software package. This uses bus, coach and National Rail timetable information to calculate the area that can be accessed within a specified time frame.

The analysis uses public transport timetable information accurate as of the start of 2019 Q2.

The public transport isochrones are based on a journey starting and ending any time between 7am and 9am. The isochrones do not show the settlements accessible after 9am even if the travel time is less than 90 minutes.

The public transport isochrones are based on the following assumptions:

- People walk at an average speed of 4.8 kph (3.0 mph).
- The maximum distance people are prepared to travel to access a public transport (e.g. bus stop/train station) is 800m.
- The maximum distance people are prepared to travel to interchange between public transport services (e.g. between bus and rail) is 500m; and
- To interchange, a minimum of 5 minutes (excluding walking time) is needed between the arrival and departure of the two services.



Oxford

The introduction of the first section of East West Rail has improved connectivity towards Bicester by public transport: delivery of the section to Milton Keynes and Bedford will improve connectivity further and offer new travel choices.

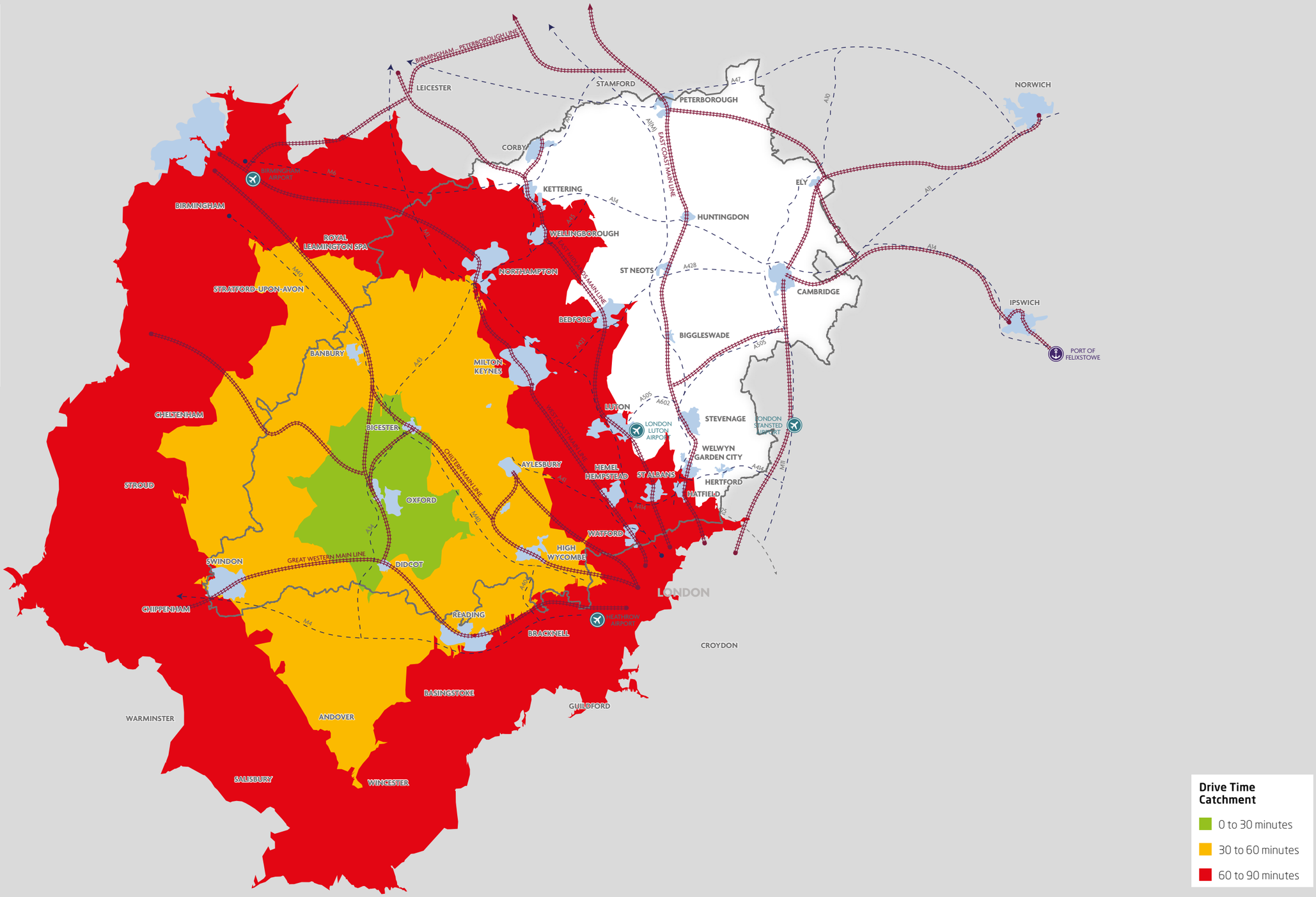
Public Transport Catchment

- 0 to 30 minutes
- 30 to 60 minutes
- 60 to 90 minutes

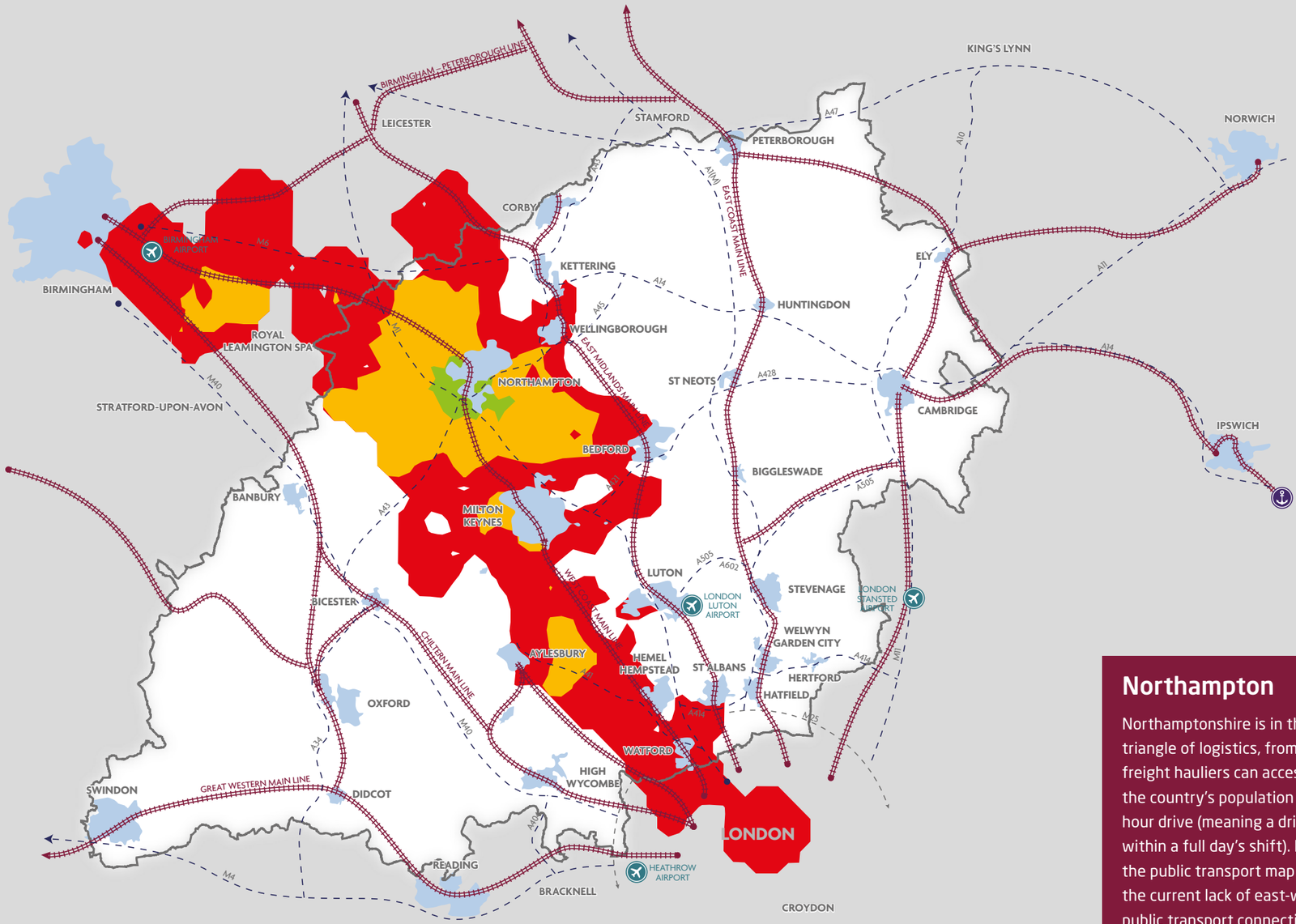
// Current journey times by road – Oxford

Methodology

The drive time isochores have been produced using ESRI's ArcGIS and the StreetMap Premium dataset. This dataset includes average vehicle speeds by time of day and day of the week for all road links in the UK. This enables accurate journey time projections to be made that take account of typical levels of congestion. For the purpose of this analysis, vehicle speeds for Monday at 8am have been selected as this time period is considered to best reflect typical AM peak travel conditions. It should be noted that the software does not take account of any improvement or deterioration in traffic congestion over the course of a journey – rather it assumes traffic congestion is reflective of conditions at 8am for the entire journey.



// Current journey times by public transport – Northampton



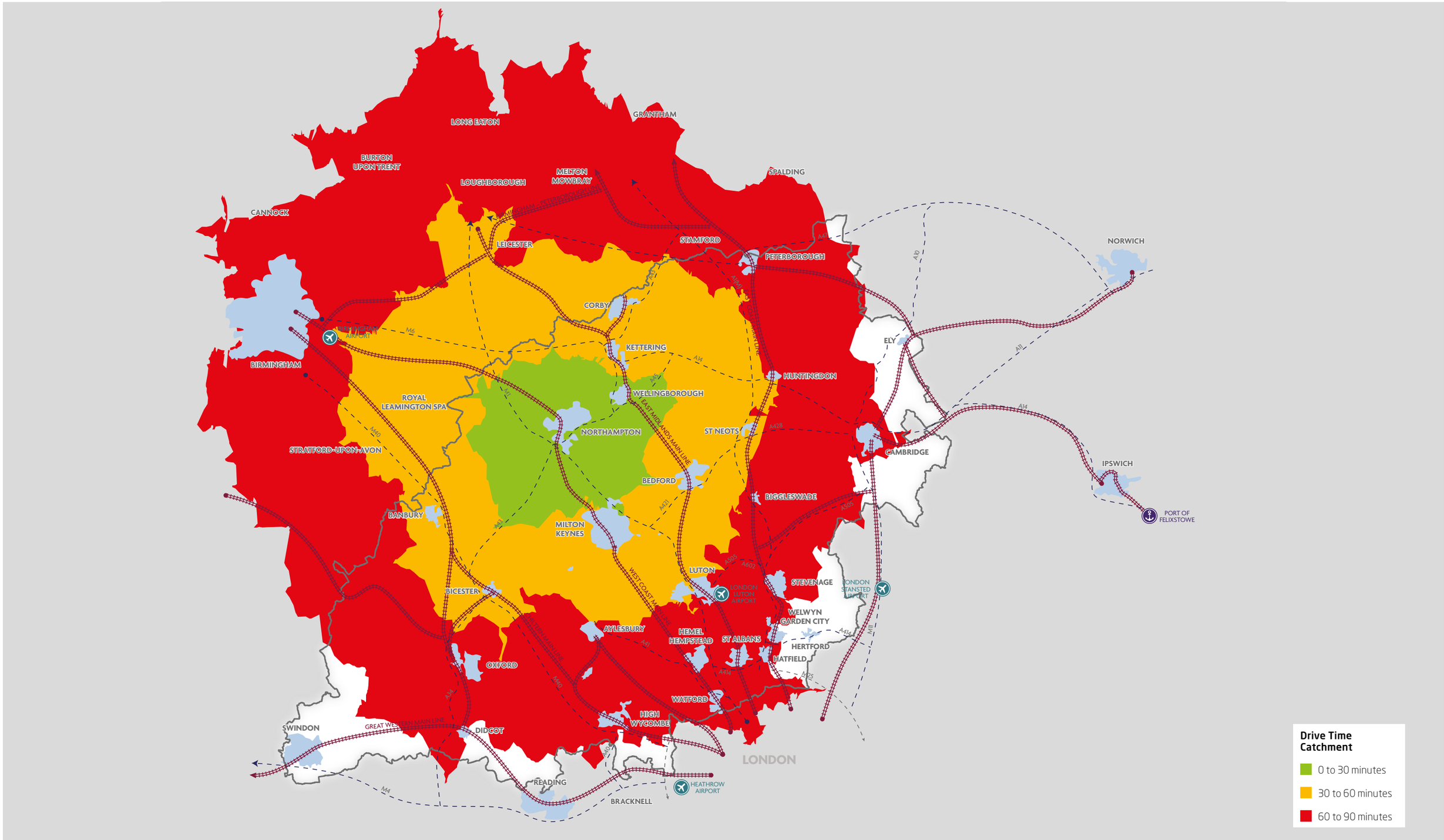
Northampton

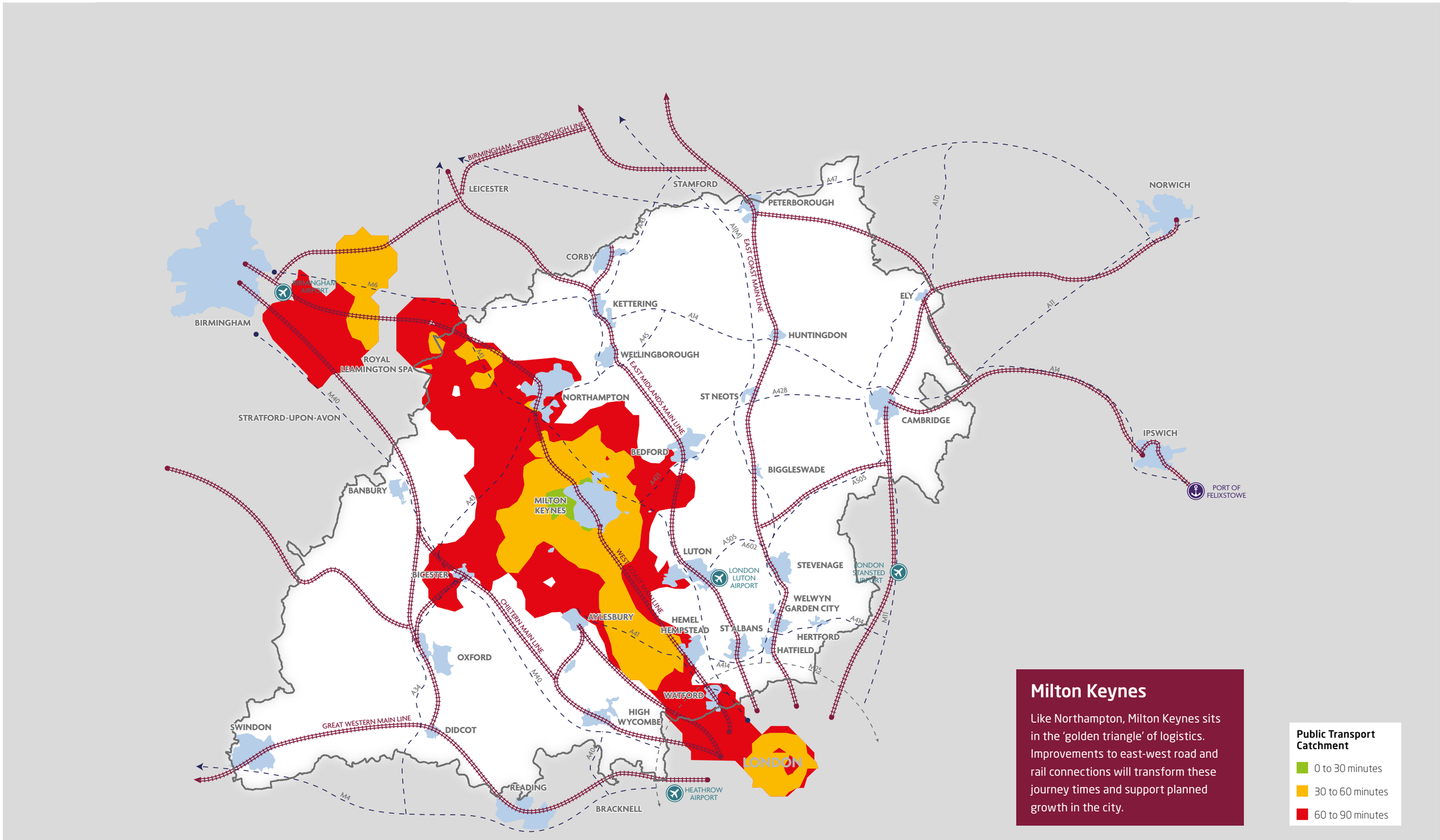
Northamptonshire is in the golden triangle of logistics, from which freight hauliers can access 90% of the country's population within a four hour drive (meaning a driver can return within a full day's shift). However, the public transport map demonstrates the current lack of east-west public transport connectivity from Northampton – making maximising opportunities from East West Rail an important priority.

Public Transport Catchment

- 0 to 30 minutes
- 30 to 60 minutes
- 60 to 90 minutes

// Current journey times by road – Northampton





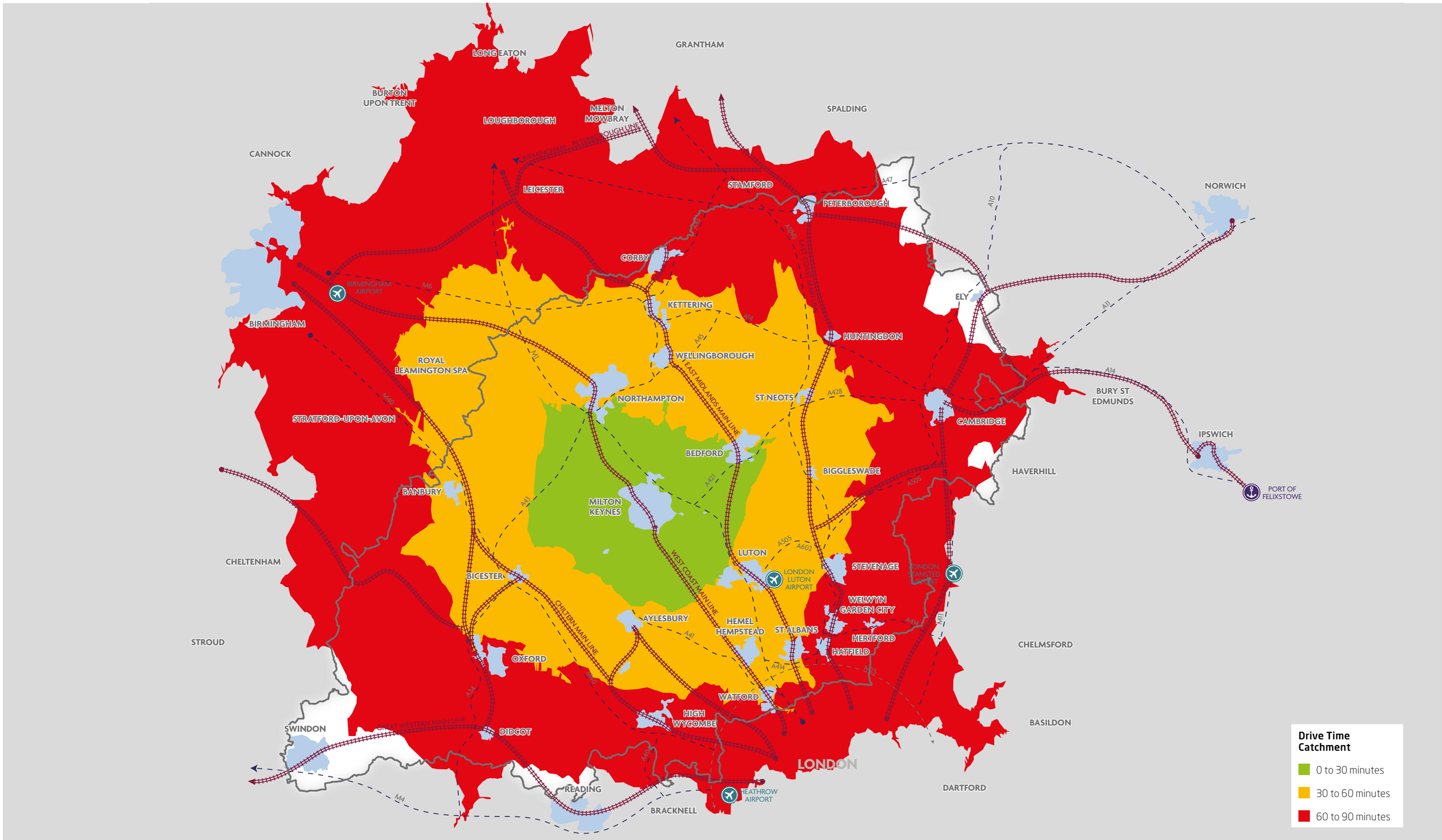
Milton Keynes

Like Northampton, Milton Keynes sits in the 'golden triangle' of logistics. Improvements to east-west road and rail connections will transform these journey times and support planned growth in the city.

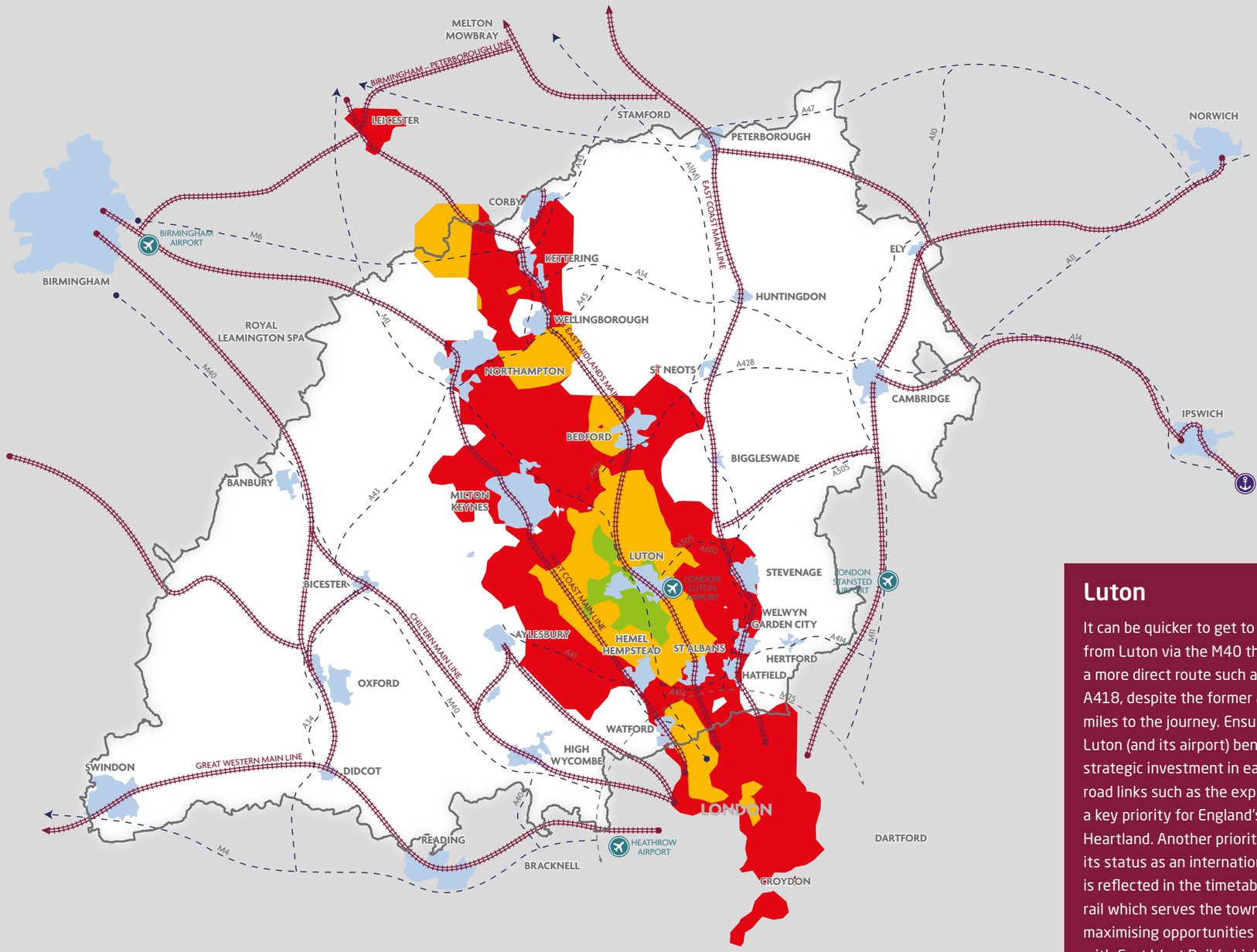
Public Transport Catchment

- 0 to 30 minutes
- 30 to 60 minutes
- 60 to 90 minutes

// Current journey times by road – Milton Keynes



// Current journey times by public transport – Luton



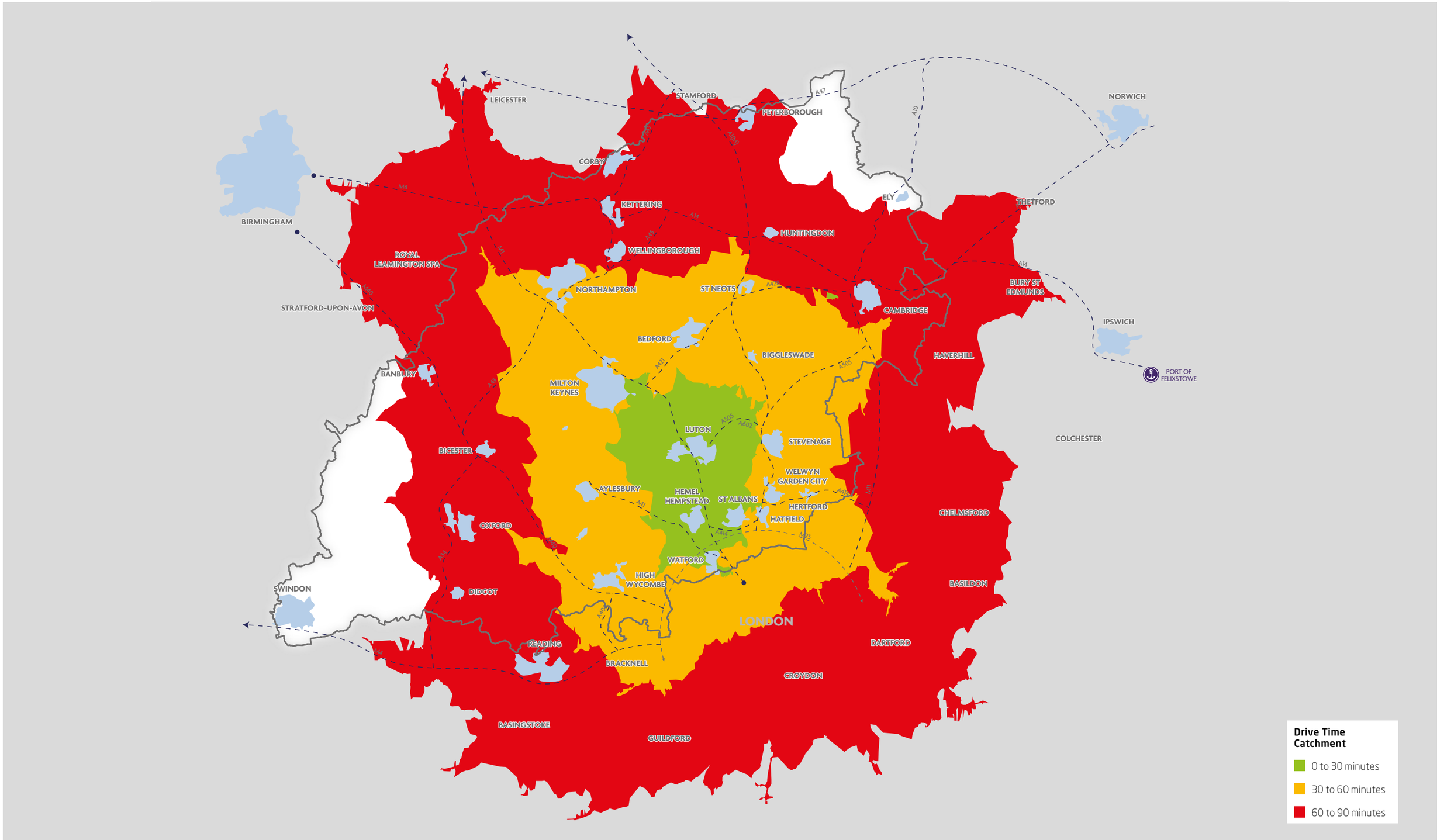
Luton

It can be quicker to get to Oxford from Luton via the M40 than via a more direct route such as the A418, despite the former adding 20 miles to the journey. Ensuring that Luton (and its airport) benefits from strategic investment in east-west road links such as the expressway is a key priority for England's Economic Heartland. Another priority is ensuring its status as an international gateway is reflected in the timetabling for rail which serves the town, and maximising opportunities associated with East West Rail (which will have an interchange at Bedford).

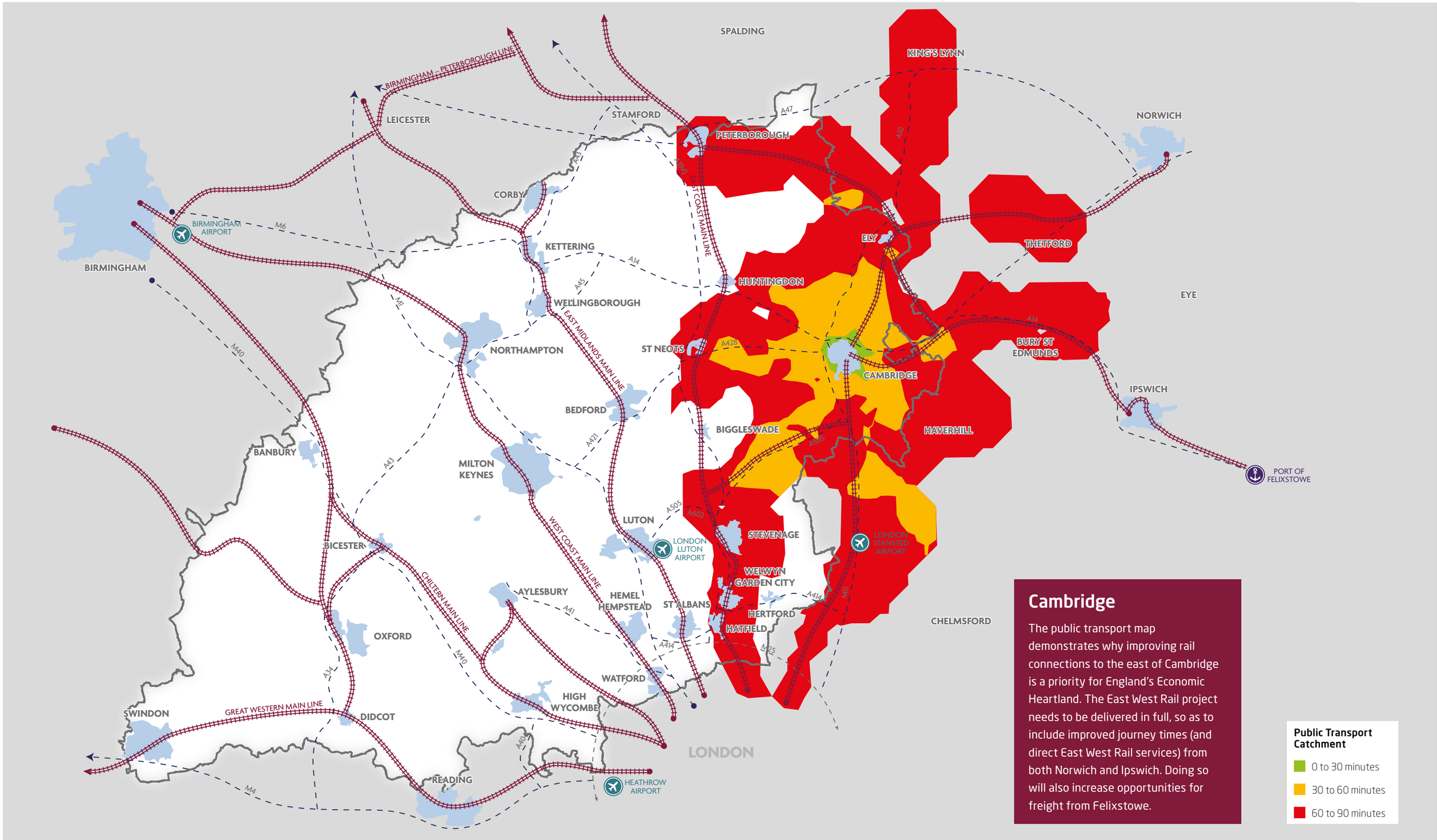
Public Transport Catchment

- 0 to 30 minutes
- 30 to 60 minutes
- 60 to 90 minutes

// Current journey times by road – Luton



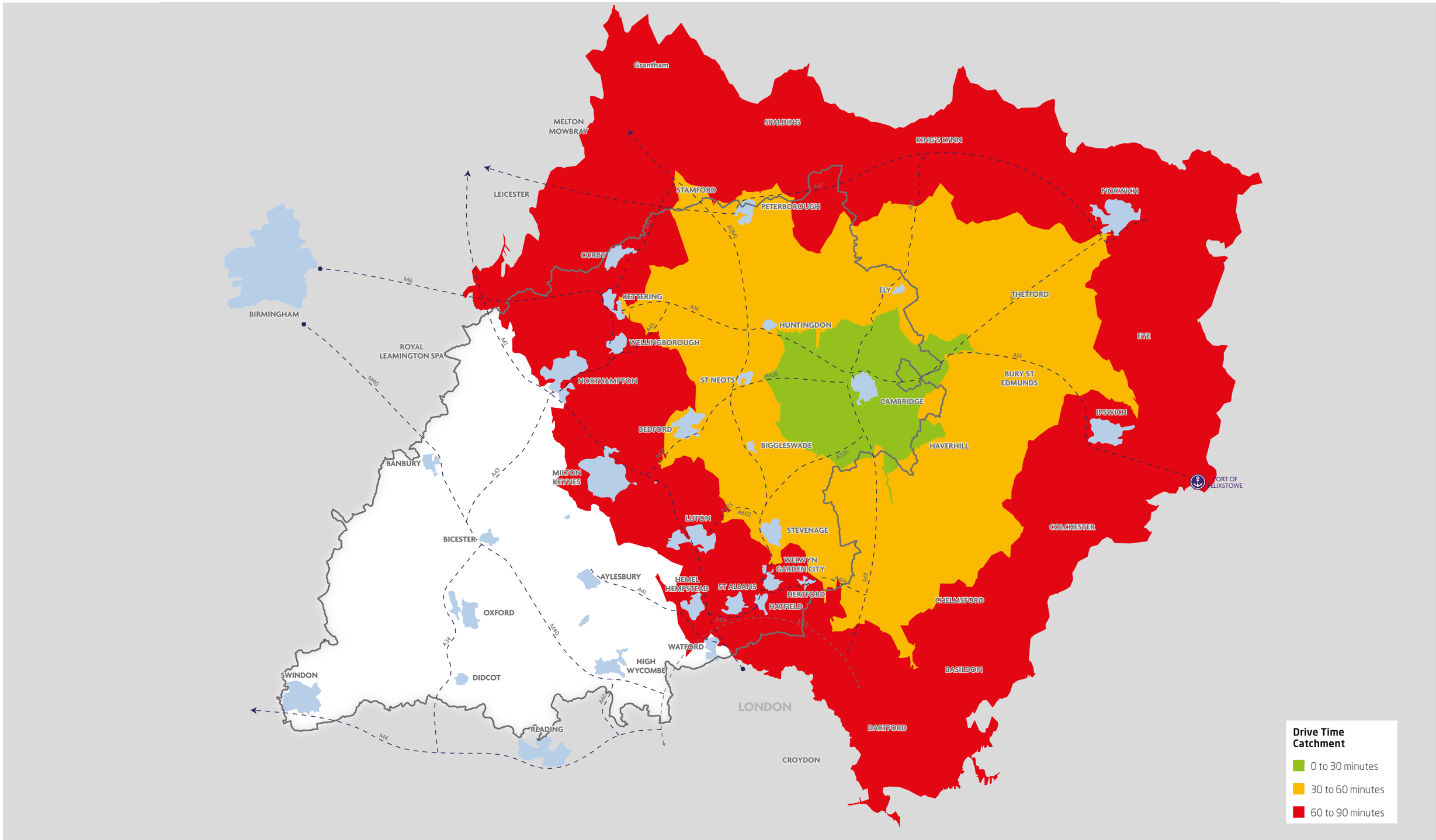
// Current journey times by public transport – Cambridge



Cambridge

The public transport map demonstrates why improving rail connections to the east of Cambridge is a priority for England's Economic Heartland. The East West Rail project needs to be delivered in full, so as to include improved journey times (and direct East West Rail services) from both Norwich and Ipswich. Doing so will also increase opportunities for freight from Felixstowe.

// Current journey times by road – Cambridge



FUTURE VISION

Left, the current view towards Fleming Way and the underpass. Above, an artists' impression shows how the bus boulevard will transform Swindon town centre. Right corner, how the view towards Fleming Way will look

Swindon's Bus Boulevard

Proposals for an attractive new central public transport interchange at Fleming Way, Swindon, are being used as a catalyst to rejuvenate the town centre.

They are an integral part of the outline planning consent for Kimmerfields, a new mixed use development located on the prime route from the railway station to the town centre.

Proposed major improvements include a green spine, new public space and dramatically improved pedestrian and cycle routes, with the current underpass at Fleming Way being removed.

The scheme would create an attractive route from the train station into the town centre, encouraging further investment in the area.

All national and local bus services would be incorporated along Fleming Way, improving the experience of bus users and pedestrians.

The new bus facility would also free up the area which houses the current bus station, increasing the developable area of Kimmerfields by 20 per cent.

A £25m bid to the Government's Future High Streets Fund has been made towards the cost of the scheme, with the remaining cost being met by Swindon Borough Council (£5m) and Swindon and Wiltshire Local Enterprise Partnership (£3m).

CONNECTING OPPORTUNITIES

"Being an apprentice at the East West Rail Alliance has given me the opportunity to work, study, and become professionally accredited in a relatively short space of time. The flexibility of such a large-scale project has enabled me to undertake two very unique roles whilst part of the team: an engineering integration engineer – supporting the design team – and a site engineer – supporting the onsite works. The project itself gets involved with a large amount of community work, and being a STEM ambassador, as well as representing females in engineering has been rewarding and fundamental to my nomination and short-listing as 'Apprentice & Graduate of the Year 2018' by Women in Rail. The mix of working in a railway and civils environment has allowed me to acquire a basic understanding of a wide variety of functions and disciplines. It is definitely a career I would recommend young individuals to consider due to there being such a large pool of job opportunities – whether that be digital engineering, project management, procurement or a railway staff member, to name a few."

Lucy Ellis, *Apprentice at Laing O'Rourke, East West Rail Alliance*

"Convenient and affordable public transport is critical to enabling people from disadvantaged backgrounds to realise their aspirations. The reality is people from disadvantaged backgrounds are unlikely to have access to their own car and their ability to travel to work is not the same as other people. In addition, congestion and poor air quality is more acutely felt by people in disadvantaged areas with higher population densities. At the moment there is also a real problem with east-west transport links in the region. There's the radial spokes into London but getting between those spokes is an issue, limiting where people can find work and potentially forcing them to spend a large proportion of their incomes to travel into the capital. The investment being made in transport infrastructure in the region offers an opportunity to increase the ability of people to physically access job opportunities – which is absolutely fundamental to improving social mobility."

Professor Sir Leslie Ebdon CBE DL,
Chair of Luton Inclusive Growth Commission

"The growth of Immense Simulations demonstrates the opportunities which are out there for innovative and ambitious companies based in the region. We were born in Milton Keynes in 2016, spinning out from Transport Systems Catapult, and have grown rapidly from there. We now also have offices in London, Barcelona, Michigan and Silicon Valley and have worked with the likes of England's Economic Heartland, Transport for London and Highways England. What is really apparent is our clients' strong desire to do things differently – to embrace new technologies, make better use of data, and to plan for the future rather than repeat the mistakes of the past."

Robin North, *Immense Co-founder and CEO*

Summary

- Improved connectivity is critical to enabling economic opportunities to be realised
- Harnessing these offers opportunities to ensure that economic growth helps us achieve a zero carbon transport system by 2050
- Harnessing those opportunities offers opportunities to ensure that economic growth helps us achieve a zero carbon transport system by 2050
- Improved connectivity to international gateways will support business activity by providing access to global markets

Ensuring the sum of the parts is bigger

The Heartland's spatial geography, extending beyond the boundaries of the Oxford – Cambridge Arc, ensures wider linkages with adjoining areas are realised and particularly reflects the wider impact and scale of investment in connecting places (such as East West Rail) being delivered.

The region is already performing well as an area of economic growth. However, this growth, coupled with underinvestment in infrastructure and services, means that the pressure on the transport, digital and wider infrastructure networks has grown to the point where they are already operating close to capacity most of the time, giving rise to concerns not just in terms of capacity to support growth but also resilience during periods of disruption.

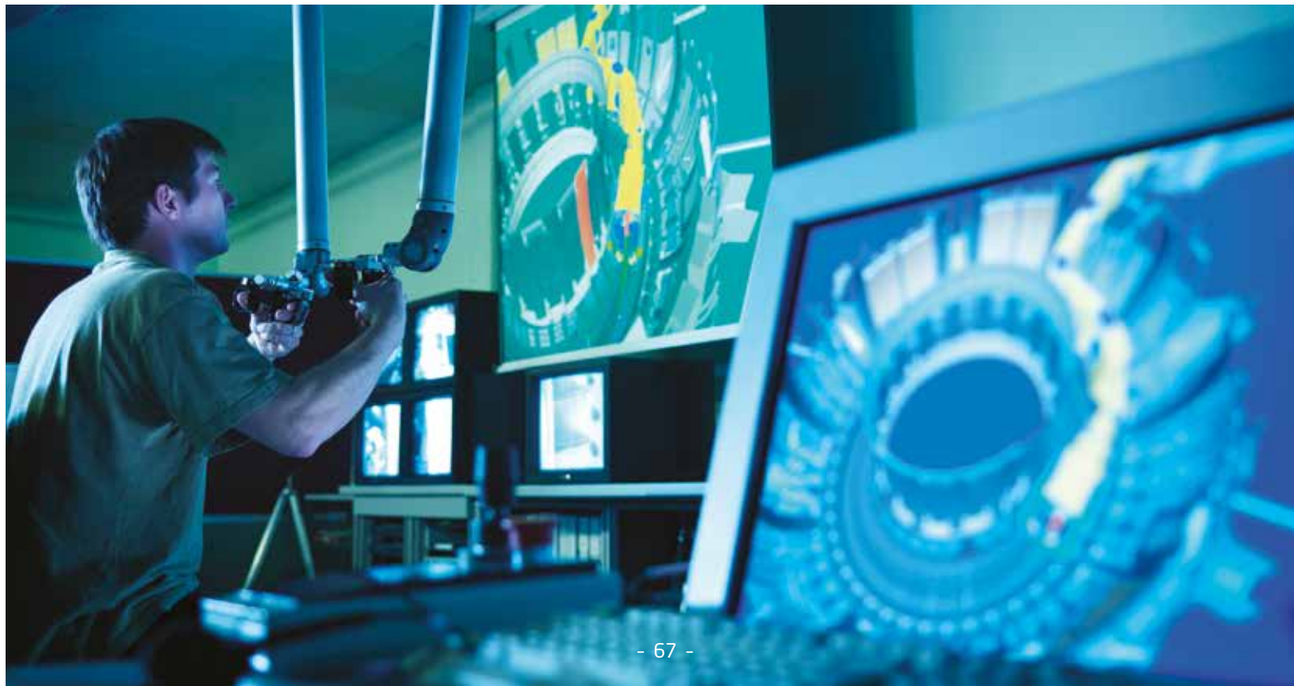
Investment in improved connectivity therefore plays a key role in widening labour markets and supporting new opportunities for economic growth. The result will be increased economic capacity of employment hubs, increased levels of interaction and integration across the region, and improved affordability of business and residential space.

Global Trends as a Driver of Innovation

The Government's Industrial Strategy identifies four Grand Challenges that will act as drivers for:

- Artificial Intelligence and Data
- An Ageing Society
- Clean Growth
- The Future of Mobility.

Robotics engineering developed at the Joint European Torus nuclear fusion experiment at the Remote Applications in Challenging Environments (RACE) centre in Culham



// Case Study

Ambitious metro plans to unlock 100,000 new jobs

The 142km Cambridgeshire Autonomous Metro (CAM) network will serve both Greater Cambridge and the wider region, offering the world class infrastructure needed to ensure its knowledge-based economy remains globally competitive and economically and environmentally sustainable. A Strategic Outline Business Case commissioned by the Cambridgeshire & Peterborough Combined Authority found that the CAM would unlock up to 100,000 jobs and 60,000 new homes with its economic benefits outweighing its £4bn cost by up to four times. It found the CAM can help fulfil ambitions for a 'modal shift' away from the private car – reducing congestion, emissions and accidents, offer better, faster journeys and improve quality of life. It would operate as a 'turn up and go' service on zero-emission 'trackless metro' vehicles, capable of speeds of about 55mph – making it possible to cross the city from east to west in 12 minutes. The historic centre of Cambridge would be served with 12km of underground tunnelling and two underground stations. A blend of funding sources from the Government and local contributions is expected, with potential for land value capture and tax increment financing identified as possible funding mechanisms. The scheme is now being worked through its Outline Business Case phase.

Artists impression of Cambridge Autonomous Metro (CAM)

// Case Study

Creating employment opportunities on major infrastructure projects

East West Rail offers a major opportunity for apprentices in the region to take a first step in their career in the construction and engineering sector. The East West Rail Alliance – which is delivering the scheme's 'western section' between Oxford and Bedford and Aylesbury and Milton Keynes – has already taken on several apprentices and graduates and will employ a good number more as the scheme progresses. Through its employment and skills initiatives, the Alliance is committed to the creation of 'sustainable jobs' that improve an individual's life chances and benefit the community – environmentally, socially and economically. The Alliance – which consists of Network Rail, Atkins SNC Lavalin, Laing O'Rourke and Volker Rail – employs a Social Value Manager, funded by the East West Rail Consortium. The role involves promoting apprenticeship opportunities and visiting schools and colleges to encourage STEM (science, technology, engineering and maths) skills, alongside organising voluntary work by Alliance staff on community causes along the rail line's route.

Each of these will have implications for both the scale and nature of future travel demand that need to be taken into account in the development of the overarching Transport Strategy.

They also represent opportunities to deliver on the ambition to have a zero carbon transport system by 2050.

Working with the business community, including the Local Enterprise Partnerships who are partners in England's Economic Heartland, we will identify the extent to which each of the trends represents an opportunity for the region and to what extent realising that opportunity needs to be reflected within the Transport Strategy.

Our Innovation Working Group already brings together expertise across the region with a view to exploiting opportunities to use artificial intelligence and data as a catalyst for the development of new models of delivery for transport services in partnership with the private sector.

We will ensure that through our Regional Policy Scenario Model we have the capability to understand how the demand for travel differs depending upon the stage at which individuals are at in their life.

Delivering on our ambition for a zero carbon transport system by 2050 requires a commitment to harness and commercialise cleaner modes of travel, encouraging the development of technologies that have applicability in global markets to the benefit of the UK economy.

The region is already at the forefront of innovation in the research, development and commercialisation of Connected and Autonomous vehicles (CAV) and is becoming globally renowned as a testbed region, with a number of areas investing in test sites to commercialise CAV technologies.

Millbrook Proving Ground in Bedfordshire is now employing 5G technology to its CAV testbed, allowing innovative real-time connectivity and location trials. Milton Keynes is another key cluster for future transport systems in the Arc, with 'Smart Cities' innovation stimulated by the Connected Places Catapult.

Inward Investment

A key opportunity for the Transport Strategy is to create the conditions that give confidence to investors to commit to the region for the long term.

The identification of levels of service expected across our transport system will provide clarity on where the priority rests in terms of encouraging innovation from the private sector in terms of new service models.

The development of an investment pipeline of strategic infrastructure projects that is linked to the delivery of planned growth – both economic and housing – will provide clarity to investors of how investment in infrastructure and services is being prioritised in support of delivering planned growth.

At the same time, strengthening the linkage between investment in infrastructure and services will reassure local communities that the requirements in support of planned growth are understood and being planned for.

Clusters

Central to the economic success of the region is a network of sector-focused clusters.

In developing the overarching Transport Strategy we will work with the business community to ensure that our commitment to improve connectivity enables synergies between clusters to be realised to the benefit of the regional economy.

Improved connectivity across the region – through a combination of digital and physical infrastructure – will provide opportunities to ensure investment supports improvement in productivity, as well as enabling the full potential of wider agglomeration benefits to be realised.

Improved connectivity will play a key role in supporting clusters. Integrating strategic national and international movements through to a tailored and geographically specific approach to the beginning and end of journeys ('first mile/last mile') will ensure that we support the creation of places that clusters and their workforces wish to live and work in.

Skills

We must ensure that improved connectivity provides businesses with enhanced access to people and ideas across the region. Not only will this help ensure that businesses are able to attract and retain a highly skilled and globally agile workforce, it will also make a positive contribution towards enhancing the overall quality of life.

Across the region, 32% of all residents between 16 and 64 year of age have a Level 4 or above qualification, compared to an average of 30% for England and Wales. In Cambridge, Oxford, Chiltern, South Cambridgeshire, South Buckinghamshire and Vale of the White Horse it is between 40% and 50%, showing clustering of highly skilled workforce across the heartland, typically in areas of very high quality of life with good connectivity and/or in areas of high productivity, knowledge-led jobs.

Access to skills is a key barrier to growth in the region. Collectively, we have the problems of a skills mismatch, skills retention from our world class higher education institutions and some low quality schools and colleges teaching. As many locations reach near full employment this compounds the difficulty local businesses find in attracting skilled labour.

We must ensure that through our overarching Transport Strategy we target investment in infrastructure and services that connect employers with labour markets. We must also ensure that our investment provides a transport system that supports individuals acquiring the skills that enable them to realise their full potential.

Commissioners on the Luton Inclusive Growth Commission

// Case Study

Ensuring that growth is inclusive

Over the next 20 years, Luton will see more than £1.5bn worth of investment across a number of development sites, including a new £200m Direct Air-Rail Transit system, which will transport passengers between Luton Airport Parkway station and London Luton Airport. The Luton Inclusive Growth Commission was set up to ensure that this huge investment in new employment sites, housing, schools and transport improves the lives of the town's diverse population, no matter what their backgrounds. The Commission is currently considering feedback from a public consultation on the town's needs before making recommendations which will form the basis for a future inclusive growth strategy. Transport is likely to be a key consideration. For example, the Commission has heard that currently, affordable housing is mostly situated in the north of the town, whereas most jobs are currently situated in south Luton. Improving the main gateways into the town – for example Luton Railway Station – may also offer opportunities for regeneration.

The Immense Simulations team

International Connectivity

Improved access to international gateways will be a key priority for the Transport Strategy – both gateways within the region and those of significance for our businesses but which are located in adjoining regions.

London Luton Airport has been the fastest growing major airport in the UK for the last four years and provides connectivity between the region and the rest of the world. It has an ambition to grow to 32 million passengers per annum by 2050. As one of the largest hubs for business aviation services in Europe it provides the region with a unique capability, which needs to be supported by continued investment in improved connectivity.

Heathrow Airport and Stansted Airport are likewise international gateways whose significance to the region will be reflected in the overarching Transport Strategy. Other international gateways of importance include East Midlands Airport (a focus for aviation logistic services) and St Pancras (for Eurostar services to continental Europe).

// Case Study

Harnessing the region's technological innovation

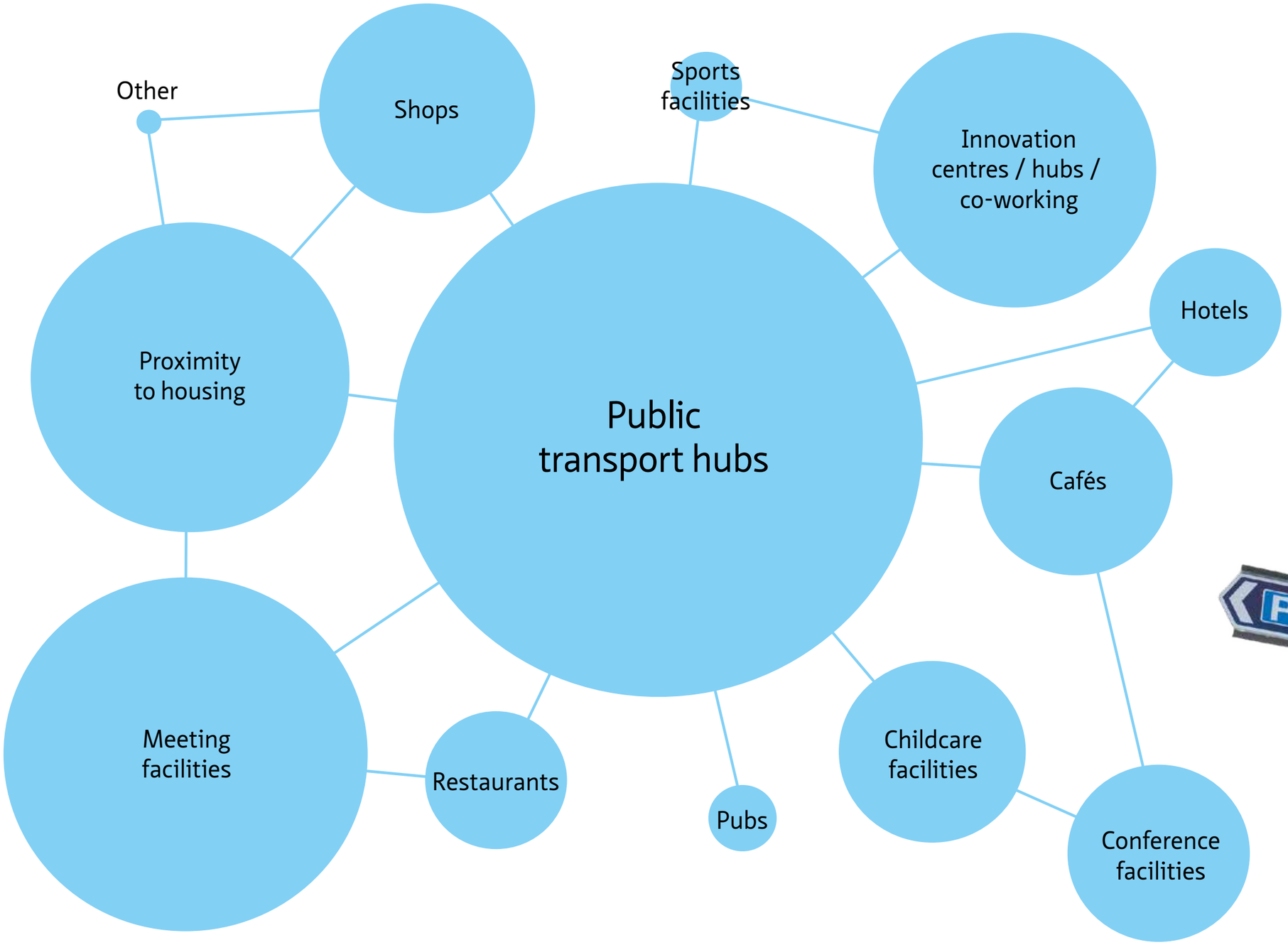
Based in Milton Keynes, Immense Simulations builds cutting-edge, cloud-hosted 'Simulation as a Service' software that enables issues with the transport system to be diagnosed and the impact of alternative services to be tested. It was the first spin out from the UK's innovation centre for intelligent mobility, the Transport Systems Catapult (now known as the Connected Places Catapult) which is also based in MK. Over the last three years Immense has grown from its three original founders to 24 full time employees. Immense has worked with England's Economic Heartland to develop the prototype for a Regional Policy Scenario Model, providing the region's partners with the capability to analyse the relative implications of different growth and/or policy scenarios. The tool forms a key part of our regional evidence base which will be used to inform the overarching Transport Strategy and wider policy.

What do you think?

13. What are the core connectivity requirements for businesses operating from the region?
14. What are the key performance measures for the Transport System from a business perspective?
15. What measures should the overarching Transport Strategy include in order to enable the potential that exists within the four Grand Challenges of the Industrial Strategy to be realised?
16. To what extent is investment in digital infrastructure more significant and/or urgent than physical infrastructure?

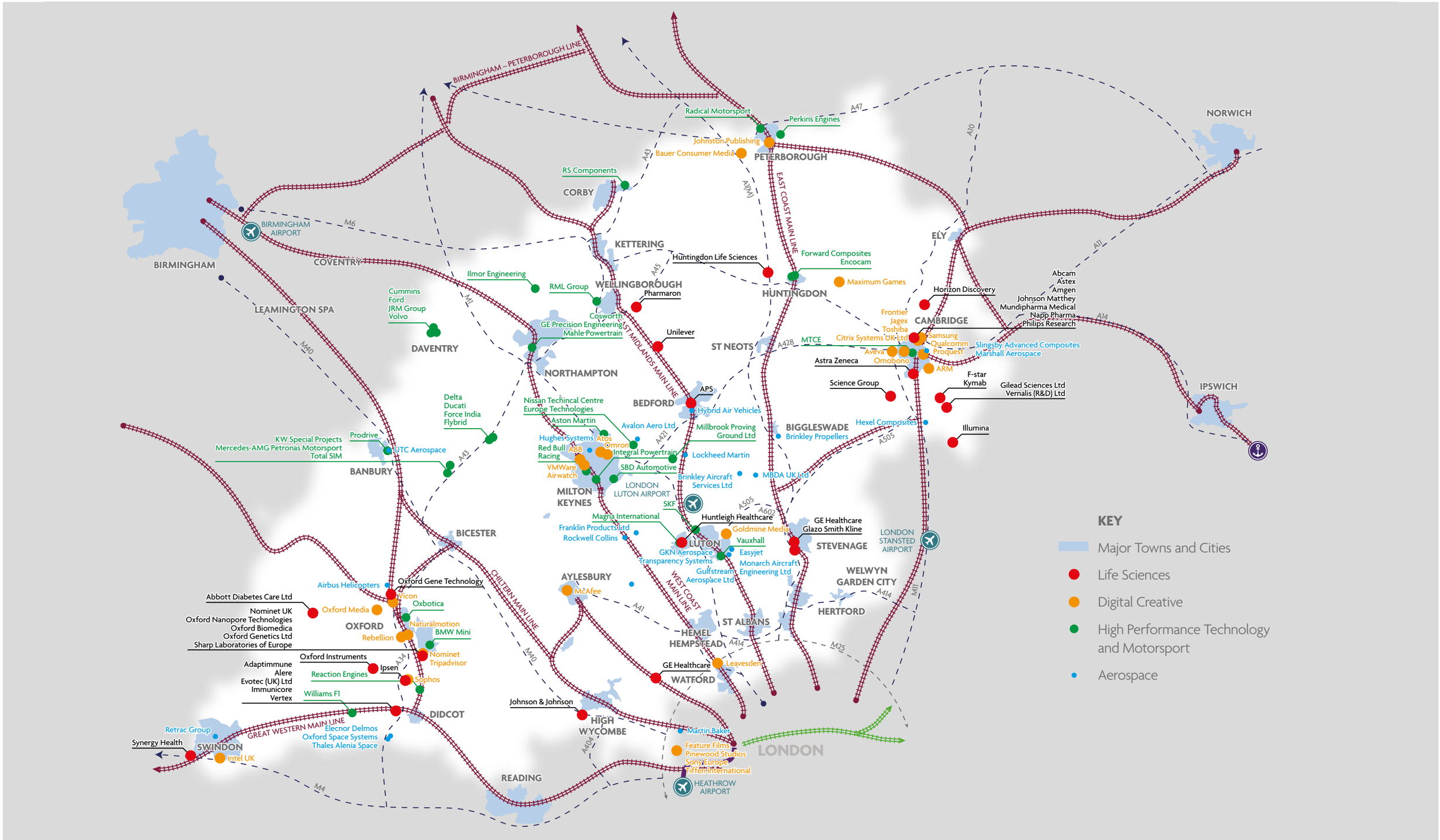
// Hierarchy of facilities important to large R&D business

Research carried out by Bidwells shows the importance of public transport connections to large R&D businesses, with proximity to housing and related clusters also featuring highly.



// Major science, technology and innovation businesses in the heartland

The Heartland is home to a large number of businesses which have world class reputations in innovation, science, technology, digital and research.



FUTURE VISION

Business Park

The default, and sometime only way of commuting to business parks is often by car, leading to vast areas of space given up for parking. What if we can reduce reliance on commuting by car? And how should we best utilise the space that's been reclaimed from the car parks?

Business as usual

1. *Highways redesigned to support a reduction in private vehicles, freeing up the street section to support walking and cycling.*
2. *Cycle lanes and associated infrastructure including parking and charging locations for ebikes.*
3. *New wider pavements with permeable surfacing.*
4. *Introduction of a system of on-demand shuttle pods connecting to local transport hubs/stations.*
5. *Introduction of sustainable drainage and tree planting to respond to the challenges of climate change and improving air quality.*
6. *Removal of at grade car parking frees space for the creation of new public spaces, supporting markets, socialising and recreation.*
7. *New mixed use buildings on the former car parks, introducing local shops, coworkspace and residential uses.*
8. *Provision for local deliveries to be made by electric/hydrogen vehicles on side roads.*
9. *Airborne delivery by drones.*

What do you think?

Are the elements within this future vision: a) Ambitious b) Attainable c) Desirable

CONNECTING SERVICES

"It's clear that if the region is to realise its potential we will need to do things differently. Investing early in green and blue infrastructure at the heart of growth can help drive development, soften its impact, create a healthy environment and set the bar for quality. The Bedford to Milton Keynes Waterway is an example of strategic infrastructure beyond roads and rail. Yes, it will improve leisure and tourism opportunities, boosting the local economy. But its impact goes far beyond this. The Waterway will offer much improved connectivity for cycling and foot, making travelling to work by bike between the two centres a real possibility and giving an alternative to the car for the daily commute. It will support housing and economic growth, creating places which people can identify with and enjoy living. And it will embody the ambitions of the Government's 25 Year Plan for the Environment, creating new habitats, opportunities for healthy lifestyles and establishing new approaches to water management and movement. The original waterways supported the Industrial Revolution by transporting goods up and down the country. Today, they can contribute to transformational change in our region leading to healthier, greener and more sustainable and prosperous places for people to call home."

Jane Hamilton, *Chair of the Bedford & Milton Keynes Waterway Trust*

"In recent years 'Diesel Demonisation' has put electric vehicles firmly on the political agenda. At present, the technology comes at such an expense and requires behavioural changes that make it inaccessible to most. Fines for clean air zones and failure to meet CO2 targets will be felt most acutely in the commercial vehicle sector where the impact is multiplied across a fleet. However, despite this pressure and the fact commercial vehicles account for 20% of miles driven annually in the UK, the segment has remained largely unchanged for 20 years. This is where Arrival can make the biggest difference by truly facilitating mainstream adoption of innovative and affordable electric vehicles. Commercial vehicles are the perfect proving ground to facilitate the switch to electric vehicles. Delivery vehicles often have predictable routes, mileage and spend overnight in a depot for charging. With the additional help of a fully intelligent and connected fleet management system, users can outsource concerns such as range anxiety."

Glenn Saint, *Chief of Commercial Vehicles, Arrival.*

"To drive the expected economic growth in the region will require significant investment in infrastructure and that will require a supply of construction materials for at least the next 30 to 40 years. The rail system can help to supply these materials, removing lorries from the roads and delivering environmental benefits too. A typical house needs 50 tonnes of aggregate equivalent, which rises to 200 with associated infrastructure and with one HGV moving around 20 tonnes, there is a real potential to bring some aggregate materials in by rail. We also expect to see this region playing a significant ongoing role in logistics distribution, and the key east -west rail links, including the new line and Felixstowe to Nuneaton will be ever more important in supporting this activity, linking goods to consumers."

Maggie Simpson, *Director General, Rail Freight Group*

"Twenty years ago, when Prologis in the UK was founded, industrial logistics buildings were regarded as little more than places to protect the goods inside from theft and the worst effects of the British weather. Back then, nobody would have predicted how e-commerce would completely reshape the logistics sector or how the humble warehouse would become a smart, green, live facility capable of relaying valuable operational data. Today, technology is driving massive change within the sector, making logistics an exciting career choice for young people and, as the long-term owners of the logistics parks we create, we work hard to create environments where businesses can succeed, employees can thrive and local communities and wildlife can flourish. Conversations about sustainability within the commercial property industry have also clearly moved on since the late 90s and we've always felt passionately that our buildings should be working hard to deliver the best environmental and cost saving benefits for our customers and the local community. In 2008 we became the first UK property company to measure, reduce and mitigate the carbon emissions embodied in the structure and fabric of our new buildings. Since then, 44 Prologis developments have been certified by The Planet Mark scheme, which amounts to an overall reduction of over 263,231 tons of CO2 – the equivalent of over 600 million miles driven by an average family vehicle."

Paul Weston, *Regional Head, Prologis UK*

A freight train passes through Corby railway station

"The technology we are developing is helping transform the landscape for grocery retailing. Our unique and proprietary end-to-end solution has allowed Ocado.com and Morrisons.com here in the UK – and in future our partners internationally – to offer customers an experience online in grocery that no other retailer can match. This, in turn, is helping shape the logistics sector in a variety of positive ways. We are excited about the future, creating a new joint venture with M&S which will strengthen still further the customer experience, and helping our partners transform their markets in the way we have done ours".

Mark Bentley, *Head of Service Delivery, Ocado*

Exchange Street, Aylesbury

// Case Study

Private investment in multimodal freight terminal unlocking opportunities

Daventry International Rail Freight Terminal (DIRFT) is a rail-connected storage and distribution centre of national significance. The facility, owned by Prologis – a long-term investor in logistics property – is located at the junctions between the M1 (J18) motorway, A5 and A428 roads, four miles east of Rugby and five miles south of the M1/M6/A14 interchange. Its rail connection is from the Northampton loop of the West Coast Main Line (the primary route for rail freight in the UK) opened in 1997. It is now expanding into the former Rugby Radio Station site (where 6,200 new homes which will neighbour DIRFT are also being built). Initially focused on services to and from the continent, the facility now also supports intra-UK freight, notably linking the main UK ports, London, the South East and Scotland. The expansion will provide further logistics and warehouse space in parallel with a new intermodal terminal, able to accommodate growth in the rail freight sector as it looks to complement (and provide an alternative to) road-based logistics around the UK and into rail served urban areas. This will make DIRFT one of the busiest inland intermodal terminals in Europe. The whole development has been privately funded, with private sector investment and this latest phase alone expected to bring around 9,000 new jobs – in a range of disciplines across the logistics sector – to the area.

Daventry International Rail Terminal (DIRFT) from the air

Summary

- The region's people and businesses are reliant on their ability to access the goods and services they need in a timely and predictable way
- Shaping the way people access goods and services is a fundamental part of creating thriving communities that are sustainable
- Improving digital connectivity is a fundamental aspect of England's Economic Heartland's work
- Shaping the way the freight industry is supported, evolves, and is regulated requires coordination at a regional level
- Smarter freight management is required to reduce the unwanted impact of freight

// Case Study

Accessing leisure services and improving connectivity: the case for a new waterway

The proposed Bedford to Milton Keynes Waterway Park is a 26km canal connecting the Grand Union Canal at Campbell Park in Milton Keynes to the head of navigation of the River Great Ouse at Kempston, west of Bedford. The project is being led by the Bedford & Milton Keynes Waterway Trust and will link the wider regional Anglian waterway network, thereby generating major tourism opportunities and local and wider economic benefits. The waterway would lead to a more varied and attractive urban environment, boosting leisure and tourism jobs and creating new wildlife habitats. But the trust also points to how it would transform connectivity by walking or cycling in a key area for economic and housing growth. The new waterway could even support the movement of construction materials within the area –– returning the canals back to their original use.

Connecting the supply chain

The move towards e-commerce, changes in consumer behaviour and society's increasing expectations to acquire commodities 'just in time' means that England's Economic Heartland has to plan for a physical and digital network that evolves in a way that provides smooth access to goods, services and amenities for people.

The region's internationally significant business hubs all depend on the effective movement of goods and services. For these businesses to thrive and flourish, they rely on the smooth movement of goods transported by road, rail, air and sea. Reducing the number of barriers for the import and export of goods to these sectors is critical to the region's economic potential and attracting inward investment.

The region's businesses, people and transformational growth schemes are all reliant on a supply chain that either starts, crosses or ends in the region.

Accessing Goods and Services

Connecting people and businesses with goods and services should empower those living, working and playing with easy access to community spaces, leisure opportunities, healthcare, and education services through a suite of connectivity options.

Strong, thriving communities must be supported, and created with a commitment to understand the way local people interact with local amenities – both now and in the future. Improved connectivity plays a key role in these solutions.

A future-proofed approach to managing the access to goods and services across the region can only be achieved through partnership working, and a commitment to align all of the factors that together create community spaces – transport provision, land use planning, public amenity provision and businesses.

In addition, there is an on-going requirement to work closely with Midlands Connect to ensure the requirements of the logistics operations located across the border between the two regions is properly reflected in the respective transport strategies. Work commissioned by England's Economic Heartland has highlighted the benefit of encouraging integration of new technologies and innovations into logistics business models.

Broad Street, Oxford

Digital services

Digital connectivity will continue to play an even greater role in supporting the productivity of places, businesses and passengers – in turn creating the demand for more services and deliveries.

Building on the work commissioned to provide an evidence base for the freight and logistics sector, we will work with Government and the private sector to ensure our investment pipeline identifies our future digital infrastructure requirements.

Major infrastructure schemes, such as East West Rail and the expressway present an opportunity to integrate digital infrastructure as part of our approach to improving connectivity. We will continue to work with infrastructure owners – such as Network Rail – to make the business case for investment in digital infrastructure to be made alongside investment in physical infrastructure.

Regional freight coordination

The region benefits from high quality road and rail links to the key ports at Southampton and Felixstowe and to the major concentration of distribution development in the 'golden triangle' to the north-west of Daventry, also known for its International Rail Freight Interchange. Distribution businesses have located in clusters near to many of the region's motorway junctions, notably around Milton Keynes, Bicester and Northampton.

Shaping the way this industry is supported, evolves, and is regulated requires coordination at a regional level. Engagement with major industry has made it clear that an absence of local policy and national strategy has left the industry with uncertainty. We will therefore ensure that our Transport Strategy addresses this policy vacuum. This will include working with the National Infrastructure Commission to take forward the aspirations in its recently published freight study.

// Case Study

Local company driving forward smart electric van technology

Arrival – a technology company headquartered in Banbury – has developed a smart electric van which is being trialled by Royal Mail, UPS and others. The van is designed from the ground up and assembled entirely by robots allowing it to reach price parity with diesel powered equivalents. The vehicles are smart throughout and are being developed alongside autonomous technology ready for when legislation allows automated driving. Arrival is currently working alongside academia and industry experts to accelerate their autonomous vehicle development as part of an Innovate UK-funded consortium, MultiCAV. The £2.5 million project is exploring Mobility as a Service (MaaS), using Didcot's Milton Park as a test ground. Perhaps fittingly for a company based in Motorsport Valley, Arrival's technology is being used for sister company Roborace – the first driverless electric racing series.

Reducing the unwanted impact of freight

We need to be sensitive to the unwanted impact of freight, be it on air quality, noise or impact on infrastructure. Smarter freight management is required to balance the effective management of goods and construction with the environment. We will therefore ensure that the overarching Transport Strategy sets out a framework that will support the development of cleaner forms of haulage, including greater usage of rail freight where appropriate.

Ongoing work with government agencies, major businesses, infrastructure operators and trade bodies has identified a number of ways barriers to this vital industry can be reduced, doing so in a way that respects people's needs as consumers and residents.

Freight and logistics in the Heartland today

England's Economic Heartland's technical study into the freight and logistics needs of the region, accompanied by extensive engagement with industry experts, has provided a solid understanding on the way freight moves and operates in the Heartland, its volume, and the opportunities associated with future trends.

Sixty-six million tonnes of freight are moved by road within the Heartland each year with large concentrations on key motorways – the M25/M1 and the M40 north of Oxford. The A14 and A34 that provides access to deep sea ports in Southampton and Felixstowe sees high volumes of HGVs, as does the A508 into Northampton.

In terms of freight moved by rail, the 23 active rail freight terminals in the Heartland handle a mixture of intermodal containers, construction materials, domestic waste, automotive and metals. The West Coast Mainline, Reading to Banbury and routes from Felixstowe, which include the Great Eastern Mainline and Felixstowe to Nuneaton, see high volumes of containerised freight. The Midland Mainline is particularly dominant for construction materials.

Closing the capacity gap

The region is a critical part of the UK's freight network. Increasing capacity offers several opportunities, from growing the economy to reducing the impact of construction.

Connecting services through better strategic planning and management of infrastructure won't resolve capacity issues on their own. We will ensure that the Transport Strategy sets out the needs of the freight and logistics sector, promotes a more active consideration of freight requirements within the planning process and identifies the need for regulatory changes.

Punting on the River Cam in Cambridge

// Case Study

Automation key to online supermarket's success

Online supermarket Ocado's first Customer Fulfilment Centre (CFC) was opened in Hatfield in 2002, on a footprint of 295,000 square feet. Over time, the facility has gone from serving 100,000 households to a network that serves 70% of the UK by area. Early on, it was estimated that the CFC had capacity to do 105,000 orders per week. Today, some weeks see more than 180,000 orders; a result, Ocado says, of iterative improvement across inbound and outbound processes. Inbound activities cover receiving goods from suppliers, checking volumes, weights, date-codes and quantities and physically putting products away in the correct locations for picking. Except for a small minority of items, once received the products are not manually handled as they move from the inbound area to their final storage locations through a combination of automated conveyors and cranes. In outbound, Ocado started with an aisle pick system but have since installed automated 'goods to man' systems. Its buffering and scanning systems mean that each delivery frame is loaded into the correct vehicle, in the correct sequence, for delivery.

England's Economic Heartland's work to better address the needs of the freight and logistics sectors will include:

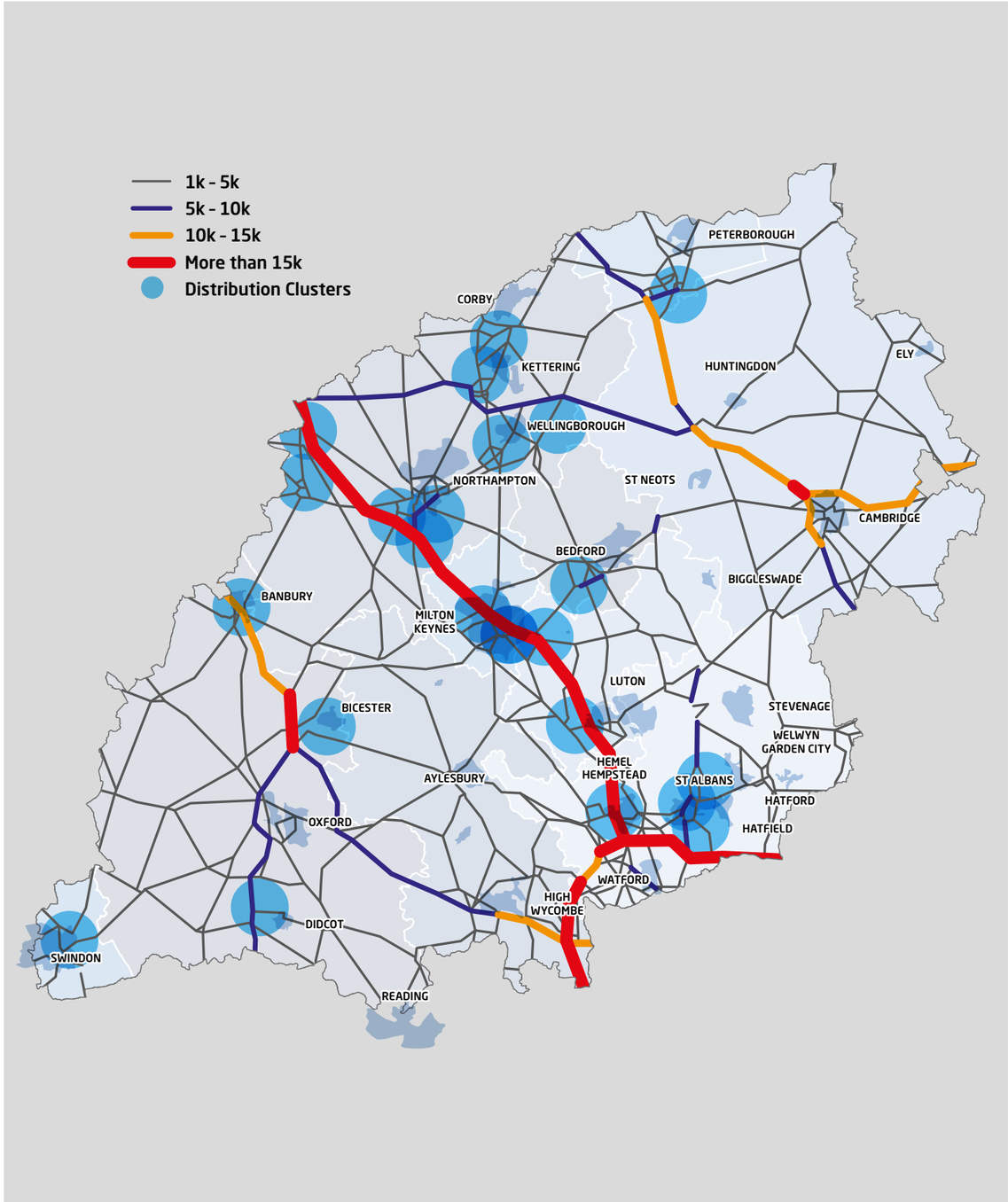
- Identifying the way major infrastructure projects can be optimised to meet freight needs, enabling better east-west access to international gateways and addressing lorry parking challenges
- Collecting and improving the quality and availability of freight data at the regional level by creating a repository of information to inform future interventions and smarter consolidation
- Providing a strategic approach to freight by the creation of a new or improved freight forum and/or representing the region on an emerging Freight Leadership Council. In addition to shaping logistic policies and raising the profile of freight with local partners, this group would develop sector skills shortage and champion innovation
- Identifying a network of Strategic Rail Freight Interchanges and rail terminals to address gaps in provision, reducing strategic road traffic and supporting the growth in housing and infrastructure to ensure materials are carried as close as possible to construction sites
- Working with Network Rail and partners to prioritise capacity enhancement, electrification, loading gauge enhancements and train capacity along the key rail freight corridors serving the region
- Developing regional standards and best practice principles on goods delivery restrictions, delivery and servicing plans and solutions for deliveries into historic cities and towns, to ensure the needs of these services are more obviously recognised in land use and spatial planning practice
- Taking forward more detailed feasibility work with other regional bodies and Network Rail to quantify the level of freight demand along East West Rail, particularly given the growth in intermodal and construction materials that may necessitate the provision of track access paths.

What do you think?

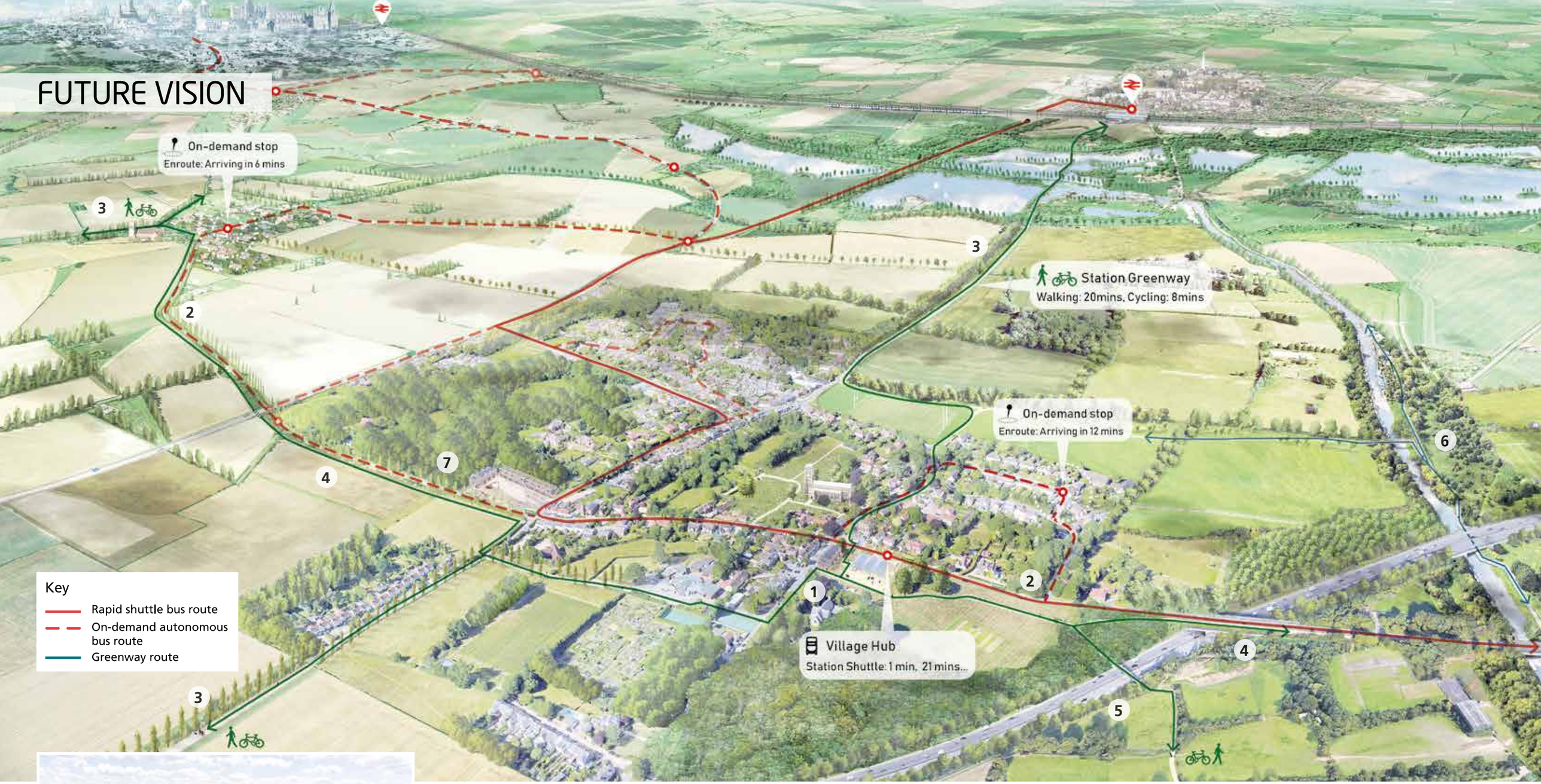
17. How will the way we access goods and services continue to change, and what are the key issues that need to be addressed in the Transport Strategy?
18. What freight and logistics services are important for people and businesses? For example, accessing goods (via delivery or in person); a thriving high street; access to health, education and leisure facilities?
19. Just in time and last minute operations are affecting the way people and businesses access goods and services. How should this growing trend affect the way we plan transport now, and in the future?

// Heavy goods vehicle (HGV) movements in the Heartland, with major distribution/warehouse clusters

Freight and logistics are the lifeblood of a successful economy: our transport system has to accommodate flows from international gateways – such as Southampton and Felixstowe – as well as our businesses' own needs.



FUTURE VISION



Rural Setting

Many smaller communities feel increasingly 'cut off' from nearby amenities, and often feel the only transport available to them is by car. Emerging technologies, changed travel demands and increasing pressure on the existing network is enabling new choices for rural communities. So what are the potential solutions, from 'demand led transport' to encouraging use of village hubs and active travel?

Business as usual

1. *Local Transport Hubs, at the centre of rural communities, gathering together other civic functions.*
2. *Rural bus routes supported by digital interfaces and payment systems, supporting mobile payments and on-demand bus stops.*
3. *High quality greenway routes connecting communities to surrounding transport infrastructure.*
4. *Segregated cycle routes running parallel to local roads supporting the uptake of cycling in rural areas.*
5. *Additional crossings to tackle the severances caused by busy roads and bypasses.*
6. *Completion of a network of canal towpaths, with new bridges linking to villages, and new structures to overcome severances created by road building.*
7. *Supporting development of brownfield sites within rural communities through improved public transport connectivity.*

What do you think?

Are the elements within this future vision: a) Ambitious b) Attainable c) Desirable

INVESTMENT

"With world-beating universities and cutting-edge tech industries, the arc spanning Cambridge, Milton Keynes and Oxford is home to some of the UK's most productive, successful and fastest-growing cities. And yet, with overburdened infrastructure and a lack of affordable homes, its future economic success is uncertain. In Partnering for Prosperity, the Commission identified that significant investment is needed to make the most of the area's potential and spark transformational growth. Local transport connections must be vastly improved – to unlock land for new homes and ensure jobs and opportunities are within reach. Additionally, alongside this, there must be greater certainty over the delivery and timing of the infrastructure required to enable this growth, at an urban, county and national scale."

Bridget Rosewell CBE,
National Infrastructure Commissioner

"Realising the Heartland's potential requires a smart and forward thinking approach to investment. Transport must be at the centre of this, delivering not only improved connectivity to support business and the growing economy, but services that make the area a good place to live, enhancing the quality of life and enabling everyone to access opportunities, regardless of their circumstances. Investment in public transport, walking and cycling, commitment to rail electrification and a focus on modal shift will make the Heartland a leader in moving to a zero carbon future."

Darren Shirley,
Chief Executive of Campaign for Better Transport

Central to achieving our ambition for the Heartland will be investment in infrastructure and services that form our transport system.

Investment is required not only to maintain our existing assets, but also to provide the capacity that enables economic growth and supports the delivery of planned housing.

It is also required if we are to achieve our ambition of a zero carbon transport system by 2050.

To achieve these outcomes our approach to investment has to evolve so that it becomes one that:

- Improves connectivity in ways that reduce the need to travel
- Enables a truly integrated transport system, that offers the user choice
- Harnesses innovation as an opportunity to create new business models that change the travel offer.

Such an approach reflects the breadth of the challenges we face: from congestion in our urban areas, with all the consequences that brings for productivity, environmental impact and personal choice, to our more rural areas, where the challenge often comes from the lack of choice.

However in applying our approach we must be forward looking, recognising that the factors that give rise to the current challenges on our transport system may be less relevant in the future as our expectations and requirements of our transport system change.

Trends that support such a view include:

- Changes in attitude amongst the population (particularly younger people), with increasing emphasis on access to travel choices that offer flexibility
- Continued growth in more flexible lifestyles, in terms of patterns of employment and changes in user expectations at different life stages
- Meeting the needs of an ageing population, recognising that a transport system that enables individuals to maintain an independent lifestyle gives rise to wider societal benefits.

The Zurich offices in Swindon town centre

University of Northampton students on their new Waterside campus

// Case Study

Working in partnership to improve key route

The A420 is the principal and only direct route between Swindon and Oxford, but at peak times it operates over capacity at certain junctions along the route, resulting in some congestion. A number of housing sites are planned at settlements along its route and close to Swindon, while Symmetry Park, on the A420 to the east of Swindon, has planning consent for more than one million square feet of new warehousing accommodation. The A420 is also a premium bus route corridor, and is served by a commercial, high frequency service, which has seen significant growth in patronage over the last few years. However, at peak times, buses are subject to the same delays as other vehicles. Oxfordshire County Council and Swindon Borough Council are now looking to work in partnership to improve the road, with further details to be developed through their respective Local Transport Plans.

Symmetry Park, Swindon

Fundamentally our approach to investment needs to be underpinned by better understanding the travel needs of individuals, and driven by their expectations of the transport system.

And in taking this approach forward we need to understand the extent to which social equity – in terms of access to travel – needs to be reflected in our investment choices in order to provide everyone with the opportunity to realise their potential.

In a similar vein, we need to ensure that our investment choices create travel choices that reflect the needs of a diverse and inclusive society.

Dealing with Uncertainty

Our approach to investment needs to be more flexible. Traditional approaches to the planning, development and delivery of investment are increasingly too slow when it comes to delivering solutions that meet user expectations that continue to evolve.

Building on our understanding of the here and now as established by the regional evidence base, we will work with our communities and businesses to develop a preferred scenario for our future transport system. We will use these to develop a programme of investment requirements that supports wider societal ambitions in terms of place-making.

The scale of economic opportunity in the Heartland is such that there will continue to be a need for investment in additional strategic infrastructure capacity. However, given the timescales associated with such proposals, it will be essential to ensure that any such proposal is tested to ensure that it is consistent with the longer term ambition for the region's transport system.

A Programme of Investment

A programme approach to investment in strategic infrastructure and services will offer opportunities to realise efficiencies. In particular it will enable:

- Linkages between individual proposals to be more explicitly identified, thereby making it easier to align implementation
- Promoters of proposals, and their professional service suppliers, to programme resources in a more cost effective way
- Flexibility in implementation by allowing local partners to manage the programme in response to changes in the investor market.

An agreed programme of investment is a positive statement of intent on the part of the Heartland. This will, in turn, create confidence amongst potential investors and at the same time give communities and businesses greater certainty that the impact of economic growth and planned housing will be mitigated.

A programme approach will also enable the beneficial linkage with investment in other strategic infrastructure to be properly taken into account.

Investment in digital connectivity is increasingly a fundamental component of our strategic infrastructure. Digital infrastructure will continue to change the way we access opportunities and services. It will therefore continue to change the scale and nature of future travel demand. We must therefore ensure that our approach to improving digital connectivity is reflected in our approach to investing in the transport system.

We will make the case as to the benefit of developing the programme of investment within an indicative funding envelope set by Government. At a national level, the Government has adopted such an approach as part of the National Infrastructure Assessment. We believe extending this approach to the regional level will encourage an honest discussion as to how best achieve the desired outcomes in the most cost effective way.

We will also explore whether the current level of funding available to local partners to support the development of proposals is sufficient.

The redeveloped Wellington Street approach to Swindon Railway Station

Establishing the Need

Even where the requirement for investment in additional strategic infrastructure capacity is identified, the development, consideration and implementation of a detailed proposal can take a number of years.

In this context it is important to establish 'the need' for the investment at the earliest opportunity. Establishing 'the need' will create the certainty that enables local partners to plan with confidence that an investment will be made in a timely and cost effective manner.

As part of our work to develop the overarching Transport Strategy we are developing a series of performance indicators, which will enable us to assess the baseline performance of the region's transport system. In developing the indicators we will build on the experience of the rail industry and Highways England.

At the same time we will work with our communities and businesses to agree what our ambition for the level of service should be. Drawing on the data held in the regional evidence base, we will use our Regional Policy Scenario Model to identify where there is a need for investment in strategic infrastructure and services in order to achieve the desired level of service.

Funding the Programme

The programme of investment will be developed within an assumed indicative funding envelope. With the support of our delivery partners, we will ensure that the programme is affordable and that the capacity and capability exists within the region to develop, design and implement detailed proposals in a timely and cost effective manner.

The added value of such an approach – if set within the framework of a long-term statement of intent – is that it will create the opportunity for a meaningful discussion with institutional investors as to how commitments by the public sector might be used to enable additional investment by the private sector on a long-term basis.

In parallel we will review whether the current balance between capital and revenue investment is consistent with our ambition for the region's transport system. In particular we will explore the merits of seeking a 'single pot' approach to investment in strategic infrastructure and services.

// Case Study

Growth strategy underpinned by mass transit system

Through its MK Futures 2050 programme, Milton Keynes Council is ambitiously planning ahead for the city's growth over the next 30 years. Following a successful bid to the Government's Planning Delivery Fund, a Strategic Growth Study was commissioned to consider the implications and opportunities for almost doubling the size of the metropolitan area of Milton Keynes to half a million people by 2050. This study is being used to inform the preparation of a 2050 strategy which – alongside proposing preferred spatial options for future residential and economic growth – includes options for new transit systems to support this growth, as well as funding mechanisms to ensure and accelerate delivery. The 2050 strategy will reflect the need for strong partnership working across local authority areas and with other partners. A key element of the 2050 Strategy for Milton Keynes is planning the future mobility network, underpinned by a new mass rapid transit system, which will connect existing and planned new areas of growth, and provide solutions for the 'first mile/ last mile' of journeys.

Milton Keynes Council has ambitious plans for the city

// Case Study

Innovative funding arrangement secures new link road

The 3.5 mile A45 Daventry Development Link Road opened to traffic in November 2018. It has improved transport links between Northampton and Daventry, and access between Daventry and the M1. The road has also relieved the villages of Flore, Weedon and Upper Heyford of through traffic and will facilitate and support housing and economic growth in Daventry District. Delivered by Northamptonshire County Council, funding for the £40m scheme came from a variety of sources. The South East Midlands Local Enterprise Partnership contributed £14m through its Local Growth Fund. However, whilst essential this funding was not sufficient to enable the road to be delivered. Therefore Daventry District Council and Northamptonshire County Council struck an innovative deal under which the County Council forward-funded the road with the costs planned to be repaid over time from the Community Infrastructure Levy and the New Homes Bonus generated in Daventry District; in particular the New Homes Bonus received from the North East Daventry urban extension, which has been made possible by the new road. This involved the councils taking on risks they needed to carefully judge in order to make this investment possible.

Flore High Street which has been relieved by the Daventry Link Road

Luton Airport from above

Our Measures of Success

Investment in strategic infrastructure and services is an enabling investment – it is necessary in order to enable a successful economy, one that provides individuals and businesses with the opportunity to realise their potential.

Through our use of performance indicators to measure the level of service across our transport system we will be able to identify the need for investment in infrastructure and services.

Ultimately for that potential to be realised we need to ensure that our investment in infrastructure and services delivers a transport system that:

- Supports economic success – both in terms of improving productivity of existing businesses and growth in the overall size of the economy
- Enables the delivery of planned growth – to meet the needs of current communities and future growth.

And this must be achieved in a way which contributes to:

- Delivering net environmental gain to the region as a whole
- Improving the life chances and opportunities of our residents, no matter what their circumstances.

The recently redeveloped Exchange Street area of Aylesbury

// Case Study

Smart investment by bus operators drives up passenger numbers

Launched in 2011, Oxford Smartzone was one of the first multi-operator smartcard ticketing schemes in England. It enables people to jump on the first bus to come along, regardless of operator, and enjoy unlimited travel for a fixed price using their "Key" or "Stagecoach Smart" card. Routes which had previously been split between competing operators were co-ordinated across four key corridors into the city, resulting in a more frequent service for customers and a reduction in inefficient bus movements in the historic city centre, improving public realm. At the time, operators Stagecoach, Oxford Bus Company and Thames Travel invested more than £12m in new low-emission double-decker buses and smart ticketing technology. Since the launch of Smartzone, more than 70m journeys have been made using the scheme and over 350,000 smartcards have been issued, with 28% of smartcard users saying they use the bus now more than they did before.

The Smartzone co-ordinates routing across four key corridors in Oxford

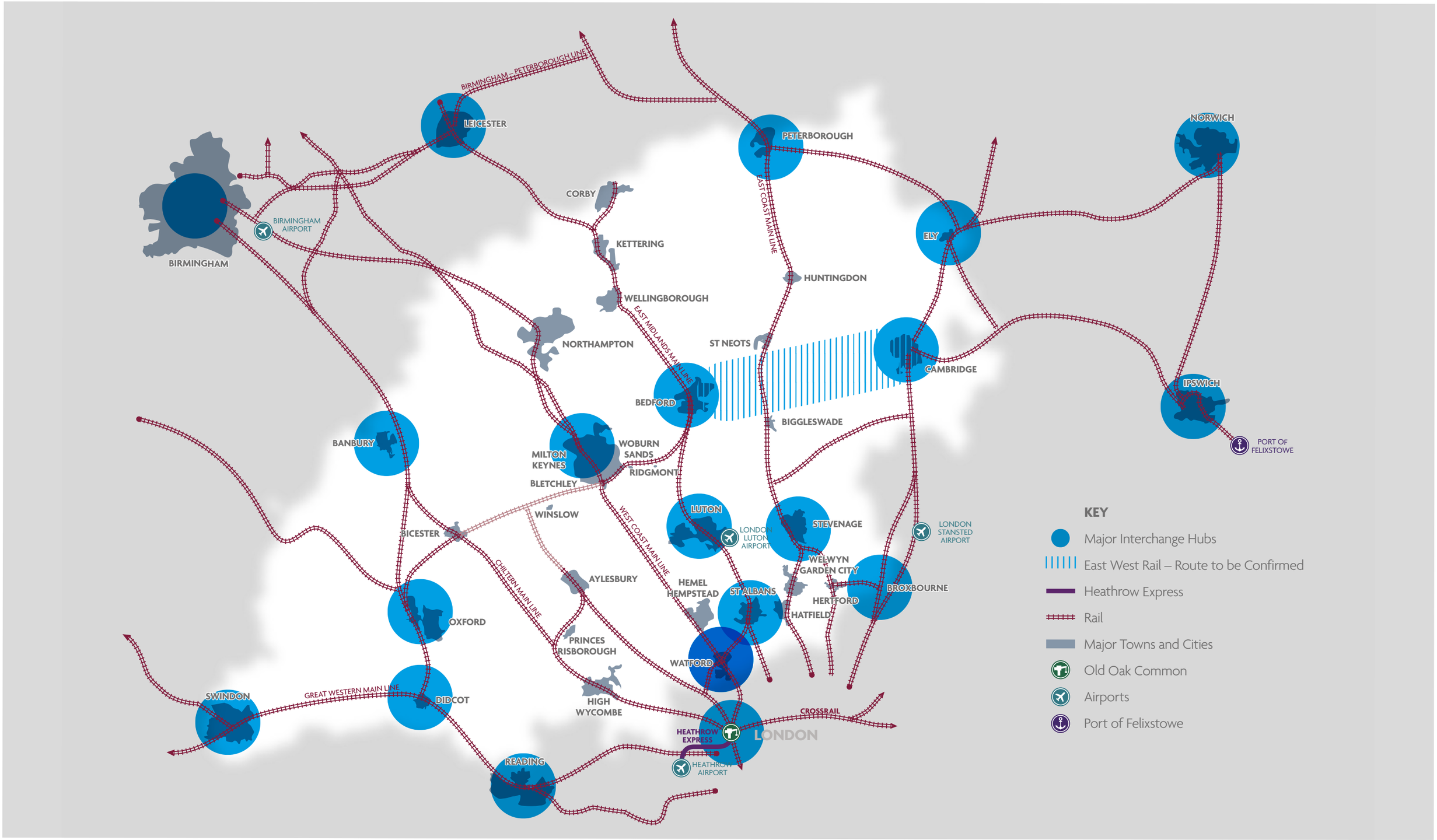
What do you think?

20. Is the approach to investment the right one? If not, why not?

Flexible working spaces are set to grow by up to 30 per cent annually for the next five years according to Jones Lang Lasalle changing commuting patterns - here is the Jam Factory in Oxford

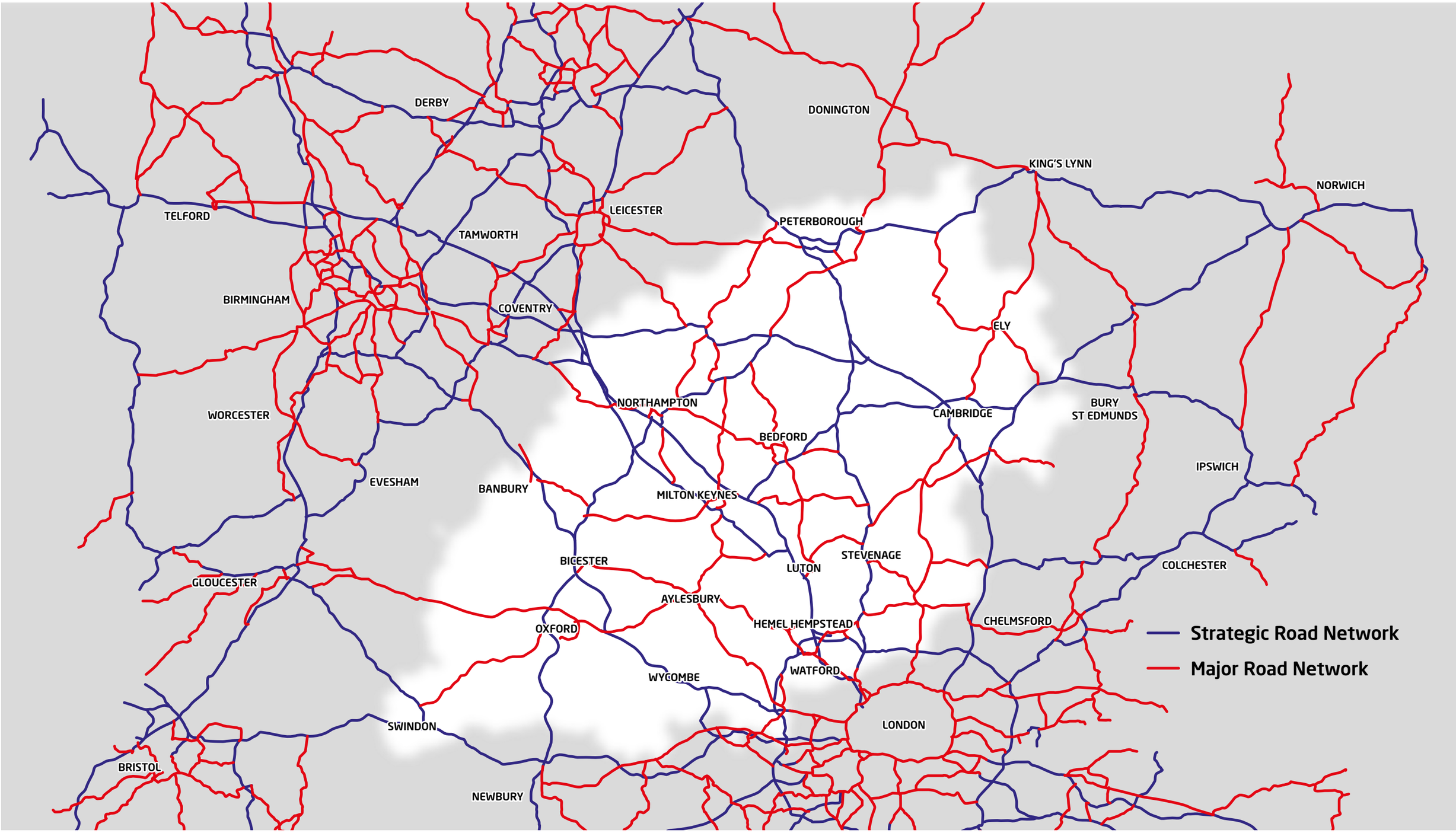
// Heartland rail system including East West Rail and major interchanges

East West Rail will transform travel patterns in the Heartland, enabling interchange onto the country's major rail corridors, putting people within easier reach of most of the UK's major towns and cities.



// Major Road Network and Strategic Road Network

The long term investment pipeline associated with the Major Road Network will be developed in parallel with the work on the Transport Strategy – we believe both the MRN and SRN should be treated as a single network.



DELIVERY

"As private sector companies in the Strategic Delivery Partners Group, we all recognise the enormous opportunity for economic growth in the region and want to play a leading role in realising that potential. That's why we have committed to such a ground breaking Memorandum of Understanding with England's Economic Heartland – we want to be a key partner and provide the insight and advice which will be crucial in accelerating delivery of strategic infrastructure in the region. It cements our real determination to work collaboratively over the long-term, to ensure growth is well-planned and with appropriate infrastructure that benefits communities and businesses throughout the region."

Andy Denman,
Operations Director, Ringway Jacobs and spokesman for the Strategic Delivery Partners Group

"The East West Rail Consortium demonstrates the value of building genuinely collaborative and lasting relationships between local and national bodies when planning and delivering strategic infrastructure. The Consortium is a 'shareholder', working alongside the Department for Transport, Network Rail and the East West Railway Company in a mutually beneficial partnership. Indeed, the work of local authorities has been and continues to be critical in helping to support the development and delivery of the scheme, not only de-risking the project for central Government, but adding extra value to it. The success of this collaborative approach can be seen in the unprecedented level of support the scheme enjoys on the ground – it is the type of approach which offers a standard for the way infrastructure should be delivered in the Heartland going forward."

Cllr Mark Shaw, *Chairman of the East West Rail Consortium*

Delivery of the Transport Strategy will only be successfully achieved by working in partnership.

England's Economic Heartland has partnership working at its core. In 2015, leaders from across the region began the process of forming a Strategic Alliance; a partnership of Local Authorities who together formed England's Economic Heartland. The basis for the partnership was a shared endeavour – to make the case for strategic infrastructure in support of realising the economic potential of the region, recognising that:

- In terms of strategic infrastructure the issues (and solutions) extend beyond any one single upper-tier authority
- Issues that are common to one or more upper-tier authority area may benefit from a co-ordinated response
- Through collaborative working, there is opportunity for economies of scale and more innovative delivery models.

England's Economic Heartland, as a partner-led organisation will not deliver the Transport Strategy alone. Many of the ambitions set out within it will be dependent on the commitment and ambition of partners. Decisions on preferred approaches to solutions will require the support and oversight of the bodies who are responsible for their successful delivery including: our partner Local Authorities, Highways England, Network Rail, East West Railway Company, and the bus and train operators, amongst others.

Through collaboration, sharing of expertise, and unlocking opportunities, England's Economic Heartland can enable solutions that can only be realised at a larger level; a single, consistent transport offer that ensures clarity and consistency for people travelling within and across the region; improved capacity and capability; innovative approaches; and a commitment to ensuring we maximise the impacts of infrastructure investments made in the region.

England's Economic Heartland has evolved its partnership model beyond its core local authority and Local Enterprise Partnership members to include strategic relationships with private sector partners. Through organisations including the Connected Places Catapult, we are able to support the most innovative approaches, working with small and medium enterprises – particularly those based within the region – leveraging in their strength and capabilities to develop solutions that can better resolve the connectivity challenges and opportunity that exist within the region.

The new Riverside development in Bedford

// Case Study

A ground breaking partnership with the private sector

England's Economic Heartland's Strategic Delivery Partners' group – the first of its kind – brings together the private sector organisations which provide highway services to its local transport authorities. This collaborative approach ensures England's Economic Heartland benefits from having access to specialist and technical advice throughout the process of identifying infrastructure priorities, developing proposals and, in due course, their delivery. The ambition is to accelerate the delivery of planned investment, thereby reducing its cost.

A ground breaking Memorandum Of Understanding was signed with the Group in 2018. It consists of Kier, WSP, Jacobs, Ringway Jacobs, Skanska, Atkins and Volker Fitzpatrick.

An MOU was signed with Strategic Partners Delivery Group at EEH's 2018 conference

Eco town development in north-west Bicester

Programme Delivery

Right from the start England's Economic Heartland's 'delivery partners' – the companies providing professional services to our individual partners – have been an integral element of that partnership.

Our 'delivery partners' provide an invaluable source of knowledge and experience in the development, design and implementation of investment in strategic infrastructure and services. We will draw on this pool of expertise in developing the programme of investment, including consideration of future skills requirements within the sector.

Working with our partners we have identified that a lack of capacity and capability available to individual partners' acts as a constraint on our collective ability to bring forward a pipeline of investment at the required pace if we are to support economic growth.

England's Economic Heartland is developing a proposal that will address this gap by creating additional capacity and capability within the region. This regionally managed resource will work with local partners to ensure the timely and cost effective development of proposals.

// Case Study

A close and strong working relationship on East West Rail

The East West Rail Consortium was formed in 1995 with the objective of promoting and securing a strategic railway connecting East Anglia with central, southern and western England, including a spur to Aylesbury. It brings together local authorities and local enterprise partnerships, as well as Network Rail and the Department for Transport, in a collaborative partnership that has actively supported the development and delivery of the scheme for more than 20 years. More recently supported by the England's Economic Heartland Business Unit, the Consortium has been pivotal in ensuring a uniquely close and strong working relationship between local and national partners, with its effectiveness reflected in the level of support for East West Rail across the wider community. The Consortium is now putting the case for East West Rail to be delivered in full.

Buses and bicylces outside Oxford Railway Station

// Case Study

University at the centre of research into smart mobility

The University of Hertfordshire's Smart Mobility Research Unit (SMRU) brings together an interdisciplinary approach to research. It combines professional services with student learning, thus preparing undergraduates and postgraduates' thinking for future mobility solutions through taught and placement opportunities. The vision is to apply practical solutions using a 'living laboratory setting' that benefits the University, student learning and its wider communities. Launched in March 2018, the SMRU builds on the University's long-established expertise in transport research and innovative projects in smart mobility.

These include quality partnerships, smart bus ticketing and EValu8, which delivered the Government's 'plugged-in places' scheme to develop the take-up of electric vehicles across the East of England. The SMRU's growing research expertise encompass travel planning, transport-related behaviour change, intelligent transport systems, mobile ticketing, biometrics, automatic number plate recognition (ANPR), 'big data' analysis and spatial mapping. Its researchers and associates are working alongside local authorities and public/private transport operators in order to develop practical transport solutions.

// Case Study

Integral role for the region's bus operators

England's Economic Heartland's Bus Operator's Association ensures bus operators have a strong voice on the planning and delivery of strategic infrastructure in the region and play a crucial role improving transport users' choice and journey experience. The association includes Stagecoach, Arriva, Oxford Bus Company, Thames Travel, Carousel Buses, City Sightseeing (Oxford), Go South Coast, Centrebus, Grant Palmer and UNO bus. England's Economic Heartland is working with the association – alongside Connected Places Catapult and neighbouring sub-national transport bodies – to develop an integrated ticketing offer. Given the existing successes in parts of the bus network in the region, and the economic environment for innovation that exists, it is essential that any ticketing solution that is developed can be done as a market-led approach.

// Case Study

A centre of excellence improving capacity to deliver

If the Heartland is to realise its potential, it is essential that local transport authorities can develop and deliver a pipeline of major infrastructure projects at good pace. That's why, in the winter of 2018-19, a series of workshops were held with England's Economic Heartland's partners to identify issues around capability and capacity and how these might be resolved. They found there was significant potential to work together across the Heartland to create a shared resource of 'in house' expertise to address these challenges. England's Economic Heartland has now commissioned further work to develop a detailed proposition for what a shared centre of excellence could look like – the concept could be trialled by the end of 2019.

What do you think?

21. Is the approach to delivery the right one? If not, why not?

// Now have your say – log onto www.englandseconomicheartland.com for details on how you can help shape the Heartland's transport system in the decades to come.

'Competition' encourages fresh perspective on transport system of the future

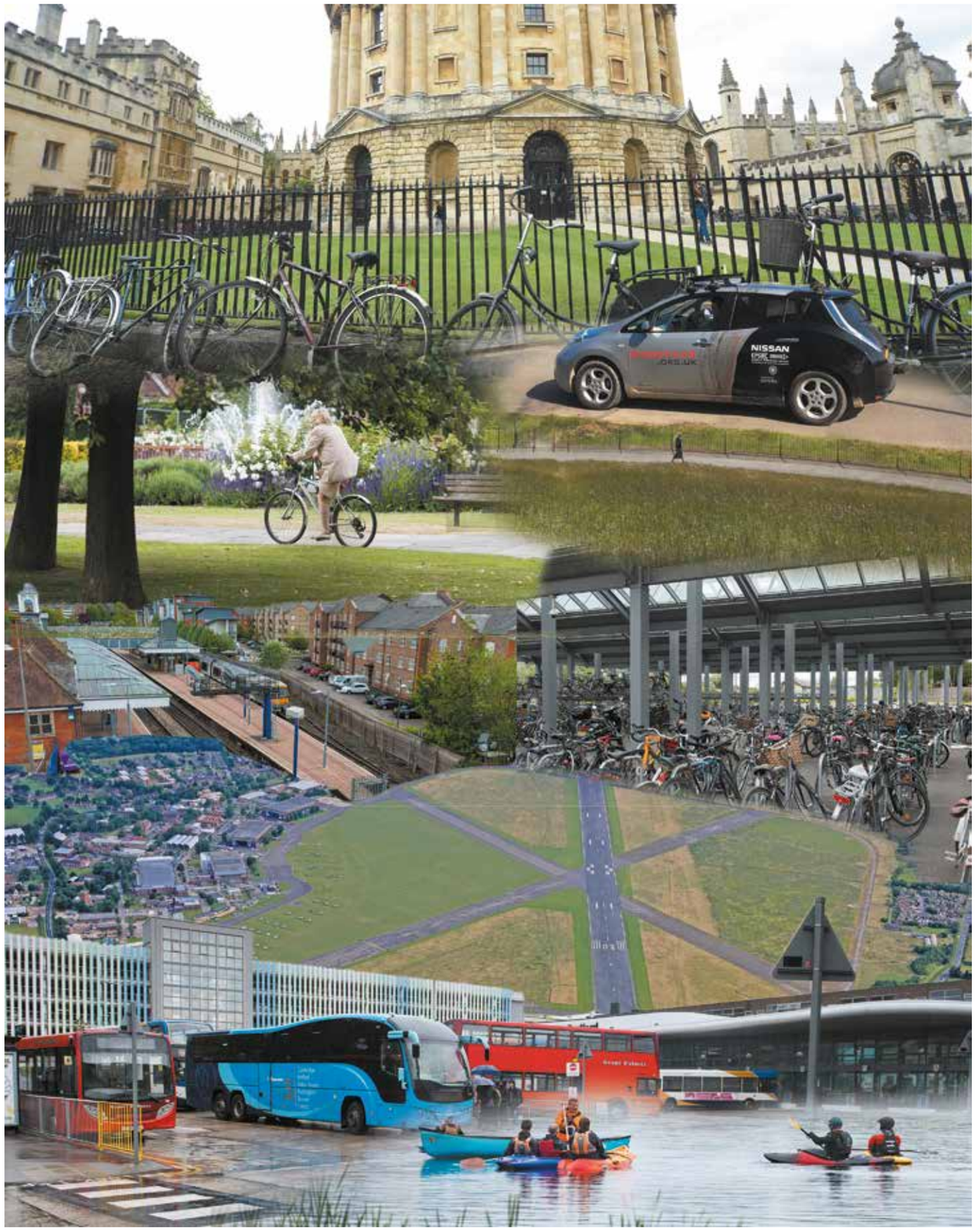
As part of our engagement on the Outline Transport Strategy, we're inviting students, post graduates and professionals at an earlier stage of their careers to submit up to 500 words on how they believe the Heartland's transport system should fulfil our vision of 'connecting people and places with opportunities and services' up to 2050.

Entries should relate back to the three priority principles which underpin the strategy: economic growth; accessibility and inclusion; and quality of life and environment. You may wish to give a broad overview of the future transport system, or focus on a single element, mode or priority principle.

We are looking for innovative answers to new challenges and opportunities. So for example, you may wish to consider the role of data, new and emerging technologies, policy initiatives and reforms, and spatial planning in improving the transport system of the future.

Entries will be published in a special document to accompany our formal consultation on the Draft Transport Strategy in the first half of 2020. In addition, three of the most innovative entries chosen by our judging panel will have their ideas brought to life in a series of images produced by spatial design agency, 5th Studio.

For more information and to submit your entry, please email englandseconomicheartland@buckscc.gov.uk with 'Future Vision Competition' in the subject heading.



Get in touch

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

For general enquiries please contact 01296 382703
or email englandseconomicheartland@buckscc.gov.uk

www.englandseconomicheartland.com

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