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# Preface

Lord Deighton's HS2 Growth Taskforce<sup>1</sup> sets out how HS2 provides a once in a generation opportunity for the towns and cities in the Midlands to invest in economic growth. To deliver this transformational potential the Taskforce recommends that Growth Strategies should be developed with a clear vision for achieving transport network readiness and a recognition of the need to work across administrative boundaries.



The delivery of High Speed 2 (HS2) will place the Midlands at the heart of a new national High Speed Rail network. It will deliver much needed rail capacity and enhanced connectivity between Britain's major cities. As the first region to benefit from HS2, future plans for the existing transport network need to be developed to ensure the Midlands is well placed to maximise any opportunities associated with the introduction of High Speed Rail.

International experience shows that effective connectivity to the High Speed Rail network, such as proposed in the WM HS2 Local Connectivity Package, is critical if businesses are to expand their markets, access a wider workforce and develop local economic networks. Associated with HS2, the nationally significant development proposals set out in the Curzon Masterplan and UK Central Masterplan demonstrate the game-changing potential for economic growth for our region. Given these opportunities, and the size of the prize in terms of new jobs and increased productivity, now is the time to make the case for investment to deliver an HS2-ready transport network.

The planning and delivery of a strategic transport networks takes time and requires a good understanding of the latest thinking on economic forecasting and modelling to ensure our strategic networks are capable of meeting our region's economic needs over the next 30 years.

Midlands Connect brings together a cross-LEP partnership to develop the strongest possible case for strategic transport investment in the region. It aims to ensure the Midlands is well placed to influence and benefit from future significant funding programmes such as those currently being developed by the rail Industry (e.g. HS2, Long Term Planning Process) and the Highways Agency (e.g. Route Strategies).

This document presents the foundation for future engagement with potential funders by establishing a robust evidence-based case for the connectivity improvements that will have the greatest long-term impact on employment and the economy in the region.

Andrew Cleaves

**Chair of the WM Cross-LEP Transport Group**

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<sup>1</sup> 'High Speed 2: Get Ready. A Report to the Government by the HS2 Growth Taskforce' HS2 Taskforce chaired by Lord Deighton.

# 1 Introduction

## Background to Midlands Connect

Midlands Connect is an initiative programme to identify the transport connectivity improvements that the Midlands need to maximise long-term regional economic growth and in turn to maximise the economic growth of the nation.

The initiative draws upon and supports the strategic planning processes led by Network Rail and the Highways Agency for the national rail network and strategic road network, as well as Birmingham Airport's growth aspirations. The goal is to influence these long-term planning processes and secure strategic investment in the Midlands's infrastructure. The initiative complements and reinforces work that is underway to secure the maximum possible economic gain from HS2 through enhancing the region's connectivity to the new high speed rail stations that will be built in the centre of Birmingham and at Birmingham Interchange.

Midlands Connect starts with the socio-economic geography of the region. This provides a solid evidence base describing demographic, employment and business trends among others. It provides a high level assessment of the strategic transport network's provision for connecting areas of economic activity and the resident population. Building on the Strategic Economic Plans by the Midlands Local Enterprise Partnerships, and other long term planning documents, a growth outlook for the region sets out the main aspirations for the Midlands in the medium term.

Midlands Connect acknowledges the importance of these Strategic Economic Plans in setting out the investment programme for their respective LEP areas. The goal of Midlands Connect is to complement and add to these plans by identifying where there are synergies between them and there are additional gains to be had so that the overall economic gain from infrastructure investment is greater than the sum of the parts.

Statutory local plans developed by the Midlands Local Authorities also provide long-term guidance on a wide range of issues, including local transport, housing and employment development. The high level assessment of growth areas presented in this report is consistent with these local plans and again the goal is to complement this local focus through a focus on strategic movements. As the emerging transport investment priorities are further valued and



developed into schemes, local plans will provide the necessary level of detail in the next phase of Midlands Connect.

In particular, Midlands Connect aims to attract investment in the strategic transport network of the Midlands for the long term, namely post-2020. This ambition recognises that a set of local transport solutions will complement the economic strategies analysed in this document. While not explicitly addressed in this report, these transport solutions include the enhancement of interchange opportunities and improved public transport, walking and cycling facilities. Increased provision of sustainable transport options will offer opportunities for modal shift, especially for shorter distance journeys, and will support public realm enhancements.

The economic evidence base and the growth outlook provide the basis for the definition of a framework to maximise economic growth for the region. Shaped by the strategic objectives, a defined programme of strategic transport interventions for the area is devised. These interventions are presented in the form of Conditional Outputs (COs)<sup>2</sup>, providing a clear link with the planning processes used by the Department for Transport, Network Rail and the Highways Agency.

Following this initial phase of work, solutions will be developed to meet the Conditional Outputs and these will be assessed for their value for money and affordability, as well as their impacts on the regional and national economy. This will support a process of prioritisation for investment in interventions.

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<sup>2</sup> Conditional Outputs are conditional on a favourable assessment of value for money and affordability for current and potential funders. There are likely to be a number of ways that the outputs can be achieved.

## Transport connectivity and the economy

Transport connectivity has been widely recognised to be a key accelerant of economic growth and local development. The evidence base in this document recognises that transport is one of the necessary levers for economic growth. Other factors, such as the availability of finance and the right skills mix of workers are also important.



The role of transport connectivity in economic development was reviewed by a landmark study led by Sir Rod Eddington, known as the Eddington Review (2006). The way the Eddington Review identified that enhancing connectivity leads to economic growth has been summarised by the Commons Transport Committee (2011), as:

- Improved business efficiency, notably by travel time savings, improving journey time reliability and travel quality;
- Stimulating business investment and innovation by supporting economies of scale and new ways of working;
- Agglomeration economies which bring firms closer (in space or time) to other firms or workers in the same sector;
- Improved labour market efficiency, enabling firms to access a larger labour supply, and wider employment opportunities for workers and those seeking work;
- Increasing competition by opening access to new markets, principally by integration of world markets;
- Attracting globally mobile activity to the UK, by providing an attractive business environment and good quality of life; and
- Increasing domestic and international trade by reducing trading costs.

Between 2008 and 2011 the British economy experienced one of the worst recessions in modern history, with significant job losses in key industrial and service sectors coupled with a structural change towards a reduction in public sector employment. The economy of the Midlands has been affected by these national and international trends.

Crucially and in contrast with other recessions, the decline in economic activity between 2008 and 2011 has not been accompanied by a comparable and appreciable decline in passenger transport volumes. Both strategic roads and the railways have remained busy. Congestion problems have not lessened. As the economy recovers, growth in rail passenger numbers and traffic on the strategic road network is anticipated and, without intervention, this will increase train loadings and add to congestion, which in turn will act as a brake on growth. In the context of population and employment growth, transport investment is a key component of a successful recovery.

As summarised by Rosewell and Venables (2013), better transport connectivity matters when it allows constrained places to grow and when it connects places, providing both better supply and market access while ensuring that strategic networks as a whole operate efficiently. The Midlands, and the UK, will benefit from improved connectivity as set out in this study.

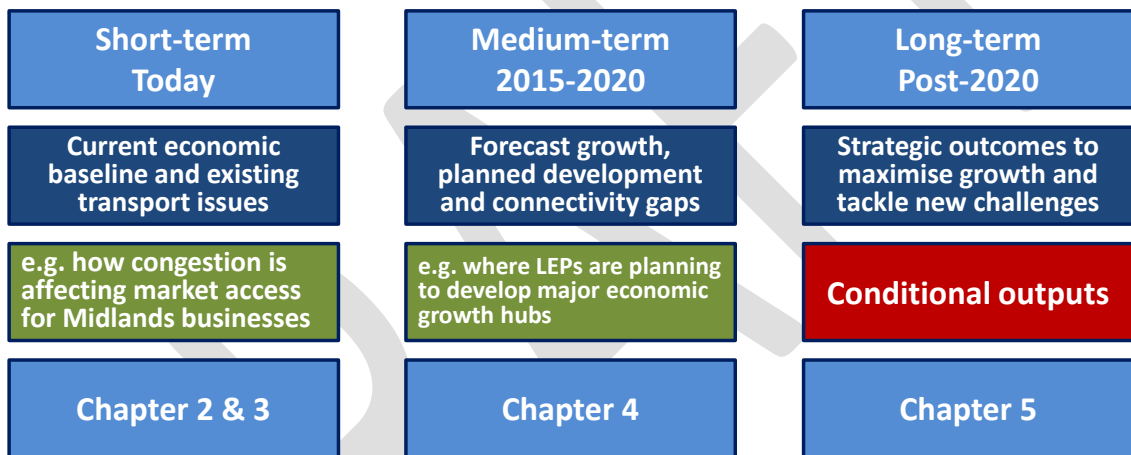
## This study

The economic evidence and the high-level assessment of connectivity underpinning this study are presented in Chapters 2 and 3 respectively. These outline the current baseline in the region.

As a precursor to prioritising strategic transport investment post-2020, it is crucial to assess the growth aspirations of the Midlands over the coming years and establish a future economic baseline. This is presented in Chapter 4, which draws together the initiatives described in the Strategic Economic Plans (SEP) prepared by the Local Economic Partnerships (LEPs) of the Midlands.

The overall assessment informs the definition of long-term strategic objectives for Midlands Connect that address current issues and are consistent with the economic ambitions and the underlying growth trends in the Midlands. Based on shared objectives, focus areas for strategic transport interventions are identified and Conditional Outputs (COs) are proposed. This framework is described and developed in Chapter 5.

Figure 1.1: Technical Report structure at a glance

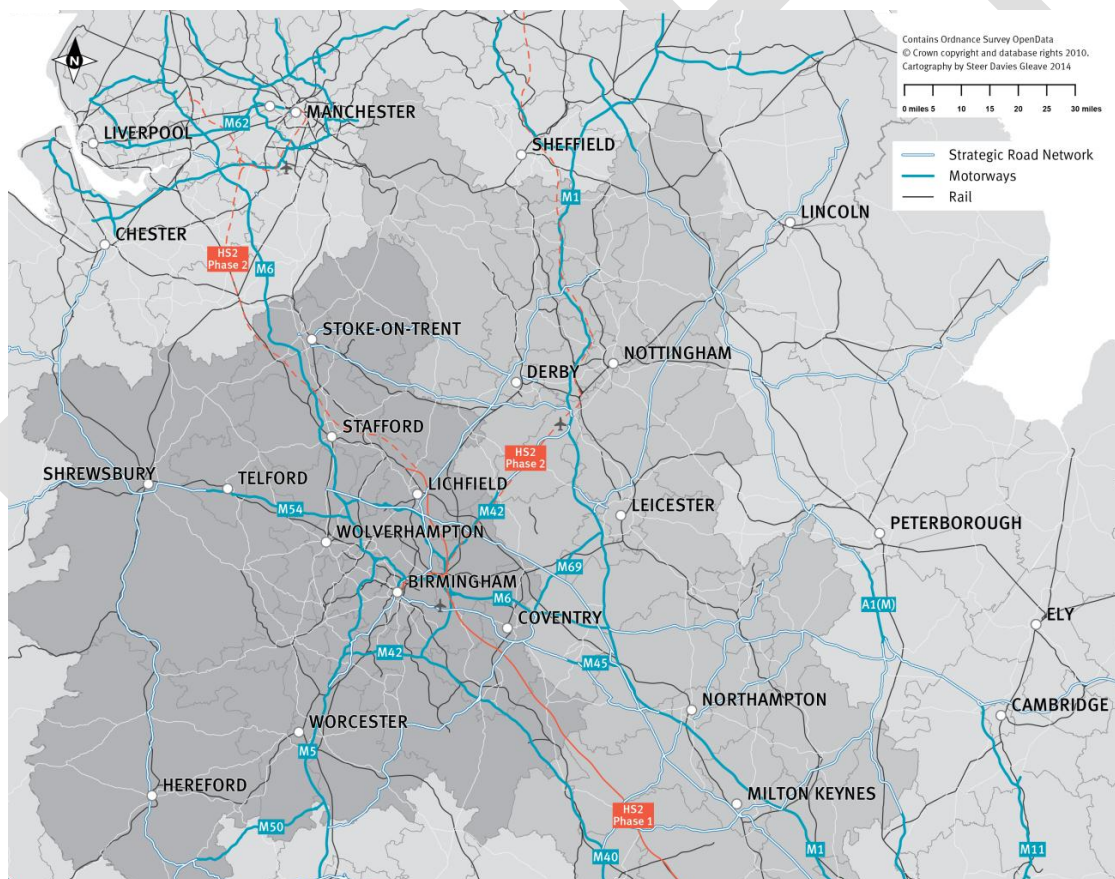


## The study area

The outputs of this study will support the West Midlands deliver strategic transport investment in the long-term. This study also highlights the links between the West Midlands and the wider Midlands area, fostering strategic cooperation among the following LEPs:

- West Midlands LEPs:
  - Greater Birmingham and Solihull (GBS LEP)
  - The Black Country (BC LEP)
  - Coventry and Warwickshire (CW LEP)
  - Worcestershire LEP
  - The Marches LEP
  - Stoke on Trent and Staffordshire LEP
- South and East Midlands LEPs:
  - Derby, Derbyshire, Nottingham, Nottinghamshire (D2N2 LEP)
  - Leicester and Leicestershire (LLEP)
  - Northamptonshire (NEP LEP)
  - South East Midlands (SEM LEP)

Figure 1.2: Map of the Midlands Connect study area



Source: Steer Davies Gleave 2014. The dark grey area covers the West Midlands, while the lighter grey area includes the South and East Midlands. The proposed HS2 Y-network is shown in red.

## 2 Economic evidence base

### Building the economic evidence base

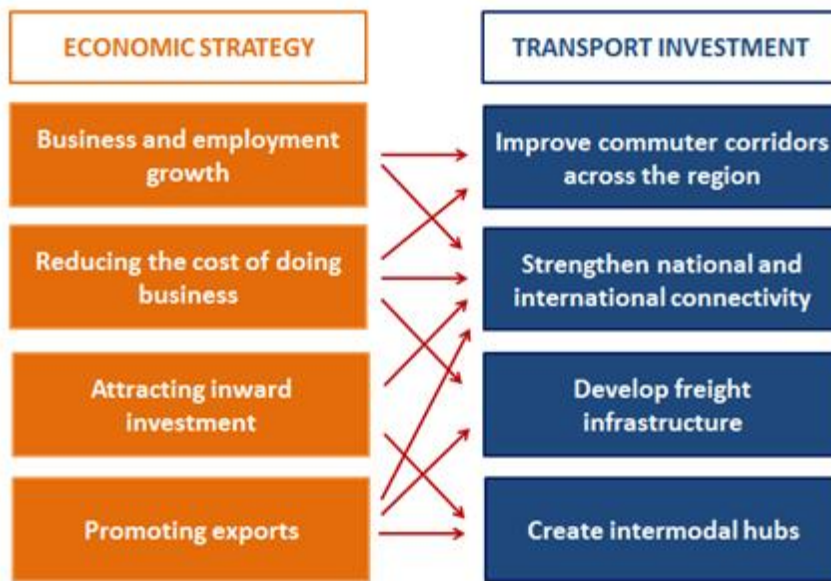
Laying out a strong evidence-based approach is key to supporting the case for transport as an accelerant for business growth and employment. The economic evidence base that follows arises from a combination of statistical data analysis, review of the existing literature, and a review of economic and planning strategies, especially the SEPs produced by the LEPs in March 2014.

Figure 2.1: Evidence base for Midlands Connect



Based on the evidence emerging from the analysis of current data and growth aspirations, conclusions can be drawn on the importance of transport in supporting the flow of commuters, goods and investment. An example of the conceptual framework for the definition of transport investment priorities to which this analysis leads is represented in Figure 2.2 below, showing the inter-relationship between strategic economic and transport goals. This is a two-way process whereby connectivity outcomes and economic outcomes interact over time.

Figure 2.2: Example of conceptual framework for transport investment



The main socio-economic areas around which this evidence base is structured are:

- Demography and housing
- Employment and jobs creation
- Education and skills
- Inward investment
- Exports

### Demography and housing

The Midlands host around 11.2 million people, as indicated by the Census (2011) figures. Around 5.6 million live in the West Midlands, and 5.5 million live in the East Midlands. Birmingham is the largest city, with over 1 million inhabitants and over 2 million in the GBS LEP. The most populous LEP is D2N2, including the large urban centres of Nottingham and Derby.

Population has grown across all cities and local authorities between 2001 and 2011. This is especially of note in the case of metropolitan areas in the West Midlands as the population decline experienced in cities between 1991 and 2001 has halted and reversed.

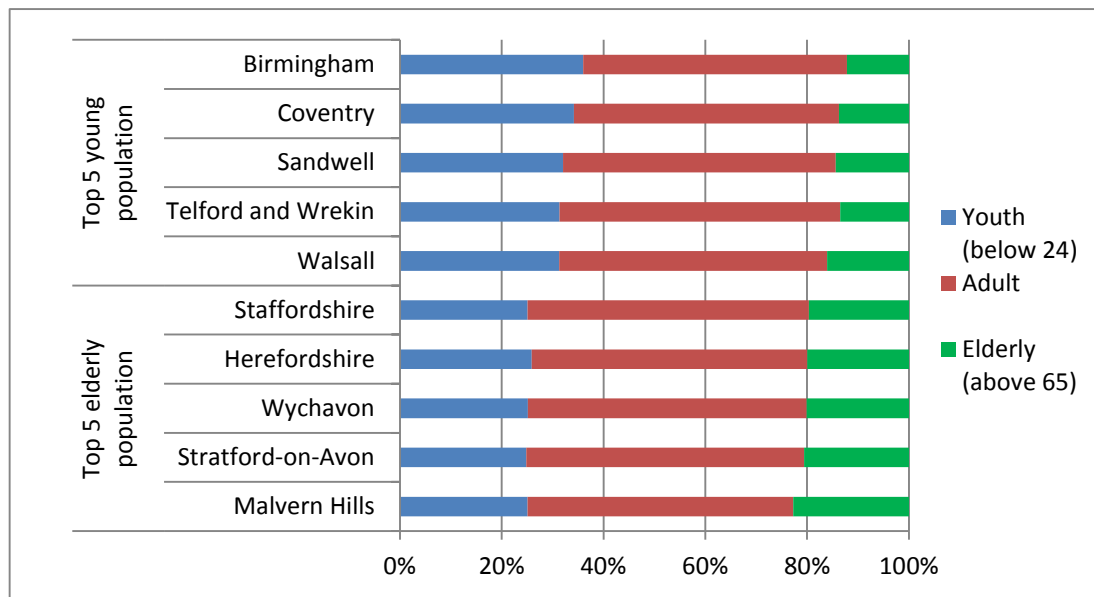
Between 2001 and 2011 metropolitan areas grew faster than the Shires. The main reasons for growth in cities have been an increase in the natural birth rate and a net immigration from non-UK residents. This is particularly important in Birmingham.

The share of young people (below the age of 24) living in cities has increased. While the overall share of youth in the Midlands is in line with the national average at around 30%, cities have especially young populations as shown in Figure 2.3 – over 35% in Birmingham and Coventry.

In contrast, there are more elderly residents in the Shires, and the adult population has remained fairly constant, especially due to high outmigration rates in the 25-44 population segment.



Figure 2.3: Youngest and eldest populations - West Midlands



Source: ONS (2014)

Population growth has put pressure on housing and affected the balance of owners and renters, with around 15% of residents renting a property in the Midlands. In 2011, there were 184,000 people on housing waiting lists in the West Midlands, with the region having the highest homelessness rate in the UK. This growing population will inevitably increase the demand for housing and related services.

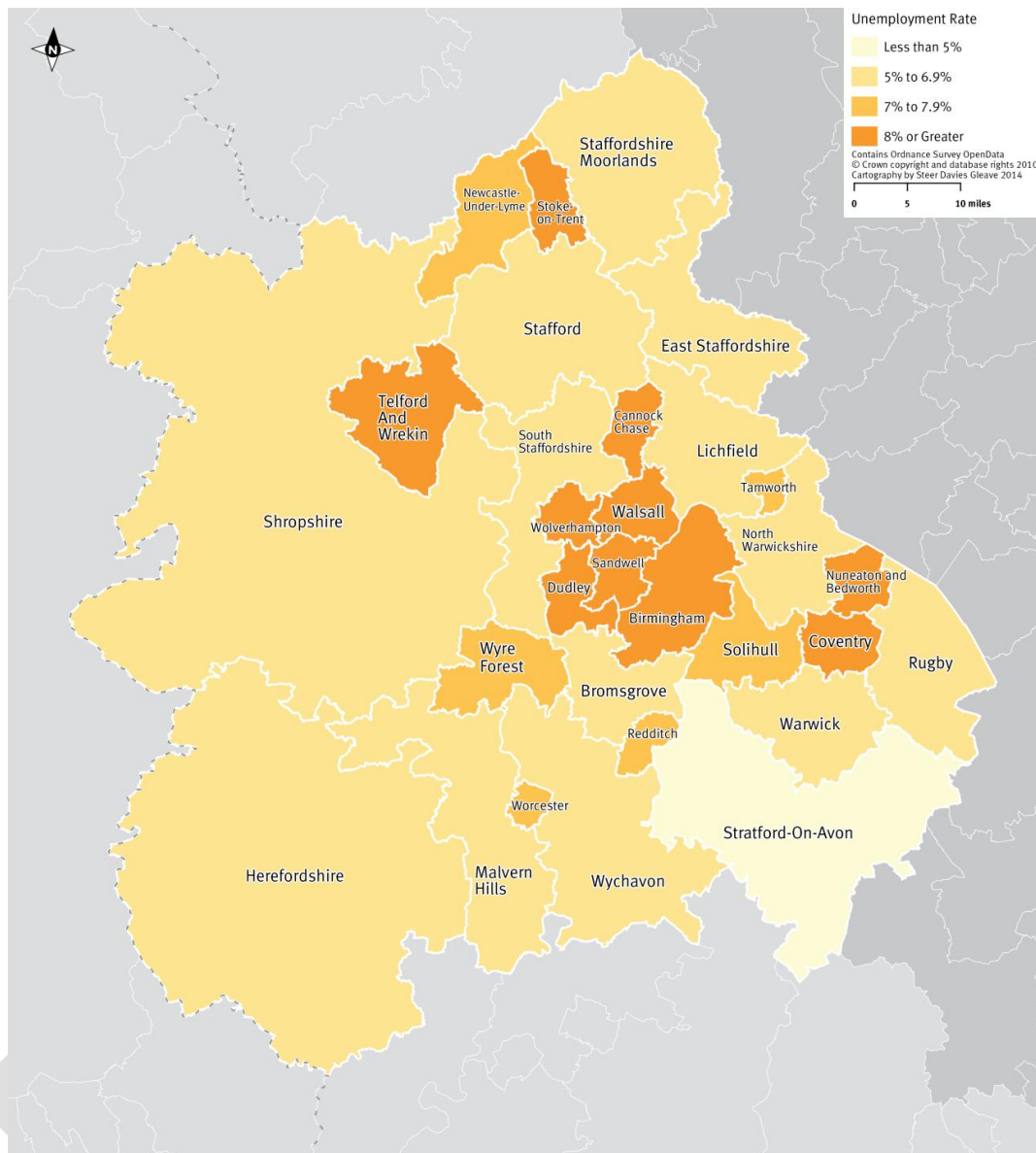
Housing growth needs to accommodate population growth trends, quality needs and location assessments. The distribution of residential areas, and the relationship between where people live, work and spend leisure time affects the demand for travel. When housing development sites are located in the outskirts of large cities, this raises the number of inward commuting. Hence land-use planning is critically linked to transport planning in meeting the demand resulting from the growing population of the Midlands.

### Employment and jobs creation

The employment rate in the Midlands is slightly below the national average, with around 80% of the economically active population between the ages of 16-64 in employment. Birmingham is the largest employment centre, both by number of workers and by resident population.

The official unemployment rate in the West Midlands stood at below 8% in 2014, which is higher than the national average. As can be seen in Figure 2.4, the inner city areas of Birmingham, and the Black Country, have higher rates of unemployment, while the Marches and Worcestershire enjoy a lower unemployment rate of below 6%.

**Figure 2.4: Unemployment map by local authority**

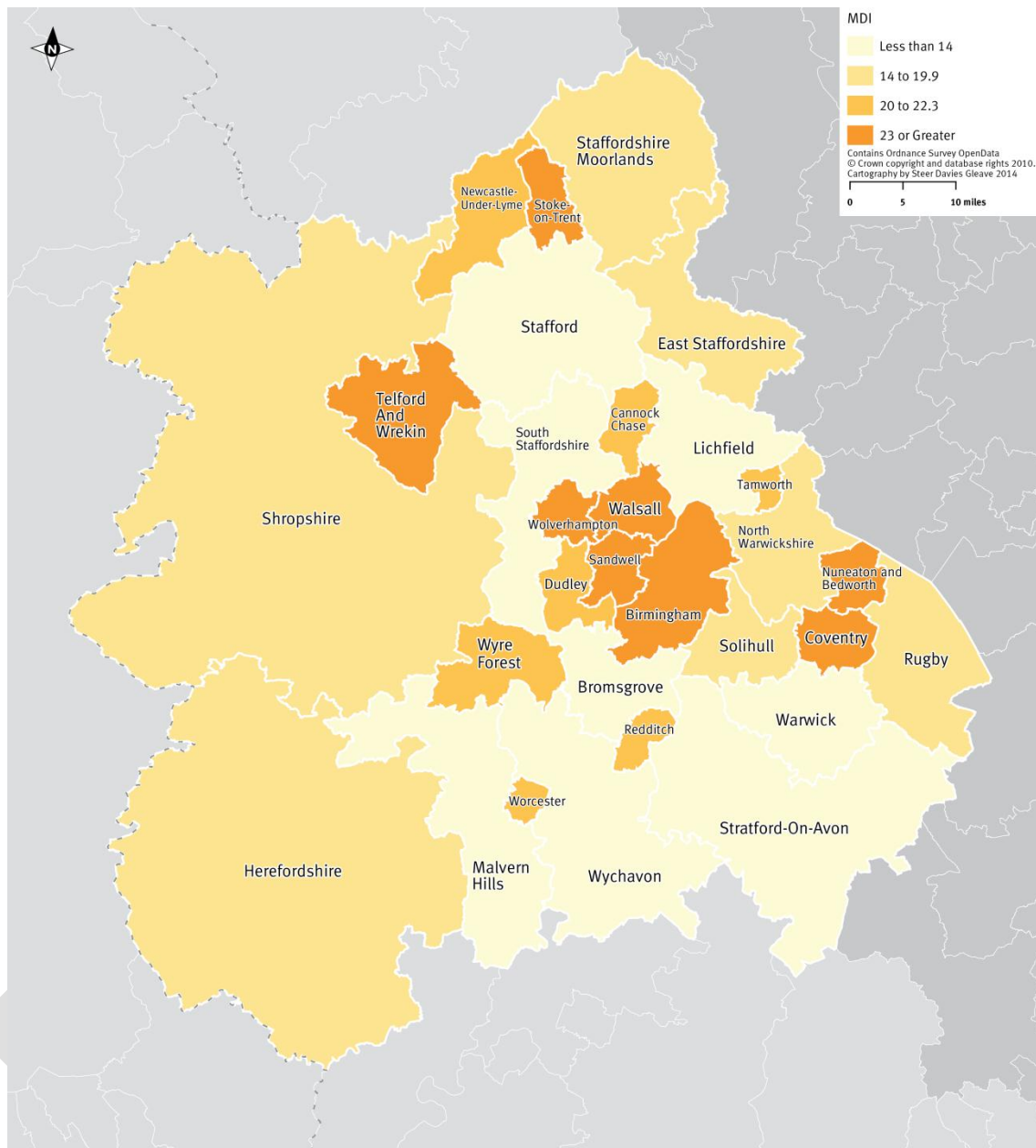


Source: Steer Davies Gleave analysis of ONS data

Similarly, Figure 2.5 highlights the local authorities in which indices of multiple deprivation (IMD) are highest. The local authorities in the West Midlands with the highest combined IMD are Birmingham and Sandwell with a score of 37, and Stoke on Trent with 35. The local authorities with the lowest IMD are Bromsgrove with a score of 10, Stratford-on-Avon on 11 and Warwick on 12. There is a clear overlap between areas of higher unemployment and higher deprivation.



Figure 2.5: Index of Multiple Deprivation map by local authority



Source: Steer Davies Gleave analysis of ONS data

The number of Job Seeker Allowance (JSA) claimants in the West Midlands increased markedly in 2009 and reached the highest ratio of claimants to vacancies in the country. The number of unemployed residents was still higher in 2013 than pre-crisis levels, though on a markedly downward trend.

Headline statistics on employment aid an understanding of the wider economic geography. However, is it important to undertake further analysis in order to understand the underlying economic imbalances which will benefit from transport investment, and in particular:

- The location of jobs – in city centres or out-of-town
- The type of jobs – by sector and skills
- The productivity of jobs – by sector and location

## The location of jobs

Business location depends on several factors, including transport connectivity as well as the availability of land and the prevailing policy frameworks at the time. As a result, the percentage of companies (and hence employees) in city centres varies city by city.

The density of businesses has strong implications for both economic growth and transport investment. Businesses benefit from proximity and recent economic literature supports the view that when firms cluster around key locations their productivity increases and the drive for innovation is stronger.

This increase in productivity is mainly due to the so-called ‘agglomeration benefits’, which can be summarised as follows:

- Better ability to access wider labour markets - widening of labour-pooling opportunities with greater matching of supply and demand for jobs
- Increase in knowledge spill-overs – greater exchange of ideas and business practices encouraged by proximity and informal networking
- Cheaper access to public goods - making it more convenient for enterprise clusters to benefit from, e.g. fast broadband connections and shared university/research facilities.

Better connectivity between large employment areas reduces travel times between businesses and leads to higher effective density. Hence strategic transport investment can result in high agglomeration benefits, increasing productivity and employment opportunities.

### *The geographic concentration of jobs*

Figure 2.6 shows that the share of workers in city centres varies across the Midlands. In Stoke, only 9% of employees in Stoke work in the city centre, while more than one quarter of the workforce is based in the centres of Birmingham and Nottingham respectively. This distribution also reflects the different type of jobs present in different cities. Where the share of service-sector workers is higher, more employees tend to be based in the city centres.

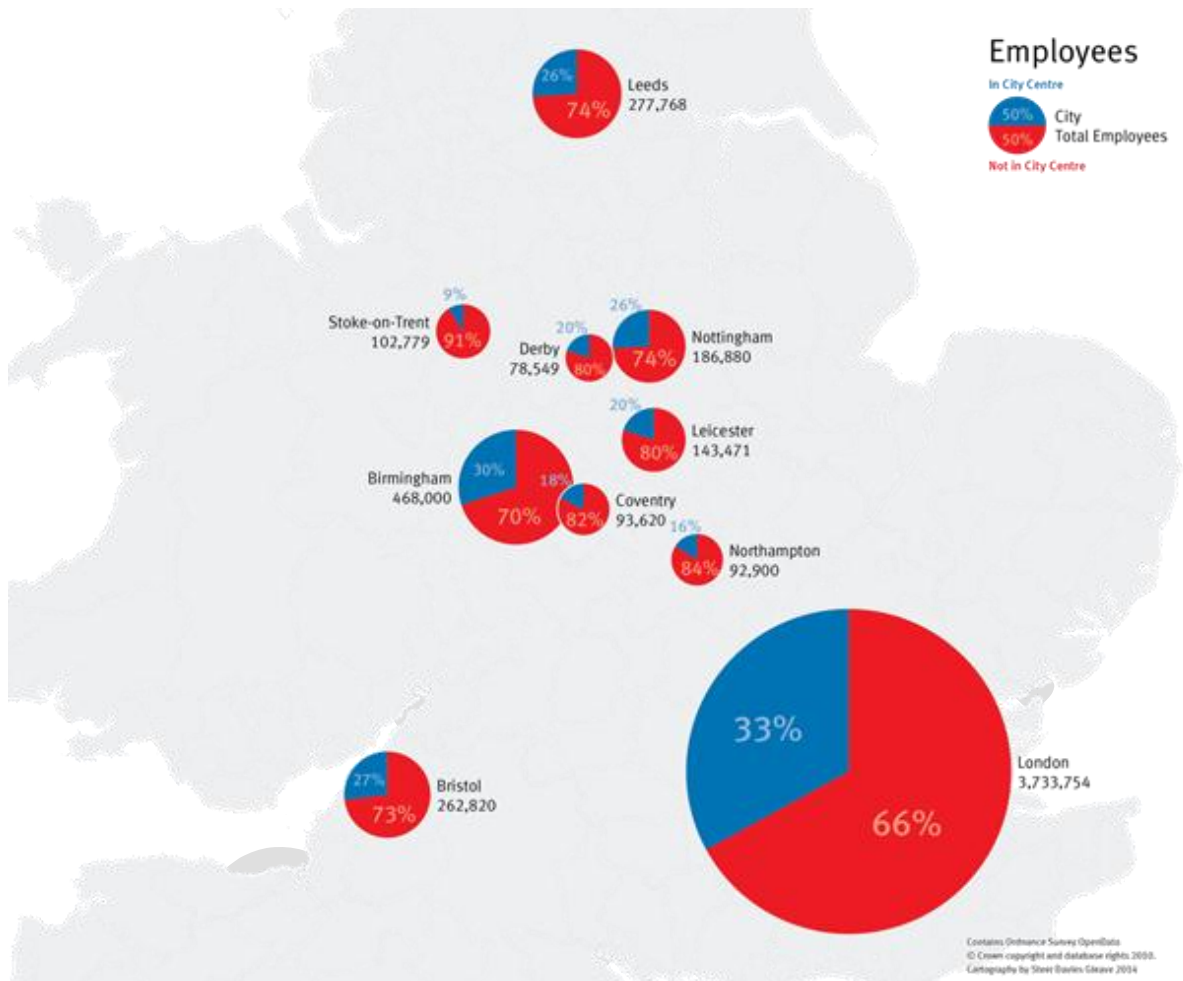
The figure also shows the relative size of the employment pool in each of the major UK cities for which data is available. Irrespective of their locations within urban areas, the location of jobs across the country gives an idea of the cities that act as attractors for workers who live in residential areas around the main employment hubs. It also provides an initial assessment of market size indicating between which cities agglomeration benefits are likely to be greatest.

As specialised clusters continue to develop across the Midlands, it is key to ensure that agglomeration benefits are maximised through convenient and direct transport connections that widen the impact of agglomeration economies – both between each of those clusters, and between employment and residential sites. With over 673,000 employees, Birmingham acts as the main attractor of jobs in the region.

#### **Focus: Birmingham City Centre**

- Birmingham City Centre hosts over 1,900 firms in the financial services sector, employing over 20,000 people
- Financial and professional services contribute £4bn to the city economy
- Ongoing redevelopment at Paradise Circus and Arena Central provides opportunities for growth
- The City Centre Enterprise Zone will offer further incentives for investors including rates relief and infrastructure

Figure 2.6: Share of employees in city centres



Source: Steer Davies Gleave analysis of Centre for Cities data and BCC data

The resilience in demand for office space in city centres has been matched by a steady supply, as indicated by JDT<sup>3</sup> figures comparing the 2010/11 floorspace development with the 2012/11 average. However, out-of-town office space development has continued to decline.

Conversely, both demand and supply of retail space has fallen in town centres across the Midlands. The percentage of empty shops in the West Midlands’ city centres is the third highest in the country at 18.9%, and retail space building is at its slowest pace since 2001. The decline in the development of new shops and the high vacancy rates of retail spaces reflects changing shopping trends towards out-of-town retail parks and shopping centres, as well as online shopping.

However, there are examples that counter this trend such as the on-going redevelopment of Birmingham New Street station and associated shopping centre, which will be occupied by one of the largest John Lewis shop in the country.

<sup>3</sup> Joint Data Team - Regional Employment Land Survey for the West Midlands Planning Officers Group

### *Access to jobs*

Connectivity in turn ensures that available jobs are taken up by workers and that the supply side of the labour market is matched by a dynamic, rightly-skilled demand side. The movement of workers between the main regional centres, as well as between the Shires and the Met areas, results in significant commuting flows across the Midlands. In the absence of up-to-date travel to work data by the ONS, a comparison between where residents live and work gives the following insights into commuting across the Midlands:

- Birmingham has an inflow of around 100,000 per day workers
- Most commuters into Birmingham come from the Black Country regional centres (70%) and from the neighbouring towns of Tamworth, Lichfield and Bromsgrove
- The majority of workers travel to Coventry from Nuneaton, Bedworth, Warwick, Rugby and Solihull. Around 5% of commuters come from Stoke-on-Trent
- Solihull predominantly attracts workers from Birmingham (57%), but also Bromsgrove, Tamworth, Warwick and Sandwell
- Though smaller in size, the employment pool in Wolverhampton benefits from a significant inflow of commuters from South Staffordshire (23%) and Telford (5%), as well as from the other Black Country regional centres
- There is a significant flow of commuters between the Shrewsbury, Telford and Wolverhampton area. Around 10% of trips originating from Shropshire terminate in Birmingham.

### **The type of jobs**

Some key economic sectors are particularly strong across the Midlands and give a greater contribution to overall economic activity and employment than other sectors. These include:

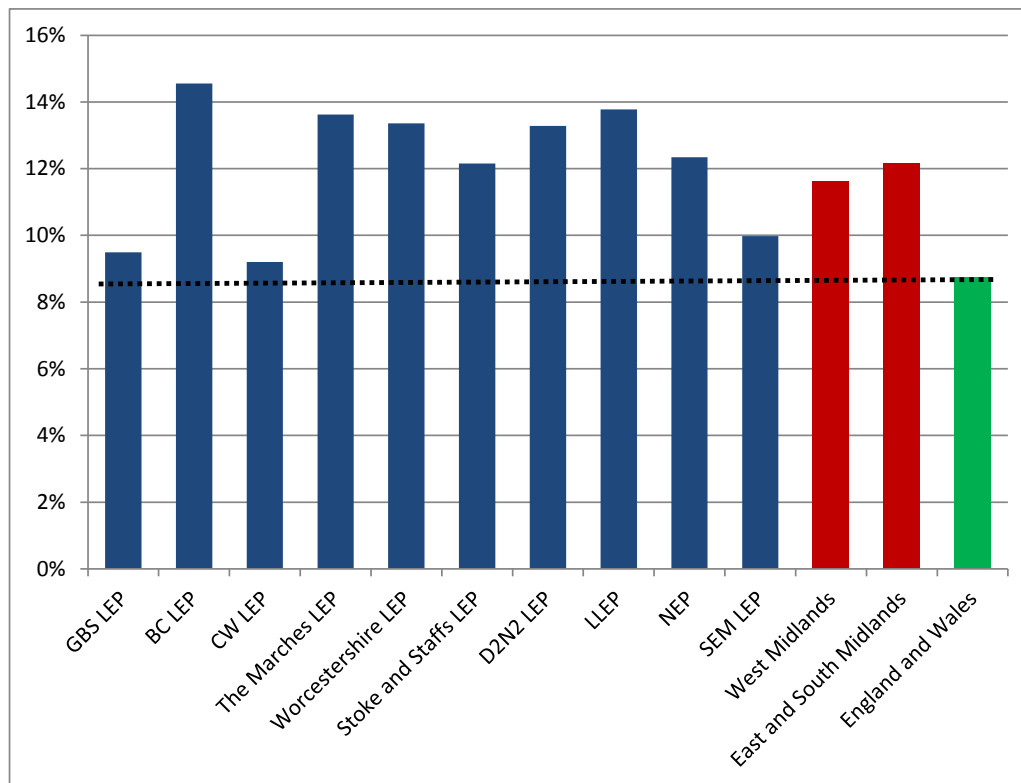
- The manufacturing sector
- The professional services sector
- The emerging sector

Gathering evidence on the size of these sectors is important in order to identify the key strengths of the region, as well as the relationship between production and employment centres.

#### *The manufacturing sector*

The Midlands has a strong history of manufacturing, and around 12% of jobs in the area are in this sector - a higher rate than the England and Wales figure of 9%. The Black Country LEP has the highest percentage of manufacturing jobs at 15%, and the Marches is similarly strong with 14%. Manufacturing is also a strong sector in the East Midlands LEPs, with 14% of jobs in Leicestershire, and a concentration of transport equipment manufacturers in the Ashfield and Mansfield areas.

Figure 2.7: Share of jobs in the manufacturing sector by LEP



Source: ONS (2014)

Car manufacturing is a particular strength of the West Midlands. In the Coventry and Warwickshire LEP there are around 10,000 jobs in car manufacturing, accounting for 3% of all jobs in the LEP. Large Jaguar Land Rover plants are present in Solihull and Castle Bromwich, and a new £355 million Jaguar Land Rover site is under construction near Wolverhampton. The West Midlands hosts 30% of the automotive jobs and 60% of the related R&D Development jobs nationally. The Black Country also hosts several companies in the aerospace sector.

**Focus: Aerospace in the Black Country**

- The aerospace sector is growing in the Black Country by 6.8% a year
- 20% of UK aerospace output is generated by four leading companies based in Wolverhampton
- No other companies in the UK produce the same type of components
- 26,000 people are employed in the sector in the Black Country
- The aerospace sector contributes £1.5 billion annually to the UK economy

“Manufacturers often need to get their inputs from a set of dispersed locations in the Midlands, as well as from international gateways – this is challenging given today’s infrastructure”

Overall, the concentration of specialised manufacturers in the automotive and aerospace sector is a key strength of the Midlands’ economy. Proximity of producers across the region fosters specialisation, reduces costs along the supply chain and makes for a more dynamic labour market.

*The professional services sector*

The largest share of employment in the Midlands is in the service sector, including both public and private sector jobs. Birmingham has been a particularly strong attractor of jobs in the service sector in recent years. The Regional Observatory calculated the total number of employees in business, professional and financial services in Birmingham to be in excess of 100,000.

Despite Birmingham being the city in the UK with the largest absolute decline in public sector jobs between 2010 and 2012 (-9,300 jobs, 3% of the total), a majority of which were in the service sector, the net increase in private sector jobs over the same period has been 15,400.

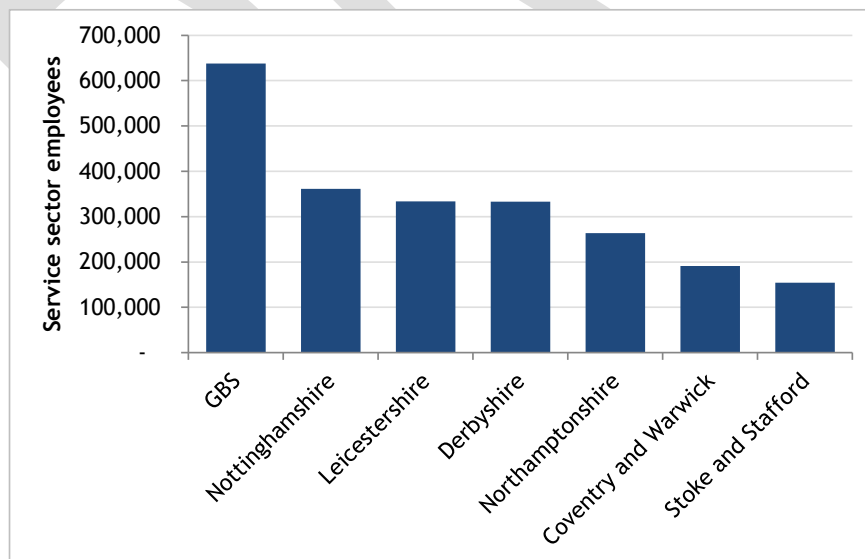
Under the broad definition of “Professional Services” given by the Office of National Statistics (ONS), an examination of key sectors reveals the relative strengths of each city:

- In the financial and insurance sector, around 30,000 employees work for some 1,900 firms in Birmingham, while the equivalent figure for Coventry is 7,700 and 5,800 for Nottingham.
- Several leading companies in the real estate sector have their headquarters in the Midlands. Employment in this sector is greatest in Birmingham, followed by Worcestershire and Northamptonshire.
- The largest number of workers in the information and telecommunication sector is again in Birmingham, followed by Warwick and Nottingham, each hosting around 10,000 workers in the sector.

These figures show that while Birmingham is the largest employment market in the Midlands, specialised private sector services have developed across most metropolitan areas, providing a rationale for increased connectivity between these areas and Birmingham.

When considering the broader definition of service sector jobs<sup>4</sup> in the cities of the Midlands and their surrounding areas, Greater Birmingham and Solihull’s labour pool is by far the largest. The service sector of Nottingham, Derby, Northampton and their metropolitan areas is around half the size of Birmingham, as shown in Figure 2.8 below.

Figure 2.8: Employees in the service sector by metropolitan area



Source: Steer Davies Gleave analysis of Nomis data

<sup>4</sup> BRES employment categories G to S



Despite Birmingham's sizeable employment market, it still records a deficit of employment relative to the national average. The Centre for Cities estimates that Birmingham is the city with the largest employment gap; an extra 112,300 Birmingham residents would need to find employment to bring the city up to the national employment average. The GBSLEP SEP makes it clear that attracting business is a key priority to address this gap.

Besides looking at absolute numbers, it is useful to look at the relative strength of the service sector in different cities. A measure is provided by the Location Quotients (LQ), which are calculated for each local authority as the ratio between the local share of employees in a specific industry and the local share of national employee jobs. Table 2.1 shows the top three cities in the Midlands with the highest LQ in each of the sectors listed.

This reveals the relative concentration of jobs and sectoral specialisation taking place in each metropolitan area, irrespective of the absolute size of the workforce. Economic theory suggests that when similar places are better connected, trade volumes tend to increase, bringing benefits of more choice to consumers and more intense competition between firms<sup>5</sup>.

For example, a high concentration of workers in the financial and insurance sectors indicates that greater connectivity between Northampton and Birmingham would have positive economic impacts.

**Table 2.1: Urban areas with the highest relative density of jobs by sector**

Sector	Urban areas
Education	1. Coventry
	2. Leicester
	3. Walsall
Information and Communication	1. Warwick
	2. Telford and Wrekin
	3. Solihull
Financial and insurance activities	1. Northampton
	2. Birmingham
	3. Coventry
Professional and scientific activities	1. Stratford-on-Avon
	2. Warwick
	3. Malvern Hills
Real estate	1. Wychavon
	2. Dudley
	3. Stratford-on-Avon

#### *The emerging sector*

One of the main levers for future-proofing economic growth is the so-called 'emerging sector', also referred to as knowledge-intensive or high-technology. The success of the local economies in recent years owes a lot to technological innovation, both in terms of support to advanced manufacturing and the creation of new business opportunities, including:

- Information Technology: a high growth, dynamic sector encompassing software development, digital media and internet businesses;

<sup>5</sup> HS2 Ltd, High Speed Rail, Transport Investment and Economic Impact (2013)

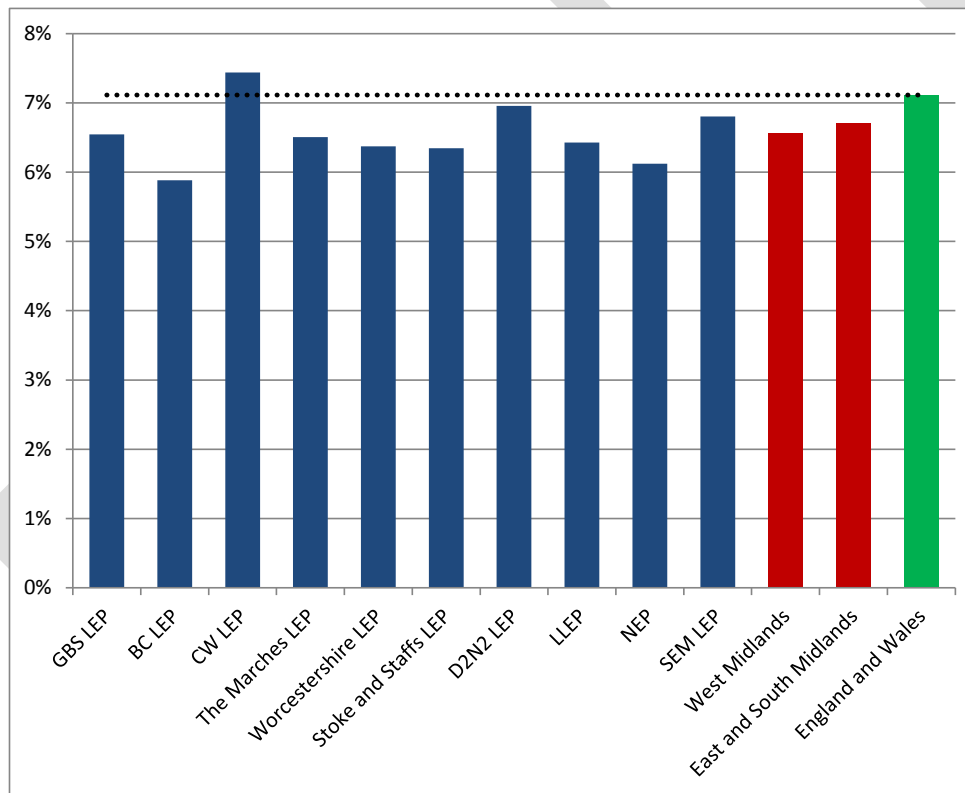
- Life Sciences: knowledge-intensive research activities across the bioengineering and medical sectors (around key clusters such as the Malvern Hills Science Park), developing partnerships with local universities.

**Focus: Malvern Hills Science Park**

- Opened in October 1999 and has recently opened its Phase 3 building
- Technology cluster on 10 acre site at the foot of the Malvern Hills
- Linked to and partly owned by Malvern QinetiQ, building synergies across sectors
- Tenants have access to an on-site manager for business advice, and labs are available

In the Midlands the total share of jobs in the emerging sector is estimated at around 6.5% of the labour force, compared to a national figure of 7.1%. Traditionally, a high concentration of life science activities is present around Coventry and Warwick, while new businesses have also been emerging around Nottingham in the healthcare sector, drawing on their proximity to NHS and University sites.

**Figure 2.9: Share of jobs in the emerging sectors by LEP**

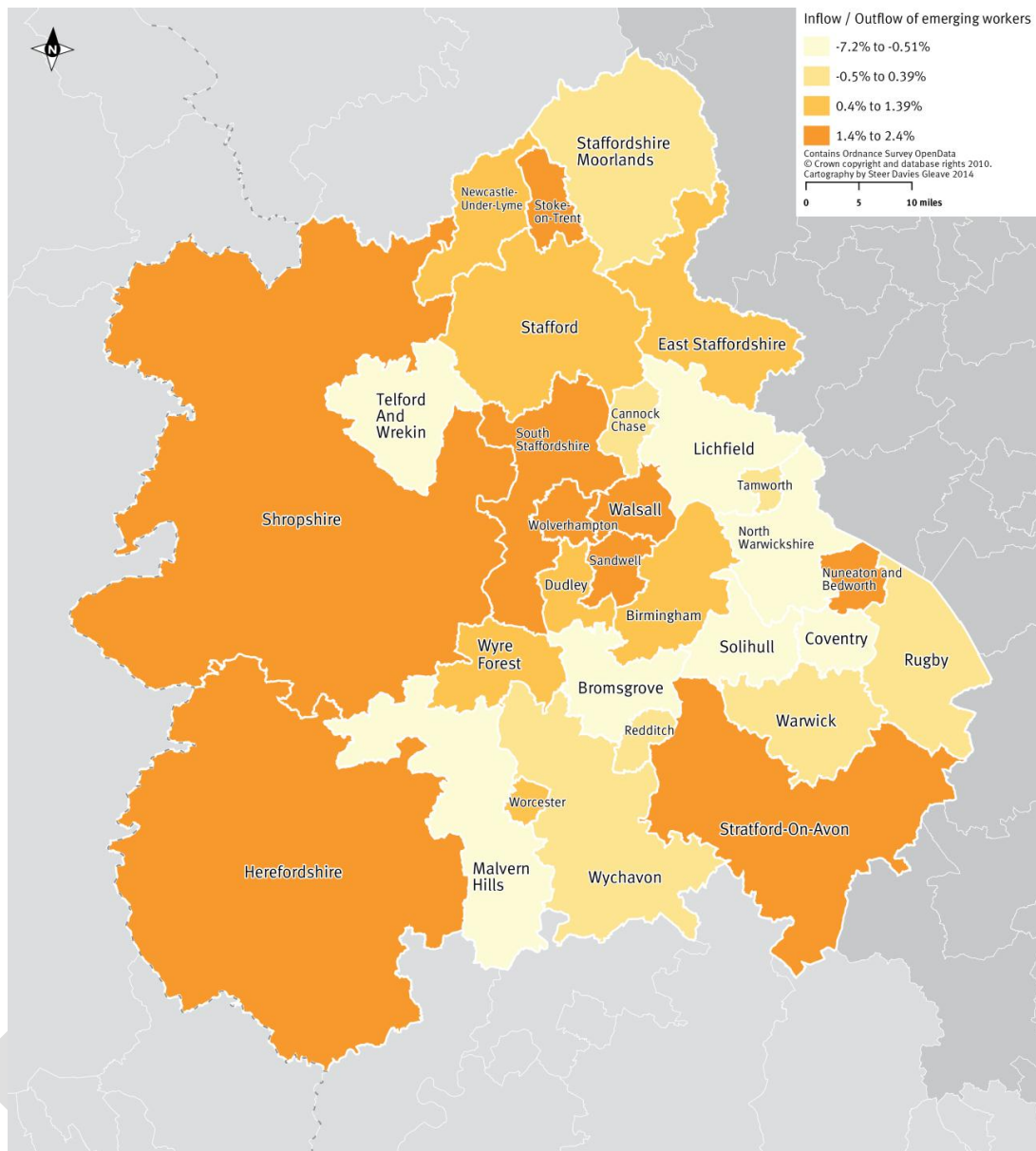


Source: ONS (2014)

Knowledge-intensive jobs are likely to locate in close proximity, as this facilitates the exchange of knowledge and ideas. Effective proximity reliant on resilient transport connections is equally important. A study by the American Public Transport Association has recently made the case for public transport to support the growth of technology clusters in the US, estimating that one quarter of employment growth at these sites will be dependent upon the freeing up of constrained accessibility currently limiting their expansion.



**Figure 2.10: Inflow and outflow of emerging workers**



Source: Steer Davies Gleave analysis of ONS data

The estimated size of the emerging sector by number of employees who work in a city (BRES data) can be compared against the number of residents with similar skills who reside in the city (LFS data). This allows a picture of emerging sector commuter corridors to be gained. The CW LEP has a 7.5% emerging sector worker share, to service its high number of emerging sector jobs. However, data for the Worcestershire LEP shows that the mismatch of local emerging jobs and local workers with the skills to fill them is around one-third.

In Lichfield, only 6.7% of jobs are in the emerging sector, while over 11% of residents have high-end skills, suggesting a high level of out-commuting from Lichfield into Birmingham. This is further supported by data on gross weekly pay by residence provided by the ONS (2013). Residents in Lichfield earned, on average, 29% more than those working in Lichfield but residing elsewhere.

The mismatch between residents and jobs across the region is expected to intensify and commuting flows of emerging-sector workers are likely to grow, alongside knowledge-intensive and technology-based industries. The need for local policy makers to monitor the development of this sector is highlighted by the UK Commission for Employment and Skills (UKCES) 2012 study on employment and skills, which concluded that:

*“The impacts of information technology and other related organisational changes are likely to further reduce the demand for clerical and basic secretarial skills across all industries (occupational effects). Similarly, the introduction of new technologies in manufacturing will tend to displace many skilled workers. Conversely, the management and operation of the new technologies will require greater shares in employment for managerial, professional occupations, including technicians of various kind”.*

### The productivity of jobs

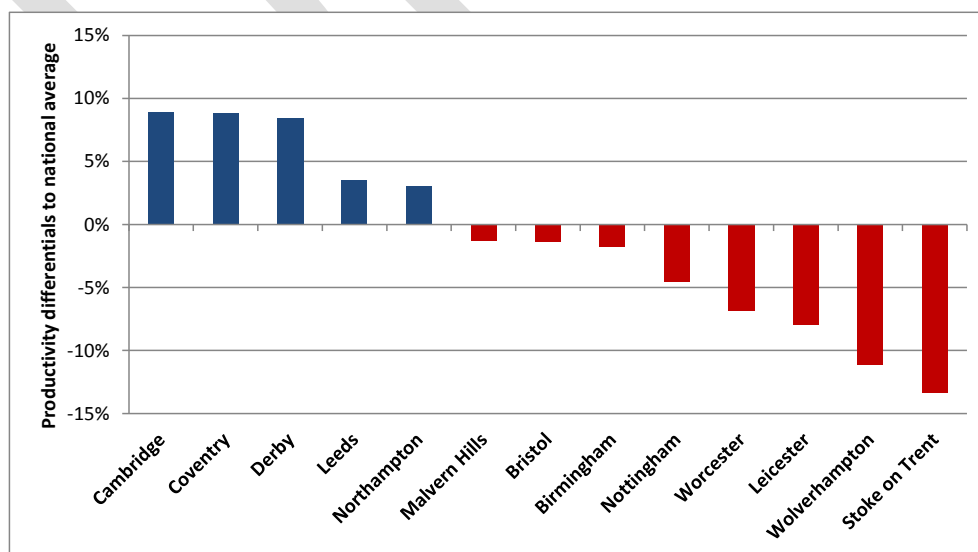
Productivity is a measure of economic efficiency based on output per input. Labour productivity in particular reflects the ability of workers to produce efficiently and is typically measured by output per worker or per hour(s) worked.

Productivity is also a key measure of competitiveness. Differences in productivity between sectors and geographies are likewise useful to assess where productive investment should be channelled, and to understand which areas need improvements the most (e.g. in skills, connectivity, etc.).

Data gathered by the UKCES (2012) suggests that productivity has been growing in all economic sectors between 2000 and 2010, with the exception of agriculture and the utilities. Productivity in mature sectors such as manufacturing and business services is leading to progressive job losses compared to output, while skills-intensive firms in the emerging sector and professional services are shown to rely less on productivity and more on output growth for expansion.

Place is another key determinant of labour productivity, given the impact of skills, connectivity and other factors. In a wide-ranging review of productivity across UK cities carried out for the DfT, ITS Leeds (2008) produced an index of labour productivity by Local Authority District.

Figure 2.11: Productivity differentials to national average



Source: Steer Davies Gleave analysis of ITS Leeds 2008, Productivity Differentials for use in Transport Appraisal

The index benchmarks each LAD against the national average, as shown in Figure 2.11, with cities in the Midlands compared to other medium-large centres. A number of cities in the Midlands are less productive than the national average. The figure also shows that workers in Coventry and Derby are comparatively more productive than workers in Stoke and Wolverhampton.

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“Places with greater connectivity attract new businesses and improve the productivity of existing ones. With better links, the Midlands could attract more HQs and related services”

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When tailoring spatial policies and transport investment to specific locations, productivity is one of the key variables to consider since connectivity improvements can raise business productivity both directly through journey time savings and indirectly through agglomeration benefits, as well as more intense competition between firms allowing more efficient firms to expand.

## Education and skills

The region hosts a number of universities, offering a diverse range of subjects and research activities. As summarised in Table 2.2, Coventry and Birmingham have the highest student populations in the region, making up respectively 12%, and 11% of the population aged 16-74. Considerable investment has gone into higher education establishments in the Midlands in recent years, recognising the need for a stronger skills base as a driver of business growth and innovation.

**Table 2.2: Universities in the Midlands**

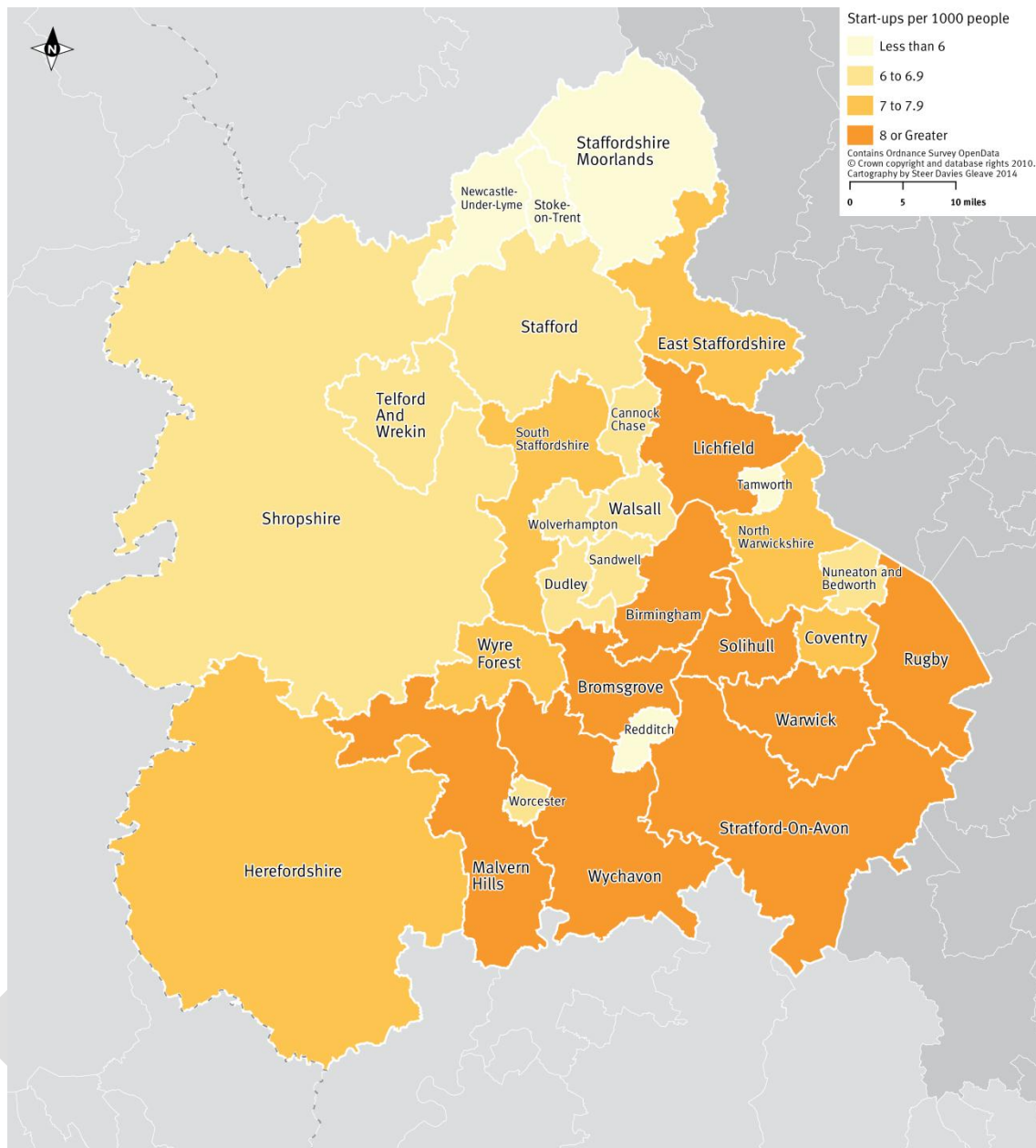
University	Ranking	Specialisation
University of Warwick	10	Mathematics
University of Leicester	14	Chemistry
University of Birmingham	16	Computer Science
Loughborough University	21	Town and Country Planning
University of Nottingham	23	Agriculture, forestry and food
Aston University Birmingham	29	Business Studies
Keele University	44	Nursing and Paramedical Studies
Coventry University	45	Business and Management Studies
Nottingham Trent University	61	Sports Science
Harper Adams University, Newport	64	Agri-tech
Newman University, Birmingham	73	Sports Science
University of Derby	84	Tourism, Transport and Travel
De Montfort University	86	General Engineering
Birmingham City University	91	Drama and Dance
University of Worcester	102	Nursing
Staffordshire University	108	Mechanical Engineering
Wolverhampton University	na	Business Studies

Source: Ranking based on Sunday Times University Guide 2014

However graduate retention is a challenge. Outmigration from metropolitan areas has been pronounced between 2001 and 2011, especially in the 25-44 age group which is likely to include recent graduates from local universities.

The success of local universities is closely linked to the rate of innovation and business creation in the region. The highest number of start-ups per 1,000 people is in Coventry & Warwickshire (8.5), while the Black Country has the lowest at 6.2. Worcester and GBS LEPs also have higher rates of business creation. Figure 2.12 maps start-ups by local authority – a high concentration is visible around the M42 ribbon in the south.

Figure 2.12: Business start-up rate



Source: Steer Davies Gleave analysis of ONS data

The skills base of the region can equally be analysed by looking at the share of the population with higher education qualifications, specifically those classified as NVQ4 or above by the ONS. The figures in Table 2.3 show a significant gap between cities in the Midlands and other large urban centres in Britain, highlighting the challenge of retaining and attracting skilled workers.

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“There is a wide mismatch of skills in every sector. Better connectivity needs to get skilled young people to work. We have a great educational sector in the Midlands – let’s link it up”

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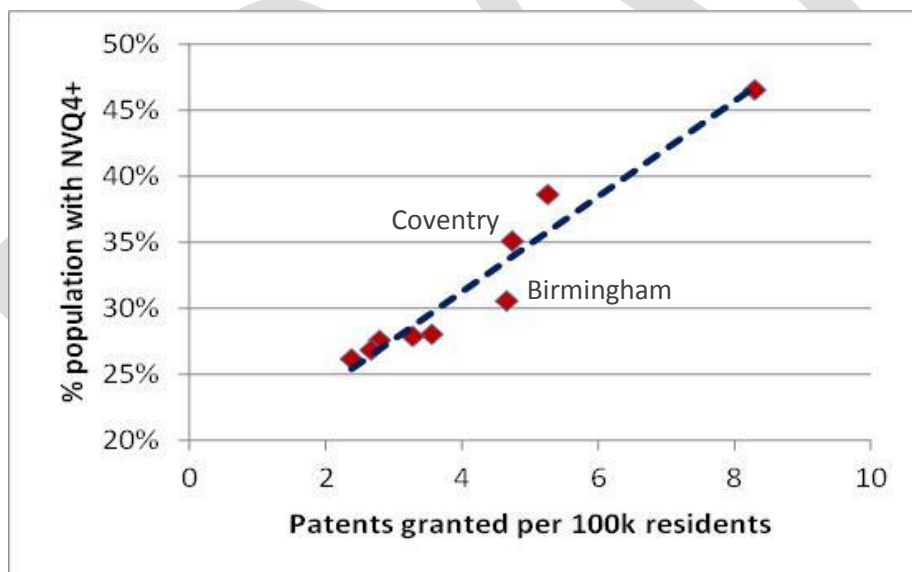
**Table 2.3: Share of population with higher education qualifications**

City	Share of population NVQ4+
London	47%
Bristol	39%
Leeds	35%
Nottingham	31%
Derby	28%
Leicester	28%
Northampton	28%
Coventry	27%
Birmingham	26%
Stoke on Trent	23%

Source: ONS (2014)

An indicator of innovation is given by the number of patents granted. The figures, provided by Centre for Cities, show that locations such as Cambridge, Bristol and Swindon lead in the national table. Compared to a national average of 4.6 patents granted per 100,000 inhabitants, all cities in the Midlands perform below that with the exception of Northampton. As shown in Figure 2.13 - cities with higher concentrations of skilled workers are more likely to innovate, with a higher number of patents granted per residents.

**Figure 2.13: The relationship between skills and innovation**



Source: Steer Davies Gleave analysis of ONS and Centre for Cities data

Transport connectivity plays a role in the attraction and retention of skilled individuals in the area. Better links between universities and businesses can help maximise research activities and promote the sharing of good practices and the pooling of resources. Convenient connections allow recent graduates to take up job opportunities across the wider region, while multi-modal journeys are necessary for those working across emerging innovation hubs outside traditional commuting corridors.

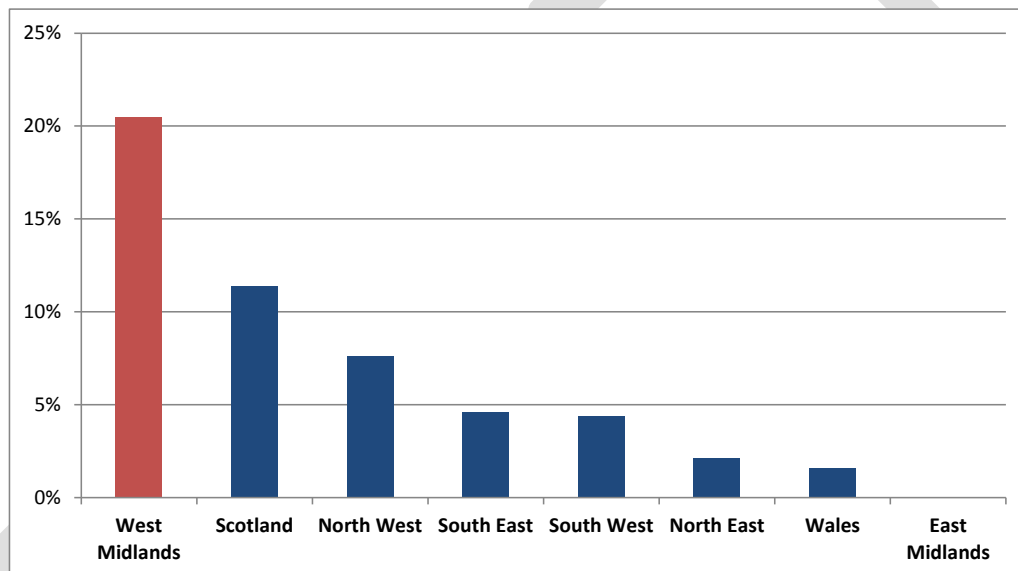
## Inward Investment

### Foreign Direct Investment

Attracting international investment is important for two main reasons: when new firms locate in the Midlands, or existing firms expand, new employment opportunities are created, both directly and along the supply chain; in addition, investment can spur the adoption of new technologies and managerial practices that increase productivity. Cities and regions in the UK compete not just among each other to attract investment, but also globally.

Based on data from the Financial Times and FDI Markets and UKTI, 'Marketing Birmingham' has calculated the value of new Foreign Direct investment (FDI) projects across the UK. Their estimates show that the West Midlands hosted double the number of greenfield investment projects between 2007-2012 compared to 2003-2007. The total value of FDI flows into the West Midlands reached £9 billion over five years. More than 40% of these projects represented an expansion from existing ventures.

Figure 2.14: Change in FDI 2007-2012, by region



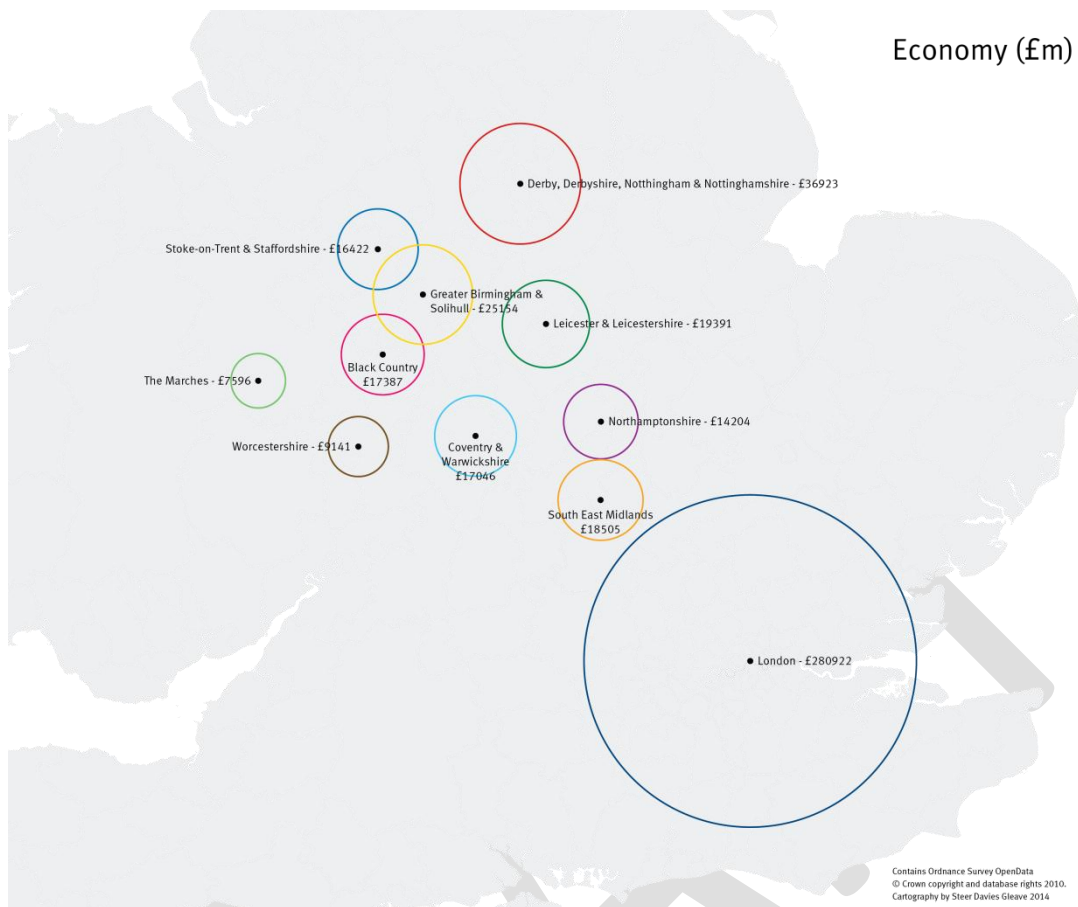
Source: Marketing Birmingham submission "Inward Investment and Sectors"

As highlighted by Centre for Cities (2014), 96% of the new private job creation in Britain occurs in cities. Figure 2.15 illustrates the size of the economy of the Midlands and the constituent LEAs, presenting the regional Gross Value Added (GVA) in comparison to other areas of the UK. GVA footprints are a good proxy for market size and indicate where investment is flowing across the country.

While Wales has a GVA of just over £47bn, the South East (excluding London) has a GVA of £191bn, and London has a GVA of about £281bn, the total GVA of the West Midlands is £95.5bn. GBS LEP has the largest economic footprint in the West Midlands at just over £25bn of GVA. A large concentration of economic activity is located in the D2N2 LEP in the East Midlands, with an economy of nearly £37bn.



Figure 2.15: The size of local economies (GVA, 2013)



Source: Steer Davies Gleave analysis of ONS data

### Enterprise Zones

Around the country, LEPs are pioneering enterprise zones (EZ) to encourage businesses to locate in their area, with the draw of reduced business rates and brand new purpose built facilities. In 2011, the UK government designated some enterprise zones in the six West Midlands LEPs, including:

- The Birmingham City Centre EZ, made up of 26 sites providing new office space and growth opportunities for the creative and digital media industries;
- The Black Country EZ, located north-west of Wolverhampton, across the i54 and Darlaston 226 acre sites, including Jaguar Landrover and MOOG Aerospace;
- MIRA EZ, located in North Warwickshire and hosting specialist engineering facilities;
- Hereford EZ, Skylon Park, where £20m has been invested in infrastructure.

### The visitor economy

Tourism spending is another form of inward investment. It is estimated that visitors to the West Midlands spent over £1 billion in 2010 (VisitEngland). Over 35% of tourism spending came from business trips, a higher share than England overall (20%), boosted by the presence of facilities like the NEC. The cultural offer across the Midlands also attracts tourists to historical sites as well as musical events and festivals, reflecting the area’s cultural diversity.



## Exports

Companies currently located in the Midlands are well placed to compete on global markets, and are driving regional exports above the national average. In 2011, the West Midlands region undertook international trade worth almost £50 billion, of which around 40% came from exports and 60% from imports<sup>6</sup>. Exports from the West Midlands to the rest of the world increased by 30% between 2011 and 2013, and the East Midlands also outperformed the rest of the country with a 15% increase.

The largest international market block for both imports and exports is the EU, with a total of almost £9 billion worth of exports annually. The USA is the second largest market, with Asian destinations, and China in particular, following.

The leading export sector is what the HMRC classifies as “machinery and transport equipment”, led by Jaguar Land Rover’s record sales in China, Russia and Germany. At the same time, imports of raw materials and semi-manufactured metals into the Midlands are also increasing, which are key inputs of the manufacturing and construction sector. A key employer in Staffordshire operating in this sector is JCB.

### Focus: JCB in Staffordshire

- JCB is one of the world's top three manufacturers of construction equipment, with growth driven by exports
- It employs around 11,000 people on four continents and sells products in 150 countries through 2,000 dealer depot locations
- It recently invested £150m into new sites at Cheadle and Uttoxeter (Staffordshire) creating 2,500 new jobs
- JCB sponsors a secondary school specialising in engineering and business skills

Given the large share of manufacturing and advanced engineering firms in the region, export-led growth can continue favourably in the future. The success of exports will depend on the ability to innovate and increase the local economy’s productive capacity. As highlighted by the manufacturers’ organisation (EEF 2012):

*“investing in transport infrastructure is an essential building block for the UK’s long-term competitiveness and growth. This is especially true for manufacturing, an export-intensive and highly interconnected activity characterised by increasingly complex and globalised supply chains. With manufacturing accounting for nearly half of UK exports, getting the business environment right for manufacturers will be crucial to meeting the government’s target to double the value of our exports to £1tn by 2020”.*

In the Midlands, this vision translates into the need to link up strategic economic sites with international gateways such as airports and deep sea ports, as the majority of goods are moved to international markets via aviation and shipping. As long-run growth requires a strong export base, this in turn also requires the presence of firms that are competitive on an international scale. Economic theory suggests that connectivity can foster the business linkages necessary for firms to specialise and attain world-class efficiency<sup>7</sup>

<sup>6</sup> ITA Freight Strategy, April 2013

<sup>7</sup> HS2 Ltd, High Speed Rail, Transport Investment and Economic Impact (2013)

## Midlands Connect: economic evidence base

The population of the Midlands is growing, including in cities – reversing the decline experienced in the 1990s

The Midlands have higher unemployment than the national average – its current level is higher than pre-recession, but it is falling

Manufacturing is still a strength of the Midlands, particularly in the automotive and aerospace sector

The service sector is strong in metropolitan centres across the region, with the highest number of jobs concentrated in Birmingham and a high degree of specialisation in cities across the Midlands

The emerging sector is growing around designated clusters, but workers and workplaces are dispersed through the region, posing challenges to recruiting and exchanges of ideas between clusters

Demand for retail space in city centres is falling, while demand for city centre office space is growing. Demand for housing is also growing and shortages are already materialising.

The region has a skills gap manifested in low shares of residents with qualifications above NVQ4 and relatively low numbers of newly registered patents

Universities are growing in size and offer – however many skilled 25-44 year olds move elsewhere after studying in the area

Labour productivity is lower than the national average across the Midlands, with the exception of Coventry and Derby

Investment projects, including those driven by Foreign Direct Investment, have increased in recent years in the West Midlands significantly above the national average

Export growth has been strong in recent years, driving part of the economic recovery

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## 3 Midlands connectivity today

### Transport demand growth and congestion

Transport demand has continued to grow in the Midlands in recent years. During the recession, a decline in economic activity has not been accompanied by a decline in transport volumes, and growing transport demand has followed the economic recovery.

With limited supply-side expansion, both roads and railway congestion has intensified. Ten road sections in the West Midlands are among the 100 slowest journeys in the UK, as shown in Figure 3.1.

Figure 3.1: Roads in the West Midlands in the top 10% of UK slowest journeys

Motorway/ Trunk Road (Link Description)	Delay (Mins Lost per 10 Miles)	Nation Rank Position
M6 Southbound (J20A - J8)	6.32	21
M6 Northbound (J8 - J20A)	5.00	33
M42 Northbound (J1 - J7)	4.82	35
M40 Southbound (M42 - J10)	4.40	43
A38 Northbound (Birmingham - M6)	3.92	55
M42 Southbound (J7 - J1)	3.90	57
M6 Westbound (M1 - J8)	3.73	62
A38 Southbound (M6 – Birmingham)	3.63	66
M42/A42 Southbound (M6 - M6 Toll)	3.54	69
A46 Southbound (Coventry – Tewkesbury)	2.66	99
M5 Northbound (J15 - M6)	2.65	100
M54/A5 (West bound) (M6 – Wales)	2.57	107
M69 (northbound) (M6 - M1)	2.57	109
M54/A5 (Wales - M6)	2.20	120
M5 (M6 - J15)	2.15	124
M6 (J8 - M1)	2.00	134
M69 (M1 - M6)	1.48	151

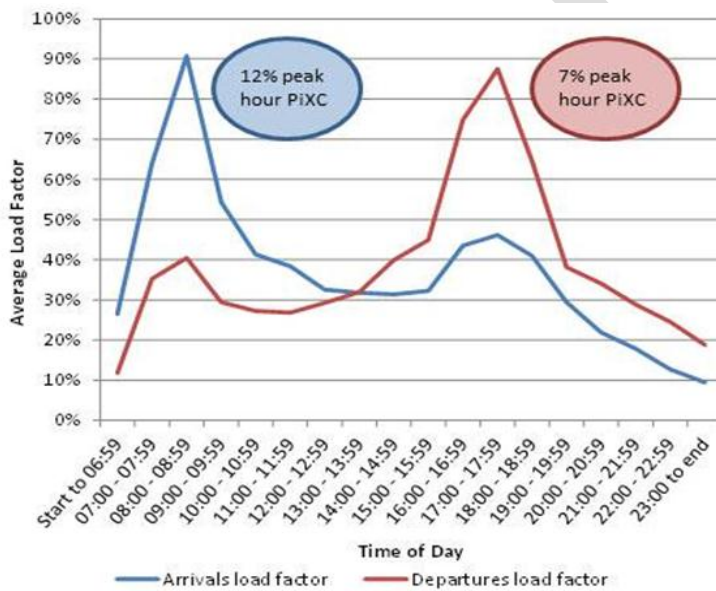
Source: DfT National Road Statistics Table CGN0102

Congestion along the M6 and the M42 is particularly high; other areas in the East and South Midlands with great traffic stress are both widespread (e.g. along the M1) and localised (e.g. along the A43 between Northampton and Kettering). Urban congestion is also rising: based on the Congestion Index by TomTom, the Birmingham area ranks 3<sup>rd</sup> in the UK and 25<sup>th</sup> in Europe, with a 4% worsening of the index between 2012 and 2013.

With respect to rail journeys, capacity at peak hours to and from the largest cities is already constrained. Overcrowding is common on several commuter services, due to the continued growth in demand. Some figures are representative of this trend:

- The number of rail passenger journeys in the Centro area has increased by around 5.5% year-on-year between 2000/1 and 2012/11
- The total number of entries and exits at rail stations in the West Midlands increased by 15% between 2010/11 and 2011/12
- Load factors at Birmingham city centre stations are around 90% at peak hour, with 12% of passengers in excess of capacity in the morning peak and 7% in the evening peak.

Figure 3.2: Passenger capacity at rail stations in Birmingham city centre



Source: DfT, 2012. PiXC = passengers in excess of capacity across the 1-hour peak (am and pm)

Demand growth is also being witnessed in the aviation sector. For example, passengers travelling at Birmingham Airport have increased by 6% between 2010 and 2013, returning to pre-recession levels. Traffic congestion on the roads is likely to intensify as demand for air services grow.

## Passenger transport connectivity

Notwithstanding the growing congestion costs, the Midlands are at the heart of both the rail and the motorway network of the UK. Passenger transport connectivity is measured by the availability of transport services, the journey times between locations and the frequency of those services. The current generalised journey times (travel time including waiting and interchange) by rail between cities in the Midlands are presented in the table below.

**Table 3.1: Generalised journey times between regional cities (minutes)**

	Birm	Cov	Leic	Wolves	Stoke	Wors	Telford	Lichfield	Notts	Derby
Birmingham		36	79	27	80	70	66	52	103	56
Coventry	36		120	78	124	146	--	--	172	125
Leicester	79	120		142	162	200	--	--	59	56
Wolverhampton	27	78	142		61	120	47	106	174	122
Stoke-on-Trent	80	124	162	61		183	133	117	159	92
Worcester	70	146	200	120	183		160	153	221	168
Telford	66	--	--	47	133	160		--	--	--
Lichfield	52	--	--	106	117	153	--		--	--
Nottingham	103	172	59	174	159	221	--	--		46
Derby	56	125	56	122	92	168	--	--	46	

Source: MOIRA

Connectivity between major centres is closely associated with the time it takes to move between places. Journey times affect residential location choices and in turn commuting patterns; they equally represent a metric on which business decisions about trade and investment are made.

The interaction between urban economies in the Midlands therefore also reflects the effective distance between urban centres, with Birmingham acting as the focal point in the West Midlands and the triangle between Derby, Nottingham and Leicester in the East Midlands.

As discussed in the previous chapter, a large share of workers in the Midlands commute to the major cities daily. Birmingham hosts 100,000 more workers than residents in employment. Conversely, towns in the Marches and Worcester have a larger residential population travelling to work outside the LEP areas.

Several commuter corridors link Birmingham to the surrounding areas, including South Staffordshire and Tamworth to the north, the Black Country's urban areas to the north-west, Telford, Kidderminster and Worcester to the west and south-west, Bromsgrove, Redditch and Stratford to the south, and Solihull, Nuneaton and Coventry to the east and south-east.

While these areas have good rail connectivity to Birmingham, they have poor connectivity to each other. For example, there are no direct trains from Coventry to Walsall or Dudley and from Telford to Walsall, the rail journey time is 70 minutes as opposed to a car journey taking 28 minutes (barring congestion).

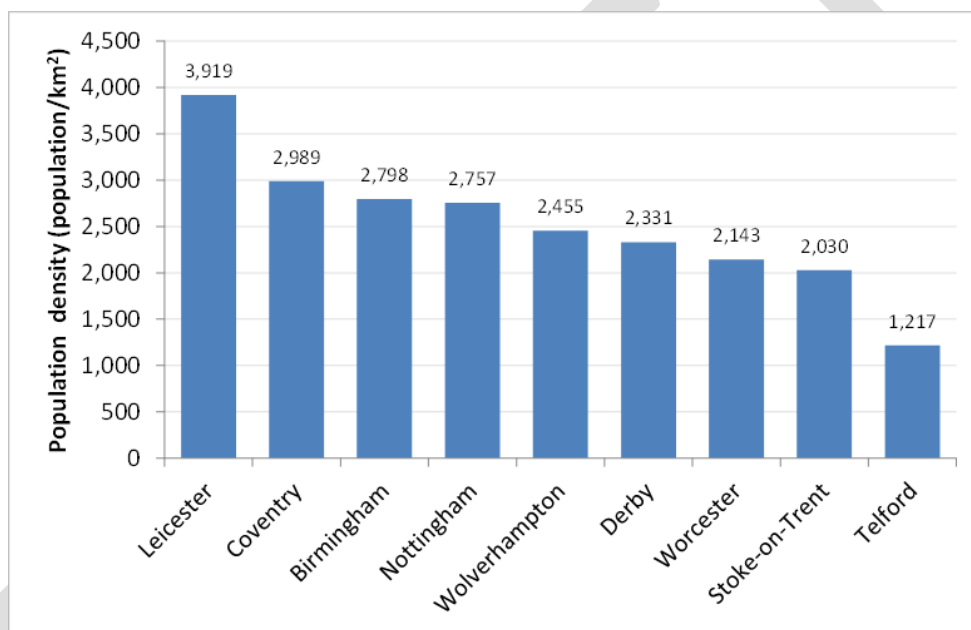
The East Midlands is well connected to London, but links to the North and West of England are not as frequent, and intercity services between cities in the East Midlands are slower than elsewhere (East Midlands Council 2012). In addition, rail connectivity to the West Midlands

could be improved further. While some rail journey times provide a competitive alternative to driving, in other cases (e.g. Birmingham to Nottingham) rail is not a competitive alternative.

Journey times are not the sole determinant of good passenger connectivity. The wider the catchment area of a railway station, the larger the population living within a close walk or journey to rail stations. In turn, this determines the potential demand from travellers.

Figure 3.3 shows the population density within a 3 km radius of rail stations in the Midlands. The city with the highest density of population is Leicester. A step-change of around 1,000 inhabitants per km<sup>2</sup> separates it from the other main cities. This could indicate the need to improve access to stations and interchanges at, for example, Coventry and Nottingham. Conversely, the chart also illustrates that some of the largest stations are surrounded by development other than residential – for instance, commercial space around Birmingham New Street station – and as such are the destination of daily commuter flows.

**Figure 3.3: Population density within a 3 km catchment radius of railway stations**

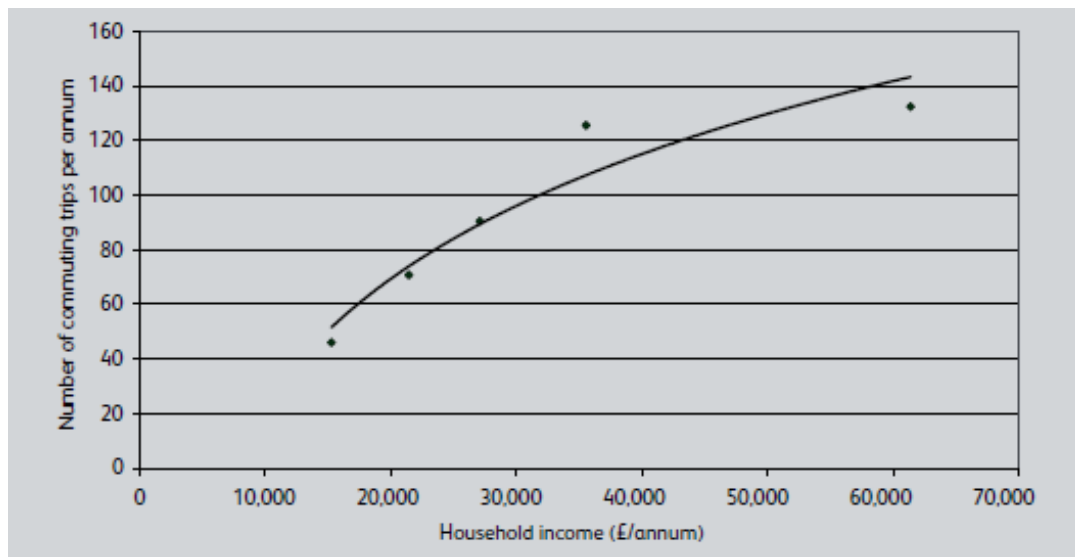


Source: Steer Davies Gleave analysis of MOIRA data. Birmingham refers to New Street station

The figure above also indicates that relatively smaller towns such as Worcester and Telford have high population densities around their central railway stations. This supports the fact that they host a large share of commuters going into the Black Country and Birmingham daily. In planning terms, this data can be used to assess the potential need for park and ride schemes, which allow commuters living further from stations to access rail services.

The relationship between commuting trips and income has been explored by Network Rail and is summarised in the chart below. A greater propensity to commute by resident populations is positively correlated with higher household income as workers seek better employment opportunities over a wider geographical area.

**Figure 3.4: Relationship between income growth and the propensity to commute in 2010 in Great Britain**



Source: Network Rail Regional Urban Market Study, October 2013

The presence of railway stations and the convenience of rail journeys contribute to travellers’ decisions about transport modes. Car ownership also has an impact – in the Midlands this is in line with the national average (25% of households do not own a car, with a range from 35% in Birmingham to 16% in the Marches). Travel to work data based on the 2011 Census has not yet been released. However in 2001, car journeys made up the majority of travel to work movements (72% in the West Midlands), with the highest share of motorised journeys in Stoke and Staffs LEP and the lowest in GBS LEP.

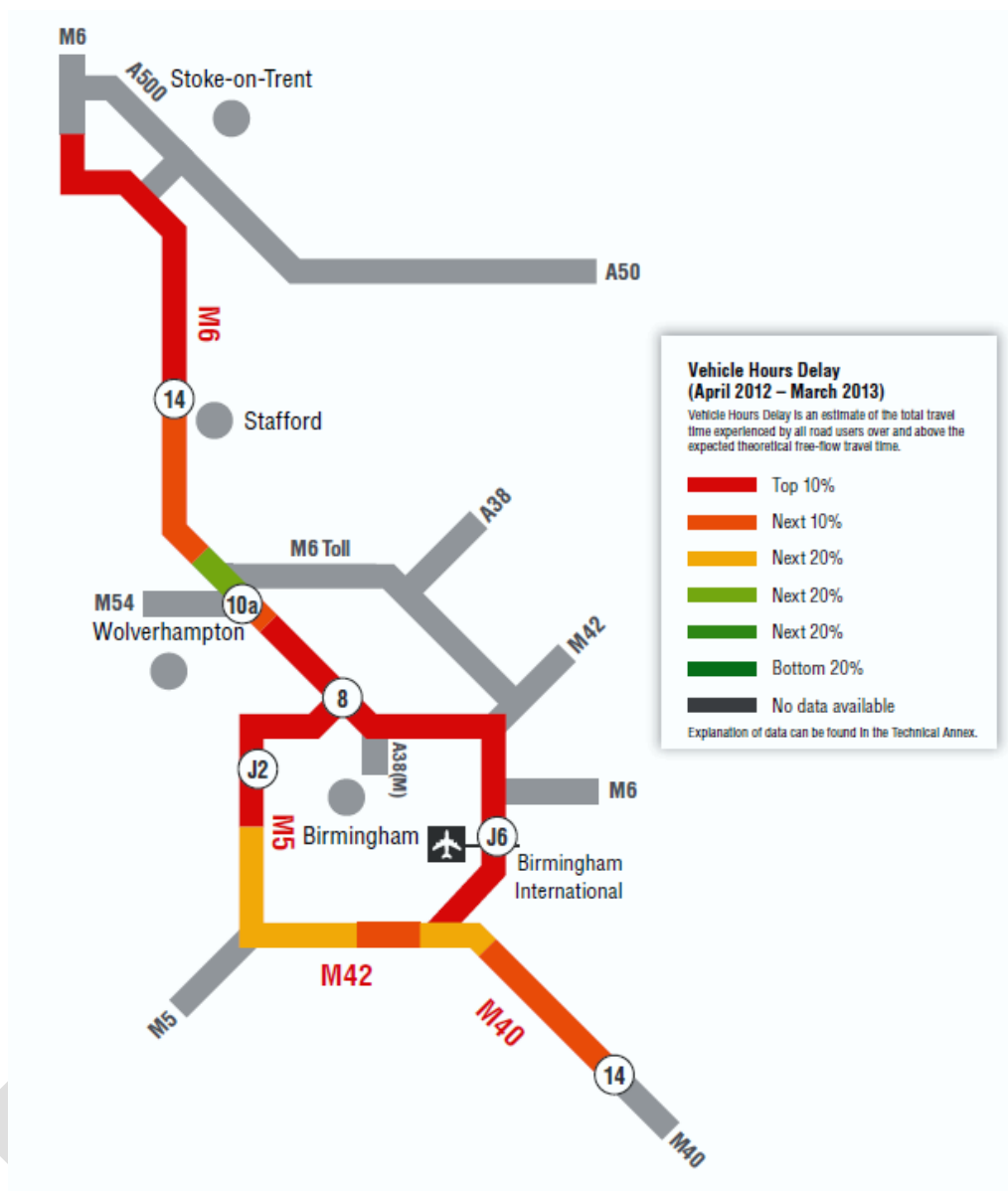
An overall comparison of long-distance drive times between cities in the Midlands and other cities in the UK is presented in Table 3.2, showing that all major roads suffer from congestion at critical junctions located in the Midlands, as identified in the Highways Agency’s Route Strategies. A specific example of congestion is presented in Figure 3.5 , showing a series of critical junctions and stretches suffering from severe delays.

**Table 3.2: Car journey times between UK cities (minutes)**

National route	Drive time (uncongested)	Motorway congestion (critical junctions)
Birmingham - London	130	M1, Junction 1-3
Birmingham - Bristol	93	M5 Junction 4-7 and Junction 15-19
Birmingham - Manchester	98	M6 Junction 6-19
Birmingham - Leeds	119	A38 and M1
Birmingham - Derby	56	A38
Coventry - London	116	M40 Junction 1-3
Stoke - London	165	M6 Junction 6-16, M42 Junction 3-7, M40 Junction 1-3
Stoke - Manchester	56	M6 Junction 16-19

Source: HA Draft Route Strategies (2014)

Figure 3.5: Network performance 2012/13 – Total travel time above free-flow travel time



Source: HA Draft Route Strategies (2014)

Another key road artery, the A5, has been identified by local authorities in the East and West Midlands as a key corridor which supports and provides access to economic activity and growth<sup>8</sup>. The A5 serves both the purpose of a trunk road and of a local distributor for industrial and local traffic (see box). Problems of congestion, changes in standards and physical constraints make it a busy and often unreliable corridor. Local authorities are working with the HA on a long-term strategy to improve its resilience.

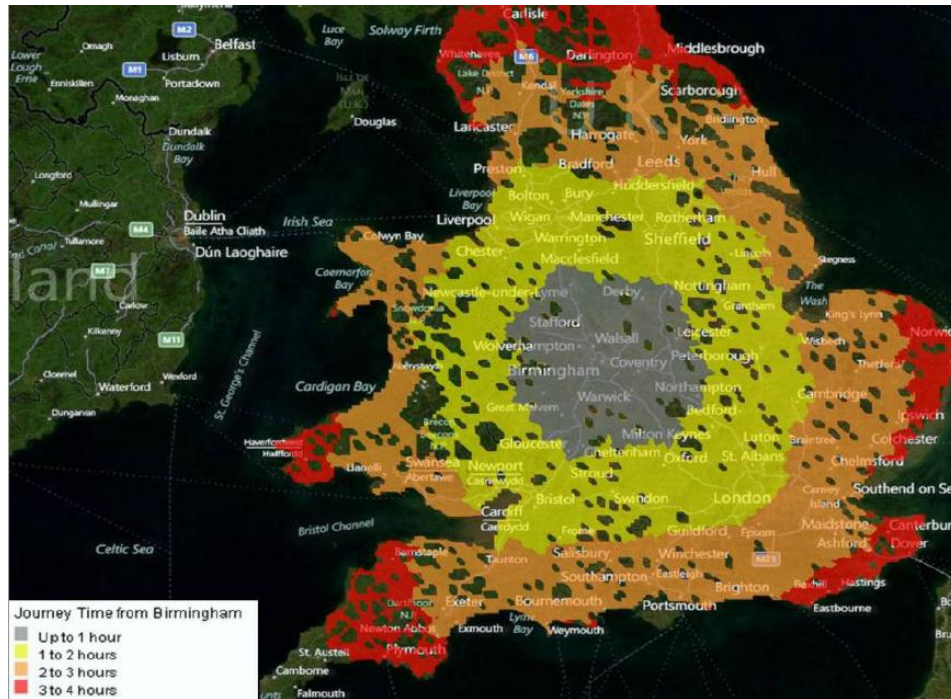
<sup>8</sup> A strategy for the A5 2011-2026, the A5 Transport Liaison Group (2012)



## Freight transport connectivity

The central position of the Midlands in the UK makes the area a prime candidate for hosting freight transport corridors and interchanges. The presence of freight infrastructure benefits local businesses by providing access to national and international markets. Based on the ITA’s map shown below, 90% of UK businesses are accessible within a four hour drive time from the West Midlands.

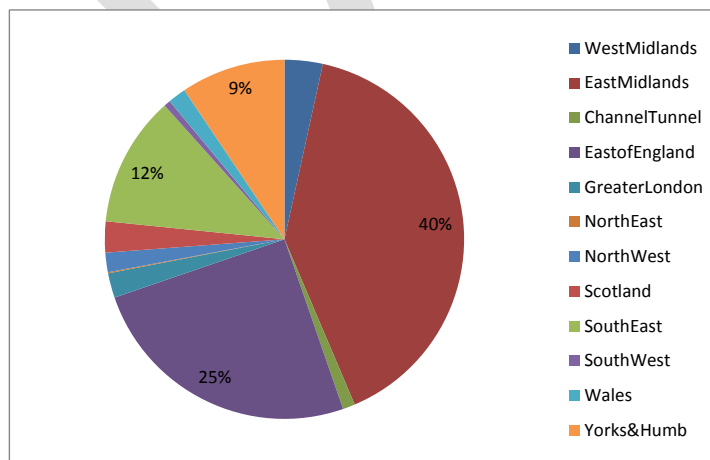
Figure 3.6: Road-based journey times from Birmingham



Source: ITA Freight Strategy, April 2013

When looking at the transport of goods, national rail freight data shows the main trade flows within the UK – these often make up the first leg of an international journey. Freight originating in the West Midlands (around 150 million tonnes of goods in 2010) has the East Midlands (60%) and the East of England (25%) as its principal destinations.

Figure 3.7: Destination of freight originating in the West Midlands



Source: MDS Transmodal and Rail Freight Group

**Focus: A5 corridor**

The A5 is an important arterial route between the M42, M69 and M1 which acts as a feeder to the north-south travel to work area within Coventry and Warwickshire, as well as parts of Staffordshire and Leicestershire. The corridor forms a spine of economic activity, particularly for the logistics and freight industry, with facilities at Birch Coppice (Dordon), TNT (Atherstone), Sketchley Brook (Hinckley), Magna Park (Lutterworth) and DIRFT (Crick). The A5 also provides access to MIRA Enterprise Zone. The resilience of the A5 is critical to ensure smooth transport flows on alternative routes (M1, M6) as well as reliable freight movements.

Similarly, Department for Transport statistics show that the destination attracting most freight volumes (million tonnes) from the West Midlands is the East Midlands, with more than four million tonnes transported in 2011. A large amount of goods is also transported from the West Midlands to the South East and the North West. Conversely, the East Midlands where the principal destination of freight into the West Midlands with 19 million tonnes transported by road in 2011.

A large share of rail freight volumes are transported west to east across the Midlands today, and the forecasts developed by MDS Transmodal for the Freight Market Study predict that, over the next twenty years, this corridor will see further growth. The main destinations for international freight transport are both located to the east, with the port of Felixstowe and the East Midlands Airport handling a large share of cargo coming from the west.

## Air connectivity

Airports in the Midlands provide access to international markets for business travellers, as well as supporting the movement of freight and providing tourism opportunities. The main passenger hub is Birmingham Airport – its terminal has a maximum capacity of 18 million passengers per annum (2014) and handled more than 9 million passengers in 2013. The main freight hub is East Midlands Airport, only second to Heathrow in the UK in terms of volume.

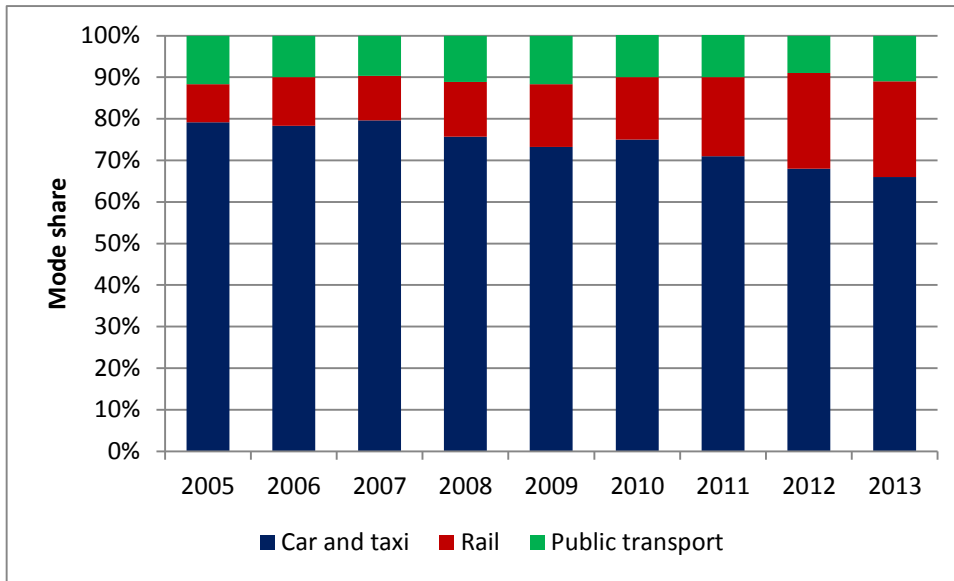
Enhancing connectivity to airports by road, rail and public transport increases an airport's catchment area, facilitating the provision of additional routes from these airports. An additional benefit of overlapping catchment areas is that it stimulates competition between airports.

Birmingham Airport's Surface Access Strategy is committed to improving the overall accessibility of the Airport and encouraging the provision of a realistic choice of modes of transport that reflects the 24 hour operation of the Airport. Motorway access, an air-rail link and a bus terminus have been built and developed over the past 15 years to meet these objectives.

Looking at surface access data between 2005 and 2013, there has been a marked decrease in the share of passengers travelling to the airport by car and taxi, as shown in the figure below. The share of rail journeys has increased steadily, reaching a mode share of 23% in 2013. The Strategy's target had previously been set at 12% for 2012 and has been significantly exceeded.

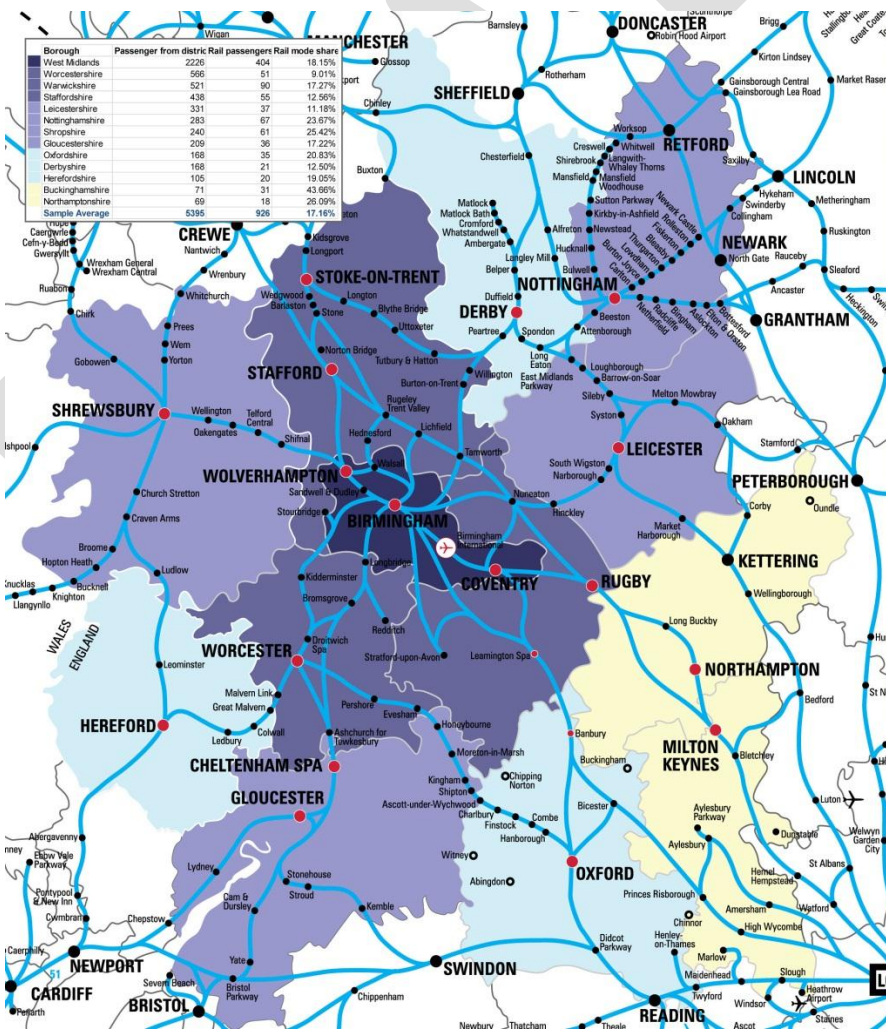
Most passengers live in the West Midlands (54%) and in the East Midlands (17%). The cities with the highest share of rail travel to the Airport are Milton Keynes and Northampton (though with low overall volumes), while Birmingham, Coventry and Rugby have below average rail modal shares despite the best time advantage over road journey (CAA Passenger Survey 2013).

Figure 3.8: Passenger travelling to Birmingham Airport – mode share 2005-2013



Source: Birmingham Airport

Figure 3.9: Birmingham Airport Catchment Area by passenger numbers (2013)



Source: North Star Consultancy, based on CAA Survey Data (2013)

Connectivity to Birmingham Airport is still hampered by congestion on the road network (e.g. Junction 6 of the M42) and poor rail connectivity to some areas. There are currently no direct trains to the East Midlands (for example, Leicester), to the North-East (for example, Sheffield and Leeds) or to the South-West (for example, Worcester and Gloucester). There is also relatively poor rail connectivity to and from the Black Country, with only Sandwell/Dudley and Wolverhampton being served by through trains. Rail connectivity in the early and late hours is also an issue being considered by the Airport to facilitate access both for passengers and airport employees.

The importance of East Midlands Airport in terms of cargo transported is shown in the table below, with the second largest amount of cargo handled in the UK (freight and mail). The Airport hosts purpose-built facilities by large distribution companies such as DHL, TNT and UPS. Around 60% of freight transported at East Midlands is to and from the rest of the EU. Passenger transport figures are also provided for comparison.

**Table 3.3: UK airports ranked by cargo transported (2012)**

Airport	Cargo (million tonnes 2012)	Passengers (million 2012)
London Heathrow	1.556	70.0
East Midlands	0.300	4.1
London Stansted	0.237	17.5
Manchester Airport	0.100	19.7
Birmingham Airport	0.020	8.9

Source: UK CAA statistics and Eurostat

## Midlands connectivity today

The Midlands are at the heart of both the rail and the motorway network of the UK.

However rising congestions costs affect the regional economy both directly (through lost productive time) and indirectly (through planning costs and lost productivity). For the Birmingham Metropolitan area only, road congestion is estimated to cost businesses around £2.3 billion per year.

Competitive journey times between some cities provide access to jobs across a wide geographical area and make business interactions easier, increasing employment and facilitating business expansion. Rail links between other cities (e.g. Birmingham and Nottingham) are not as competitive, and high crowding levels are experienced on several commuter corridors.

Long-distance connections are also important to make the Midlands an attractive location for investors, providing connectivity to business services and international customers. They likewise support the visitors economy, including business tourism.

Major freight transport corridors exist between East and West Midlands, as well as between the Midlands and key international gateways. These are crucial to ensure that exports can continue to drive the recovery in the region. International connectivity, including through resilient flows on motorways and available capacity at airports, supports market access to and from the Midlands.

Airports provide national and international connectivity for the Midlands, for both passengers and freight. Birmingham airport has been working to expand its catchment area and provide reliable surface access by improving connectivity. The share of rail journeys to BHX is growing steadily.

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## 4 Growth outlook

As highlighted by Lord Deighton's HS2 Growth Taskforce<sup>9</sup>, the scale of HS2 is without precedent. It could catalyse far-reaching economic and social benefits, particularly to the cities of the Midlands and the North. The Midlands are therefore working across administrative boundaries to be ready for HS2, developing future plans for the transport network in the context of strategic long-term economic planning.

Strategic plans are captured in the SEPs (Strategic Economic Plans), submitted by LEPs to Government in April 2014. These set out their long-term vision for economic growth. Collaboration across boundaries is also taking place through wider initiatives such as the West Midlands Cross-LEP Transport Group, and the development of a WM HS2 Local Connectivity Package. Associated with HS2 the nationally significant development proposals set out in the Curzon Masterplan and UK Central Masterplan demonstrate the game-changing potential for economic growth for the region.

The planning and delivery of a strategic transport networks takes time and requires a good understanding of the latest thinking on economic forecasting and modelling to ensure our strategic networks are capable of meeting demand over the next 30 years. This section of the report analyses the main economic growth aspirations for the Midlands as emerging from the SEPs and other long-term planning documents.

These should be viewed against the economic baseline set out in the previous chapter, as well as the projected growth in population and employment, sourced from the ONS and the UKCES (2012) and representing a 'do-nothing' scenario which builds on historic trends – this is presented next.

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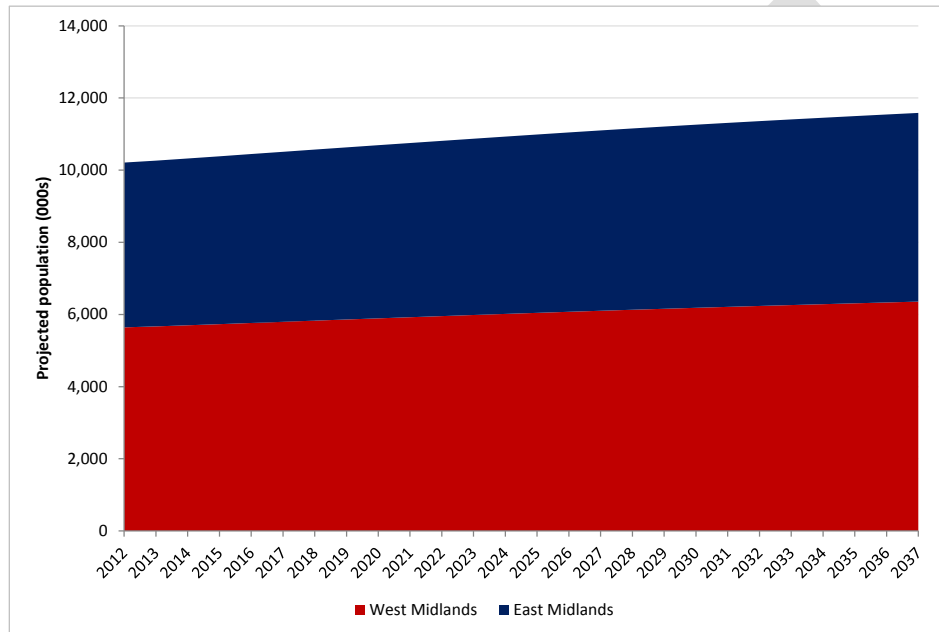
<sup>9</sup> 'High Speed 2: Get Ready. A Report to the Government by the HS2 Growth Taskforce' HS2 Taskforce chaired by Lord Paul Deighton.

## Underlying growth projections

### Transport demand growth forecasts

Population growth and economic growth are key drivers of transport demand. Recent population projections by the ONS (May 2014) indicate that the population of the Midlands<sup>10</sup> is set to grow over the next 20 years, as shown in Figure 4.1. The population of the West Midlands is expected to grow by 5.5% between 2012 and 2022, and over 10% between 2012 and 2032. The population of the East Midlands is set to be 12% higher in 2032 than in 2012.

Figure 4.1: Population growth in the Midlands



ONS (May 2014)

Network Rail provides forecasts of rail transport demand in its Market Studies as part of the Long Term Planning Process. The Regional Urban Market Studies assess demand trends for movements within 50 miles of regional centres, typically for commuting and leisure purposes. The Long Distance Market Study looks at trends for longer distance trips, including for business and leisure. The projections emerging from the latest market studies suggest that:

- Among regional centres in England, Birmingham is set to experience the highest growth in peak demand by 2023, with an increase ranging between 8% and 49%
- Nottingham and Leicester will also see high growth in peak demand, between 3% and 44% depending on the scenario analysed
- Assuming that all CP4/CP5 schemes and HS2 are completed, passenger demand growth on long-distance connections will continue to grow, following high growth in recent years
- Demand between Birmingham and London is expected to grow by 152% by 2043 (compared to 2012 levels); demand between Birmingham and Nottingham will grow by 232% and between Birmingham and Leicester by 125%

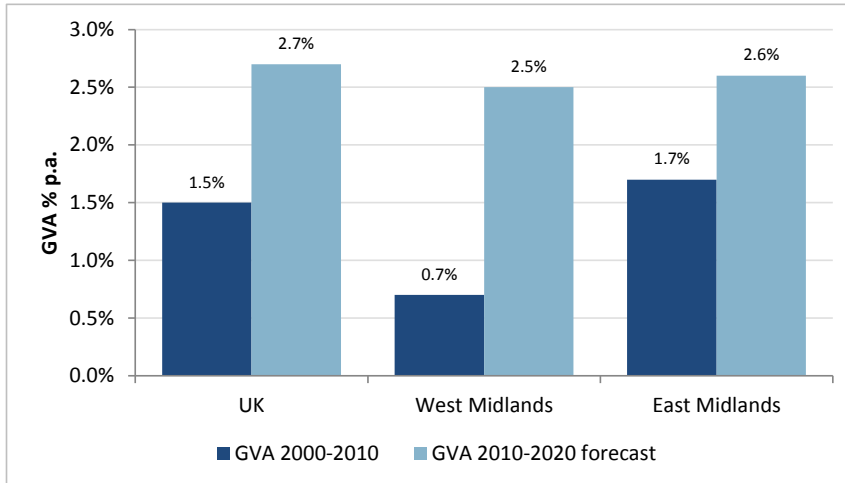
<sup>10</sup> In ONS datasets, the population of the South Midlands is spread across other regions



### Economic growth projections

Average economic growth over the 2000-2010 period has been impacted by the recession, with annual growth in GVA at 1.5% per year in the UK, 0.7% in the West Midlands and 1.7% in the East Midlands. The expected growth in GVA over 2010-2020 will be substantially higher, according to UKCES forecasts. GVA growth in the Midlands will be in line with the UK average, as shown in Figure 4.2.

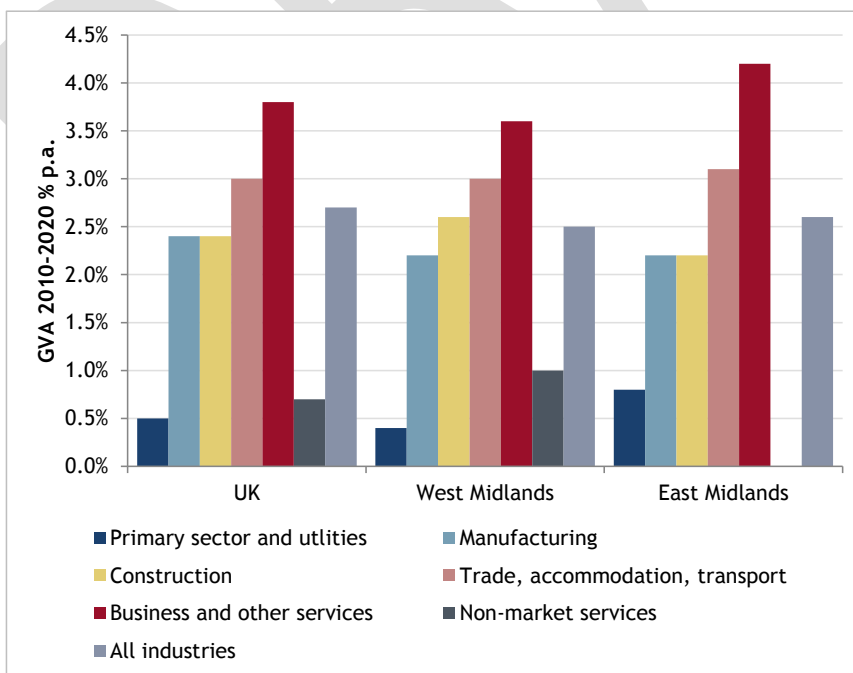
Figure 4.2: GVA growth forecast between 2010 and 2020



Source: UKCES (2012)

However, GVA variations are expected across different sectors. Based on UKCES classifications, the highest growth will take place in the services sector, while the primary sector will experience low growth. The West Midlands would outperform the rest of the country in GVA growth in the construction sector.

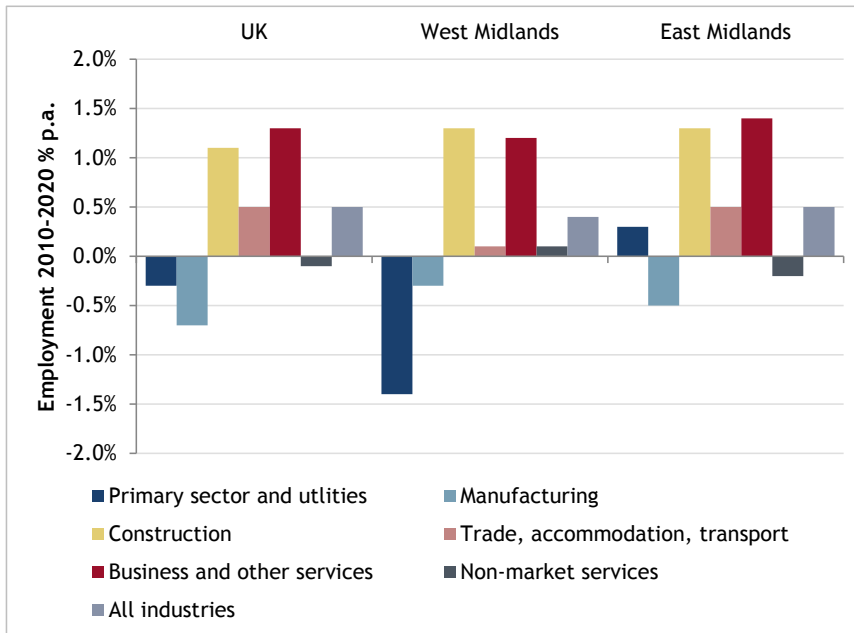
Figure 4.3: GVA growth forecast by sector between 2010 and 2020



Source: UKCES (2012)

The growth in employment is expected to take place at lower rates than the growth in value added, given the improvements in productivity of labour and technology. More labour intensive sectors though, such as construction and business services will experience employment growth above 1%. Other sectors such as manufacturing would experience negative growth instead.

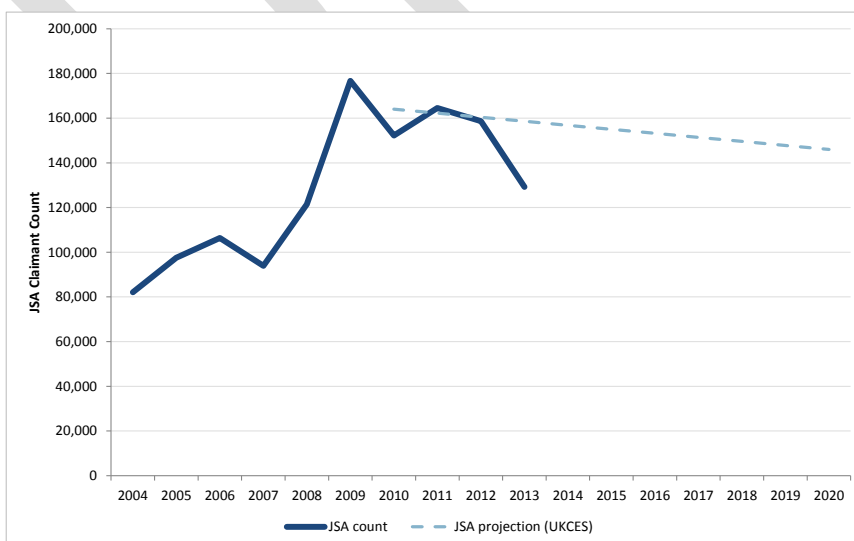
**Figure 4.4: Employment growth forecast by sector between 2010 and 2020**



Source: UKCES (2012)

Overall, an increase in employment is expected to bring down the number of people claiming JSA. However, by comparing UKCES numbers with actual figures up to 2013, it is evident that the trajectory of economic growth experienced in the West Midlands is having a faster than expected impact on employment recovery. This might indicate that the overall projections by the UKCES are on the cautious side.

**Figure 4.5: JSA claimant count in the West Midlands – projections vs. actual**



Source: UKCES (2012) and ONS (2014)

## Planning for future growth

### Strategic Economic Plans

Each LEP has prepared a SEP, which was delivered to central government in March 2014. These build on the Local Plans and also acknowledge the main changes foreseen, for example, as part of long-term transport planning processes. Drawing on the strengths identified, and local experience, the SEPs for the study area offer an indication of the growth trajectory for local economic growth beyond a 'do-nothing' scenario.

The aim of the SEPs is to indicate the priority 'asks' from the government and 'offers' by each LEP. Contained within the SEPs is an analysis of the LEP area's strengths, weaknesses, opportunities and threats (SWOT).

Alongside this qualitative analysis, each LEP states the change in certain socio-economic indicators that will arise as a result of their future plans, which take the form of initiatives. For each initiative the LEP states the benefits in terms of indicators, which include GVA growth, jobs creation and housing growth. Their economic targets are summarised in Figure 4.2 below.

**Table 4.1: Economic targets by LEPs**

LEP	GVA Growth (billion)	Total new jobs	Target year
GBS	>£8	>150,000	2025
Black Country	Net increase	17,188	2020/21
CW	£11.7	33,962	2025
Worcestershire	£2.9	25,000	2025
The Marches	Net Increase	40,000	2034
Stoke and Staffs	Net Increase	50,000	2024
SEMLEP	£10.8	111,200	2020/21
LLEP	£4	45,000	2020
NLEP	£3.2	32,500	2021
D2N2	Net increase	55,000	2023
<b>Total</b>	<b>&gt;£50</b>	<b>&gt;560,000</b>	

Source: Steer Davies Gleave analysis of Strategic Economic Plans

Against this background, the sections below draw together the common aspirations and priorities emerging from the review of the SEPs. Despite the economic, social and geographic differences between the Midlands LEPs, four common themes emerge from their strategic plans:

- Unlocking employment development sites
- Supporting business growth
- Improving skills
- Enhancing transport connectivity

In parallel, all LEPs are preparing for HS2. This infrastructure project is recognised as a game-changer in the Midlands; it has the potential to bring substantial benefits and it is important to understand how the LEPs will seek to optimise these benefits.

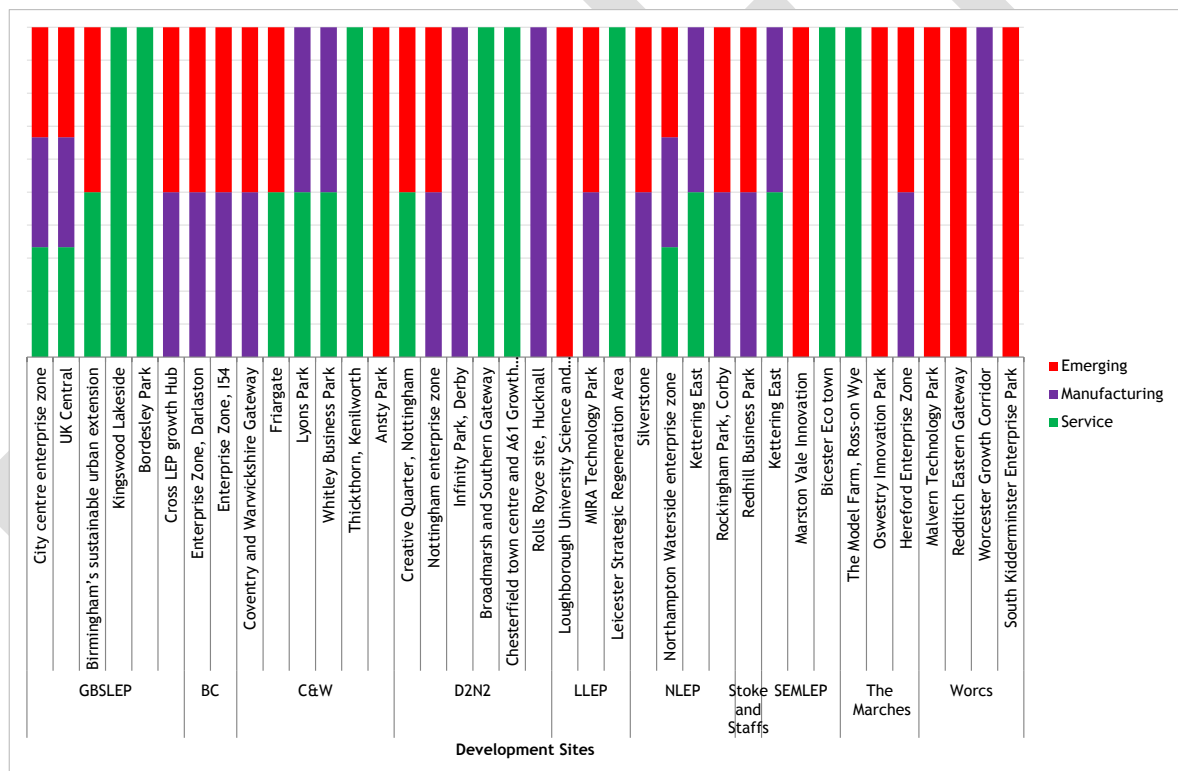
### Unlocking development sites

Every LEP has, taking into account the statutory Local Plans developed in their area, identified a number of sites which are set to host businesses and employees, with the aim to attract investment and boost employment. These include both new greenfield sites and existing areas that will be expanded.

A review of the SEPs indicates that unlocking development sites is a priority across the Midlands. There is a recognition that quality land needs to be made available for development, that incentives are important to attract businesses to locate there, and that auxiliary services must be provided to enhance the value of those sites – these include transport connections.

As shown in Figure 4.6, the identified sites for development will host a variety of businesses across the three main economic sectors in the Midlands (manufacturing, services and emerging sectors). Several sites are set to provide office space for services and dedicated facilities for research and development, such as in Coventry and Worcestershire. Planned expansion of Industrial premises will take place, particularly around the Black Country, Derby and Nottingham.

Figure 4.6: Main growth sectors for each development site



The following Table 4.2 provides an overview of the principal development and employment sites by LEP. These have been selected based on their inclusion in the SEPs and in consultation with local stakeholders. The table indicates which growth sectors will be hosted and also provides a high-level assessment of the connectivity for each site, highlighting the links to the strategic network, and whether public transport and rail are in close proximity.

Next, three summary maps show the location of those sites by sector, in the context of the strategic transport network and the proposed HS2 infrastructure.

**Table 4.2: Principal development sites by Local Enterprise Partnership**

LEP	Site	Planned growth sectors			Connectivity assessment
		Service	Manufacturing	Emerging	Strategic links and connectivity
GBSLEP	City centre enterprise zone	✓	✓	✓	Good bus, train and metro links in central Birmingham location. Within 20 miles of Birmingham Intermodal Freight Terminal
	UK Central	✓	✓	✓	Within 10 minutes (uncongested) of strategic road and rail network and Birmingham airport. Local connections restricted by congestion. Close to Birmingham Intermodal Freight Terminal and Hams Hall
	Birmingham’s Sustainable Urban Extension	✓		✓	Within 10 minutes (uncongested) of strategic road network, poor rail connectivity
	Longbridge Technology Park			✓	Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity.
	Kingswood Lakeside	✓			Within 10 minutes (uncongested) of strategic road network, no rail connectivity
	Bordesley Park	✓			Railway station in close proximity, congested local roads. Within 10 minutes (uncongested) of strategic road network
	Cross LEP growth Hub			✓	Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity. Within 20 miles of Birmingham Intermodal Freight Terminal.
Black Country	Enterprise Zone, Darlaston		✓	✓	Within 10 minutes (uncongested) of strategic road network. Within 20 miles of Wolverhampton steel terminal.
	Enterprise Zone, I54		✓	✓	Within 10 minutes (uncongested) of strategic road network, no rail connectivity. Within 20 miles of Telford International Railfreight Park.

LEP	Site	Planned growth sectors			Connectivity assessment
C&W	Coventry and Warwickshire Gateway		✓	✓	Within 10 minutes (uncongested) of strategic road network, no rail connectivity. Within 20 miles of Hams Hall Rail Freight Terminal
	Coventry Friargate	✓		✓	Served by rail services with national and local connections. As part of the Friargate project Coventry Station will be redeveloped. Within 10 minutes (uncongested) of strategic road network
	Lyons Park	✓	✓		Within 20 minutes (uncongested) of strategic road network, poor rail connectivity. Within 20 miles of Hams Hall Rail Freight Terminal
	Whitley Business Park	✓	✓		Within 10 minutes (uncongested) of strategic road network, poor rail connectivity. Within 20 miles of Hams Hall Rail Freight Terminal
	Thickthorn, Kenilworth	✓			Within 10 minutes (uncongested) of strategic road network, railway station opening in 2016
	Ansty Park			✓	Within 10 minutes (uncongested) of strategic road network, poor rail connectivity, half hourly bus into Coventry
D2N2	Creative Quarter, Nottingham	✓		✓	Railway station in close proximity. City centre location, Within 10 minutes (uncongested) of strategic road network
	Nottingham enterprise zone		✓	✓	Railway station in close proximity,, Within 10 minutes (uncongested) of strategic road network. Within 20 miles of planned East Midlands freight hub
	Infinity Park, Derby		✓		Within 10 minutes (uncongested) of strategic road network, poor rail connectivity. Within 20 miles of planned East Midlands freight hub
	Broadmarsh and Southern Gateway	✓			Railway station in close proximity, city centre location, congested roads
	Chesterfield town centre and A61 Growth Corridor	✓			Railway station in close proximity, Within 10 minutes (uncongested) of strategic road network.



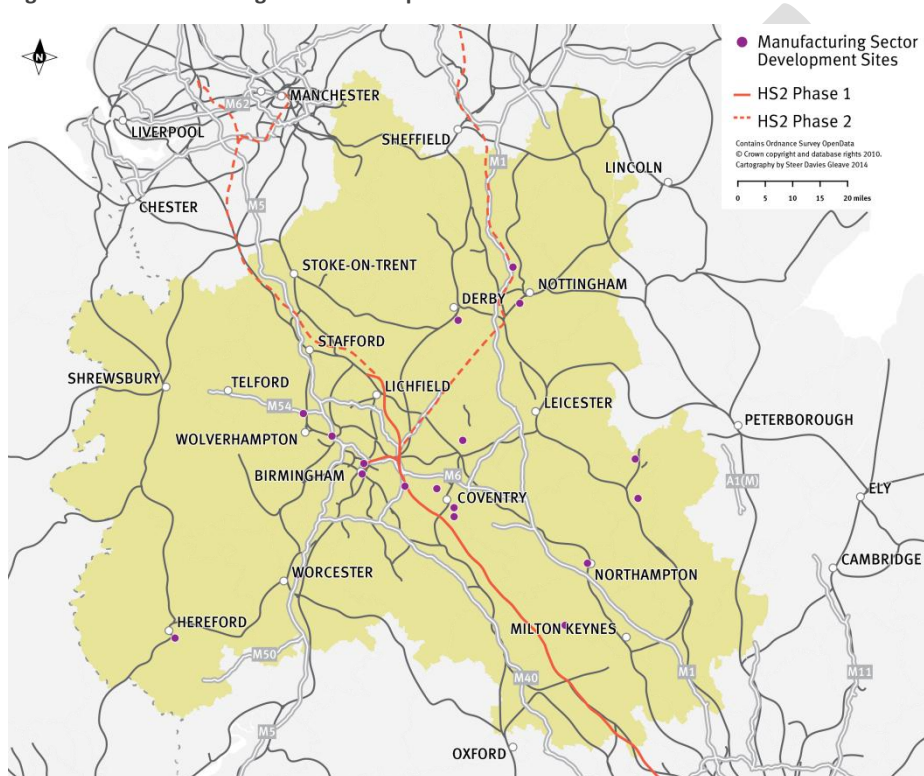
LEP	Site	Planned growth sectors			Connectivity assessment
	Rolls Royce site, Hucknall		✓		Within 10 minutes (uncongested) of strategic road network and Railway station in close proximity. Within 20 miles of planned East Midlands rail freight hub.
LLEP	Loughborough University Science and Enterprise Park			✓	Within 10 minutes (uncongested) of strategic road network, railway station in close proximity
	MIRA Enterprise zone and Technology Park		✓	✓	Within 10 minutes (uncongested) of strategic road network poor rail connectivity. Within 20 miles of Daventry rail freight interchange
	Leicester Strategic Regeneration Area	✓			Within 10 minutes (uncongested) of strategic road network, railway station in close proximity, city centre location
	East Midlands Gateway		✓		Strategic rail freight interchange next to J24 of the M1 and East Midlands Airport. Rail terminal construction planned.
NLEP	Silverstone		✓	✓	Within 10 minutes (uncongested) of strategic road network, poor rail connectivity. Within 20 miles of Daventry rail freight interchange
	Northampton Waterside enterprise zone	✓	✓	✓	Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity, new station planned for the zone. Within 20 miles of Daventry rail freight interchange
	Kettering East	✓	✓		Within 10 minutes (uncongested) of strategic road network, poor rail connectivity.
	Rockingham Park, Corby		✓	✓	Within 20 minutes (uncongested) of strategic road network, poor rail connectivity.
Stoke and Staffs	Redhill Employment Park		✓	✓	Within 10 minutes (uncongested) of strategic road network, poor rail connectivity.
SEMLEP	Kettering East	✓	✓		Within 10 minutes (uncongested) of strategic road network, poor rail connectivity.
	Marston Vale Innovation			✓	Within 30 minutes (uncongested) of the Strategic road network. Railway station in close proximity.
	Bicester Eco town	✓			Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity



LEP	Site	Planned growth sectors			Connectivity assessment
The Marches	Hortonwood		✓		Within 10 minutes (uncongested) of strategic road network. Adjacent to Telford International Railfreight Park
	Oswestry Innovation Park			✓	Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity.
	Telford 54		✓		Within 10 minutes (uncongested) of strategic road network. Poor rail connectivity.
	Hereford Enterprise Zone		✓	✓	Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity.
	The Model Farm, Ross-on Wye	✓			Within 10 minutes (uncongested) of strategic road network, poor rail connectivity.
Worcestershire	Malvern Technology Park			✓	Within 10 minutes (uncongested) of strategic road network. Railway station in close proximity.
	Redditch Eastern Gateway			✓	Within 10 minutes (uncongested) of strategic road network. Poor rail connectivity.
	Worcester Growth Corridor		✓		Within 10 minutes (uncongested) of strategic road network. Poor rail connectivity.
	South Kidderminster Enterprise Park			✓	Within 20 minutes (uncongested) of strategic road network. Railway station in close proximity.

The planned development sites that will host manufacturing activities are scattered across the Midlands, as shown in the map below. The highest concentration is just outside the cities of Birmingham, Derby and Nottingham (an example provided in the box below), as well as the growth hubs identified in the Black Country and around UK Central. Connectivity to freight terminals is key for many of the identified sites.

Figure 4.7: Manufacturing sector development sites



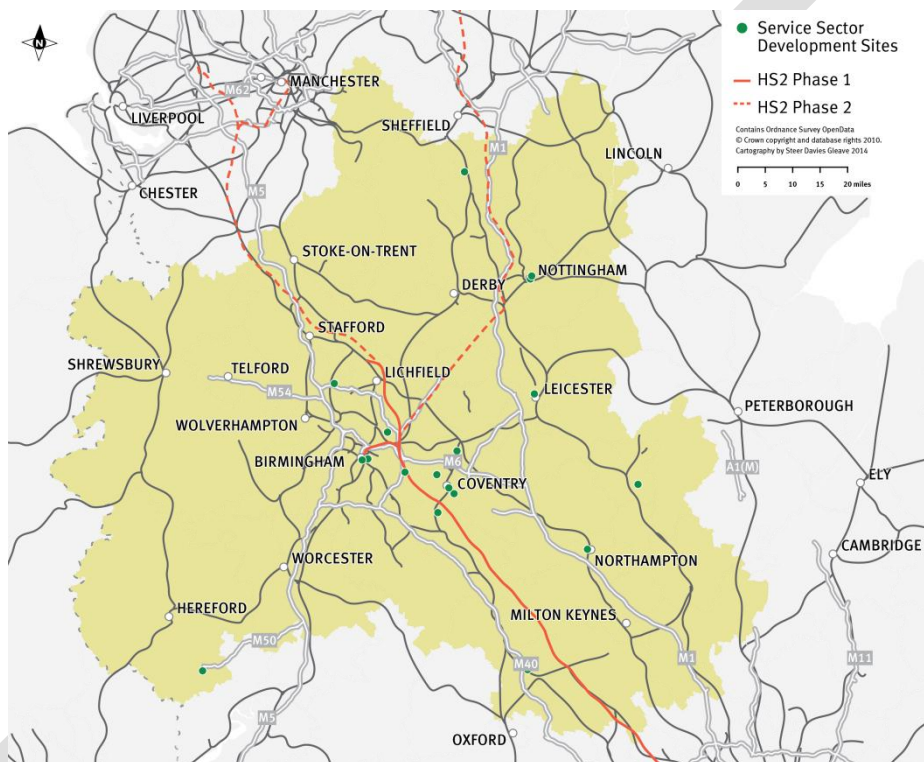
Source: Steer Davies Gleave analysis of Strategic Economic Plans

**Focus: Nottingham City Centre Enterprise Zone**

- Located in the heart of the designated science city of Nottingham
- Situated near internationally significant centres of excellence in research and development at the University of Nottingham and Nottingham Trent University
- International manufacturing companies, such as Rolls-Royce, Toyota, Bombardier and GSK have already been drawn to the area
- Companies locating in the enterprise zone will benefit from up to £275,000 worth of business rates relief over 5 years

The planned development sites that will host professional services are more concentrated across the region, both in large urban centres such as Birmingham and Nottingham and in growth areas such as Solihull. The connectivity potential of most sites is high, being in close proximity of the strategic road network, railway stations and intermodal hubs, as can be seen in the map below. Coventry Friargate is one of the largest development sites which will host a number of service sector jobs.

Figure 4.8: Service sector development sites



Source: Steer Davies Gleave analysis of Strategic Economic Plans

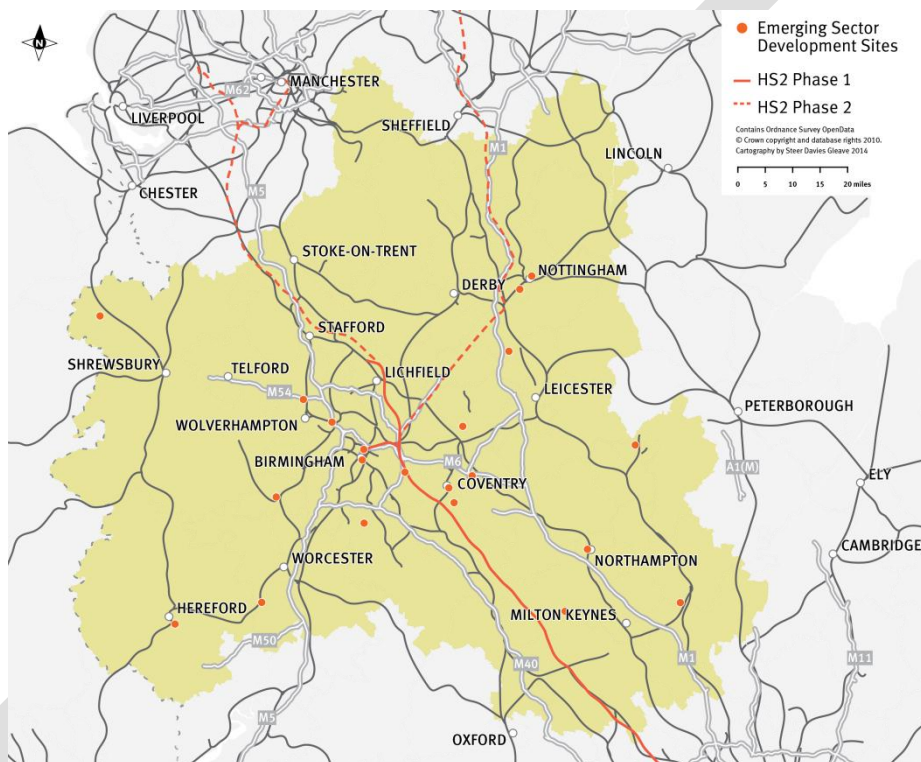
**Focus: Coventry Friargate**

- 37 acre site between Coventry Railway Station and Coventry City Centre
- A mix of civic, commercial, leisure, residential and hotel space
- Provides 300,000 m<sup>2</sup> of space over 25 sustainable buildings
- Set to host up to 15,000 jobs
- Birmingham Airport 10 minutes away by train
- Well connected to the national motorway network
- Direct rail links to London Euston
- 4km from Warwick University Business school

The ‘emerging industries’ often require dedicated facilities on greenfield sites. As such, emerging sector sites are set to grow outside established urban areas across the Midlands, differently from the service sector – though organised around key clusters such as Wolverhampton Science Park described below.

Many of these sites do not currently enjoy good road / rail connectivity and their masterplans include measures to provide connections to workers, other services and research centres that are necessary to ensure their success. The expansion of Wolverhampton Science Park described below

Figure 4.9: Emerging sector development sites



Source: Steer Davies Gleave analysis of Strategic Economic Plans

**Focus: Black Country Science, Technology and Prototype Centre**

- A £10 million investment at the Wolverhampton Science Park
- Providing 2,389 m<sup>2</sup> of high quality, managed office space and laboratory/testing space to facilitate prototype and R&D activity
- A science park expansion study has established that there is demand for this centre
- It will enhance the capacity of Black Country businesses to innovate and exploit new opportunities

### Business and skills promotion

Both business and skills promotion initiatives are a crucial common theme across the SEPs. Together with the development of employment sites and the provision of transport services, the LEPs share the common goal of improving the skills base of the region, which at the moment suffer from a competitiveness gap with other metropolitan areas in the UK.

A region with a skilled workforce will encourage businesses to locate there, boosting the economy. In addition, specific efforts are being made to provide the necessary skills for emerging sectors to grow, such as in advanced manufacturing and engineering (AME), medical services and agricultural technologies.

Skills growth and business growth strategies are aligned in many cases. For example, GBSLEP, C&WLEP and BCLEP propose the development of a cross-LEP AME hub in Aston. The site is located by the Aston Engineering Academy, with a view to promote the interaction between academic institutions and the industry, fostering knowledge transfer. Similarly, the MIRA Enterprise Zone will promote such integration.

#### Focus: National skills training centre at MIRA Technology Park Enterprise Zone

- The Centre will prepare 500 people a year to fill transport sector jobs, providing skills in R&D The National Skills Centre will operate on a not-for-profit basis, with any operating surplus re-invested only within the Centre
- Estimated outputs are: 2,500 training places each year when fully operational
- It is expected that 40% of the training places will be taken by people not currently employed in the transport technology sector

In turn, the SEPs align local priorities to national strategies. For instance, the Worcestershire LEP is supporting the expansion of the Malvern Hills Science Park where companies at the cutting edge of cyber security operate. This expansion will be supported by the opening of the National Cyber Skills Centre, also located at the Science Park. This is a vital partnership, contributing to the mitigation of the national cost of cyber-crime. Local authorities in the Black Country have laid out a long-term strategy focusing on industrial and housing regeneration corridors connecting regional centres to exploit local synergies.

Table 4.3 provides a summary of the LEP-led initiatives to boost business growth, and also shows which complementary up-skilling initiatives are being launched. It is evident that these initiatives often support each other in order to promote the growth of key sectors.

**Table 4.3: Initiatives to boost business growth and skills**

LEP	Business initiative	Industry	Skills initiative	Industry
GBSLEP	Development of an AME hub in Aston (with C&W and Black County)	AME	The Skills for Growth Hub	Varied
	Development of Biomedical Innovation Hub at Birmingham Research Park	Medical industries	Aston University Engineering Academy	Engineering
Black Country	Science, Technology and Prototype Centre	R&D	Skills Factory	Manufacturing and engineering

LEP	Business initiative	Industry	Skills initiative	Industry
	Centre for Advanced Building Technologies & Construction Skills, Dudley College	Construction	Black Country Centre for Manufacturing Skills Centre for Advanced Building Technologies & Construction Skills, Dudley	Manufacturing Construction
CW	The low carbon vehicles programme	R&D/ Automotive	Skills STEM centre	Science, technology, engineering and maths
	Advanced propulsion research laboratory	R&D/ Automotive	AME Apprenticeship scheme	AME
Worcs	Malvern Hills Science Park Expansion	Defence/IT Cyber-security	National Cyber Skills Centre Centre of Excellence in Agri-Tech	Cyber security Agri-Tech
	Agricultural Engineering Innovation Centre Growth Hub Model	Agricultural technology Various	Skills hub	Various
Stoke and Staffs	Business Support Programme	Various	Leadership and Management centre	Various
SEMLEP	Advanced Propulsion Centre Hub and Spoke	Automotive	Engineering and Construction Skills Centre Advanced Integrated Engineering Centre for Transport	Engineering and construction Transport
LLEP	LLEP Business Growth Hub and 4 transformational projects	Various	National Skills Training Centre (MIRA, North Warwickshire & Hinckley College and the University of Leicester)	Transport and R&D
NLEP	The INV-ENT initiative (providing business rate rebates to SMEs)	Various	Construction Futures	Construction
D2N2	D2N2 Business Growth Fund	Transport/ Engineering	HS2 College	Transport
			A new campus at Basford Hall, Nottingham	Construction, science and technology



## Transport connectivity improvements

The fourth key theme in the SEPs is transport connectivity. As highlighted in the economic evidence review, transport connectivity can be both a key enabler of growth and a significant barrier to development, depending on its quality and resilience.

### Addressing connectivity gaps

The SEPs recognise the key role of transport in enabling growth opportunities, such as opening up land for development sites and sustaining the growth of existing centres. Likewise, the SEPs identify key connectivity gaps which require improvements on both the road and railway networks. The main gaps identified in each LEP area are summarised below. Against each gap, local strategies have been developed proposing targeted improvements in transport connectivity across different modes. Worcestershire Parkway represents an example of such approach.

#### Focus: Worcestershire Parkway at Norton

- Provide a new (two-level) station at the intersection between the Cotswold Line and Bristol – Birmingham lines at Norton
- Provide improved access to rail for 93,000 passengers per annum, of which approximately 50% will be new to rail or transferred from road
- Stimulate earlier delivery of the County's proposed 35,500 homes and 4,345 hectares of commercial development between 2013 and 2030
- Help to sustain planned growth and housing development in north Worcestershire

Table 4.4: Tackling connectivity gaps

LEP	Connectivity Gap	Planned improvements
GBSLEP	Urban connectivity to new HS2 stations Longbridge Connectivity Package Connectivity to the hospital from Birmingham city centre and Smethwick Road capacity in central Birmingham Connectivity to Longbridge Business Park and development	Metro and rapid transit extensions between Birmingham areas and HS2 stations Station upgrade, M42 scheme, Park and ride Highway capacity improvement on A457 Ashted Circus improvement scheme Transport Hub at Longbridge
Black Country	Long distance highway and rail access to Enterprise Zone, Darlaston Long distance highway access to Enterprise Zone, I54 Connections from Wolverhampton and the Black Country to HS2 Capacity between Snow Hill and the Black Country Rail connectivity to Aldridge	Highway capacity improvement on M6 J10 Rail investment in Wolves-Walsall corridor Construction of M54 J2 Wolverhampton Interchange Scheme Snow Hill Rail Lines Capacity & Connectivity Enhancements Re-introduction of Aldridge Station
CW	Infrequent rail services on the A444 corridor	Nuckle 1 and 2 (increased train frequency between Nuneaton, Coventry and Leamington Spa)



LEP	Connectivity Gap	Planned improvements
	Unreliable road connectivity to UK Central and HS2 Birmingham International	Coventry north western orbital capacity improvement
Worcestershire	Unreliable and irregular rail services between Worcestershire, Birmingham and Bristol Irregular and unreliable rail services from north east Worcestershire to HS2 Curzon Street Unreliable local road network connectivity to the South Kidderminster Enterprise park	Construction of Worcestershire Parkway Station Line and station improvements at Kidderminster, Redditch and Bromsgrove Construction of Hoobrook Link Road, Kidderminster
The Marches	Unreliable and irregular rail services from Shrewsbury/Telford to Wolves and Birmingham Rail connections from the Marches to London Motorway congestion and access to jobs at Telford's employment sites Lack of transport integration in Shrewsbury Poor local transport links in Hereford Connectivity to Hereford EZ	Investment in Shrewsbury to Wolverhampton railway line Direct services from Shrewsbury/Telford Telford Growth Point Package Shrewsbury Integrated Transport Package Hereford City Centre Transport Package Western relief and Southern link
Stoke and Staffs	Congestion between Stoke, Manchester and Birmingham Intermodal freight hub development	M6 congestion relief schemes Birch Coppice capacity enhancements
SEMLEP	Unreliable highway connectivity from the primary road network Woodside Industrial estate and Houghton Regis to the Primary road network	The Woodside link (Dunstable)
LLEP	Unreliable connections from central Leicester, North East Slow journeys on the Midland Mainline Poor East/West rail links Local connectivity to HS2 East Midlands Hub	Transport investment in the A50/A6 corridor Faster services on Midland Mainline Nuckle 1 and 2 (increased train frequency between Nuneaton, Coventry and Leamington Spa) East Midlands Connectivity Package (with D2N2)
NLEP	Access to Daventry from the M1 and Northampton Congestion and layout of the A5	A45 development link A5 Strategy (with Transport Liaison Group)
D2N2	Slow services between Leicester and Kettering Nottingham to Lincoln Local connectivity to HS2 East Midlands Hub	Addressing slow line speed at Market Harborough Addressing the limited train service on the Nottingham to Lincoln castle line Mass transit option: Broxtowe and Erewash

The Midlands LEPs have adopted a joined-up approach to investing in connectivity, realising the benefits of working collaboratively on areas such as strategic transport. This is emphasised by the West Midlands Cross-LEP Transport Statement submitted to Government alongside each of the six LEPs' Strategic Economic Plans (SEPs).

#### *Enhancing air connectivity*

Birmingham Airport will be able to grow the more it can benefit from connectivity improvements in the Midlands, both by expanding its catchment area and by improving accessibility and reliability for travellers who wish to reach the Airport. The potential for growth is highlighted in the Airport's vision – with a second runway, capacity could be doubled to handle 70 million passengers per year.

The confirmed Airport Surface Access Strategy priorities will be key to enhance connectivity to and from the Airport. These are:

- Optimise upcoming government opportunities, such as franchising, rail devolution, funding and other consultations
- Make public transport (bus, coach and rail) first choice
- Integrate key schemes with the Airport in the short term and medium term (M42/HS2). As well as longer term visions (UKC)
- Integrated Ticketing across all modes
- Informed passengers across modes using intelligent systems
- Improve capacity, accessibility and reliability across modes (off site)
- Improve capacity, accessibility and reliability across modes (on-site)
- Improve accessibility and opportunities for increased Freight Movements
- Ensure reliable access options are available by all modes to all employees

#### **Making the most of HS2**

HS2 is set to boost the Midlands economy. The expected economic benefits will be maximised if complementary transport schemes are developed. Many of the transport initiatives in the SEPs are related to HS2. This section sets the context of HS2 in the Midlands and outlines some of the ways in which the LEPs plan to optimise and spread its benefits across the LEP areas.

#### *The impact of HS2 for the Midlands*

Based on the studies carried out to date and international high-speed rail experiences, the opening of HS2 is expected to deliver a number of economic benefits to the Midlands, including:

- Economic growth and job creation combined with congestion reduction and journey time savings, resulting in higher business productivity and more efficient movement of goods;
- Extra rail capacity both nationally and locally – this will allow much-needed improvements to inter-urban connections, commuter rail services and freight services;
- Urban realm improvements and delivery of additional commercial and residential space, as well as addressing long-term transport bottlenecks.

**Table 4.5: Rail and road journey times (minutes) with and without HS2**

National route	Drive time (uncongested) today	Rail JT today		Rail JT with HS2	Significantly faster with HS2
Birmingham - London	130	84		49	✓
Birmingham - Bristol	124	90		90	
Birmingham - Manchester	98	85		41	✓
Birmingham - Leeds	119	118		57	✓
Birmingham - Derby	56	35		35	
Birmingham - East Midlands Hub	51	--		19	✓
Birmingham - Nottingham	58	73		36	✓
Birmingham - Sheffield	95	71		48	✓
Birmingham - Leeds	121	118		57	✓
Birmingham - York	135	130		63	✓
Birmingham - Newcastle	199	194		127	✓
Birmingham - Manchester Airport	83	104		32	✓
Birmingham - Manchester	96	88		41	✓
Birmingham - Preston	110	91		53	✓
Birmingham - Edinburgh	295	241		194	✓
Birmingham - Glasgow	267	237		202	✓
Coventry - London	116	60		60	
Stoke - London	165	100		100	
Stoke - Manchester	55	45		45	
East Midland Hub - London	136	--		51	
Derby - London	141	91		71	✓
Nottingham - London	146	104		68	✓
Birmingham Interchange - Heathrow	95	133		53	✓
East Midlands Hub - Heathrow	123	--		66	

Source: HS2 Ltd

Benefits from shorter journey times to key economic hubs such as London and Manchester to a larger number of businesses than just those located in proximity of HS2 stations will result in greater productivity gains for the region as a whole.

More convenient and quicker access to the HS2 network will allow a greater share of commuting flows to take place on public transport modes – thus maximising the opportunities of released capacity on both the local rail and motorway networks.

#### *SEP initiatives complementing HS2*

The LEPs have pledged a substantial part of their ‘ask’ to initiatives intended to maximise the local impacts of HS2, ensuring that the whole region can access the High Speed Rail network and barriers to growth can be removed.

As shown in Table 4.6 these range from to initiatives which will support the project at the planning and construction stages such as the HS2 Colleges, to local links by road, rail and public transport that will improve interchange at the HS2 stations.

The main initiatives identified in the SEPs are summarised in the table below.

**Table 4.6: SEP initiatives complementing HS2**

LEP	Initiative	Link to HS2
GBSLEP	Curzon Masterplan	Development around Curzon St HS2 Station
	UK Central	Development around Birmingham interchange HS2 station
	HS2 Connectivity Package	Package of infrastructure schemes designed to optimise benefits of HS2 phase 1 in the West Midlands
	HS2 College	A centre for teaching students skills important for the construction of HS2
Black Country	Wolverhampton Interchange Scheme	Improved connectivity between Wolverhampton and HS2 Curzon St
	Re-introduction of Aldridge Station	Rail connectivity between Aldridge and HS2 Curzon St
	Walsall – Birmingham New Street – Birmingham International corridor	Improved rail connectivity to HS2
CW LEP	Coventry north western orbital capacity improvement and improvements on the A46, A5 and A45	Road connectivity to HS2 Birmingham Interchange
Worcestershire	Line and station improvements at Kidderminster, Redditch and Bromsgrove	Rail connectivity from the north-east Worcestershire to HS2 Curzon St.
The Marches	Investment in Shrewsbury to Wolverhampton railway line	Rail connectivity from Shropshire and Telford to HS2 Curzon St
Stoke and Staffs	-	-

LEP	Initiative	Link to HS2
SEMLEP	HS2 Academy	A centre for teaching students skills important for the construction of HS2
LLEP	East Midlands Connectivity Package (with D2N2)	Package of infrastructure schemes designed to optimise benefits of HS2 Phase 2 in the East Midlands
NLEP	-	-
D2N2	HS2 Skills Academy and College	Centres for teaching students skills important for the construction of HS2
	Mass transit option development around Broxtowe and Erewash	Mass transit connectivity to HS2 East Midlands Interchange

The arrival of HS2 has also provided an opportunity for integrated planning. This includes the integration of public transport, walking and cycling access to new stations. In addition, in order to maximise the benefits of new investment, key sites will be developed at strategic locations. To this end, rail and aviation hubs in the region have specifically been identified to become attractive locations for business parks and industrial clusters, as well as new housing developments. One of the key sites identified for development is UK Central.

#### Focus: UK Central

- Geographically located in the centre of the UK
- 70% of the UK population lives within 125 miles
- Convenient access to M42 and M6
- Next to proposed HS2 railway line and interchange
- Near the NEC and the Solihull Car Plant
- Capacity to generate in excess of 100,000 new jobs and £15.5bn-£19.5bn GVA by 2040
- Will promote regeneration in the East and South Midlands as well as the Birmingham area and Solihull

Other knock-on benefits are expected from HS2, for example at Birmingham Airport. While the airport's expansion plans (such as its runway extension) precede HS2, the improved connectivity offered by the high speed rail link will increase the catchment area of the airport. It will also free up capacity on the railway lines currently serving the airport, with the opportunity to improve regional connectivity. The airport plans to expand its international connectivity by providing new routes to Asian cities including Beijing, Shanghai, Tokyo, Bangkok and Los Angeles and increasing capacity for 27m passengers per year.

The East and West Midlands and have adopted a similar approach to developing integrated hubs around the new HS2 stations. The onward connections available from Birmingham Interchange and the East Midlands Hub by road, rail and air, paired with their locations in areas fit for development, represent key strengths that the Midlands as a whole can rely on to maximise the benefits of HS2. A comparison between the two hubs is presented below.

**Table 4.7: Comparing Birmingham Interchange and the East Midlands Hub**

Characteristics	Birmingham Interchange	East Midlands Hub
Location	10 miles from central Birmingham and 10 miles from Coventry	13 miles from Nottingham, 14 miles from Derby and 20 miles from Leicester
Development sites	UK Central	To be allocated
Road connectivity	At intersection of the M42 and the M6	Next to M1 J25
Rail connectivity	Link to West Coast Mainline	Link to Midland Mainline
Air connectivity	Next to Birmingham Airport	Near East Midlands Airport
Planned Mass Transit connectivity	Rapid transit connections planned to serve UK Central, Birmingham Airport and Birmingham east and Solihull	Nottingham Tram extension Options development planned for mass transit serving Broxtowe and Erewash

LEPs in the West Midlands have put together a structured connectivity package<sup>11</sup> that will improve regional and local links to HS2 and encourage sustainable growth, for example using the released rail capacity from the West Coast Main Line, with a view to maximise economic benefits. The Connectivity Package is expected to double the economic benefits of HS2 to deliver 50,000 new jobs and a £4bn GVA increase for the region per year.

A recent study by the East Midlands Council<sup>12</sup> has also highlighted the economic benefits that would arise by improving connections between regional centres in the Midlands, as a complementary strategy to HS2 – these include regeneration and economic rebalancing. For example, the provision of a chord at Trowell would allow trains to run through from Nottingham and Birmingham without turnback, and the provision of a chord through Attenborough would allow potential connectivity to the significant enterprise zones within Nottingham and Birmingham.

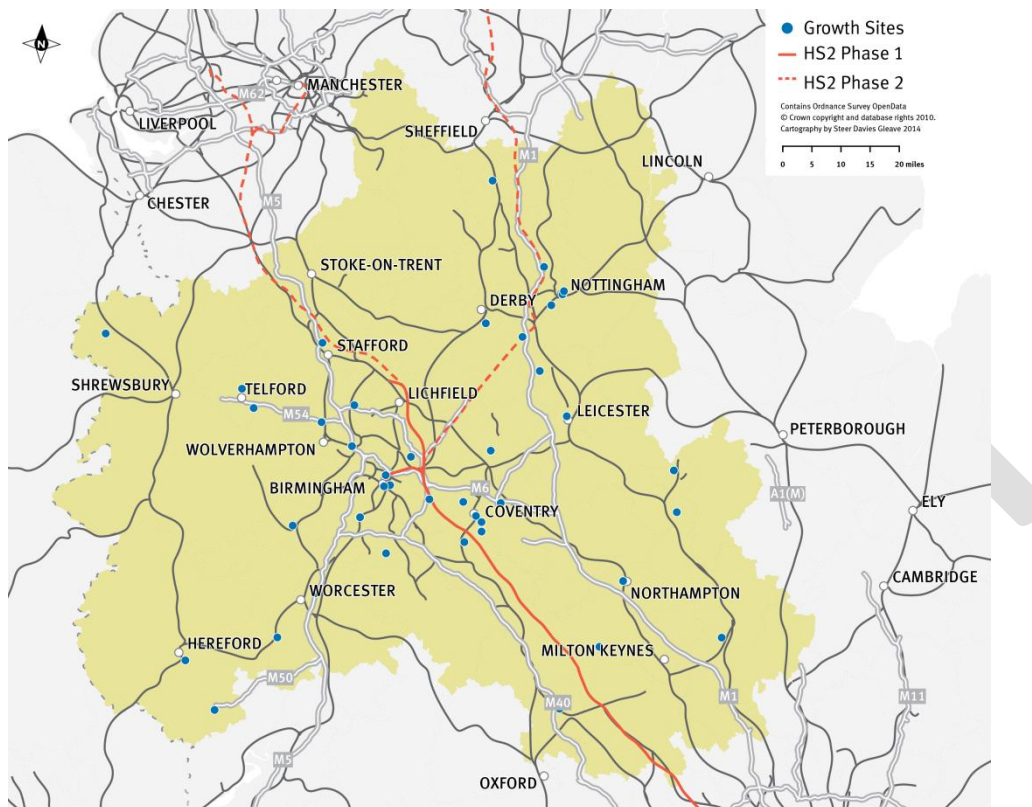
<sup>11</sup> [https://www.centro.org.uk/media/208188/highspeedtwolocalconnectivitypackagefinal\\_1662.pdf](https://www.centro.org.uk/media/208188/highspeedtwolocalconnectivitypackagefinal_1662.pdf)

<sup>12</sup> HS2 Direct Connections Study, Outline Business Case, Arup – December 2013

## Strategic transport priorities

The following map brings together the location of the identified development sites, the planned HS2 network (Phase 1 and Phase 2) and the transport network in the Midlands, visually illustrating the growth outlook for the region in the years to come.

Figure 4.10: Midlands growth outlook: HS2 and key development sites



Source: Steer Davies Gleave analysis of Strategic Economic Plans

The medium-term growth outlook presented in this chapter points to a number of emerging transport investment priorities for the Midlands in the longer-term. These address the need to maximise the benefits of high-speed rail, to accommodate growing transport demand, to enhance connectivity both regionally and nationally, to support the growth of development sites and other key economic objectives outlined by each LEP. Building upon the Strategic Economic Plans and the recent Cross-LEP Statement on Transport, the following priorities have been identified:

- Making the most of HS2 – e.g. providing local links, using released capacity, developing HS2 hubs
- Linking to international gateways – e.g. connectivity to airports and ports for passengers and freight
- Improving East-West connectivity across the Midlands – e.g. improving journey times
- Improving freight services – e.g. strengthening intermodal, containers and logistics sites
- Making the strategic transport network more resilient – e.g. tackling reliability and delays
- Opening up land for commercial and residential development – e.g. providing connectivity for emerging economic clusters
- Growing and connecting established regional centres – e.g. linking up regional centres to benefit businesses and commuters



These strategic transport investment priorities are both underpinned by the economic evidence and aligned to the growth outlook presented above. The following table shows the relationship between transport priorities, economic evidence and growth outlook.

**Table 4.8: Strategic transport priority, economic evidence and growth aspirations**

Strategic priority	What the economic evidence says	What growth aspirations are
Making the most of HS2	International experience shows that faster connections between economic clusters and urban areas can enhance productivity and growth.	The benefits of HS2 will be maximised through integrated local connectivity packages and nationally-significant developments around HS2 hubs.
Linking to international gateways	Connectivity to Birmingham Airport is hindered by road congestion and poor rail services to some areas. Resilient links are key to access international markets and attract inward investment.	Birmingham Airport will expand its capacity and has scheduled new international routes. The SAS aims to expand its catchment area.
Improving East-West connectivity	Key cities in the West and East Midlands host similar types of employers, such as professional services in Birmingham and Nottingham, but interactions are limited	The highest GVA growth contribution will come from professional services. Connections between regional centres hosting these services will need to be faster (by rail) and more reliable (by road).
Improving freight services	Exports, particularly from the manufacturing sectors, are driving the economic recovery. These require efficient freight services, including intermodal hubs.	Freight volumes between East and West Midlands are set to grow. Access to East Midlands Airport and ports will sustain export growth.
Making the strategic transport network more resilient	The manufacturing and logistics sectors employ a large share of workers in the Midlands. Their operations rely on a resilient road network.	Both new and established industrial sites will be developed along key transport corridors. Good connectivity for workers and goods will be needed to cater for demand and reduce business costs.
Opening up land for commercial and residential development	Demand for quality office space is high. Likewise, population growth in cities has put pressure on housing. Business clusters are increasingly locating in close proximity.	A number of key development sites is identified in the SEPs to support the jobs and GVA aspirations. Clusters will locate on dedicated sites, provided that connectivity facilitates access to markets and services.
Growing and connecting established regional centres	Urban areas have the highest unemployment levels. Similar economic sectors are located in urban centres – e.g. financial services. There are high levels of in-commuting.	Transport connectivity will be a key enabler for the planned redevelopment of urban areas, increasing the size of urban markets and spurring agglomeration. Resilient commuting corridors will sustain employment opportunities.

## Midlands growth outlook

The Midlands are expected to grow over the coming years – in terms of population, jobs, transport demand, and the economy overall. The implications for accommodating and accelerating this growth are wide-ranging and cross-boundary cooperation is addressing the main issues.

Four common themes emerge from the Midland LEPs Strategic Economic Plans, including: land-use planning to identify and grow key development sites for employment, commerce and housing; the importance of developing joint initiatives to attract businesses and develop skills; initiatives to improve transport infrastructure, addressing the main connectivity gaps.

Connectivity improvements are a primary goal for all of the LEPs. Plans are in place to address current gaps on both the motorway and the railway network, for instance by relieving congestion pinch-points, providing additional capacity and improving journey times. These improvements will support organic growth of transport hubs, including Birmingham Airport and intermodal freight terminals.

The growth outlook is completed by a number of initiatives that seek to maximise the benefits of HS2 ahead of its planned completion in 2026. These include substantial efforts to devise local connectivity packages, as well as to plan for the growth of key developments such as Curzon Street and UKC.

The review of the growth aspirations of the Midlands brings forward the economic baseline presented in previous chapters and points to the main changes that are planned to take place in the Midlands in the medium term. For the longer term, a number of strategic transport priorities has been identified. These priorities are aligned to the economic aspirations of the region and recognise the role of transport connectivity in supporting the regional and national economy.

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## 5 Setting conditional outputs

### The framework for conditional outputs

As discussed in the first chapter, transport connectivity is a key accelerant of economic growth and local development. The Eddington Review indicated ways in which enhancing connectivity leads to economic growth, including by improving business efficiency and spurring agglomeration economies. The evidence review and the growth outlook have highlighted the key role that transport connectivity can play regionally.

The previous chapters provide the context for the definition of the Conditional Outputs<sup>13</sup> (COs) for Midlands Connect. To ensure the COs are robust and fit for purpose they have been developed within a framework which explicitly relates objectives for achieving economic and employment growth in the region to the contribution the strategic transport networks can make, and in turn the means by which they can contribute, e.g. greater capacity. There are three elements in the framework, from which the COs are derived.

**Strategic objectives** have been set that capture how transport can contribute to the overarching economic goals for the Midlands. These have a medium to longer term focus. These objectives reflect the Eddington Review and Growth Task Force's recommendations, build on the economic baseline described in the previous chapters, and are consistent local policy frameworks, in particular the SEPs.

Underpinning each strategic objective are **strategic transport priorities**. These are aligned to the transport interventions identified at the end of the previous chapter. The nature of these priorities reflects the economic evidence for the region and the role transport connectivity can play in supporting the regional and national economy.

For each objective and transport priority, generic **focus areas** have been identified. These help identify the key centres and corridors that potentially would benefit the most from

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<sup>13</sup> In defining the COs the required outputs (to support the objectives) are established, but the case for specific schemes or modes is not assessed at this stage. These outputs remain conditional on a favourable assessment of value for money and affordability for current and potential funders.

strategic transport investment and would contribute the most to achieving the strategic objectives.

The development and definition of the objectives, strategic priorities and focus areas has been discussed and refined through the stakeholder engagement process. This has ensured consistency between the outputs from the framework and the transport priorities put forward by the LEPs.

### **From strategic objectives to connectivity outcomes**

The process described above has led to the definition of the six strategic objectives. The strategic objectives are:

- Open access to new markets and reduce trading costs
- Improve labour market efficiency and promote employment growth
- Unlock housing and employment sites
- Improve business efficiency and reduce the cost of doing business
- Stimulate business investment and innovation
- Attract globally mobile economic activity and skills

Transport priorities that support regional and national growth in the longer term have been summarised at the end of Chapter 4. Most priorities address specific economic objectives – for example, improved freight services will reduce trade costs. Other priorities are cross-cutting, such as the need to improve East-West connectivity across the Midlands. The identified priorities are:

- Making the most of HS2 – e.g. providing local links, using released capacity, developing HS2 hubs
- Linking to international gateways – e.g. connectivity to airports and ports for passengers and freight
- Improving East-West connectivity across the Midlands – e.g. improving journey times
- Improving freight services – e.g. strengthening intermodal, containers and logistics sites
- Making the strategic transport network more resilient – e.g. tackling reliability and delays
- Opening up land for commercial and residential development – e.g. providing connectivity for emerging economic clusters
- Growing and connecting established regional centres – e.g. linking up regional centres to benefit businesses and commuters

Focus areas have been identified throughout the study based on current connectivity gaps as well as future growth and challenges. The following list summarises the focus areas that have emerged from the study:

- Connectivity to HS2
- National connectivity strategies
- Link between major markets for consumers and workers
- Surface access to growing airport
- Link between manufacturing sites and freight terminals
- Congested section of the strategic transport network
- Connectivity to ports
- Corridor between large employment centres and residential areas
- Link between major cities with large and similar employment pools

- Growth hub with multi-modal transport connections and planned development sites
- Planned development site currently lacking good connectivity
- Developing clusters with high connectivity potential
- Links between established centres and growing clusters
- Major development site with planned long-term growth
- Links between a major university and high-end skills growth areas

The main centres and corridors which match the description of the identified focus areas are shown in the map below. These include corridors whose poor connectivity is not going to be addressed in the short term, and which have been identified as maximising the outcome of improvements in this report.

**Figure 5.1: Map of focus areas - key centres and corridors**

[TO BE PRODUCED]

Source: Steer Davies Gleave analysis

Next, connectivity improvements are identified. These are based on the definitions presented in Table 5.1 below. Together they establish a robust basis on which to derive the Conditional Outputs.

**Table 5.1: Connectivity improvements**

Improvement type	Definition
Journey time	Reduction in overall door-to-door travel time between locations. Can be achieved through faster journeys and for public transport, more frequent services and/or reduced interchange time. Rail journey times should aim to be competitive with uncongested (inter-peak) drive times. Road enhancements should aim to reduce the variance between congested and free-flow travel times.
Capacity	Rail capacity improvements can be achieved either by increasing or improving utilisation of on-track capacity or on-train capacity. Road capacity improvements can be delivered through expansion and/or better management of traffic flows.
Improved access	Access refers to the degree to which key locations, including transport and economic development hubs, are reached by convenient connections. For public transport this can be achieved by improving interchange opportunities and/or new links and/or access points.
Reliability	Improve the punctuality and reliability of public transport services and reduce the variation between different services. Secure enhanced delivery of timetables services (i.e. fewer cancellations). Reduce day-to-day variance in congested travel times at the same time of day. Reduce the number of times that sections of the road network is not available or lanes are closed.
Capability	This refers to the ability of the strategic transport network to cater for modern transport, in particular longer and heavier loads being moved to strategic gateways.
Hours of operations	Provision of public transport services that match hours of operation to demand to meet the needs of both employees and other users travelling to and from transport and economic hubs.
Service quality	Improvement in the overall quality of public transport and reduction in the variance of passenger satisfaction between services.

Table 5.2 presents the strategic objectives with their associated transport priorities. Aligned with the transport priorities, the focus areas address the sectoral and geographic dimensions. Centres and corridors, and the associated connectivity improvements, populate the last two columns.

**Table 5.2: Midlands Connect: developing conditional outputs**

Strategic objective	Strategic Transport Priority	Focus area	Centres and corridors	Connectivity improvement
<b>Open access to new markets and reduce trading costs</b>	Making the most of HS2	Connectivity to HS2 National connectivity strategies	WM regional centres-HS2 (Curzon St and UKC) Midlands-London (M40, M1/M6 corridors) WCML corridor to London	<ul style="list-style-type: none"> <li>Improved access</li> <li>Journey time</li> <li>Reliability</li> </ul>
	Growing and connecting established regional centres	Link between major markets for consumers and workers	Birmingham-Nottingham-Derby-Tamworth Coventry-Leicester Birmingham-Leicester	<ul style="list-style-type: none"> <li>Journey time</li> <li>Reliability</li> <li>Capacity</li> </ul>
	Linking to international gateways	Surface access to growing airport and connectivity to ports	Black Country-BHX East Midlands-BHX South Midlands-BHX West Midlands-EMA West Midlands-Deep-sea ports	<ul style="list-style-type: none"> <li>Journey time</li> <li>Hours of operations</li> <li>Capability</li> </ul>
<b>Improve labour market efficiency and promote employment growth</b>	Improving connectivity along commuter corridors	Corridor between large employment centres and residential areas	Kidderminster-Birmingham City Centre	<ul style="list-style-type: none"> <li>Journey time</li> <li>Reliability</li> <li>Capacity</li> </ul>
			Worcester-Bromsgrove-Longbridge-Birmingham The Marches-Black Country-Birmingham City Centre Nuneaton-Coventry-Leamington Spa South Staffordshire-North GBS-Birmingham City Centre	
	Growing and connecting established regional centres	Link between major cities with large and similar employment pools	Birmingham-Nottingham Birmingham-Leicester Stoke-Birmingham	<ul style="list-style-type: none"> <li>Journey time</li> <li>Capacity</li> <li>Reliability</li> </ul>
<b>Unlock housing and employment sites</b>	Promoting integrated transport and land-use development	Growth hub with multi-modal transport connections and planned development sites	Birmingham City Centre EZ Coventry Friargate Wolverhampton City Centre UKC	<ul style="list-style-type: none"> <li>Journey time</li> <li>Capacity</li> <li>Improved access</li> </ul>
			Development at Norton / North Worcestershire Longbridge Town Centre Nottingham EZ Birmingham Sustainable Urban Extension	<ul style="list-style-type: none"> <li>Improved access</li> <li>Journey time</li> </ul>

Strategic objective	Strategic Transport Priority	Focus area	Centres and corridors	Connectivity improvement
<b>Improve business efficiency and reduce the cost of doing business</b>	Improving freight services	Link between manufacturing sites and freight terminals	A5 corridor East-West freight corridor Nuneaton-Coventry-Leamington Spa Darlaston EZ	<ul style="list-style-type: none"> <li>• Capability</li> <li>• Capacity</li> <li>• Reliability</li> <li>• Journey time</li> </ul>
	Making the strategic transport network more resilient	Congested section of the strategic transport network	M6 toll corridor Rail capacity accessing Birmingham City Centre	<ul style="list-style-type: none"> <li>• Reliability</li> <li>• Capacity</li> </ul>
<b>Stimulate business investment and innovation</b>	Making the most of HS2	Developing clusters with high connectivity potential	UKC East Midlands Hub	<ul style="list-style-type: none"> <li>• Journey time</li> <li>• Improved access</li> <li>• Reliability</li> </ul>
	Connecting the emerging sector to auxiliary services	Links between established centres and growing clusters	Northampton-Coventry-Birmingham corridor South Black Country-Birmingham City Centre-Solihull	<ul style="list-style-type: none"> <li>• Journey time</li> <li>• Capacity</li> </ul>
<b>Attract globally mobile economic activity and skills</b>	Opening up land for commercial and residential development	Major development site with planned long-term growth	UKC I54 EZ Darlaston EZ MIRA EZ	<ul style="list-style-type: none"> <li>• Improved access</li> <li>• Reliability</li> <li>• Capability</li> </ul>
	Connecting employment sites to educational sites with skills pool	Links between a major university and high-end skills growth areas	Warwick University-Coventry-UKC Access to Birmingham University and Life Sciences Access to Keele University	<ul style="list-style-type: none"> <li>• Journey time</li> <li>• Hours of operations</li> <li>• Improved access</li> </ul>



## Conditional Outputs

Drawn from the focus areas and the connectivity improvement, the derived Conditional Outputs are presented below.

- Improved access and journey time to HS2 hubs from the West Midlands regional economic and population centres, including:
  - Between Black Country regional centres and Curzon Street / UKC
  - Between Coventry and UKC
  - Between Solihull and UKC
  - Between the Marches regional centres and Curzon Street / UKC
- More reliable journeys between the Midlands and London, including:
  - Along the M40 corridor
  - Along the M1/M6 corridor
  - Along the West Coast Main Line corridor
- Improved journey time between Birmingham City Centre and Nottingham City Centre
- Improved journey time between Birmingham City Centre and Leicester City Centre
- More reliable journeys between Birmingham, Nottingham, Derby and Tamworth
- More reliable journeys between Birmingham City Centre and Stoke
- Improved journey time to/from Birmingham Airport, including:
  - Between Black Country regional centres and BHX
  - Between East Midlands regional centres and BHX
  - Between South Midlands regional centres and BHX
- Improved journey time between commuter towns and Birmingham City Centre, including:
  - Between the Marches, Wolverhampton and Birmingham City Centre
  - Between Worcester, Bromsgrove, Longbridge and Birmingham City Centre
  - Between Kidderminster and Birmingham City Centre
  - Between Nuneaton, Coventry and Leamington Spa
  - Between South Staffordshire, North GBS and Birmingham City Centre
- Increased capacity to meet demand on commuter corridors to/from Birmingham City Centre, including:
  - Between the Marches, Wolverhampton and Birmingham City Centre
  - Between Worcester, Bromsgrove, Longbridge and Birmingham City Centre
  - Between Kidderminster and Birmingham City Centre
  - Between Nuneaton, Coventry and Leamington Spa
  - Between South Staffordshire, North GBS and Birmingham City Centre
- Improved access between UKC and locations with poor access, including:
  - East Birmingham
  - Solihull Town Centre
  - Coventry and Warwickshire
  - East Midlands regional centres

- Increased capacity in city centres to meet demand to/from transport hubs, including:
  - Birmingham City Centre EZ
  - Coventry Friargate
  - Wolverhampton City Centre
- Improved journey time between Birmingham City Centre and strategic investment areas, including:
  - Longbridge Town Centre
  - Norton /North Worcestershire
  - Nottingham Enterprise Zone
  - Birmingham Sustainable Urban Extension
- Improved access between Birmingham University / Life Sciences and synergistic locations, including:
  - Birmingham City Centre
  - Coventry and Warwickshire
- Improved hours of public transport operations to match demand between Birmingham Airport and passengers / airport employees, including:
  - East Birmingham
  - Solihull
  - Black Country regional centres
  - South Midlands
  - East Midlands
- Ensure consistent service quality of public transport on commuter corridors
- Improved capability between West Midlands industrial sites and East Midlands Airport
- Improved capability between the West Midlands industrial sites and deep-sea ports
- Increased capacity between manufacturing sites and freight terminals along the A5 corridor, including at MIRA Enterprise Zone
- Improved reliability between manufacturing sites and freight terminals along the A5 corridor, including at MIRA Enterprise Zone
- Increased capacity along the West-East freight corridor along the M54, including at i54 Wolverhampton Enterprise Zone
- Improved reliability along the M6 toll corridor, including at Darlaston Enterprise Zone

## A Local Authorities in each LEP

LEP	Constituent Local Authorities
Greater Birmingham and Solihull LEP	Birmingham City Council Bromsgrove District Council Cannock Chase District Council Lichfield District Council Wyre Forest District Council East Staffordshire Borough Council Redditch Borough Council Tamworth Borough Council Metropolitan Borough Council of Solihull
The Black Country LEP	Metropolitan Borough Council of Dudley Metropolitan Borough Council of Sandwell Metropolitan Borough Council of Walsall Wolverhampton City Council
Coventry and Warwickshire LEP	Coventry City Council, Warwick District Council Stratford-on-Avon District Council Nuneaton and Bedworth Borough Council Rugby Borough Council North Warwickshire Borough Council
Worcestershire LEP	Worcester City Council, Bromsgrove District Council Malvern Hills District Council Wyre Forest District Council Wychavon District Council Redditch Borough Council
The Marches LEP	Unitary Authority Council of Telford and Wrekin Unitary Authority Council of Herefordshire Unitary Authority Councils of Shropshire

LEP	Constituent Local Authorities
Stoke on Trent and Staffordshire LEP	Cannock Chase District Council Lichfield District Council Staffordshire Moorlands District Council South Staffordshire District Council Tamworth Borough Council East Staffordshire Borough Council Newcastle-under-Lyme Borough Council Stafford Borough Council Stoke on Trent City Council
D2N2 LEP	Derby City Council Derbyshire County Council Nottingham City Council Nottinghamshire County Council
Leicester and Leicestershire LEP	Leicester City Council Leicestershire County Council
Northamptonshire	Northamptonshire County Council
South East Midlands	Bedford Borough Council Unitary Authority Council of Central Bedfordshire Luton Borough Council Unitary Authority Council of Milton Keynes Aylesbury Vale District Council Cherwell District Council Corby Borough Council Daventry District Council Kettering Borough Council Northampton Borough Council South Northamptonshire District Council

## B Bibliography

### Data analysis

We analysed the most recent socio-economic and demographic data from the ONS datasets. In particular, we have looked at:

- Labour Force Survey (2011) and Census (2011) to map the geographical distribution of skills and to segment the workforce based on such skills
- ABI/BRES (2011) to map the geographical distribution of jobs and to segment the business sector based on different job characteristics
- Census (2011) for other socio-economic indicators such as population, employment, multiple deprivation indices, education
- Network Rail, DfT, Office of Rail Regulation and UK Civil Aviation Authority data on transport trends and volumes

### Evidence review

Our analysis is supported by a mix of international, national and local evidence sources, including the following:

- Birmingham Airport Surface Access Strategy
- Centre for Cities – Cities Outlook 2014
- Centre for Local Government (WM) - State of the West Midlands, May 2013
- East Midlands Councils – HS2 Direct Connections Study, December 2013
- EEF – The manufacturers organisation – Transport for growth
- Futures Network West Midlands – Demographic Issues facing the West Midlands, 2014
- HS2 Ltd, High Speed Rail, Transport Investment and Economic Impact by B. Rosewell and T. Venables, 2013
- ITS Leeds, Real Regional Productivity Differentials for use in Transport Appraisal, 2008
- Marketing Birmingham submission “Inward Investment and Sectors”, 2013
- Network Rail Urban Market Studies, October 2013
- The Role of Transit in Support of High Growth Business Clusters in the U.S. by APTA (American Public Transport Association), 2014
- Priorities for Rail Investment in the East Midlands, East Midlands Council, February 2012

- Rail freight demand forecasts to 2030, produced by MDS Transmodal for RFG
- Regional Connectivity to Birmingham Airport, ATKINS, 2013
- 'Skills Outlook 2013' by the OECD - Survey of adult skills
- The Highways Agency, Draft Route Based Strategies, 2014
- UK Tourism statistics 2012 – Tourism Alliance and VisitEngland
- West Midlands HS2 Connectivity Package Brochure produced by Steer Davies Gleave'
- West Midlands Metropolitan Freight Strategy 2030, April 2013
- 'Working Futures 2010-2020' by the UK Commission for Employment and Skills

## **Growth outlook**

In parallel we reviewed the existing planning and strategic documents by the key stakeholders in the area. These include:

- Strategic Economic Plans by the LEPs
- Development plans such as Local Plans, Enterprise Zones Masterplans, etc.
- Transport Assessment studies for specific schemes

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