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LOCAL INDUSTRIAL STRATEGY ECONOMIC REVIEW

LEICESTER & LEICESTERSHIRE ENTERPRISE PARTNERSHIP

JUNE 2019

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EXECUTIVE SUMMARY

This report sets out the evidence base that will underpin the Leicester and Leicestershire LEP (LLEP) Local Industrial Strategy (LIS). It draws on a mix of published data, forecasts, consultations, and strategy documents as well as existing studies and business surveys. Our analysis follows LIS guidance and focuses on productivity performance and its five drivers: business environment, ideas, people, place and infrastructure. The study then considers the LIS Grand Challenges, and which are best aligned to the LLEP's strengths and opportunities.

PRODUCTIVITY

In 2017, the LLEP's productivity was £44,600; above the regional average, but 12.6 percent below the UK average. This gap has widened over time—the LLEP recorded productivity growth of only one percent per year from 2007 to 2017, while the UK average grew by 3.7 percent over the same period.

Fig ES.1: Productivity across the Midlands Engine, 2017

	Productivity in 2017 (2016 prices)	Growth from 2007 to 2017
UK	**£51,000**	**3.7%**
South East Midlands	£50,600	4.4%
Coventry and Warwickshire	£49,700	9.6%
Greater Birmingham and Solihull	£47,900	7.7%
Worcestershire	£45,300	11.7%
Leicester and Leicestershire	**£44,600**	**1.0%**
D2N2	£43,200	5.9%
East Midlands	£42,900	2.9%
Black Country	£40,900	4.5%
Stoke-on-Trent and Staffordshire	£39,500	-3.2%
The Marches	£39,500	-0.4%
Greater Lincolnshire	£39,400	-5.6%

Source: ONS, Oxford Economics

Our analysis shows that the local sectoral structure accounts for only a small part of the productivity gap with the UK, meaning much is due to other factors. Anecdotal evidence suggests the local economy has suffered from a lack of training, investment and innovation. Almost all sectors of the economy are recording below average levels of productivity and hence the solution to raising wealth creation in the economy isn't necessarily the emergence of new sectors, it is likely to be the general effort to uplift productivity across existing sectors.

Given demographic trends and the expected slowdown of growth in the working age population, productivity rather than a reliance on jobs growth will become increasingly important for driving GVA growth in the UK and the LLEP. Linked to these broad trends as well as our expectations for future sector growth in the LLEP, we forecast productivity to grow by 1.3 percent per year locally to 2030, a rate in line with the UK but slightly below the East Midlands (1.4 percent).

Low productivity is the major challenge faced by the LLEP, and to some extent the Midlands as a whole. Productivity is a key determinant of the pay and living standards of the LLEP area's residents: in the long run, increasing productivity levels is the way workers become richer, businesses grow more profitable, and living standards improve. In some senses, almost all of the challenges and opportunities faced by the LLEP area relate to how to enable or promote improved productivity across its economy.

THE LOCAL ECONOMY AND BUSINESS ENVIRONMENT

The LLEP's economy makes up a significant part of the regional economy. It generated £24.5 billion of GVA in 2018 (in 2016 prices), equivalent to around a quarter of the East Midlands total. Leicester generates around a third of economic activity (£7.7 billion), although historic patterns show a slight redistribution of growth across the LLEP area, with North West Leicestershire, Blaby, and Harborough all growing strongly.

In 2018, employment across the LLEP totalled 538,100 workplace jobs.[1] Leicester was the largest single employer, supporting 178,500 jobs (a third of the LLEP total). Furthermore, according to Leicestershire County Council's "Rural Evidence Base 2018" nearly one in every four jobs in the County were in rural areas.

From a sectoral employment perspective wholesale & retail is the largest employer, but the economy has a notably large manufacturing sector (five percentage points greater than the UK average). An analysis of sub-sectors shows that the LLEP has significantly more jobs in the manufacturing of textile related activity, the manufacturing of motorcycles, the trade of gas through mains and in some food processing.

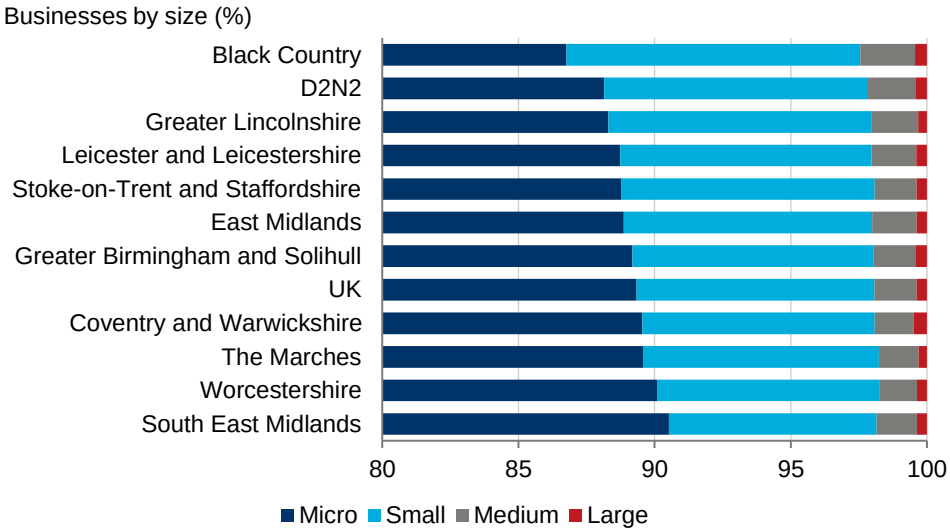
Generally, the local sectoral structure is skewed towards relatively lower value-added activities. This is notably the case in manufacturing. This not only limits GVA but is also likely to limit investment by businesses and subsequently stunt productivity growth. In addition, while an analysis of firm density and size suggests the LLEP is similar to the UK average, there is evidence that at a regional level, that East Midlands has a significant volume of unregistered businesses which are not captured in the data. The consultations suggested this was particularly the case in the LLEP.

This is important as business size can influence productivity. Larger firms tend to be more capital-intensive, and thus support higher levels of productivity—exploiting the economies of scale that have enabled them to grow to their current size. Generally, policies that seek to attract large firms to a local area tend to demonstrate only limited success. This is because the locational decisions of such firms are typically driven by a broader range of factors—such as geographic advantages, access to markets, their labour market catchment and proximity to suppliers—which are often difficult or impossible to influence

[1] Workplace employment at a local authority area level is calculated through combining the ONS Business Register and Employment Survey and ONS Workforce Jobs series. Estimates of total employment using the former tend to form an underestimate at the sub-regional level.

at a local policy level. As such, greater opportunities tend to exist in encouraging growth amongst the indigenous business base.

Fig ES.2: Businesses by size, the LLEP and comparator areas, 2018



Source: ONS

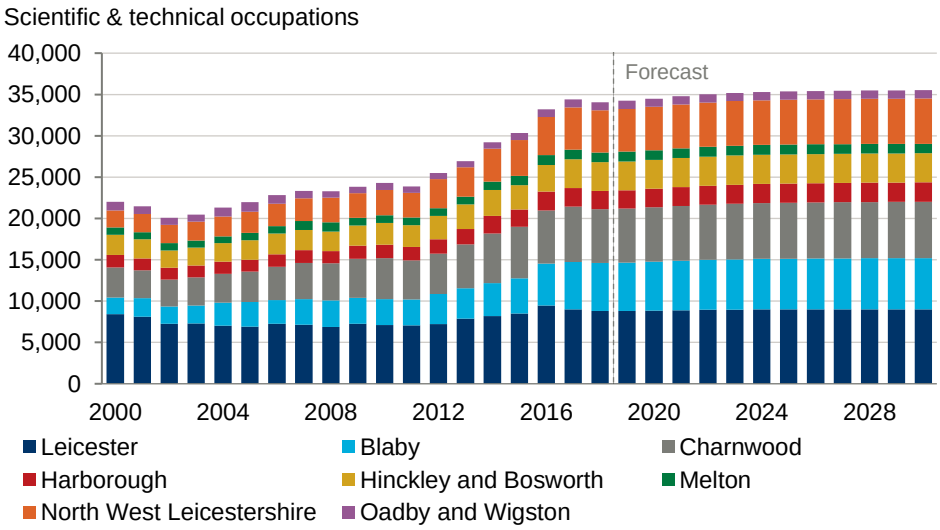
Encouraging investment, training and innovation in local firms will however be a challenge, particularly in lower value-added sectors of the economy and within the large base of micro businesses, but it is essential if the economy is to close the productivity gap.

Despite the challenges, the economy is relatively diverse and benefits from several high value assets that should help productivity growth and investment. For example, the LLEP boasts a range of assets, including an expanding international airport, two enterprise zones across multiple sites, three universities and imminent plans to open a Space Park focused initially on the downstream use of Space data. In addition, recent growth has been driven by high value-added professional services which can offer good wages.

IDEAS

R&D spend in the Leicestershire, Rutland & Northamptonshire NUTS 2 area has remained relatively unchanged in recent years, despite growth across the UK. However sectoral employment and occupational data shows that higher value-added roles and those linked to research and innovation are becoming more important in the LLEP. In 2018, there were 34,100 jobs across scientific and technical occupations representing seven percent of the workforce and accounting for one-in-eight additional jobs generated across the LLEP since 2000. A key challenge is to achieve faster growth in these roles.

Fig ES.3: Scientific & technical occupations, LLEP local authority areas, 2000 to 2030



Source: ONS, Oxford Economics

Innovation across the LLEP area is supported by the presence of, and activity associated with, its three universities. There are many examples of where the three universities are leading research and the available evidence suggests that these institutions proactively engage with local communities and businesses to improve the 'knowledge exchange' of their research activities outside of academic environments. Indeed, at Loughborough University Science and Enterprise Park, Charnwood Campus and Waterside / Pioneer Park, the universities have a significant presence.

However, there is less evidence of the private sector driving innovation. A key challenge is to encourage a step change in private sector R&D in the LLEP. Evidence shows that R&D spend by a company is positively correlated with underlying productivity performance. Moreover, developing new and innovative technologies also results in wider benefits to the economy and society as many of the benefits of R&D are shared by other firms, particularly ones located locally, either through spill-overs, or simply because they are linked together within a value chain.[2]

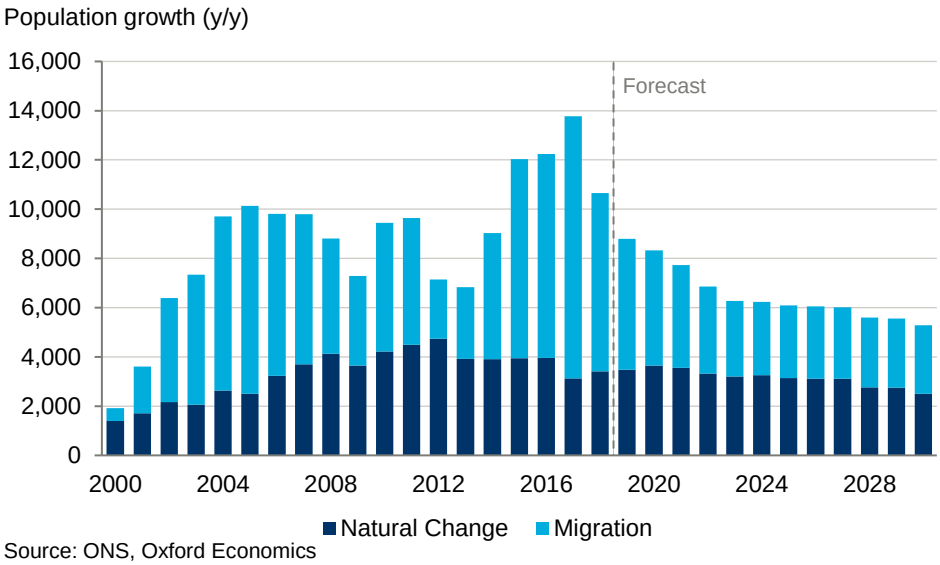
PEOPLE

The LLEP has over one million residents and is growing faster than both the wider region and the UK average. Importantly it has a higher working age population share. Given the outlook for migration, population growth is forecast to slow, but to remain faster than the regional and national average. The relatively younger population of the LLEP will therefore be better able to support future growth in the labour market. However, the share of the population of working age has begun to fall, which again highlights the

[2] Value chain benefits occur when a supplier produces a better product allowing customers to make efficiency gains and hence raise their value added, which is not paid for through the market.

importance of lifting productivity across the economy as a means of driving growth.

Fig ES.4: Components of population growth, LLEP, 2000 to 2030



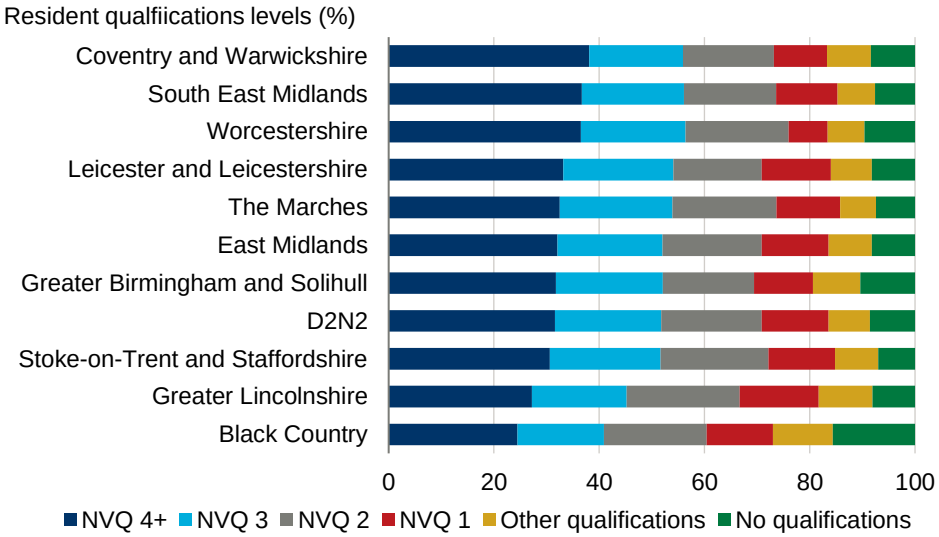
Source: ONS, Oxford Economics

Our analysis of the labour market shows that resident occupations are broadly in line with the regional average, despite some variation across specific local authorities. Residents of Harborough, Oadby and Wigston, Hinckley and Bosworth and Charnwood all have a greater share of 'higher skilled' occupations, in the form of managerial, professional or technical roles. By contrast, the share elsewhere—most notably in Leicester—is somewhat lower.

However, analysis of workplace-based occupations indicates that a greater proportion of residents tend to occupy higher-skilled positions than are available within the local economy. This implies that residents are commuting elsewhere for higher quality jobs—a view reinforced by a comparison of resident and workplace-based wages. This may be due to existing residents seeking better opportunities elsewhere, people already in higher quality jobs elsewhere choosing to locate in the LLEP area, or a combination of these factors.

Our analysis of the skills profile of future labour demand (measured through their relationship with occupations) indicates that the LLEP's workforce will increasingly require higher qualification levels to support growth. A key challenge for the LLEP area is to encourage a greater retention of students graduating from the three major universities—particularly in subjects that tend to be highly valued by employers, such as physical sciences and engineering & technology—to boost the local skills base. Another challenge will be to raise the skill levels of those already in low value employment and those in unemployed or inactive as future employment opportunities will be increasingly skills hungry.

Fig ES.5: Highest qualification levels, LLEP and comparator areas, 2017



Source: ONS

PLACE

The LLEP has a mixed and diverse population—particularly in Leicester—which is commonly regarded as one of its more distinctive and differentiating characteristics.

As noted in the Leicestershire County Council "Rural Evidence Base 2018" report, the county is predominantly rural by area, with the majority of Melton and Harborough districts in the east classed rural, as well as large areas of Hinckley and Bosworth and North West Leicestershire to the west. The report finds that 82 percent of the area of Leicestershire is classed as rural. However over 72 percent of the LLEP population was urbanised. This is over 10 percentage points below the England equivalent rate of urban living (83 percent), although its rural population are typically older in age, and have a particularly high proportion of residents in their sixties and seventies.

From a labour market point of view, the data provides mixed messages. Data on inactivity suggests the LLEP has a slightly higher rate (23.2 percent) than the national average and therefore has spare capacity. However, this higher rate is partly attributable to its large student population, and inactivity rates tend to vary somewhat by gender and across different ethnic groups. In addition, unemployment is relatively low in the LLEP, at 1.4 percent in 2018. This compares favourably to the East Midlands rate of 1.8 percent, and 2.2 percent across the wider UK, suggesting little spare capacity.

Regardless, residents of the LLEP area typically earned less than those in both the wider East Midlands and across the UK. This reflects local sectoral structures and, as already noted those who work in the LLEP area, on average earn less than average residents (i.e. better paid jobs are being taken up outside the LLEP).

The data and consultations would suggest the LLEP offers a good quality of life. The average life expectancy in the LLEP is the highest for both females and males of all the comparator areas. At 83.7 years for women and 79.9 years

for men, these are also both above the England averages (83.1 and 79.4, respectively). The LLEP area also has relatively less overall deprivation than regionally, with few areas of severe deprivation tending to be concentrated in urban areas. Social mobility however is relatively poor compared to national indicators, particularly for those earlier in life.

INFRASTRUCTURE

The LLEP's economy has a range of key strengths based around its location and connectivity. Not only does it benefit from a central location, it also has several strategically important road and rail links, along with a growing airport (the second largest freight airport in the UK, behind only Heathrow[3]). Unsurprisingly logistics is an important sector in the LLEP.

However, there are infrastructural weaknesses. Both local government and the private sector have reported that the demand for good quality commercial accommodation (of all types) is currently outstripping supply, which has hindered growth in the LLEP. There was a perception that there was a lack of sites available to develop in Leicester and that regeneration of current sites would be required to accommodate growing sectors. However, tackling this under-supply may be a challenge. For example, consultees reported that converting offices to residential use is currently more profitable than delivering new office space.

Digital infrastructure also reflects a challenge for the LLEP area, and whilst overall speeds are relatively good, many particularly rural areas suffer from poor access to broadband services.

The growing population will also place a burden on other aspects of infrastructure, most notably on housing. With demand continuing to outstrip supply, particularly in urban areas such as Leicester, housing affordability has worsened, with house price growth exceeding income growth across all local authorities, and across different income levels. The challenge of ensuring that a sufficient supply of housing is maintained across all local authorities will be a key factor in ensuring that affordability does not continue to substantially worsen into the future.

GRAND CHALLENGES

A review of local specialisms along with evidence from our consultations shows there could be opportunities for the LLEP to drive innovation in the Grand Challenges. The LEP has pockets of strengths in these areas, but with the exception of transport-related research, most innovation and activity are led by or are linked to the involvement of the local Universities rather than in clusters of private sector firms. Nonetheless, various specialisms across the Higher Education sector—with support from the LLEP—can drive developments across the Grand Challenges.

3 https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2018_annual/Table_14_International_and_Domestic_Freight.pdf

Space technology is absolutely at the heart of the digital revolution. It is a huge opportunity for the LLEP, but only if much more is done to build a private sector company base, clustering around the university research capabilities. At present there are assets to build on, and plans in place, for this to become a future strength. Furthermore, the concentration of businesses and jobs in lower value-added logistics, manufacturing of food and the manufacturing of textiles in the LLEP suggests there could be real benefits from the local commercialisation and adoption of AI and big data analytics. Data analytics and AI will also underpin much of the work that will take place during the research into the other grand challenges.

With the future of mobility, the LLEP is at the centre of the UK transport network, on the M1 and close to East Midlands Airport. This central location is an asset in itself. The LLEP also has its own particular issue of relying heavily on private car ownership. This combination may create opportunities for testing and applying new technologies within the sub-region, both with respect to logistics and commuting (we already highlighted the work in autonomous vehicle testing) and then potentially building a productive base within the Midlands Engine on top of that research learning. This would involve collaboration with others in the Midlands Engine and would include heavy involvement by local authorities to position the LLEP as a place where experimental new technologies are welcomed, developed and applied, with a view to those that succeed becoming embedded within the area. This links with MIRA Transport Park and presence of firm such as Lockheed Martin, Aston Martin, Bosch, Land Rover, and Jaguar already in the area.

With regards to the ageing society challenge, Loughborough University's strength in sport and well-being and De Montfort's research into meeting the needs of the elderly could provide a base around which a cluster of companies that meet the needs of older people in terms of fitness, mobility, and well-being could develop. However, private sector growth in this area has been limited to date, and therefore this area of research needs a cluster-building strategy.

POTENTIAL ECONOMIC PRIORITIES

The central objective of policy is to raise productivity levels. It is central to the Local Industrial Strategy policy and with future demographic trends meaning businesses will not be able to meet additional demand as easily as before through expansion of the workforce, productivity improvements will be the driving force behind future growth.

Given the above, the diverse economy of the LLEP, the presence of three leading Universities and their research specialisms, and the fact the private sector hasn't created sufficient high-value jobs to retain higher numbers of graduates we would suggest the following priorities:

- **Encourage local businesses to adopt new technology, new processes or develop the skills of employees.** These steps would have a significant impact on the local economy, productivity and wage levels. Though this will be difficult given the substantial base of micro family businesses that need to be engaged. Therefore, there is likely to be a need to raise local awareness of the scale of the prize if small businesses move up the value chain. Of course, if this is successful,

sufficient business advice will be required to support this change in local businesses.

- The business base will also **need appropriate skills** and hence on-going and effective communication between the private sector and education is essential. Though Further Education may need significantly more funding to invest in up to date technology and equipment to train students.
- A future objective is to improve **the retention of higher numbers of University graduates**. The LEP boasts three leading universities, yet their skilled graduates often move elsewhere[4]. By moving the economy up the value chain there will be greater numbers of appropriate jobs created. With a greater number of graduates there will also be more scope for R&D activity in the private sector which would help the LEP move closer to the UK targets. We would suggest the LLEP develop **strategies to promote the clustering of the private sector** around the specialisms of the University.
- We would also suggest that the LLEP **takes a long-term view of promoting and supporting research** linked to the Grand Challenges. Whilst there may be some "quick wins", it will likely take ten years or more to see significant growth.
- All of the above needs support by **continual improvements in infrastructure** including road, rail, schools, FE colleges, commercial space and housing.

[4] The low retention rate is a product of the quality of the institutions. Given their success, they pull significant numbers of students from outside the LLEP, which upon graduating often return home or look beyond the local economy for employment opportunities.

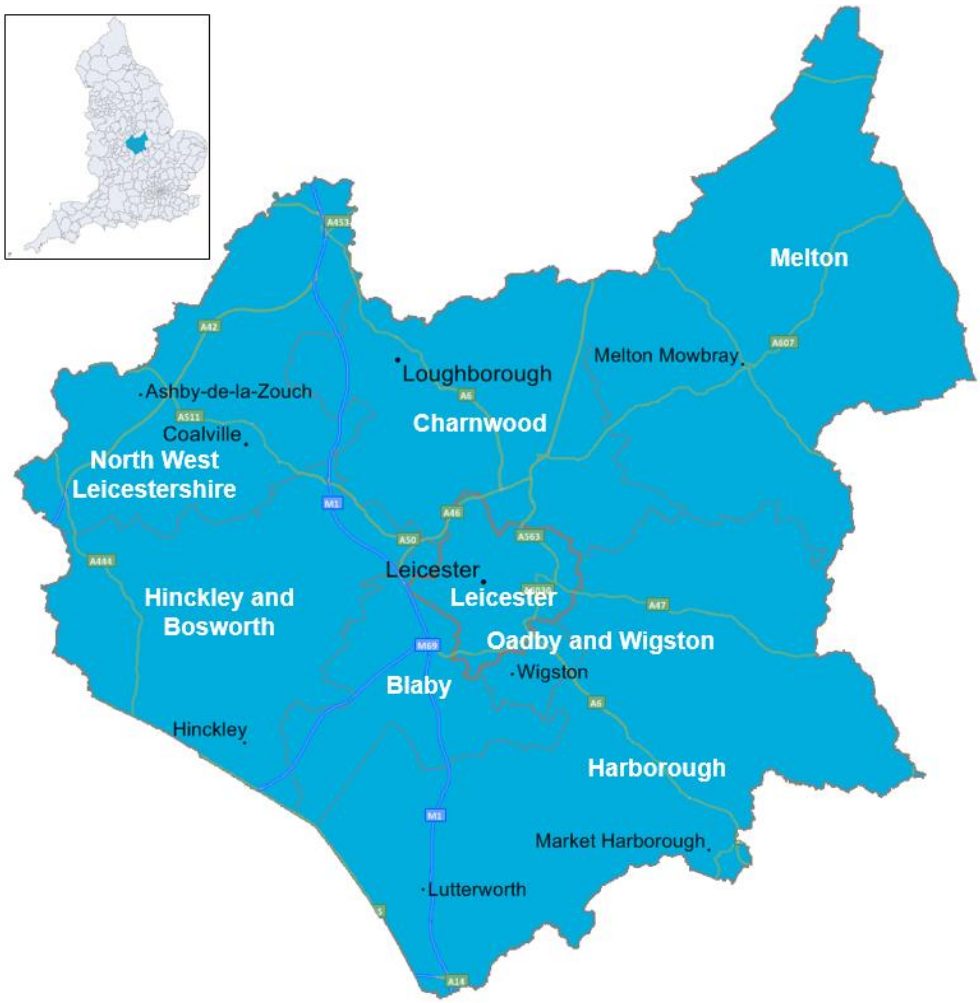
1. INTRODUCTION

1.1 BACKGROUND

The Leicester & Leicestershire Enterprise Partnership (LLEP) has been included in the second wave of areas invited to prepare a Local Industrial Strategy with the UK government. In line with advice on how to establish a successful strategy, the LLEP commissioned Oxford Economics to produce an evidence base to underpin its future Local Industrial Strategy.

This strategy will identify priorities to improve skills, increase innovation, enhance infrastructure, and encourage business growth. It will also guide the use of local funding streams, plus any spending from national schemes. Consequently, it is critical that the strategy is built on a robust and open evidence base that can be used to identify the relative strengths and weaknesses of the local economy, and provide the background information required to formulate and justify a series of future local economic priorities for the area.

Fig. 1. Geography of the LLEP



To produce this evidence base, Oxford Economics analysed available published data for the LLEP and its eight local authority areas.[5] In addition, this report provides comparisons with the 10 other Local Enterprise Partnerships that form the "Midlands Engine", alongside regional (East Midlands) and national comparators where available.[6] The analysis was augmented by a consultation exercise with 20 key local stakeholders including council representatives, the local universities and science parks, real estate businesses, and business / sectoral organisations.

1.2 LOCAL AUTHORITY DISTRICT FORECASTING MODEL

Throughout the report, we present forecasts for key variables up to 2030, where appropriate. These are drawn from our Local Authority District Forecasting Model, which uses official published data and sits within our suite of forecasting models. This structure ensures that global and national factors (such as developments in the Eurozone and UK Government fiscal policy) have an appropriate impact on the forecasts at a local authority level. This empirical framework (or set of 'controls') is critical in ensuring that the forecasts are much more than just an extrapolation of historical trends. Rather, the trends in our global, national and sectoral forecasts have an impact on the local area forecasts.

Our local forecasting model depends essentially upon three factors:

- National/regional outlooks—all the forecasting models we operate are fully consistent with the broader global and national forecasts which are updated on a monthly basis.
- Historical trends in an area (which implicitly factor in supply side factors impinging on demand), augmented where appropriate by local knowledge and understanding of patterns of economic development built up over decades of expertise, and
- Fundamental economic relationships which interlink the various elements of the outlook. The forecasts are produced within a fully-integrated system, which makes assumptions about migration, commuting and activity rates when producing employment and population forecasts.

Our forecasts consider a 'policy-off' position that does not account for the impact of planned interventions within the LLEP area.[7]

1.3 STRUCTURE OF THIS REPORT

The analysis set out in this report is based around the five "Foundations of Productivity"—business environment, ideas, people, place and infrastructure—and the four Grand Challenges as highlighted in the UK Industrial Strategy.

[5] Leicester and the seven districts/boroughs that form Leicestershire.
[6] Throughout the document we compare to the UK where possible, although in some instances we provide a comparison to England, where data on the other nations is not available.
[7] Such as the planned outcomes of the Strategic Growth Plan.

The report contains the following sections:

- **Chapter 2** provides an overview of the LLEP's productivity performance relative to the national economy, outlining the sectoral and other factors which influence the 'productivity gap';
- **Chapter 3** provides an analysis of the sector structure of the economy both in terms of GVA and employment. It also discusses the size of the business base and its characteristics;
- **Chapter 4** focuses on 'ideas' by analysing the available data on R&D spend, patient applications, scientific and technical occupations as well the higher education sector in the LLEP;
- **Chapter 5** considers 'people' through an analysis of the local population and occupational trends, while also considering the movement of labour, the stock of skills and the education sector locally;
- **Chapter 6** provides an assessment of 'place', considering factors such as diversity, the urban and rural population, analyses of inactivity and unemployment in the local labour market, and earnings. It also presents the recent data on health and deprivation;
- **Chapter 7** considers the existing evidence on the LLEP's infrastructure and the investment plans for the future;
- **Chapter 8** discusses how the LLEP economy is placed to tackle the four **Grand Challenges** set out in the UK Industrial Strategy; and
- **Chapter 9** sets out a summary of the opportunities and challenges faced by the LLEP economy, and our conclusions.

The findings in this document will be used to underpin the future Local Industrial Strategy for the LLEP.

2. PRODUCTIVITY

KEY FINDINGS

- In 2017, the LLEP's productivity was £44,600; above the regional average, but 12.6 percent below the UK average—and this the gap has widened. The LLEP experienced disappointing productivity growth of one percent per year from 2007 to 2017, compared to 3.7 percent in the UK.
- The local sectoral structure accounts for some of this shortfall, but much is due to other factors.
- Average productivity is also below the UK excluding London, but by a much smaller margin of 4.4 percent. We find that the sectoral structure in the LLEP should have a positive impact relative to the UK excluding London and conclude that other factors again result in a productivity shortfall.
- Productivity is forecast to grow by 1.3 percent per year across the LLEP area to 2030, a rate in line with the UK but slightly below the East Midlands (1.4 percent).

2.1 PRODUCTIVITY IS ABOVE THE REGIONAL AVERAGE

Productivity, measured as GVA[8] per person employed, is a key measure of economic performance. Strong productivity results in workers receiving higher wages—which in turn can improve living standards—and companies receiving higher profits, which provide the opportunity to reinvest in the economy.

In 2017 (the most recent year we have published GVA data at a local level), productivity across the LLEP averaged nearly £44,600 per worker (in 2016 prices).[9] This was 3.9 percent above the East Midlands but lagged the UK average by 12.6 percent. Across the Local Enterprise Partnerships that make up the Midlands Engine, the LLEP ranked fifth (Fig. 2).

[8] Gross value added (GVA) is the headline indicator for economic activity at a sub-national level. It is measured as the value of output less the value of intermediate consumption.
[9] We calculate productivity as GVA per job rather than per hour worked as data availability allows more granular and detailed sectoral analysis for this measure.

Fig. 2. Productivity across the Midlands Engine, 2017

	Productivity in 2017 (2016 prices)	Growth from 2007 to 2017
UK	**£51,000**	**3.7%**
South East Midlands	£50,600	4.4%
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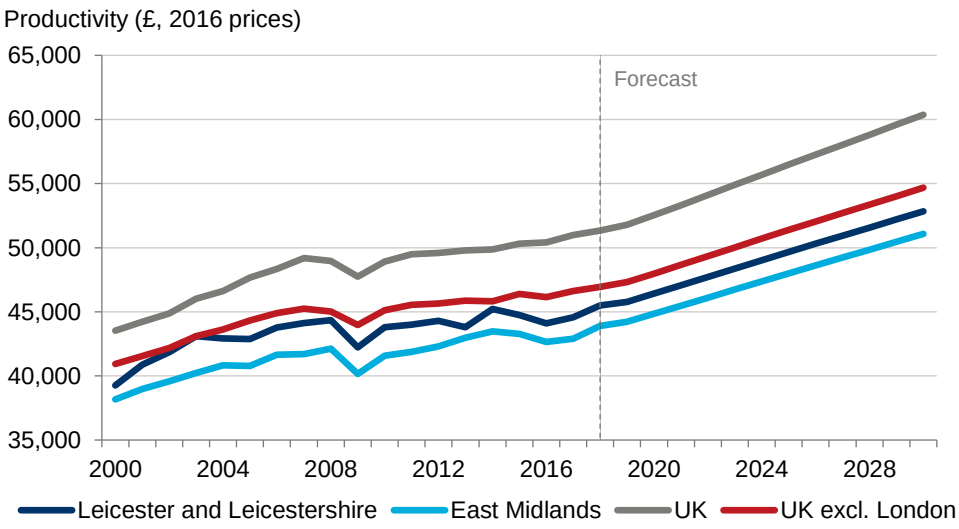
The Marches	£39,500	-0.4%
Greater Lincolnshire	£39,400	-5.6%

Source: ONS, Oxford Economics

The LLEP's productivity gap with the UK has widened considerably over the last two decades. In 2000, productivity was only five percent below the UK, and although there is year-to-year volatility, the gap has generally widened over time. More recently, over the period 2007 to 2017, productivity grew by only one percent in the LLEP, notably slower than the UK (3.7 percent) and East Midlands (2.9 percent).

Comparisons with the UK excluding London are more favourable with the LLEP's productivity only 4.4 percent below in 2017 (or £2,100 per worker in 2017 prices). However recent growth is still relatively slow with the UK excluding London experiencing productivity growth of 3.1 percent over the period 2007 to 2017.

Fig. 3. Productivity, LLEP, East Midlands and UK, 2000 to 2030

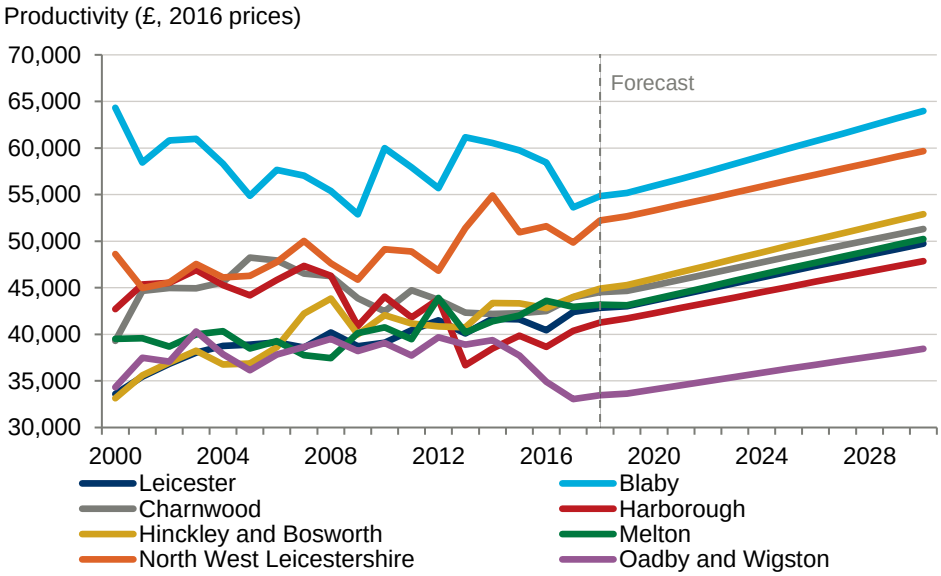


Source: ONS, Oxford Economics

Productivity and productivity growth have varied widely across the LLEP's local authorities. In 2017, Blaby boasted the highest level of productivity at £53,600. This was the only local authority area in the LLEP with productivity above the UK average. However, since 2007 its productivity has fallen by 6 percent. At the other end of the spectrum, Oadby and Wigston has the lowest level of productivity at £33,100, however the recent extreme falls in productivity may reflect data quality.

Over the period 2007 to 2017, only three of the eight local authority areas that make up the LLEP experienced growth in productivity, with Melton experiencing the fastest rate of growth at 13.8 percent, due mainly to strong growth in its relatively productive manufacturing sector. An upturn in recent data, coupled with a more positive outlook for productivity across the UK economy as a whole, supports our forecast that productivity will increase in real terms across all local authorities into the future. Productivity is forecast to grow by 1.3 percent per year across the LLEP area to 2030, a rate in line with the UK but slightly below the East Midlands (1.4 percent).

Fig. 4. Productivity, LLEP local authority areas, 2000 to 2030



Source: ONS, Oxford Economics

2.2 SECTORAL STRUCTURE AND PRODUCTIVITY

Analysis of sectoral structure and productivity levels allows us to decompose the productivity gap to the UK as a whole. We may consider how much is due to the sectoral structure of the local economy—for example, having more employment in higher-value (and less in lower-value) sectors, regardless of whether workers are from the LLEP area or elsewhere. We also consider the other factors that can determine productivity performance, which may help to explain why workers in a given sector produce more or less than their counterparts elsewhere in the UK, on average. We discuss these other factors in greater detail later on in this section and throughout the report.

The overall productivity gap between the LLEP and the UK is 12.6 percent. Our analysis at a broad sectoral level shows two opposing factors. On one

hand, the sectoral structure of the LLEP economy is advantageous to productivity: if the UK economy had the LLEP's sectoral structure, overall productivity would be 0.5 percentage points higher. However, this is more than offset by the impacts of other factors, which mean that a worker in a given sector across the LLEP produces less than those in the same sector elsewhere in the UK. We estimate these factors to dampen productivity in the LLEP by 13.1 percentage points, relative to the UK average.

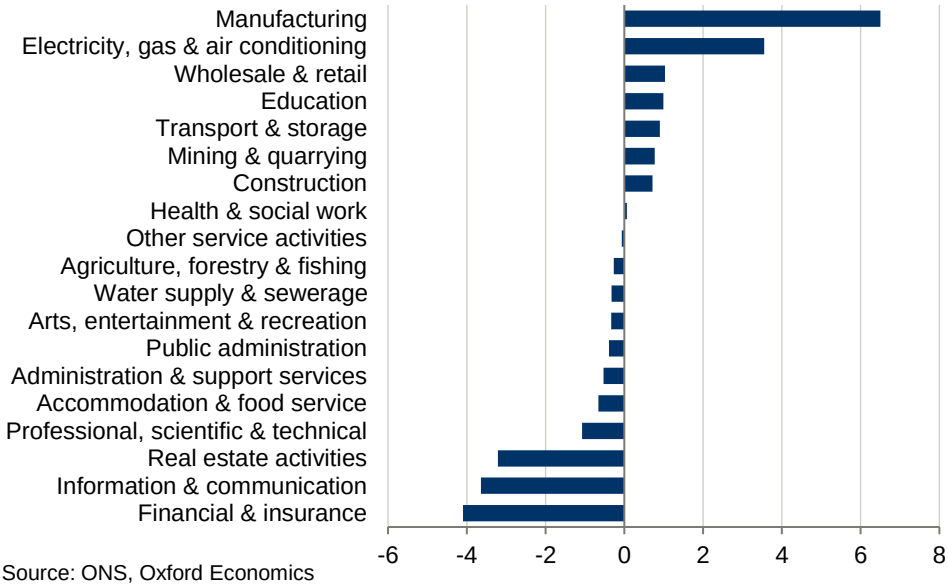
2.2.1 Productivity gap across broad sectors

An analysis of sectoral GVA shows that the LLEP is notably more reliant on manufacturing than the UK average (see Fig. 5). This sector, which typically boasts relatively high productivity, provides 6.5 percentage points more GVA than the UK average. The LLEP also has a greater reliance on electricity, retail, education, mining, and transport.

By contrast, there is an under-reliance on faster-growing and relatively high-productivity private service sectors of the economy, such as information & communications, professional, scientific & technical, and administration & support services.

Fig. 5. Differences in GVA sectoral shares, LLEP and UK, 2017

Percentage point difference in share of GVA between LEP and UK



Source: ONS, Oxford Economics

Regardless of the size of each broad sector, only three have higher productivity than the UK average. Mining and quarrying productivity is over a third higher than average, while construction productivity is 18.1 percent higher and the health sector is 1 percent higher. Except for education, which has a similar level of productivity, the rest of the economy underperforms the national average. Indeed, information and communications is 43.3 percent lower, while financial and insurance activities is 41.7 percent lower (though both of these sectors will be boosted by the performance of London).

Fig. 6. Broad sectoral productivity, LLEP and UK, 2017

	Leicester and Leicestershire		UK	Difference in productivity	
	Employment	Productivity £ (2016 prices)	Productivity £ (2016 prices)	£ (2016 prices)	%
Electricity, gas, steam and air conditioning	8,400	£152,700	£207,800	-£55,100	-26.5%
Mining and quarrying	2,000	£131,900	£98,000	£33,900	34.6%
Water supply	2,300	£73,600	£82,200	-£8,600	-10.5%
Financial and insurance activities	11,400	£67,400	£115,600	-£48,200	-41.7%
Manufacturing	68,100	£59,800	£67,200	-£7,400	-11.0%
Construction	30,300	£56,700	£48,000	£8,700	18.1%
Public administration and defence	19,400	£52,600	£55,200	-£2,600	-4.7%
Information and communication	16,200	£45,000	£79,300	-£34,300	-43.3%
Transportation and storage	31,900	£40,100	£45,200	-£5,100	-11.3%
Other service activities	15,700	£38,800	£46,700	-£7,900	-16.9%
Education	47,100	£35,700	£35,700	£0	0.0%
Wholesale and retail trade	79,600	£35,300	£37,200	-£1,900	-5.1%
Professional, scientific and technical activities	50,300	£32,700	£46,100	-£13,400	-29.1%
Human health and social work activities	59,700	£30,400	£30,100	£300	1.0%
Arts, entertainment and recreation	12,300	£23,900	£26,900	-£3,000	-11.2%
Administrative and support service activities	49,700	£21,700	£29,300	-£7,600	-25.9%
Agriculture, forestry and fishing	4,500	£21,500	£28,100	-£6,600	-23.5%
Accommodation and food service activities	32,900	£17,600	£22,600	-£5,000	-22.1%

Source: ONS, Oxford Economics

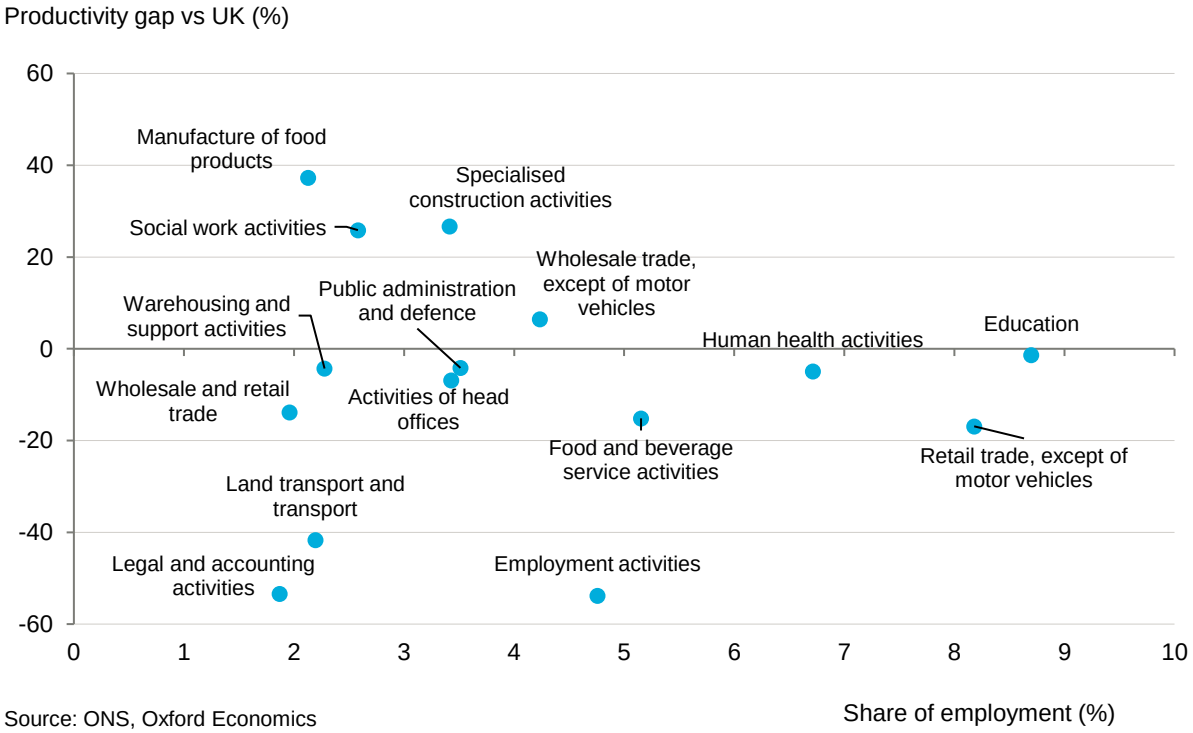
2.2.2 Productivity gap across detailed sector

One explanation for the productivity gap relates to the composition of the broad sectors as set out above. By undertaking the sectoral analysis at a more detailed two-digit sectoral level we find that 2.4 percentage points of the productivity difference is due to the sectoral structure of the local economy. In other words, while the sectoral mix is slightly favourable to overall productivity in broad, the LLEP tends to have a greater concentration of activity in the less productive sub-sectors than across the UK. So, the types of activities undertaken within sectors, rather than the presence of these overall sectors, can help to explain part of the productivity gap. This indicates that the remaining 10.2 percentage point shortfall in productivity levels is due to other factors.

There are significant productivity gaps in the largest 15 sub-sectors (for employment). Wholesale and retail trade of motor vehicles, and the retail trade, both sub-sectors of the third-largest sector of the local economy, have productivity 13.8 percent and 16.9 percent lower than the UK, respectively. Other key sources of local employment, food & beverage service activities and legal & accounting activities also suffer from particularly low productivity compared to what we would expect for the sector. Productivity in legal &

accounting activities is 53.4 percent below the UK benchmark, with average productivity of £27,900 compared to £60,000 nationally. Of the top 15 largest sub-sectors only four have productivity levels above that of the UK.

Fig. 7. Share of employment by top sub-sectors and productivity gap vs UK, LLEP, 2017



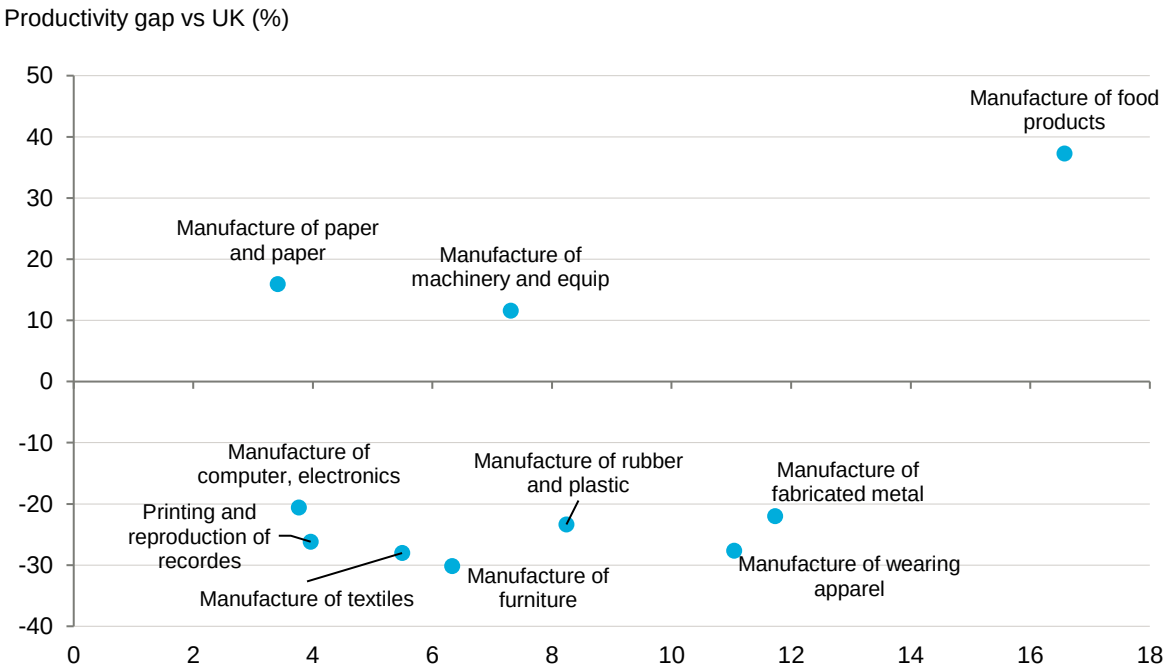
Source: ONS, Oxford Economics

As the largest and most diverse sector in the local economy it is worthwhile focusing on manufacturing to get a better understanding of productivity differentials versus the UK. The manufacturing sector in the LLEP generated output of £59,800 per person in 2017, 11 percent below the UK level of £67,200. Given the size of this sector locally this is having a significant impact on total productivity levels in the LLEP.

At a sub-sectoral level clear differences emerge. The manufacture of food products has the largest share of employment, dominated by local employers Walkers and Northern Foods in Leicester, with modern production facilities and strong brands this sector performs well compared to national; productivity is 37.3 percent higher than the equivalent UK figure. Likewise, there is above expected productivity in the paper manufacturing and machinery and equipment sub-sectors.

However, there are significant productivity gaps for the remaining 10-largest manufacturing sub-sectors. The textiles industry is particularly important locally, and the manufacture of wearing apparel and manufacture of textiles, together with furniture manufacture, make up nearly a quarter of all manufacturing jobs in the LLEP area, but suffers from productivity levels c.30 percent lower than the UK average (27.7, 28 and 30.2 percent below respectively).

Fig. 8. Share of employment by top manufacturing sub-sectors and productivity gap vs UK, LLEP, 2017



Source: ONS, Oxford Economics

At an aggregate level, our analysis indicates that other factors are adversely impacting productivity in manufacturing activities in the LLEP. Applying UK-wide productivity levels to the local manufacturing sub-structure indicates that the sectoral composition accounts for 30 percent of the manufacturing productivity gap, indicating that around a third of the productivity gap is driven by a higher concentration of employment in producing goods that tend to be less productive, such as lower value textiles and furniture products.

The remaining 70 percent of the manufacturing productivity gap is attributable to other factors suppressing productivity in sub-sectors that are performing below the national average. We discuss the drivers of these other factors in further detail overleaf.

Fig. 9. Manufacturing productivity in the LLEP vs the UK, 2017

	Leicester and Leicestershire		UK	Difference in productivity	
	Employment	Productivity £ (2016 prices)	Productivity £ (2016 prices)	£ (2016 prices)	%
Manufacture of food products	11,700	£72,200	£52,600	£19,600	37.3%
Manufacture of tobacco products	900	£135,800	£141,200	-£5,400	-3.8%
Manufacture of textiles	100	£39,800	£55,300	-£15,500	-27.9%
Manufacture of wearing apparel	3,900	£60,100	£83,100	-£23,000	-27.8%
Manufacture of leather	7,800	£51,700	£67,200	-£15,500	-23.1%
Manufacture of wood and wood products	200	£40,700	£38,500	£2,200	5.8%
Manufacture of paper and paper products	1,700	£102,600	£88,500	£14,100	15.9%
Printing and reproduction of recorded material	2,400	£34,400	£46,600	-£12,200	-26.1%
Manufacture of chemicals	2,800	£78,000	£125,100	-£47,100	-37.7%
Manufacture of basic pharmaceutical products	<100	£108,200	£263,000	-£154,800	-58.8%
Manufacture of rubber and plastics	1,300	£36,100	£47,100	-£11,000	-23.4%
Manufacture of other non-metallic products	900	£98,100	£63,600	£34,500	54.3%
Manufacture of basic metals	5,800	£56,200	£46,000	£10,200	22.3%
Manufacture of fabricated metal	2,400	£41,800	£53,600	-£11,800	-22.0%
Manufacture of computers and electronics	900	£55,200	£69,500	-£14,300	-20.6%
Manufacture of electrical equipment	8,300	£96,300	£66,500	£29,800	44.7%
Manufacture of machinery and equipment	2,700	£68,500	£61,400	£7,100	11.5%
Manufacture of motor vehicles	1,400	£63,300	£98,100	-£34,800	-35.5%
Manufacture of other transport equipment	5,200	£93,300	£81,800	£11,500	14.0%
Manufacture of furniture	600	£25,900	£37,100	-£11,200	-30.0%
Other manufacturing	2,300	£39,900	£62,600	-£22,700	-36.2%

Source: ONS, Oxford Economics

2.2.3 Other factors that drive productivity performance

There is no single driver which can explain why the LLEP's productivity levels are lower than the mix of industries present would suggest. As discussed later in the report, the LLEP economy does not suffer from a poor overall stock of skills which can enable higher value activity to take place; or from a particularly poor occupational profile or from relatively high levels of micro or small firms (which could result in lower levels of capital spend). So, what explains the productivity gap?

Instead, there are a multitude of influences which can help to explain the productivity gap, which feature throughout each of the 'foundations' of productivity discussed in this report— ideas, people, infrastructure, business environment, and place.

During our consultations, we discussed the productivity gap in the LLEP and were provided with a range of possible explanations. Most of our consultees

suggested the lack of investment in capital, training and innovation across the LLEP was holding back productivity growth. This relative lack of investment, training and productivity was due in itself to a mix of factors such as:

- The volume of micro businesses in the local economy, and within that the predominance of 'family businesses' which many we spoke to believe have limited growth ambitions;
- Growth ambitions may also be hindered by the lack of available employment land and commercial space. Consultees in both the public and private sector noted that more investment and regeneration was needed, particularly in Leicester City to accommodate growing businesses in all sectors of the economy;
- Larger firms which typically operate in higher value areas of the economy, relative to smaller firms in their sector, are servicing the local market made up of predominantly micro or small firms and thus they miss out on higher value contracts;
- There was also feedback that many larger firms located in the LEP focused on back office activity as they took advantage of low costs and low wages; and
- Despite recent success in attracting major FDI projects, competition from neighbouring cities such as Birmingham and Nottingham may have limited some types of investment by large private service firms.

We were also provided with anecdotal evidence that recently, increases in demand were being met by job creation (a recent trend observed across the UK) rather than capital investment given uncertainty in the economy.

Consultees suggested a range of sectors that could benefit from investment in technology (and subsequently skills). The most frequently cited were agriculture, food production, logistics, and the manufacturing of textiles. It was felt that the adoption of up to date (or indeed recently established) technology could significantly improve productivity and the competitiveness of local businesses (albeit with some risk to low skilled occupations).

The fact that this hasn't happened has meant retention of graduates from the three universities has historically been low. In addition, consultees felt there is anecdotal evidence of underemployment in the local economy with individuals over qualified for the occupations they could undertake.

2.2.4 Relative to the UK excluding London

The productivity gap with the UK excluding London was much lower at 4.4 percentage points, or £2,100 per worker (in 2016 prices) in 2017. If we carry out an equivalent analysis, we find local factors again limit productivity in the LLEP. At a broad sectoral level, the local sectoral structure should have a positive impact reducing the productivity gap by an estimated 3 percentage points. Therefore, local factors are dampening productivity by 7.4 percentage points relative the UK excluding London.

Interestingly, the same exercise at a two-digit sectoral level shows that the sectoral structure in the LLEP should result in a relatively more productive economy than that of the UK excluding London. We estimate it should boost average productivity by 0.5 percent. Given actual productivity is below the UK

(excluding London) average, local factors must again be dampening average productivity in the LLEP (by 4.9 percentage points).

2.3 CHALLENGES AND OPPORTUNITIES

As with all parts of the UK the obvious challenge is to drive productivity growth and hence why it is central in local policy. As shown, other factors, rather than the sectoral structure account for the bulk of the productivity gap. Almost all sectors of the economy are underperforming so the solution to raising wealth creation in the economy isn't necessarily the emergence of new sectors, it is a general effort to uplift productivity across existing sectors.

Whilst this is a challenge (the productivity gap has been rising), it represents a significant opportunity. If all 88 two-digit sectors of the LLEP had productivity levels the same as the UK, the economy would be 11.7 percent larger. If it had the same sub-sectoral productivity as the UK excluding London the economy would be 5.1 percent larger.

Given demographic trends and the slowdown in growth in the working age population (which we discuss later in this report)—productivity growth rather than a reliance on jobs growth will become increasingly important for driving GVA growth in the UK and the LLEP.

As we discuss throughout the report, the LLEP has a number of key strengths including its location, access to key infrastructure routes, the presence of three world class Universities, a very active further education sector, enterprise zones and a diverse business base and population. Consequently, there are opportunities to build on these assets and raise productivity across the LLEP economy. We discuss these in more detail later.

3. THE LOCAL ECONOMY AND BUSINESS ENVIRONMENT

KEY FINDINGS

GVA and employment

- The LLEP's economy generated £24.5 billion of GVA in 2018 (in 2016 prices), equivalent to around a quarter of the East Midlands total.
- Leicester generates around a third of economic activity (£7.7 billion), although historic patterns show a slight redistribution of growth across the LLEP area, with North West Leicestershire, Blaby, and Harborough all growing strongly.
- We expect the LLEP to outperform the East Midlands, growing by 1.7 percent per year on average up to 2030. Forecast growth within the area will broadly reflect historic patterns. Service sectors will continue to dominate this growth, with professional, scientific & technical activities, administrative & support services, and information & communication all due to grow strongly.
- In employment terms, the LLEP is projected to add another 27,600 workforce jobs up to 2030.

Businesses

- There were 48,000 local business units operating across the LLEP in 2018, representing 23 percent of the East Midlands total.
- Across the LLEP, there were 45.5 firms for every 1,000 residents in 2018—2.1 percentage points higher than the East Midlands average, putting the LLEP in the middle of a table of comparator areas across the Midlands Engine, but below the UK average.
- The spread of business sizes is similar to that of the UK as a whole. Across the LLEP, a large proportion of businesses are small or medium-sized enterprises (SMEs). Indeed, the vast majority (85 percent) of all businesses identified in official statistics are defined as "micro-sized", with 0-9 employees.
- Across the LLEP, Leicester dominates the business environment with 30 percent of total businesses (14,500), and relatively more larger firms.
- Manufacturing, the largest sector for employment and GVA in the LLEP, is dominated by micro and small firms, with 92.9 percent of businesses. However, this is lower than the UK-wide share of 93.8 percent.
- The LLEP thus ranks mid-table for both births and deaths (sixth and fifth place respectively) against other Midlands Local Enterprise Partnerships and business survival rates in the LLEP are similar to the regional average.

3.1 INTRODUCTION

The levels of productivity outlined in the previous chapter are partly a reflection of the performance of the local economy, and the firms operating within it. We now consider the scale of economic activity across the LLEP area, benchmark its performance against comparative geographies and explore the evolving sectoral profile of the economy. Similarly, we explore how the

employment base is changing over time. We then consider the characteristics of firms operating across the LLEP area. We use our estimates of 2018 GVA and employment in the analysis below. These are underpinned by the latest published data at a local, regional and national level.

3.2 ECONOMIC ACTIVITY

3.2.1 Gross Value Added

£24.5bn

Total value of the LLEP economy in 2018.

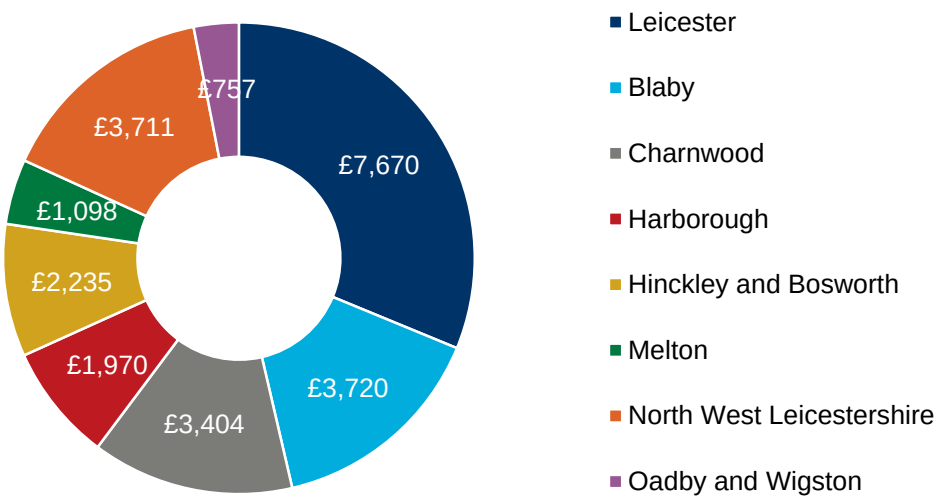
This accounts for almost a quarter of the regional economy's value that year.

Gross Value Added (or GVA) measures the value of output in an economy. It is closely akin to GDP. In 2018, the LLEP economy's GVA was £24.5 billion (in 2016 prices). On a per capita basis, GVA across the LLEP area (£23,300 per resident) exceeds the East Midlands (£21,400), although lags the UK as a whole (£27,100). The LLEP area accounted for almost a quarter of the East Midlands economy (£102.8 billion).

Leicester generates the largest share of economic activity across the LLEP, equalling almost £7.7 billion, or a third of the total. Leicester alone is over twice as large as the LLEP's next biggest local authority areas—Blaby and North West Leicestershire (both £3.7 billion). Across the East Midlands, only Nottingham (£9.6 billion) generated more GVA in 2018.

Fig. 10. GVA, LLEP local authority areas, 2018

GVA, 2018 (millions, 2016 prices)



Source: Oxford Economics

3.2.2 Historic performance and forecast growth

£29.9bn

Additional GVA by 2030

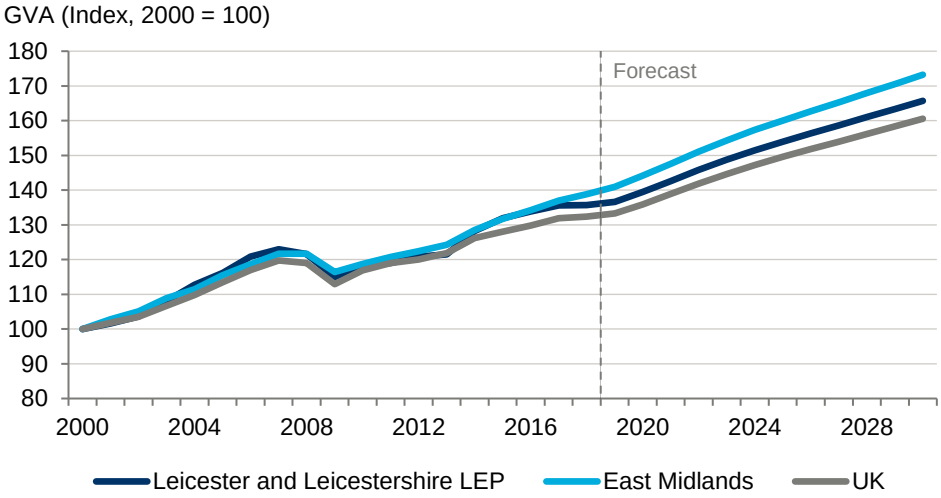
The economy is expected to outperform the regional average over the period 2018 to 2030.

Over the preceding decade, the LLEP's economy grew by £2.6 billion, or around 12 percent. Its average rate of growth, 1.1 percent per year, slightly outperformed the East Midlands, but lagged the UK-wide average of 1.3 percent per year.

Our forecasts for growth indicate that the LLEP area will reverse this historic trend, and outperform the East Midlands as a whole. We forecast GVA to grow to £29.9 billion (in 2016 prices) by 2030, an increase of £5.4 billion (or 22 percent). The implied growth rate of 1.7 percent per year exceeds the regional equivalent (1.6 percent) for this period and is 0.6 percentage points higher than

growth over the previous decade. While an upturn in productivity is forecast to be the main driver of GVA growth up to 2030, across both the LLEP and East Midlands (both 1.3 percent per year), the LLEP is forecast to experience slightly stronger employment growth (0.4 percent per year) than the region (0.3 percent per year).

Fig. 11. Index of GVA, LLEP, 2000 to 2030



Source: ONS, Oxford Economics

Across the 10 Local Enterprise Partnerships that constitute the Midlands Engine, the LLEP is forecast to experience the third-fastest growth, behind only South East Midlands and Greater Birmingham & Solihull (both 1.8 percent per year). This contrasts with the preceding decade, where the LLEP ranked fifth.

Fig. 12. Annual GVA growth, Midlands Engine Local Enterprise Partnerships, 2008 to 2030

	2008 to 2018	2018 to 2030
South East Midlands	1.8	1.8
Greater Birmingham and Solihull	1.6	1.8
Leicester and Leicestershire	**1.1**	**1.7**
Worcestershire	1.8	1.6
Coventry and Warwickshire	2.5	1.6
D2N2	1.1	1.6
Black Country	0.9	1.5
Greater Lincolnshire	-0.2	1.4
Stoke-on-Trent and Staffordshire	0.5	1.4
The Marches	0.8	1.4
East Midlands	1.1	1.6
UK	1.3	1.9

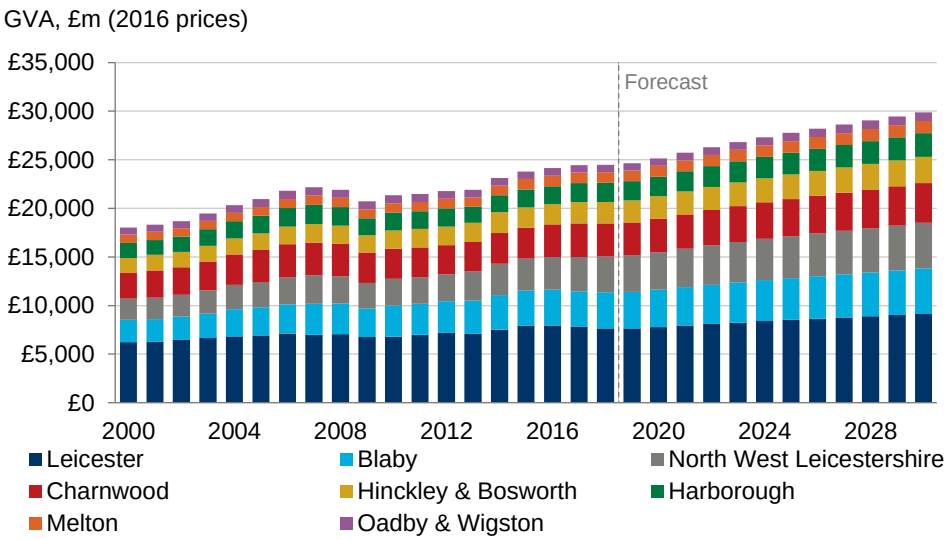
Source: ONS, Oxford Economics

Within the LLEP, we see some significant differences in GVA growth. North West Leicestershire recorded the strongest growth over the preceding decade, at 2.8 percent per year, followed by Blaby (1.7 percent). By contrast, the LLEP's smallest economy, Oadby and Wigston, has seen economic activity fall since 2008, contracting by 1.1 percent per year over this period.

Looking forward, we forecast growth across all of the LLEP's local authorities. North West Leicestershire is projected to continue to be the fastest-growing area, at a rate of 2.0 percent per year to 2030, followed by Blaby (1.9 percent) and Harborough (1.8 percent).

Leicester, the LLEP's largest local authority area, is forecast to grow at 1.5 percent per year—below both the LLEP-wide average (1.7 percent) and the East Midlands as a whole (1.6 percent). However, owing to its relative size, the city will still capture over a quarter of the additional GVA generated by the LLEP area (£1.5 billion in 2016 prices), the largest share of any local authority area.

Fig. 13. GVA growth within the LLEP, 2008 to 2030



Source: ONS, Oxford Economics

3.2.3 Broad sectoral output

To explore the drivers of the LLEP's economic performance, we may explore the relative performance of its sectors. Fig. 14 presents a comparison of the historic change in GVA (both in level and growth terms) over the previous decade, and our forecasts over the period 2018 to 2030. It shows that growth is distributed unevenly across the LEP's 19 broad sectors.

Fig. 14. Sectoral GVA growth, LLEP, 2008 to 2030

	2008 to 2018		2018 to 2030	
	£m (2016 prices)	% y/y	£m (2016 prices)	% y/y
Agriculture, forestry and fishing	-27.2	-2.4	5.2	0.4
Mining and quarrying	22.8	0.9	-35.7	-1.2
Manufacturing	123.9	0.3	473.3	0.9
Electricity, gas, steam and air conditioning supply	-80.1	-0.6	238.1	1.4
Water supply	-14.8	-0.9	30.4	1.4
Construction	228.6	1.4	228.7	1.1
Wholesale and retail trade	503.1	2.0	660.7	1.8
Transportation and storage	135.6	1.1	285.0	1.6
Accommodation and food service activities	85.0	1.5	132.5	1.7
Information and communication	196.7	3.1	275.7	2.6
Financial and insurance activities	-279.4	-3.1	180.3	1.8
Real estate activities	213.2	0.9	586.0	1.7
Professional, scientific and technical activities	631.1	4.7	666.8	2.8
Administrative and support service activities	249.2	2.7	317.2	2.2
Public administration and defence	-116.2	-1.1	1.1	0.0
Education	84.9	0.5	80.9	0.4
Human health and social work activities	485.5	3.2	474.9	2.0
Arts, entertainment and recreation	32.0	1.2	38.0	1.0
Other service activities	41.6	0.7	58.5	0.8
Total	**2,551.8**	**1.1**	**5,411.5**	**1.7**

Source: ONS, Oxford Economics

Professional, scientific & technical activities has been the LEP's strongest performing sector. Over the previous decade it has grown by 4.7 percent per year on average, or 60 percent in total, increasing by £631 million (in 2016 prices) over this period. This sector is forecast to continue to be the LEP's fastest growing into the future, growing by 2.8 percent per year up to 2030.

Information & communication is the LEP's next strongest performing sector, growing by 3.1 percent per year over the past decade, and will continue to perform strongly into the future. However, due to its modest scale, this sector makes a smaller contribution to overall GVA growth—both historically and into the future—than slower growing but larger sectors such as **wholesale & retail trade** and **administrative & support services**.

Human health & social work is also a notably strong performer, growing at the second fastest rate of any sector historically (2.7 percent per year), and is forecast to continue to outperform the LLEP's economy as a whole. Growth in this sector is linked to demography, both in terms of the growing and aging of the population, which is discussed in more detail in Section 6.1.

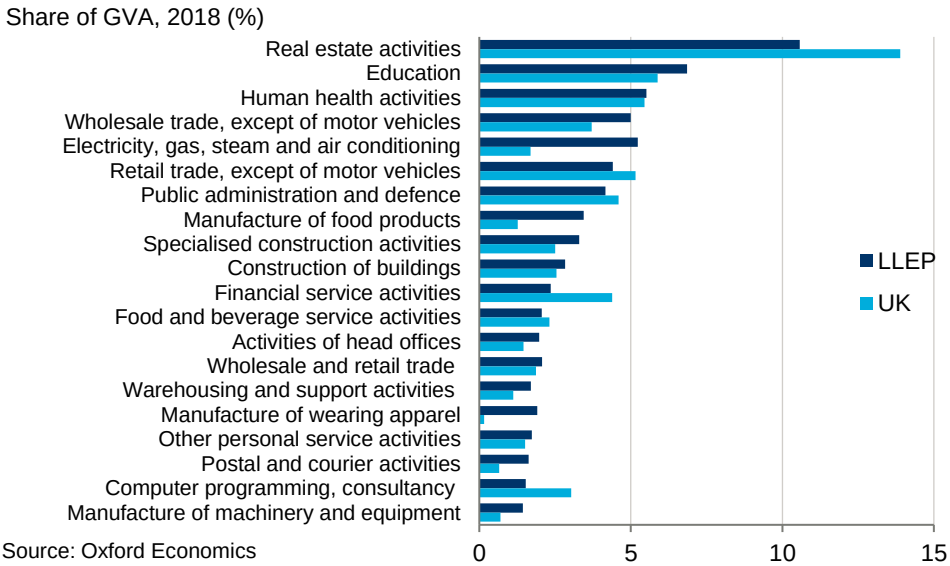
While these sectors have outperformed the economy as a whole, a number of others have been less successful. **Financial & insurance activities** has been the largest drag on growth over the preceding decade, contracting by 3.1 percent per year, although this contraction is observed across the East Midlands (3.5 percent per year) and, to a lesser extent, the UK as a whole (1.1 percent). The outlook for this sector however is positive. It is expected to slightly outperform the LLEP as a whole, growing by 1.8 percent per year.

Other underperforming sectors, such as **agriculture, forestry & fishing** and **mining & quarrying**, are relatively small in size, and reflect a structural decline across the national economy as a whole, rather than specific local drivers.

3.2.4 Detailed sectoral analysis

Breaking these sectors down into their granular sectoral makeup can help identify the specific drivers of growth. Analysis of these sectors shows that, behind real estate activities, the most important sub-sectors in the local economy are education and health activities followed by wholesale trade, energy and retail. Together the top 20 sub-sectors account for 69.7 percent of total GVA in 2018, these same sub-sectors accounted for just 63.9 percent of UK output in the same year.

Fig. 15. Share of GVA by top sub-sectors, the LLEP and UK, 2018



Source: Oxford Economics

£845m

GVA of manufacturing of food products

The eight largest sub-sector in the LEP in 2018

Electricity, gas, steam and air conditioning contributed 5.2 percent of local GVA, but just 1.7 percent to the UK economy (placing it in 16th place). Likewise, the manufacture of food products is the eighth largest sub-sector in the LLEP. It accounted for £845 million (in 2016 prices) of GVA or 3.4 percent of the economy, a share 2.1 percentage points larger than the UK equivalent (1.3 percent). In 16th place for output the manufacture of wearing apparel comprised 1.9 percent of the local economy compared to only 0.2 percent nationally (or 75th place of 85 sub-sectors). With a strong reputation for textile manufacture it is no surprise textiles ranks so highly.

Nationally important sub-sectors such as financial services are relatively less important in the LLEP, contributing just 2.4 percent to output compared to 4.4

percent in the UK. Equally, telecommunications, legal & accounting activities and land transport are relatively significant sectors across the national economy, but are not well represented across the LLEP area.

While the LLEP's sectoral structure contributes to our forecast for overall GVA growth (1.7 percent) that is below the UK-wide average (1.9 percent), it is comparably more favourable at a regional level. This partly explains why the LLEP is forecast to grow third-fastest of the 10 Local Enterprise Partnerships in the Midlands Engine.

3.3 EMPLOYMENT

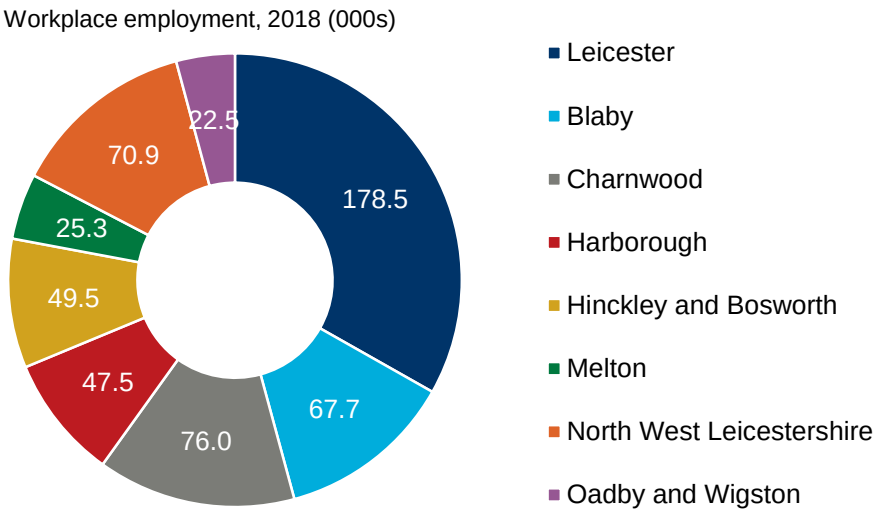
3.3.1 Workplace employment

538,100
Workplace jobs in 2018

Leicester was the largest local authority accounting for a third of all jobs.

In 2018, employment across the LLEP totalled 538,100 workplace jobs.[10] Leicester was the largest single employer, supporting 178,500 jobs (a third of the LLEP total). Charnwood is the next largest employer (76,000 jobs), followed by North West Leicestershire (70,900) and Blaby (67,700).

Fig. 16. Workplace employment, LLEP, 2018



Source: Oxford Economics

3.3.2 Historic performance and forecast growth

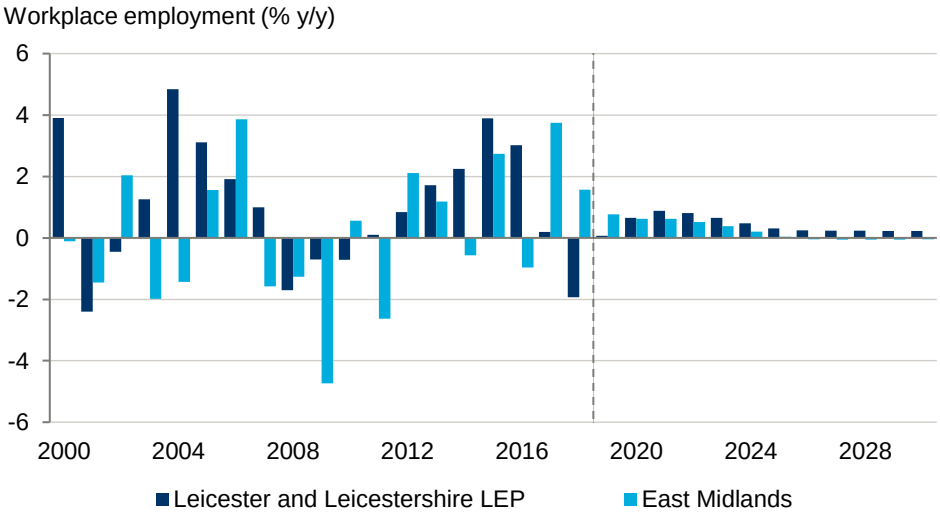
Over the preceding 10 years, the LLEP area has experienced relatively strong employment growth. The number of workplace jobs has increased by 43,700, or by 8.8 percent, over this period, exceeding the East Midlands equivalent (6.7 percent) and only slightly underperforming the UK as a whole (8.9 percent).

Looking forward however, we anticipate weaker workplace employment growth. Over the period 2018 to 2030, we forecast that the LLEP will add 27,600 additional jobs, a 5.1 percent increase on current levels. There are various demographic and labour market factors which will constrain future employment

[10] Workplace employment at a local authority area level is calculated through combining the ONS Business Register and Employment Survey and ONS Workforce Jobs series. Estimates of total employment using the former tend to form an underestimate at the sub-regional level.

growth, including the aging structure of the population, lower future migration levels experienced across the UK, and the existing tightness of the labour market (including high labour market participation rates). While continuing to overperform the East Midlands (4.3 percent per year) in terms of job creation, the LLEP will underperform the UK as a whole (6.1 percent).

Fig. 17. Workplace employment growth, LLEP and East Midlands, 2000 to 2030



Source: ONS,Oxford Economics

Over 50%

Of jobs growth concentrated in two areas

North West Leicestershire and Blaby, grew by 20.2 percent and 19.1 percent respectively over the last decade

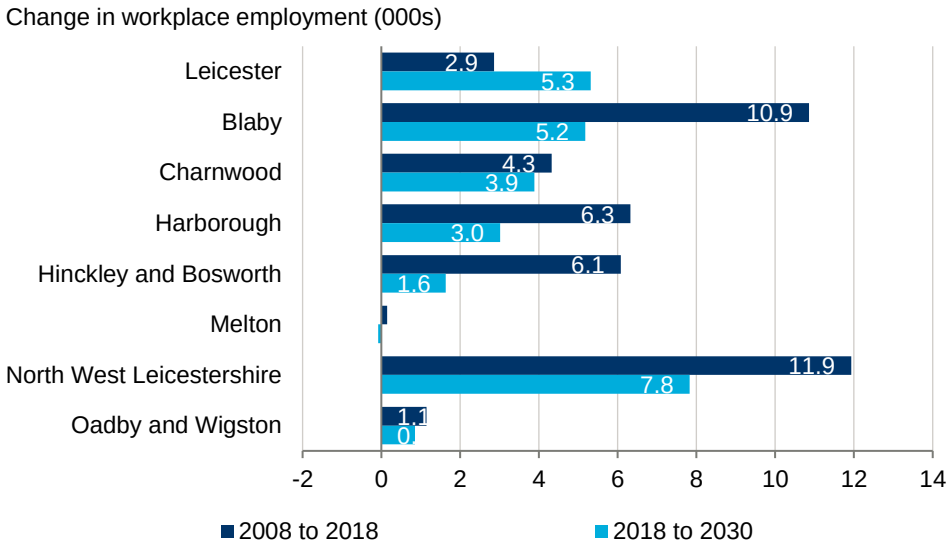
The composition of historic workforce employment growth we observe across the LLEP varies substantially across its local authorities. Over the preceding 10 years, workplace employment growth has been concentrated in North West Leicestershire and Blaby, with increases of 20.2 percent and 19.1 percent respectively. Over half of all jobs created across the LLEP area since 2008 have been in these two local authorities. In contrast, Leicester—the largest employer—saw employment increase by just 1.6 percent (2,900 jobs). This relatively small amount of net new jobs could reflect the absence of sufficient employment land to develop, the lack of available grade A office space and relatively low levels of developer interest in the market (we discuss this in more detail in the infrastructure chapter).

The “Rural Evidence Base 2018” report produced by Leicestershire County Council also noted that job growth has been experienced across the County. They report that over the period 2009 to 2016, the number of jobs in rural Leicestershire grew by 14 percent (over 10,500) compared to only 8 percent (16,300 jobs) in urban Leicestershire.

Looking forward, we expect a more balanced distribution of job creation at a local level, owing in part to the lesser availability of new workers locally, due to population and migration factors discussed later in this report. North West Leicestershire will continue to account for the largest increase in jobs (7,800) up to 2030, followed by Leicester (5,300) and Blaby (5,200). The main exception is Melton, where we forecast a slight contraction in workplace employment, although this may be more than offset by jobs growth supported

by planned interventions across the local authority area which are not captured within this 'policy-off' forecast.

Fig. 18. Workplace employment, LLEP local authority areas, 2008 to 2030



Source: ONS, Oxford Economics

3.3.3 Sectoral employment structure

In the LLEP, the **wholesale & retail sector** is the largest source of employment, with 79,600 jobs in 2018, equivalent to 14 percent of all local employment. As the largest employment sector regionally and nationally this rate lags behind 15.3 percent for the East Midlands and 14.4 percent for the UK.

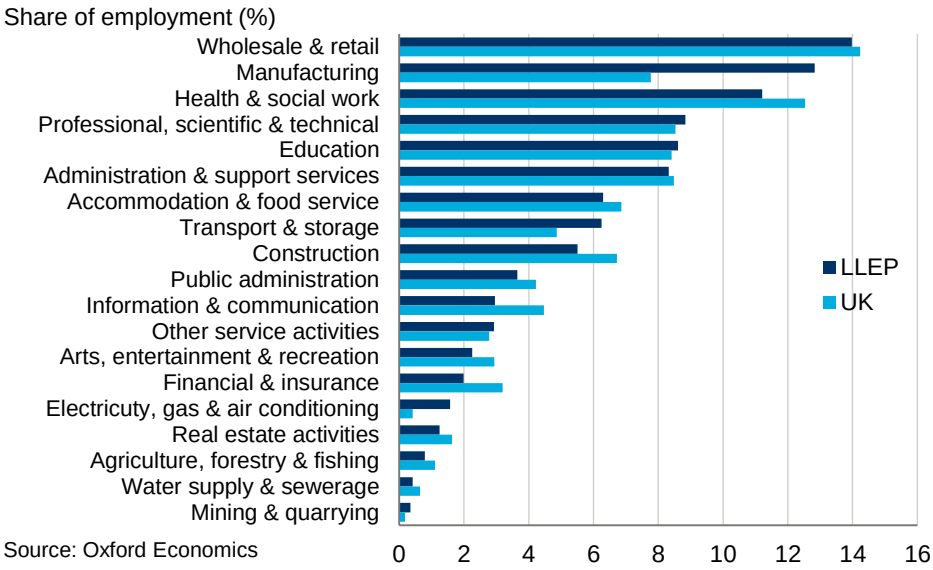
69,000

Jobs in manufacturing

12.8 percent of jobs in manufacturing, 5 pp more than UK average.

The LEP has a large concentration of jobs in the **manufacturing** sector. It is the second largest source of employment across the LEP, supporting 69,000 jobs in 2018, or 12.8 percent of the total. While this share is similar to the East Midlands (13 percent), it is some 5 percentage points above the UK total (7.8 percent). Health & social work (60,300) is also a significant employer locally, although less so than across the national economy as a whole.

Fig. 19. Employment by sector, LLEP, 2018



Source: Oxford Economics

Analysis at a LEP level masks variations within its constituent local authorities. Most notably, the sectoral profile of workforce employment in Leicester—the LEP's major urban area—differs somewhat from the largely rural/semi-rural context across Leicestershire. Fig. 20 presents a comparison between these two geographies.

Health & social work is the largest source of employment in Leicester, supporting 33,100 jobs or 17.9 percent of the city's total, a rate 10.6 percentage points higher than the county. While partly explained by the tendency for public service healthcare provision to be better in urban areas, this also reflects the concentration of hospitals and other health facilities located in the city, which provide services for a wide catchment area cross the LLEP area (and beyond).

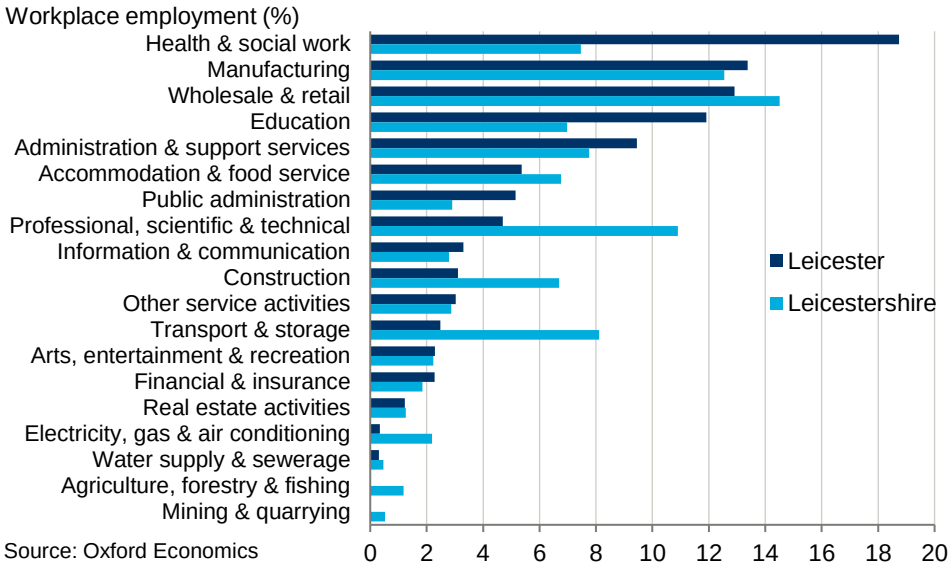
Similarly, **education** is relatively well represented in Leicester—forming 11.7 percent of employment, compared to 7 percent across Leicestershire—mainly due to the presence of its two universities and several other schools and further education facilities.

By contrast, **professional, scientific & technical services** comprise a share of employment across Leicestershire (7.6 percent) that is almost three-times higher than in Leicester itself (2.3 percent). This may reflect the role that local Enterprise Zones, centred on science, technology and engineering innovation, have on boosting technical jobs in areas such as Charnwood and Hinckley & Bosworth. Similarly, it may be the case that—while avoiding higher costs by locating outside of the city itself—firms in this sector operating on 'out of town' office space in more peripheral locations may still benefit from proximity and access to the city.

Locational factors may also influence a concentration of **transportation & storage** jobs outside of the city. This is partly a reflection of key employment hubs in this sector, such as at East Midlands Airport and the Amazon logistics hub in North West Leicestershire, where both are located, transport & storage employment represents 12.9 percent of jobs in that local authority area. These

factors in part explain the significant growth observed across the local authority area over recent years.

Fig. 20. Employment by sector, LLEP, 2018



Source: Oxford Economics

3.3.4 Rural employment

According to Leicestershire County Council's "Rural Evidence Base 2018" there were 86,400 jobs in rural Leicestershire in 2016, up from 75,800 in 2009. Consequently, nearly one in every four jobs in the County were in rural areas.

The rural economy in Leicestershire County Council has a slightly different sectoral mix than the LLEP. Logistics and manufacturing are the largest employers. Almost 14,000 jobs in rural Leicestershire (16 percent of all rural jobs) are in the transport and storage industry, while 11,000 jobs (13 percent) are in manufacturing.

Accommodation and food account for a further 8,900 jobs or 10 percent. The "Rural Evidence Base 2018" shows that there are higher numbers of accommodation and attractions in rural parts of Leicestershire compared with urban areas. They report a total of 81 identified accommodation services in rural parts of the county, compared with 52 in urban areas, along with 90 rural attractions, compared with 65 in urban areas.

Interestingly, the professional, scientific and technical services sector accounts for 8,700 jobs or just over 10 percent. This is a higher share than the LLEP average.

The "Rural Evidence Base 2018" report also notes that a number of sectors are under-represented in the rural economy including, retail (6.2 percentage point difference compared with urban areas), health (4 percentage points difference) and public administration and defence (3 percentage point difference).

In addition to the above, there were an estimated 5,000 people working on commercial agricultural holdings in the LLEP in 2016 (up 0.5 percent since 2013). The largest number were in Harborough (1,560) and Melton (1,080).

Given the different sectoral employment mix, rural Leicestershire is likely to face different employment growth prospects to urban Leicestershire, and business support / economic policy may need to be tailored for the different types of businesses located in rural areas.

3.3.5 Sectoral growth

Over the preceding ten years, job creation has been concentrated across a range of key sectors. **Professional, scientific & technical services** experienced the largest increase in employment (14,000 jobs)—despite a slight contraction of jobs in Leicester itself—followed by **health & social work** (10,500) and **accommodation & food services** (7,900), a sector often linked to the tourism sector.

By contrast, job losses were concentrated into two sectors. Most notably, **wholesale & retail** saw a contraction of 11,500 jobs, equivalent to around one sixth of the workforce. As this sector has increased in GVA terms over the equivalent period, this loss of employment has been more than offset by improvements in productivity, likely to have occurred through investment in more capital-intensive processes. **Construction** has also seen a notable contraction in employment, equivalent to 9,000 jobs (or 23 percent of the workforce). Construction employment has however grown in individual years over the period.

18% growth

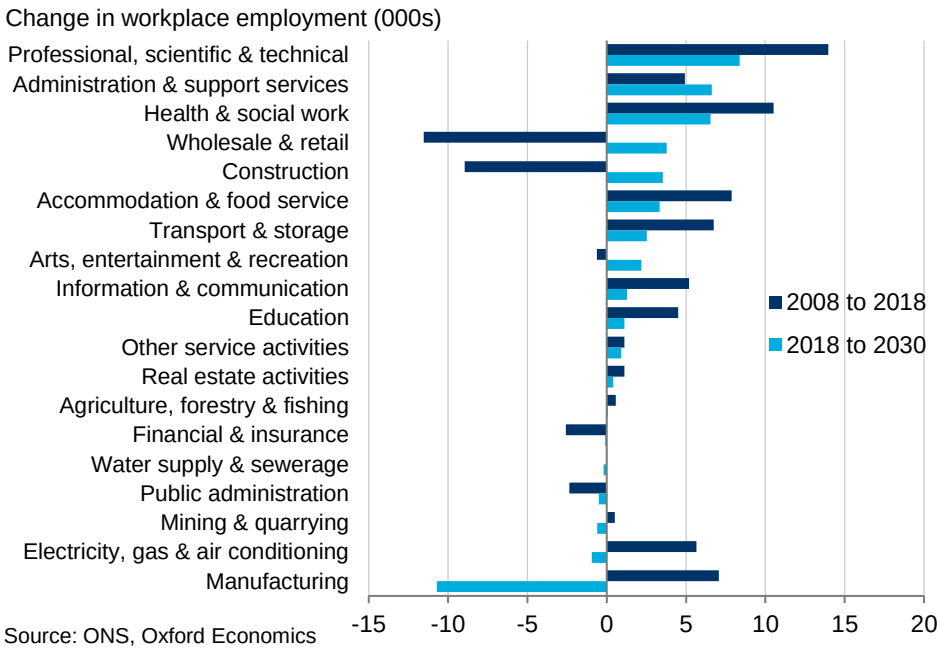
In professional, scientific and technical services jobs to 2030

The equivalent of 8,400 jobs over the period.

Looking forward, our forecast indicates that most sectors will see employment grow up to 2030. **Professional, scientific & technical services** will remain the largest source of job creation, adding 8,400 jobs (or an 18 percent increase in its workforce), which is linked to growth in **administration & support services** (6,600 jobs). **Human health & social work** (6,500 jobs) will also experience relatively strong employment growth, tied to strong GVA growth in this sector. **Wholesale & retail** and **construction** will revert back to increasing their workforces, although growth will be insufficient to offset the contractions observed over the preceding decade.

The notable outlier in our forecast is **manufacturing**, which is forecast to contract by around 10,700 jobs, or 16 percent of the total. The manufacturing sector—both across the LEP and nationally—is benefitting from rapid technological change due to factors such as robotics and the emergence of new automated manufacturing processes, which can lead to significant productivity improvements. We discuss this further as part of the Industrial Strategy's four Grand Challenges in Section 8.

Fig. 21. Workplace employment, LLEP, 2008 to 2030



Source: ONS, Oxford Economics

CURRENT LOCAL STRENGTHS

We have also analysed employment in sub-sectors to better understand local strengths and specialisms. To do this we have used Location Quotients (LQ). This provides an insightful way of comparing the sectoral make up of local employment with that of a comparison area. Measuring how concentrated employment is within different sectors we can cross-reference with the wider economy to highlight which sub-sectors are a local strength, and what the key specialisms of a locality are. Analysis at the third and fourth sub-sectoral levels shows that various categories within manufacturing dominate, and show relatively high rates of concentration in the LLEP.

Many of the strengths in manufacturing relate to the apparel and textile industry sub-sectors, with high LQs peaking at 40.4 for manufacture of knitted & crocheted hosiery. Leicester has a strong reputation for textiles and garment manufacturing dating back to the 19th century that has continued to the present day despite international competition. Today there are many firms employed in the manufacture of textiles and clothing as well as others focused on developing new dyes and fabrics. A 2016 study put the total number of local firms in the industry at over 1,500, accounting for nearly 9,500 jobs and bringing a £500 million contribution to the LLEP area economy.[11] Although our analysis detailed in Section 2 indicates that this sector suffers from weaker productivity levels than elsewhere in the UK. Knitted and crocheted apparel, outerwear and workwear are particularly strong relative to the rest of the UK, and the area boasts the second largest workforce in this sector of any LLEP after Greater Manchester.[12] The headquarters of high street fashion retailer Next are also located in Enderby (Blaby).

[11] https://www.llep.org.uk/wp-content/uploads/2015/12/LLEP-Textile-Infographic_100416.pdf
[12] https://www.llep.org.uk/wp-content/uploads/2015/07/LLEP-Textiles-Manufacturing-Sector-Growth-Plan.pdf

Fig. 22. Sub-sectoral location quotients, LLEP, 2017[13]

SIC 4 Sub-sector	Sector	Location Quotient (LQ), 2017[14]
Manufacture of knitted and crocheted hosiery	**Manufacturing**	**40.4**
Manufacture of motorcycles	Manufacturing	38.9
Manufacture of knitted and crocheted fabrics	**Manufacturing**	**16.7**
Manufacture of other wearing apparel and accessories	**Manufacturing**	**15.6**
Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate	**Mining & quarrying**	**15.6**
Manufacture of other outerwear	**Manufacturing**	**14.8**
Finishing of textiles	Manufacturing	14.8
Manufacture of other knitted and crocheted apparel	**Manufacturing**	**11.7**
Trade of gas through mains	Electricity, gas & air conditioning	11.6
Manufacture of gas	**Manufacturing**	**10.4**
Manufacture of machinery for mining, quarrying and construction	Manufacturing	8.1
Processing and preserving of potatoes	**Manufacturing**	**7.5**
Manufacture of bricks, tiles and construction products, in baked clay	**Manufacturing**	**7.4**
Other non-ferrous metal production	**Manufacturing**	**7.3**
Manufacture of workwear	Manufacturing	6.6

Source: ONS.

Leveraging good transport links and a strong logistics network in the area as well as the heritage associated with the Leicestershire textiles industry, a key area of importance today is delivering 'fast fashion' to high street retailers alongside more high-end products. The textiles industry also offers a range of roles suitable for local populations of varying skills levels, from graduates to school leaver apprentices. De Montfort university has a range of fashion courses based in Leicester, leveraging and supporting this local specialism and increasing the skills base around design and management in the fashion industry.[15] Supporting and growing the local textiles industry is already a strategic priority and is key to local employment (particularly in Leicester). As the industry develops there is an opportunity to retain graduates with more skilled opportunities.

The Triumph motorcycle factory in Hinckley is another local success story, supporting more than 800 employees, many in skilled manufacturing roles. The LQ for the manufacture of motorcycles is the joint highest when compared to the East Midlands, reflecting a standout regional sector. This is also supported by the Caterpillar plant in nearby Desford, which manufactures heavy industrial machinery, Norton Motorcycles in Castle Donington, and Royal Enfield at Bruntingthorpe. In addition, MIRA Technology Park is a campus focused on automotive technology, taking advantage of its location close to a cluster of manufacturers across the Midlands Engine.

Another large local employer is Walkers crisps based in Leicester and employing around 1,400 people in the world's largest crisp factory. The site also includes the company's R&D centre with new products being developed and tested.

Quarrying related activities are also notable for their LQ scores. Whilst making up just 0.4 percent of employment and 0.6 percent of GVA, the Bardon Hill quarry near Coalville is one of the largest quarries in the UK, providing 15 percent of national production.[16] As a result

peripheral manufacturing of equipment supporting the quarry have a high LQ ratio both regionally and nationally. Sub-sectors related to the gas industry also have a high LQ compared to national economy, with 7,500 local jobs in the manufacture and distribution of gas.

Compared to the East Midlands the joint highest relative concentration of employment lies in the air passenger transport sub-sector, reflecting the presence in Leicestershire of the only international airport in the region, East Midlands Airport, and the impact this has on local employment. Other sub-sectors associated with the airport such as cargo handling also rank highly. However, compared to the national profile employment in this sub-sector out-performs the average. Larger airports serving major cities outside of the region, for example in the South East, generate relatively higher employment nationwide. With this in mind the logistics capabilities of the region are currently being expanded to further exploit the LEP area's locational advantages—particularly its presence within the 'Golden Triangle' for logistics activity—demonstrated by the presence of major logistics hubs such as Magna Park Lutterworth.

FUTURE LOCAL STRENGTHS?

Regardless of the traditional manufacturing strengths, the LLEP area also boosts two Enterprise Zones (EZs) which the LLEP hopes will drive innovation and high skilled job creation in the future. The MIRA Technology Park website notes it is Europe's largest transport technology R&D cluster, and is amongst the best performing EZs in the UK[17].

In 2016, a multi-site Science and Innovation Enterprise Zone was established to support the commercialisation of R&D. Each site concentrates on specific areas of research by drawing on specialisms in the three local Universities. These sites include:

- Loughborough University Science and Enterprise Park (LUSEP) specialising in advanced engineering and manufacturing, high value research and development, energy and low carbon.
- Charnwood Campus with specialist high quality laboratory accommodation and serviced office facilities supporting bio-medical and pharmaceutical industries.
- Leicester Waterside offering bespoke space for development of high value research and manufacturing facilities; Grade A office accommodation; the development of the University of Leicester National Space Park adjoining the National Space Centre, with space for spin out or related businesses.

Given their different sectoral strengths, the EZ's / sites encourage clustering which can provide a series of additional benefits as similar firms can share in technology, infrastructure, suppliers and wider networks. Education can also be tailored to meet the needs of these businesses.

[13] Sectors within which the rest of the East Midlands (i.e. excluding LLEP) also specialises are marked in bold.
[14] Location Quotient (LQ) is the share of sub-sectoral employment in the LLEP proportionate to the share of that sub-sector in the UK. A higher value indicates a relative concentration of jobs in the sub-sector within the LLEP compared to nationally.
[15] https://www.dmu.ac.uk/study/courses/undergraduate-courses/undergraduate-courses.aspx?courselisting1_AtoZLetter=F
[16] https://www.bgs.ac.uk/discoveringGeology/hazards/volcanoes/models/bardonHillQuarry.html
[17] https://www.llep.org.uk/wp-content/uploads/2017/03/Our-Enterprise-Zones.pdf

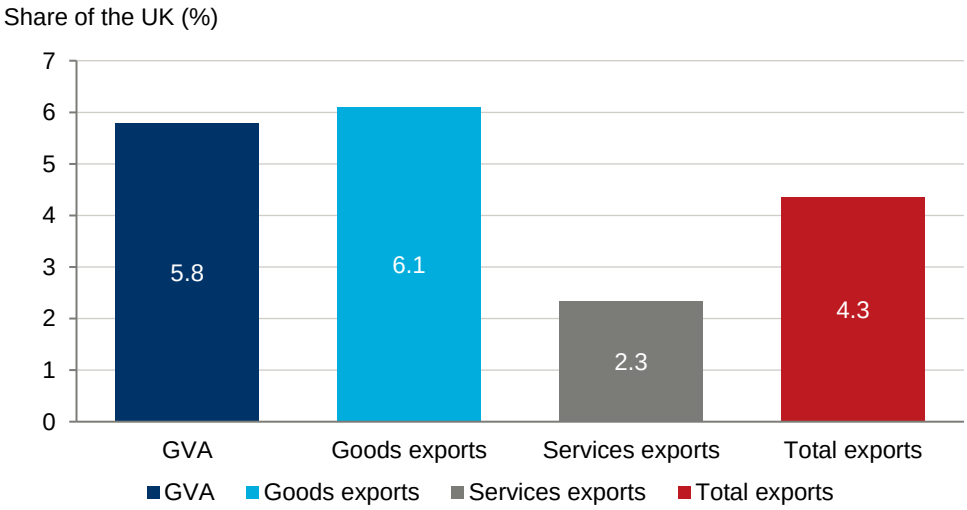
3.4 EXPORTS

Exports of goods and services from the East Midlands amounted to £29.5 billion in 2016, equivalent to 4.3 percent of total UK exports. This share falls short of the region's share of output (5.8 percent), indicating less reliance on exports for the regional economy compared to the country as a whole.

This data is not available at a local authority area level, but the East Midlands provides a useful guide to the relative importance of exports for the LEP. Regional goods exports comprised 6.1 percent of the UK total in 2016, 0.3 percentage points above the equivalent share of GVA, although the East Midlands' share of UK service exports (2.3 percent) is somewhat lower. With a large and important manufacturing sector in the LEP this reflects the relative importance of goods over services to total output.

However, the East Midlands' share of UK service exports (2.3 percent) is somewhat lower than either goods exports, or overall GVA. Despite experiencing recent growth across export-orientated services sectors, such as professional, scientific and technical activities, the East Midlands still makes up a limited share of UK service exports. This may reflect the composition of this work; lower value, less international professional services (as described in our consultations) compared to other parts of the country, such as London.

Fig. 23. Share of UK GVA and exports, East Midlands, 2016



Source: ONS, HMRC

Regionalised data on service exports provides greater detail on the levels of exports across more granular geographies. In 2016, the LLEP was home to £1.4 billion of service exports, equivalent to 24 percent of the East Midlands total—a share broadly in line with its contribution to regional GVA. While a breakdown is not available across all local authorities across the LEP, it is estimated that Leicester contributes £500 million in service exports, again a similar share to its contribution to the LLEP's economic output.

Although we don't have access to published export data by local authority area, we can draw on the "Leicester and Leicestershire Business Survey 2017". It found that 17 percent of the 1,021 firms responding exported goods and

services, slightly down on the 18 percent in 2016. The share of businesses exporting from the LLEP was similar to the UK average of 18 percent in 2017. In addition, more firms reported they had increased exports (34 percent) in the past twelve months, than those reporting a decrease (9 percent).

Perhaps as expected, manufacturers were more likely to export (52 percent) as were larger firms employing 200+ employees (67 percent). Importantly (given the volume of micro businesses locally) only 15 percent of firms employing between 2 and 9 employees reported exporting.

The EU was most the most important export market with 81 percent of exporters servicing it. North America was next with 49 percent and Asia (excluding India) was third with 32 percent.

3.5 BUSINESS LANDSCAPE

3.5.1 Businesses by sector

42,065

VAT registered businesses

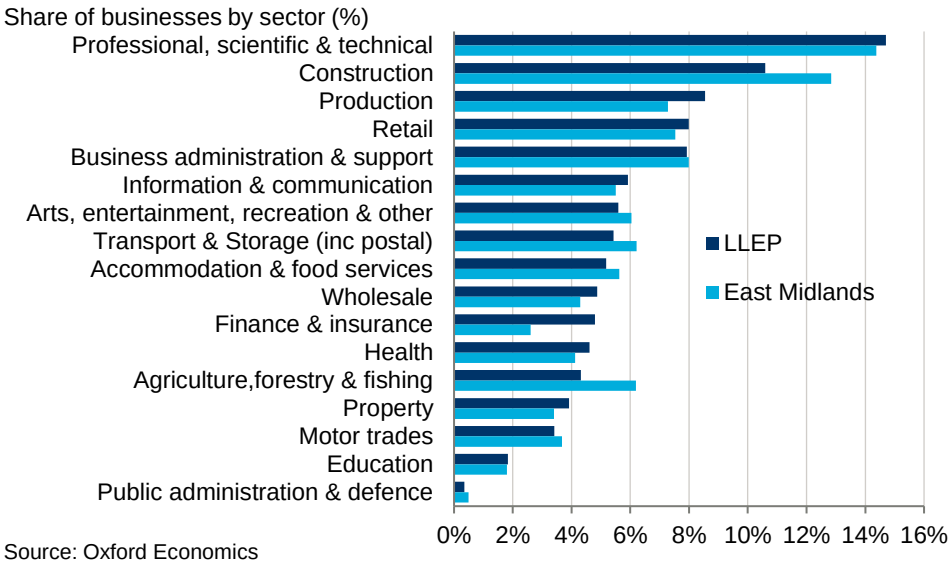
The LEP had 23.5 percent of East Midlands businesses in 2018

There were 42,065 businesses in operation across the LEP in 2018, representing 23.5 percent of total East Midlands businesses, and an 20.8 percent increase on the number of firms in 2014 (34,830).[18]

The **Professional, scientific & technical** sector accounted for the largest share of local businesses (14.7 percent). This is 0.3 points ahead of the East Midlands average of 14.4 percent. Whilst **Construction** is the second largest sector with 4,455 business (10.6 percent) this is markedly lower than the 12.8 percent of firms across the wider East Midlands. Whilst accounting for a relatively small share of total LEP businesses (4.8 percent), the **Finance & insurance sector** was relatively large compared to the East Midlands average (2.6 percent), and contained employers such as Hastings Direct.

[18] Taken to be local units—a place of work—rather than enterprises. The estimate number of local units is often higher than the estimated number of enterprises, as a single firm can operate across multiple workplaces.

Fig. 24. Businesses by sector, LLEP and East Midlands, 2018

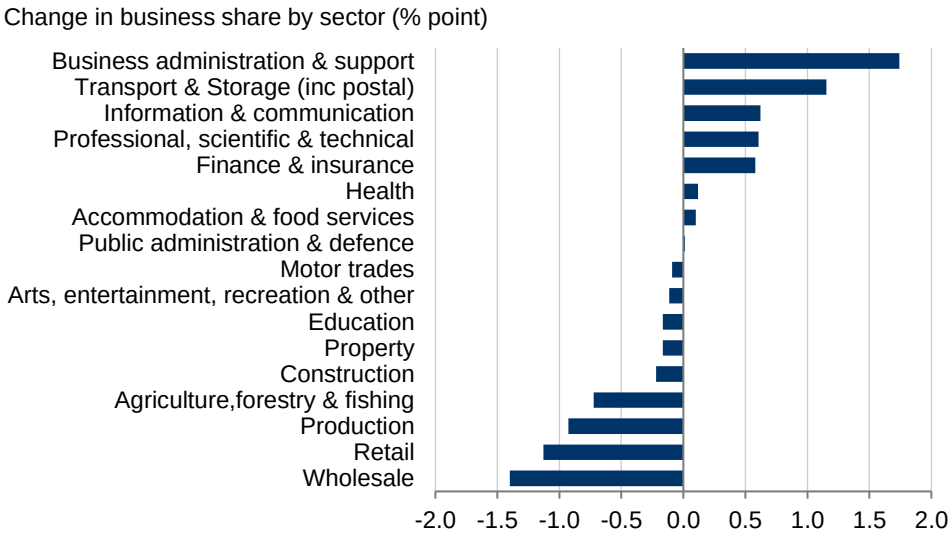


Source: Oxford Economics

Between 2014 and 2018 there was a noticeable change in the sectoral composition of local businesses within the LLEP area. The **business administration & support** sector grew by 54.8 percent adding 1,180 new firms. This was followed by the **Transport and storage sector** which grew by 54.4 percent adding 795 new firms over the period. In addition, **information and communication** along with **finance and insurance** grew by 35.0 percent (645 new firms) and 37.4 percent (550 new firms) respectively. However, the **professional, scientific and technical** sector experienced the greatest absolute increase in firms numbers over the period with 1,275 new firms (26.0% growth). Only the **wholesale sector** experienced a contraction in firm numbers (135 less) over the period.

Because of the above trends, the higher value added and typically faster growing private service sectors of the economy have increased their share of local businesses.

Fig. 25. Change in share of businesses by sector, LLEP, 2014 to 2018



Source: Oxford Economics

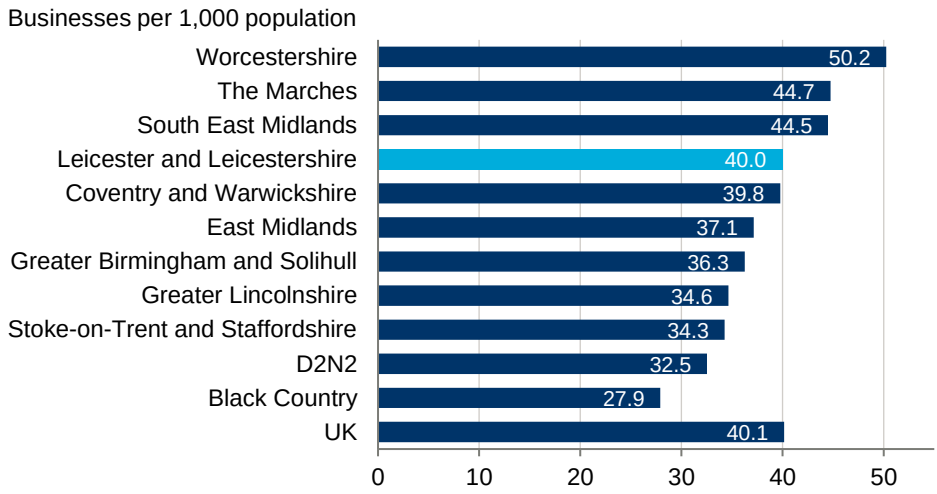
Many of these businesses are in rural parts of the LLEP. The "Rural Evidence Base 2018" report shows that in 2017 there were 11,465 businesses in rural Leicestershire accounting for nearly 2 in every 5 in the County. Interestingly the professional, scientific and technical sector accounted for the largest share of rural businesses at 16.5 percent. This was followed by agriculture, forestry and fishing with 12.6 percent and construction with 11.6 percent.

Although the largest share of businesses in both the LLEP and rural Leicestershire are in professional, scientific and technical the barrier to growth and subsequent support requirements are likely to be quite different (we discuss this in more detail later).

3.5.2 Businesses density and size

Business density provides an interesting measure of local entrepreneurship and the business environment, weighting the number of businesses in each area by the local population. Across the LLEP there were 40.0 firms for every 1,000 residents in 2018, 2.8 percentage points higher than the East Midlands average, and putting the LLEP in the middle of the table against comparator areas. Despite anecdotal evidence of the LLEP having an above average number of businesses, the LLEP was below the UK average by this measure.

Fig. 26. Business density, LLEP and comparator areas, 2018



Source: ONS, Oxford Economics

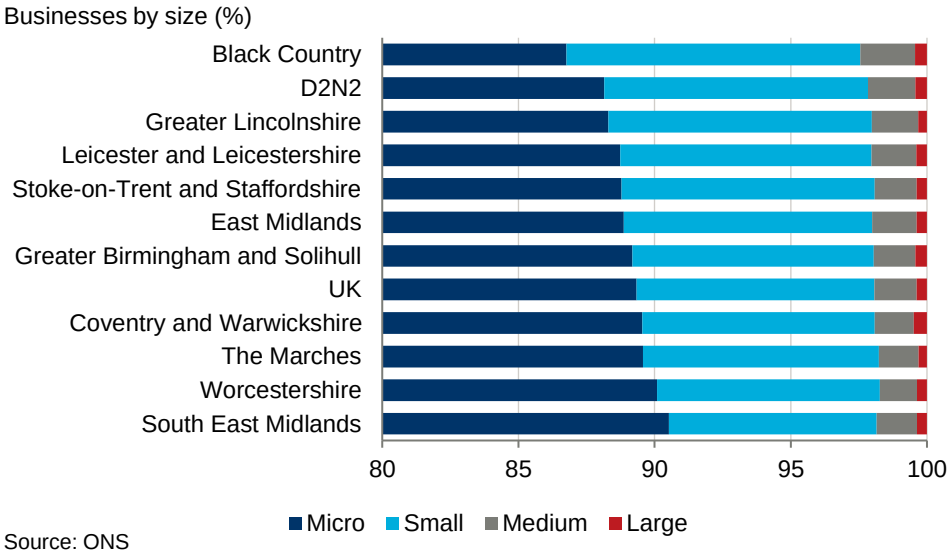
88.7%

Of businesses are micro.

This is similar to the UK average.

Across the LLEP, a large proportion of businesses are small or medium-sized enterprises (SMEs). The vast majority (88.7 percent) of VAT registered businesses are defined as micro-sized (having 0-9 employees). The LLEP had the fourth-lowest among the comparator areas, 1.8 percentage points behind the highest Local Enterprise Partnership, South East Midlands, with 90.5 percent.

Fig. 27. Businesses by size, LLEP and comparator areas, 2018



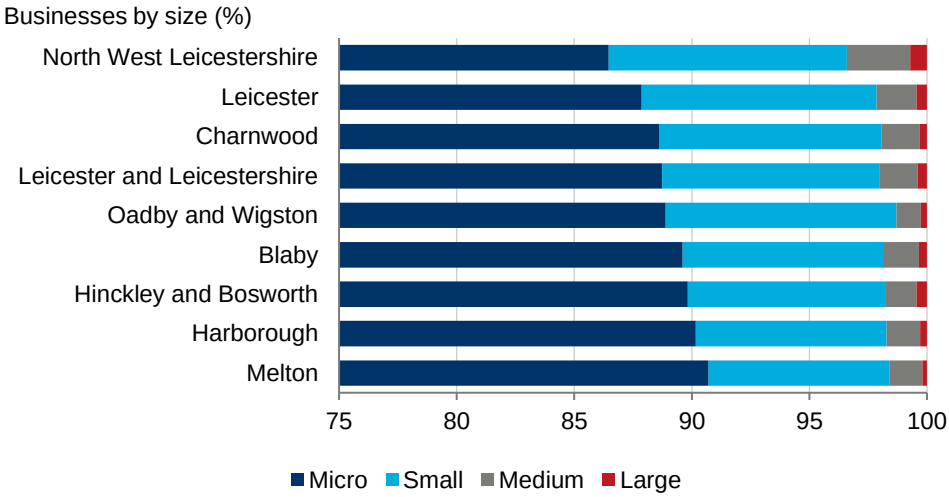
Source: ONS

The LLEP had the fifth highest share of large businesses (250 or more employees) in the Midlands Engine. The 165 large businesses comprise 0.4 percent of the total. Though relatively small this is only 0.1 percentage points behind the leading comparator (Coventry and Warwickshire).

Across the LLEP, Leicester dominates the business environment with 29.5 percent of total businesses (12,400), 3.7 percentage points lower than its share

of total LLEP employment. This reflects the relatively greater number of larger firms in the city (0.4 percent), 0.05 percentage points more than the LEP.

Fig. 28. Businesses by size, LLEP local authority areas, 2018



Source: ONS

By contrast, Oadby and Wigston has the lowest number of businesses with 1,935 (4.6 percent of total), yet 0.4 percentage points higher than its share of employment (4.2 percent). This reflects a high prevalence of micro businesses here (88.9 percent), 0.15 percentage points higher than the average for the LLEP (88.7 percent).

Across the LLEP's constituent local authority areas there are differences between size profiles. In North West Leicestershire 0.7 percent of businesses are large, 0.3 percentage points higher than the whole LEP. By contrast Melton has the lowest share of large businesses at just 0.2 percent. Instead 98.4 percent of businesses are defined as either micro or small firms. North West Leicestershire, again, has the highest share of small or medium sized businesses at 12.8 percent.

In rural Leicestershire, the share of micro businesses is slightly higher than in urban Leicestershire with 90.2 percent compared to 88.7 percent respectively.

Business size varies considerably across sectors, as some industries have a business environment more accommodating to small or micro enterprises whilst others tend to be better suited to larger firms exploiting economies of scale. Despite these differences, micro and small businesses still make up the majority of firms in every industry sector in the LLEP. The proportion of micro businesses is smallest in mining & quarrying, at 66.7 percent (10 businesses), with many entities having 10 or more employees. Education had 145 medium sized businesses, representing 9.8 percent, the highest share of any sector. Agriculture, forestry & fishing has the highest share of businesses defined as micro (9 or fewer employees), at 96.7 percent in 2018, in line with the UK share at 97.0 percent.

Manufacturing, one of the largest sectors for employment and GVA in the LEP, is dominated by micro and small firms, with 94.0 percent of businesses.

94.0%

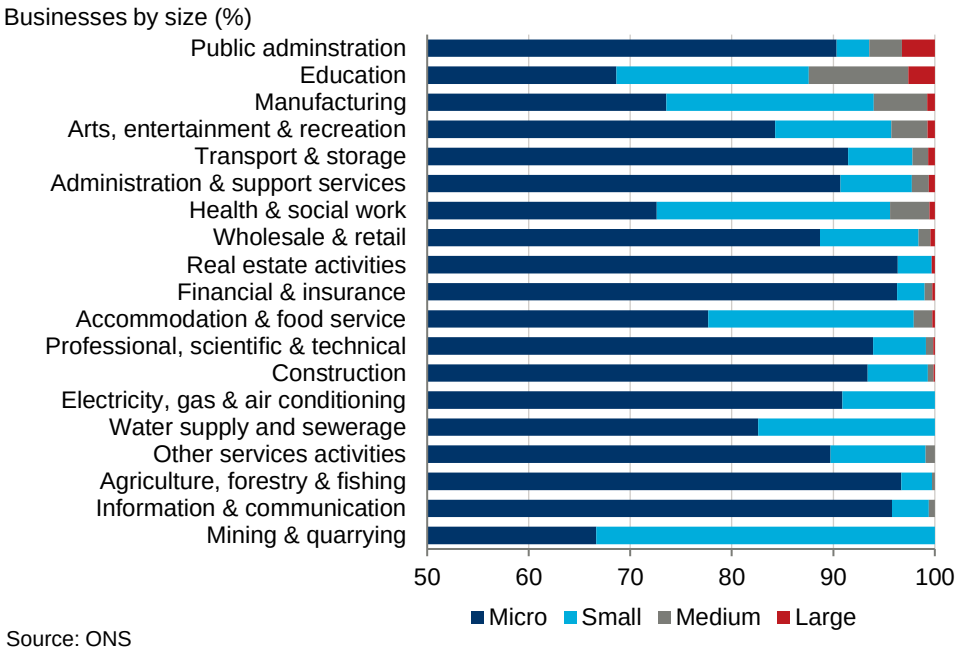
Of manufacturing firms are micro or small

This compares to 93.8% in the UK

However, this is smaller than the UK share of 94.6 percent. This is reflected in most of the manufacturing sub-sectors, with a smaller share of micro and small businesses than the UK in 13 of the 24 second-tier sub-sectors. A notable difference is in the manufacture of motor vehicles, trailers and semi-trailers which has a micro and small share 4.2 percentage points higher than the UK level of 89.9 percent.

The three sub-sectors related to the fashion industry make up 20.1 percent of all manufacturing firms and have relatively fewer micro or small firms than we would expect from the UK data. 94.4 percent of businesses related to the manufacture of wearing apparel employ less than 50 people, contrasted with 97.9 percent of similar businesses in the UK, indicating that the LLEP's relative strength in this sector is reflected in an above average share of medium/large companies.

Fig. 29. Businesses by size and sector, LLEP, 2018[19]



Source: ONS

Public administration has the largest share of VAT registered businesses employing over 250 people (3.2 percent, and 1.9 percentage points lower than the UK equivalent). This accounts for just 5 businesses, and the sector represents less than one percent of total firms in the LLEP. However, the rate of medium sized businesses (3.2 percent) is higher than nationally (2.4 percent). A high proportion of education businesses are also large, 2.6 percent, closer to, but still below the UK rate of 3.2 percent.

[19] The latest available published data.

NON-VAT REGISTERED FIRMS

A significant number of smaller businesses that operate below the VAT and/or PAYE threshold do not appear on the ONS Inter-Departmental Business Register, and therefore do not appear within official statistics. Business population estimates provide some view on the number of unregistered firms by sector in the East Midlands. The data from the Department for Business Energy & Industrial Strategy "Business population estimates for the UK and regions 2018" indicate that 66 percent of micro sized manufacturing enterprises are unregistered in the region. This sits higher than the equivalent rate for the UK, 59 percent.

Similarly, in the wholesale and retail sector 40 percent of micro firms are unregistered, five points higher than in the UK. The unregistered rate of micro firms is also higher than the UK rate in both administrative and support services (five percentage points higher) and professional, scientific and technical (two percentage points higher). Aside from construction these are the four largest sectors, in terms of business units, in the LLEP area, and the relatively higher rates of unregistered businesses may mask a lot of production that is not picked up by the official statistics above.

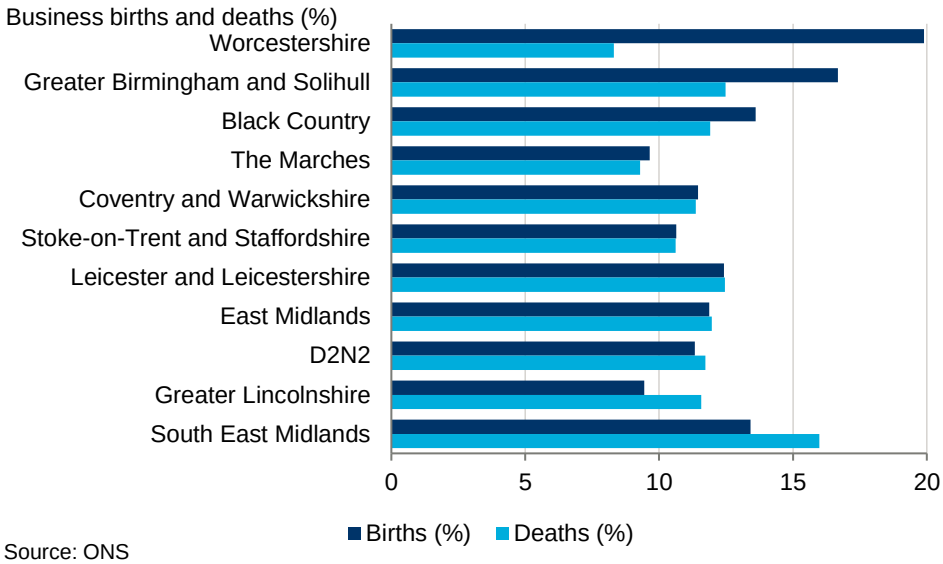
All of those we spoke with during our consultations suggested that the LEP both suffered and benefited from a significantly large pool of micro businesses many of which would be non-VAT registered. It was felt that the number of these businesses in the LEP provided evidence of the deep-rooted entrepreneurial spirit of the local economy. It was also suggested this wide base of businesses provided economic diversity and hence the economy was less exposed to the risks of large business closures.

However, consultees also felt the number of 'lifestyle businesses' and small family owned businesses limited growth in employment, capital and productivity. They were also suggested to be the reason for underemployment in the economy, with many well qualified individuals starting their own business in traditional areas of the economy or joining the family business and continuing to operate the same way they had since inception.

3.5.3 Business churn & survival

Whilst the changing stock of businesses is interesting, arguably more important is the rates of churn and business survival. These can provide a view of how challenging it is to operate a firm and the capabilities of the local business community. Looking at the rate of business births can highlight both the entrepreneurial 'flair' of the local area and also indicate high rates of 'churn'. The LLEP has a modest rate of churn. In 2017 5,600 additional firms opened in the LEP (12.4 percent of total firms), with a similar rate closing. The LEP thus ranked mid-table for both births and deaths (sixth and fifth place respectively) against other LEPs across the Midlands.

Fig. 30. Business churn, LLEP and comparator areas, 2017



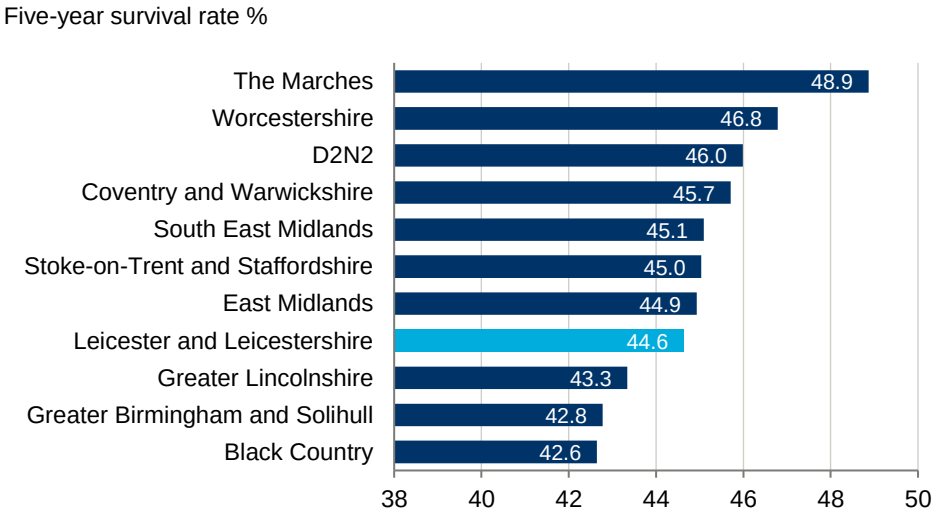
Source: ONS

Owing to its relative size, Leicester is the main source of new businesses opening across the LLEP area. In 2017, 2,500 new firms emerged in the city (44 percent of the LEP), equivalent to one-in-six of overall businesses. Alongside supporting a greater proportion of larger firms (see Fig. 28), this suggests that the city is also a relatively favourable location for smaller new firms to form. The share of total business deaths in the city is much lower at 31.3 percent (1,800 firms) meaning Leicester was a net contributor to the stock of businesses in the LEP.

Charnwood had the highest rate of business deaths in 2017 at 17.4 percent (or 1,400 firms), representing a quarter of all deaths across the LEP. Unsurprisingly the stock of businesses in Charnwood fell by 7 percent in 2017. Harborough and Blaby also experienced a contraction in businesses with a loss of 2.7 percent and 2.2 percent respectively.

Alongside the overall churn of businesses in a given year, we may also consider the extent to which new firms tend to survive. Of businesses started in 2012, 44.6 percent remained in operation by 2017, a five-year survival rate that is forth lowest of the Midlands Engine LEP areas, and 0.3 percentage points below the East Midlands.

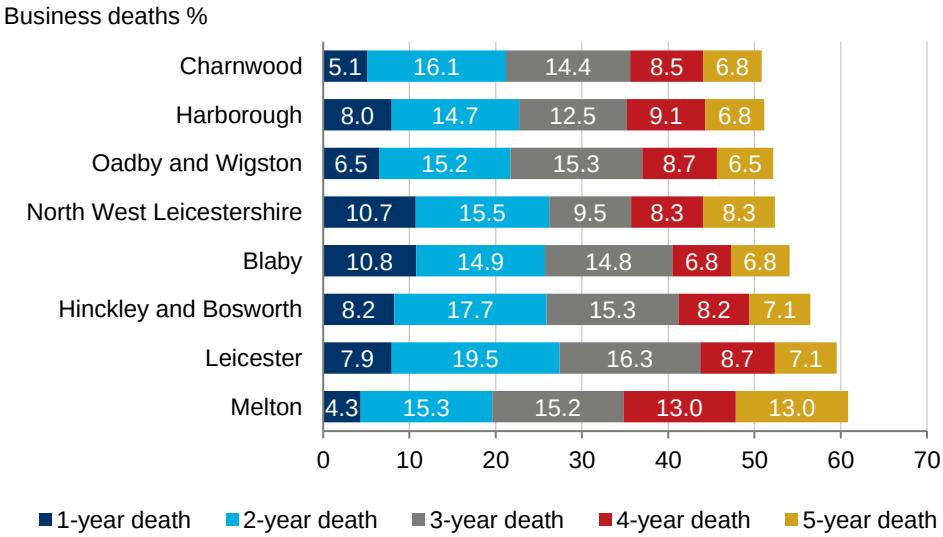
Fig. 31. Five-year business survival, LLEP and comparator areas, 2012 to 2017



Source: ONS

Within the LLEP, Melton had the lowest survival rate, with 39 percent of new firms still operational in 2017 after opening in 2012. Indeed, it had the highest rate of businesses failing within the first year (4.3 percent). In contrast, Charnwood had the best survival rate (49.2 percent), despite a high rate of business deaths observed across its total stock of firms in 2017.

Fig. 32. Business deaths by year in the LLEP, 2012 to 2017



Source: ONS

3.5.4 Insight into Local Businesses

Whilst it is important to understand the size and structure of local businesses, it is also useful to understand their unique characteristics and perceptions as well as barriers holding back growth. In doing so we have drawn as much as

possible on the consultations and the "Leicester and Leicestershire Business Survey 2017".

The consultations have suggested that local firms are not investing enough in technology, skills or leadership. This has led to, we are told, many firms doing what they always have and competing on cost which has resulted in low wages and productivity. The "Leicester and Leicestershire Business Survey 2017" found that one in four of the responding firms had increased capital investment and ICT / digital skills spend in the previous 12 months. Interestingly rural firms performed notably better with 30 percent reporting an increase in capital investment in the past 12 months. In addition, a third of all companies (34 percent) had started offering a new product or service. However, the survey may not be completely reflective of the local business base (particular if we believe there is a significant volume of micro family businesses not being picked up by the VAT registered statistics). For example, only 73 percent of the LLEP area businesses surveyed employed fewer than 10 staff and one in twenty employed 50 or more. Given the previous section found that 88.7 percent of VAT registered business in the LLEP employ less than 10 employees and this itself is likely to be an underestimate, the survey results could be skewed somewhat to larger and more ambitious firms.

When asked for their list of concerns, regulation and red tape was most popular with 42 percent reporting it as quite a concern or of great concern. This was followed by energy costs (36 percent) and broadband speed (34 percent). A third of businesses also noted skills shortages while findings suitable premises was noted by 17 percent. Our consultations also highlighted the potential dampening effect of a lack of commercial land and commercial space on business growth.

The top five concerns for rural businesses were similar, but there were some important differences. Energy costs were cited by nearly half of rural businesses surveyed (47 percent). Broadband spend along with regulation and red tape was noted by 23 percent of responding rural businesses. Skills shortages / findings staff (21 percent) and petrol or diesel costs (19 percent) made up the remainder of their top five concerns.

The "East Leicestershire LEADER: Local Development Strategy 2014 – 2020" also notes broadband issues for micro and small enterprises. Indeed it highlights that broadband connectivity and mobile phone coverage in some rural areas of East Leicestershire are poor which affect many businesses and their opportunities for growth. The same document also notes the lack of business support and advice in the area and the lack of skilled workforce within certain sectors.

Our consultations also found that there is anecdotal evidence of underemployment in the local economy. Likewise, consultees felt there were skill shortages despite the presence of a large body of students. They speculated that there is likely to be a mismatch between skills demanded and skills being supplied to the labour market. They also suggested that Further Education had a significant role to play in the local economy. We find evidence to support these perceptions from the business survey. It found that over half of surveyed firms had recruited in the previous 12 months (though only 41 percent of those employing between 2 and 9 employees had). However only 10 percent

had recruited a graduate with larger establishments more likely (46 percent of those with 50 or more employees had recruited a graduate). In addition, more than 1 in 4 firms (28 percent) had experienced recruitment difficulties while just less than 1 in 4 firms (23 percent) reported they had experienced vacancies due to skill shortages. In addition, recruitment difficulties due to skills shortages had grown notably since 2014.

Recruitment difficulties were more acute for rural firms, with almost one in three (31 percent) rural businesses reporting difficulties. The most frequent explanation was the low number of applicants with the required skills (36 percent), followed by "not enough people interested in doing this type of job" (25 percent).

The survey found that hard to fill vacancies were most acute in skilled trades. In addition, associate professional and technical occupations and personal services occupations were more significant for 'other services' establishments.

In contrast to consultee's perceptions of a lack of investment in training by the private sector, the survey found that 59 percent of surveyed firms had arranged or funded training or development for employees in the previous 12 months. Interestingly, 39 percent had funded or arranged off-the-job training and more than four fifths of firms reported it was easy to find training. The survey does however note that off the job training in the LLEP is below the UK average found in the 2015 Employer Skills Survey.

The consultations also suggested that leadership skills may need to be improved across local firms. This survey found some evidence of this. When asked for their top three skills lacking within the workforce, one in four noted management and supervisory (26 percent). However, consultees representing the private sector were quick to point out that for small businesses, it is incredibly difficult for managers and owners to find time away from the business to train.

3.6 CHALLENGES AND OPPORTUNITIES

The local sectoral structure is skewed towards relatively lower value-added activities. This is notably the case in manufacturing. It not only limits GVA, it is also likely to limit investment in business and subsequently stunt productivity growth. As we describe later in this report, migration into the UK is likely to be significantly reduced and given the ageing population, this means there will less working age people to fuel growth in the economy. As a result, productivity improvements will become increasingly important for success and growth. These will however be difficult to realise if companies are involved in low value areas of the economy.

For the LLEP, the key challenges will be to continue to encourage growth in faster growing private services (and ensure appropriate skills and facilities are in place to support it), but to also encourage more traditional and lower value sub-sectors to invest in capital and training. This will help move them up the value chain, improve competitiveness and meet additional demand through productivity improvements.

We have heard through the consultations that the private sector in more traditional industries are already worried about replacing skills of their older

workforce (we discuss skills demand in further detail in Section 5). The adoption of technology and new processes might be the solution.

Linked to the above, there is anecdotal evidence that the LEP has a larger base of micro businesses than the VAT registered data would suggest. Another challenge is to encourage and support more of these businesses to grow in turnover and employee terms. This represents a significant opportunity for the local economy.

4. IDEAS

KEY FINDINGS

- R&D expenditure across the Leicestershire, Rutland & Northamptonshire NUTS2 region, as a share of GVA, is below the UK average.
- While the level of R&D spend has remained broadly unchanged in recent years, the sectoral mix has changed and become increasingly concentrated within the private sector.
- Evidence suggests the region generates new patents at a similar rate to most other regions of the UK.
- The LLEP area supports 34,100 jobs across scientific and technical occupations (seven percent of the workforce). These occupations have become increasingly important to the local economy, and represent around one-in-eight additional jobs generated across the LLEP since 2000.
- Innovation across the LLEP area is supported by the presence of, and activity associated with, its three major universities.
- The available evidence suggests that these institutions proactively engage with local communities and businesses to improve the 'knowledge exchange' of their research activities outside of academic environments.

4.1 INTRODUCTION

Innovation is conventionally thought of as the commercial exploitation of new ideas. R&D expenditure is therefore one of several inputs into innovation. From this, patents and copyrights can result which help to incentivise the process. Recently however there has been a shift towards more open innovation, which favours areas which have large numbers of SMEs, business networks clustering around a research-led university and strong connectivity with other economic hubs, something which Leicestershire is particularly well placed to benefit from.

However, R&D expenditure is only one of a range of indicators that can reveal the extent of innovation across Leicestershire. Innovative activities are typically linked to a few higher value, knowledge-intensive sectors of the economy, which in turn employ people in scientific and technical occupations. Similarly, the 'knowledge exchange' between universities and the local business community is also a key factor in driving innovation.

4.2 RESEARCH & DEVELOPMENT

In 2016, the combined R&D expenditure across the Leicestershire, Rutland & Northamptonshire NUTS2 region equalled £573 million. It accounted for 1.3 percent of GVA, some 1.0 percentage point below the UK government's stated national target of 2.4 percent by 2027.[20] This is slightly below the current

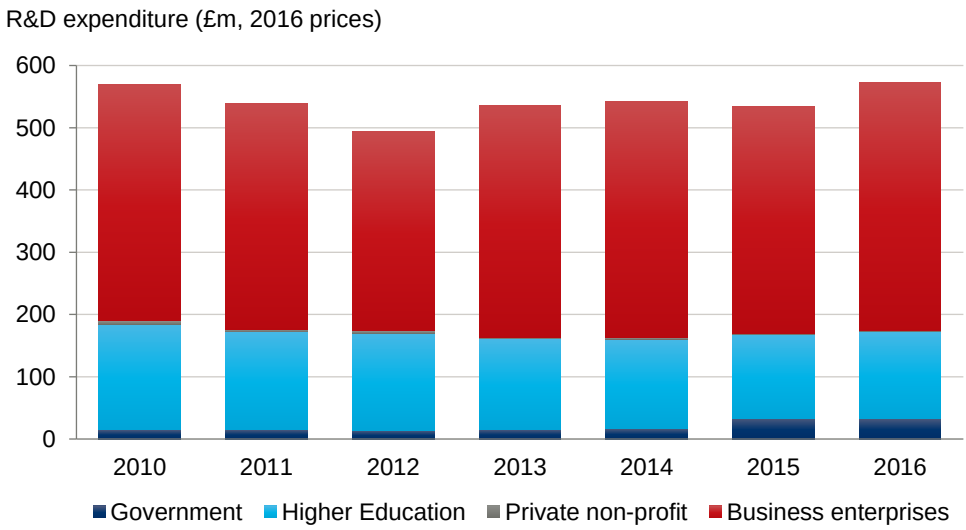
[20] https://www.gov.uk/government/news/record-boost-to-rd-and-new-transport-fund-to-help-build-economy-fit-for-the-future

UK average (1.7 percent)[21] and notably below the 4.6 percent in East Anglia, 3.8 percent in Cheshire, and 3.7 percent in Berkshire, Buckinghamshire and Oxfordshire.

Business enterprises formed the dominant share, equating to £398 million (or 69.4 percent), followed by higher education (24.6 percent). Over the period from 2010, where data are available, levels of overall R&D expenditure in Leicestershire, Rutland and Northamptonshire have remained relatively constant in real terms, rising by only 0.6% over the period. This compares unfavourably to the UK which experienced total R&D growth of 15.1 percent over the same period.

The composition of R&D spend locally has changed since 2010 with higher education spend falling by 16.9 percent or £28.8m and being replaced by growth of £18m additional spend by Business enterprises and £17.3m additional spend by Government. These local trends are somewhat different to the UK overall where higher education R&D spend has grown by 3.2 percent since 2010 and Government spend has fallen by over a fifth.

Fig. 33. R&D expenditure, Leicestershire, Rutland & Northamptonshire NUTS2 region, 2010 to 2016



Source: Eurostat, Oxford Economics

Despite the higher education spend falling over this period, it still accounted for a slightly greater share of R&D spend than the UK average (24.6 percent compared to 24.3 percent). In addition, business enterprise also accounted for a greater (69.4 percent and 67.1 percent). So, there isn't an obvious difference in R&D in these two key sectors, relative to the UK, that would explain the productivity gap.

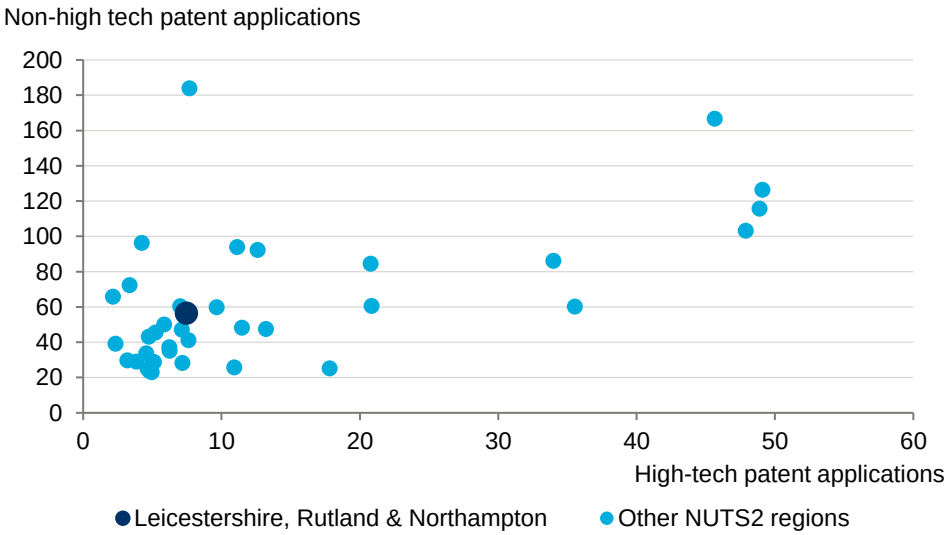
[21] https://royalsociety.org/~/media/policy/projects/investing-in-uk-r-and-d/investing-in-UK-r-and-d-may-update-2018.pdf

4.3 PATENTS

While R&D acts as an 'input', it alone cannot determine the effectiveness of innovation. To explore the 'outcomes' of local investment, we can consider data on patent applications.

Fig. 34 presents the rate of high-tech patent applications made to the European Patent Office each year by region, both in absolute terms and per million residents. As the data can vary substantially year-on-year, and is subject to some suppressions, we consider the average of the last five years of available data, from 2008 to 2012, for both high-tech and non-high tech patent applications. The Leicestershire, Rutland & Northampton NUTS2 performs broadly in line with the rest of the UK for both measures, ranking 17th and 18th out of 37 NUTS2 regions for the rates of non-high tech and high-tech patents respectively.

Fig. 34. Patents per million residents by type, NUTS2 regions, 2008 to 2012 (average)



Source: Eurostat, Oxford Economics

Patent applications are a measure of the quality and/or output of research related investment. R&D spending is therefore closely linked to this metric. A comparison between the level of R&D expenditure and R&D expenditure as a share of local GDP, shows that the former is more closely linked to the rate of patent applications.

UK INNOVATION SURVEY 2017

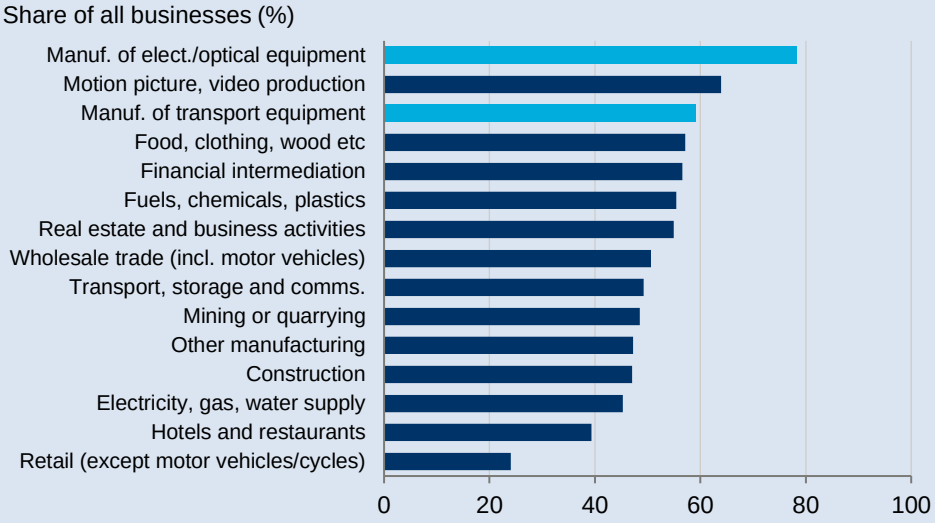
The latest EU wide survey provides a snapshot of incidence and types of innovation by firm size and sector, barriers and drivers of innovation. The UK survey uses definitions agreed with Eurostat which enable international comparisons. Innovation activity is defined as where enterprises were engaged in any of the following:

(1) Introduction of a new or significantly improved product (good or service) or process;
(2) Engagement in innovation projects not yet complete or abandoned;
(3) New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies;
(4) Activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.

For the purpose of the survey, a business that has engaged in any of the activities 1 to 3 above is defined as 'innovation active'; a business that has engaged in any of the activities 1 to 4 is defined as a 'broader innovator', and a business that has engaged in activity 3 is defined as a 'wider innovator'.

UK innovation trends show differences by type of firm—primarily driven by size and the sector to which it belongs. The survey results show that some of the highest incidences of **innovation active firms** were found in the 'manufacture of electrical and optical equipment' and the manufacture of transport equipment'. Both forms of manufacturing prominently feature in the 'high and medium-high technology' definition, and the LLEP has a similar share of employment in both sectors as the UK average. The local economy has a slightly greater share of jobs in motion picture, video and production, but the sector is small in absolute terms.

Fig. 35. Innovation active firms by sector



Source: ONS, Eurostat

Average innovation activity across firms fell from 53 percent in 2015 to 49 percent in the 2017survey. This is accounted for by a reduced activity in small and medium sized firms with fewer than 250 staff (including both 'broad' and 'wider' innovation types), in contrast with increased innovation activity in large firms with at least 250 staff. As we discuss later, the profile of Leicestershire's business base by size is similar to the UK average.

4.4 SECTORS AND OCCUPATIONS

Innovative activities such as R&D are typically linked to a few higher value sectors of the economy. Eurostat provide two forms of definitions for the sectors involved in innovation. High and medium-high technology sectors capture the production of certain manufacturing goods, including chemicals, pharmaceuticals and computers/specialist machinery, which tend to support innovative processes.[22] Similarly, knowledge-intensive services sectors capture the supporting activities to these sectors, alongside other 'high value' professional and financial services.[23]

14,400
Employed in high & medium-high technology sectors in 2018

Employment has halved since 2000

In 2018, Leicestershire employed 14,400 workers in the high & medium-high technology sectors, equating to 2.7 percent of the LEP's total workforce employment. However, as manufacturing practices have become increasingly capital-intensive over time, employment in these sectors has halved since 2000, where it formed 6.3 percent of total employment (28,800 jobs). By contrast, the UK experienced a 36 percent contraction in employment across these sectors over the same period.

Leicester has particularly suffered from significant employment losses of 14,400 jobs in high & medium-high technology sectors over this period, equivalent to 50 percent of its workforce, with a net loss of jobs observed across each of the LLEP's local authority areas. The baseline outlook is for this contraction to continue, with overall employment falling to 11,800 in 2030 across the LLEP area, or 2.1 percent of the future workforce.

238,600
Employed in knowledge intensive sectors in 2018

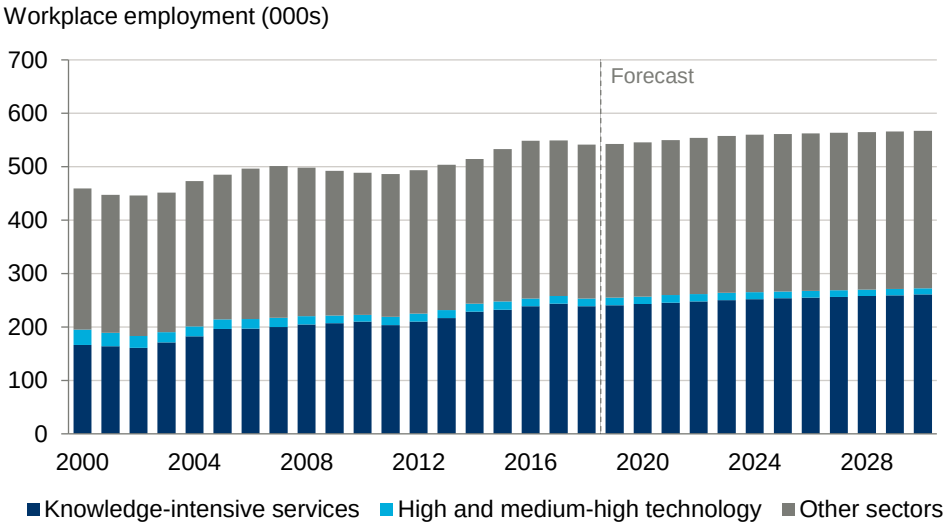
Employment in these sectors have grown by 2% per annum since 2000

Knowledge-intensive services by contrast form a significantly larger, and growing, share of the LEP's workforce. In 2018, these sectors collectively supported 238,600 jobs across the LLEP area, or 44.1 percent of the total, with Leicester (98,500) forming the dominant share. Since 2000, employment has increased by 77,600 jobs, at a rate (2.0 percent per year) 0.4 percentage points above the UK average. A comparison with the workforce as a whole indicates that 88 percent of growth can be attributed to knowledge-intensive services across the LEP area, equivalent to seven out of every eight new jobs created.

Our baseline forecast indicates that knowledge-intensive services will continue to grow as a share of workforce employment, increasing by 22,100 jobs to 260,700 by 2030, at a rate in line with the national economy (0.7 percent per year). Despite remaining a minority of the LLEP area's employment into the future, these services will continue to account for a high share (86 percent) of overall employment growth.

[22] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:High-tech_classification_of_manufacturing_industries
[23] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Knowledge-intensive_services_(KIS)

Fig. 36. Innovative sectors, LLEP, 2000 to 2030



Source: Eurostat, ONS, Oxford Economics

Innovation is associated not only with the sectors within which people work, but with occupations. The profile of occupations can be revealing. Science & technology professionals and associate professionals are more likely to work on R&D projects.[24]

34,100
In scientific & technical occupations in 2018

Equivalent to 7% of the workforce

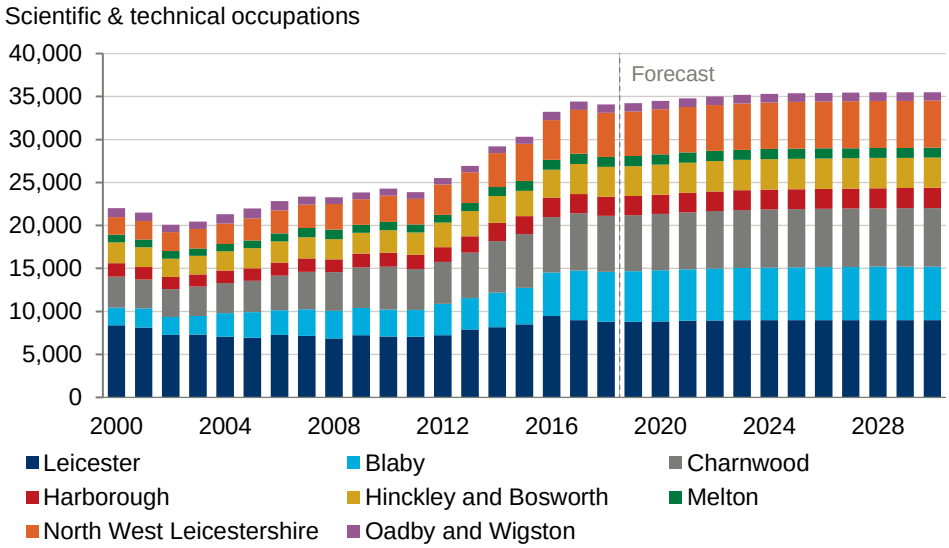
Recent data shows that these occupations have become increasingly prevalent across the Leicestershire workforce. In 2018, the Leicestershire economy supported 34,100 workers in scientific & technical occupations, some 7 percent of the total workforce. These occupations have increased by 55 percent (or 12,000 jobs) since 2000, equivalent to 13 percent of all jobs created across Leicestershire over this period.

The distribution of scientific & technical occupations across Leicestershire's local authorities has also changed over time. While Leicester retains the largest share (8,800 jobs), it has seen the second-lowest increase in these occupations since 2000; only Oadby & Wigston, which as seen employment in these occupations slightly fall over this period, has performed worse. Growth has been concentrated in Blaby and North West Leicestershire (3,800 and 3,000 additional jobs respectively)—both of whom have seen these occupations more than double over this period—and Charnwood (2,900 additional jobs).

In the future however, our baseline forecasts indicate relatively little additional growth across these occupation types. Over the period 2018 to 2030, the LLEP area will add just 1,400 additional jobs, equivalent to a 4 percent increase. This is partly a reflection of limited overall employment growth across all occupations and sectors within the economy.

[24] We apply this broad definition to approximate the employment within innovative occupations. We acknowledge that this definition may capture some workers in non-R&D related sectors (e.g. doctors), while conversely other occupations supported by R&D may not be captured within this definition.

Fig. 37. Scientific & technical occupations, LLEP local authority areas, 2000 to 2030



Source: ONS, Oxford Economics

4.5 HIGHER EDUCATION

Leicestershire is home to three major universities. Loughborough University (ranked fourth in the UK in the Guardian newspaper's University league table for 2019[25]), The University of Leicester (ranked 63rd by the Guardian and 34th in the Complete University Guide) and De Montfort University (71st and 70th respectively)[26], are among the Midlands Engine's main higher education institutions.[27]

CASE STUDY: SPORT INNOVATION AND ADVANCED MANUFACTURING

Innovative helmet manufacturers HedKayse relocated from London & Cambridge to the unique sports innovation community at Loughborough at the end of 2018 in order to launch the production of the world's first repeat impact cyclist helmet, featuring a proprietary new material that withstands multiple impacts. The helmet passes all the European safety standards and is certified to the EN1078 Safety Standard. A plus for commuters and bike-share users, the helmet has a patented folding design, reducing in width by over 50 percent.

Since joining LUSEP, HedKayse is now collaborating with the University's Sports technology Institute which has an established track record in driving innovation and safety in sport, for example effecting the revision of the British Test Standard for cricket helmets in 2013, and a further revision due for publication this year. With the HedKayse helmets now in production, growth is anticipated through a product innovation pipeline and plans for licensing the proprietary material.

[25] https://www.theguardian.com/education/ng-interactive/2018/may/29/university-league-tables-2019
[26] https://www.thecompleteuniversityguide.co.uk/league-tables/rankings
[27] https://www.timeshighereducation.com/student/best-universities/best-universities-world

Data from the Higher Education Statistics Authority (HESA) provides an indication of the extent to which universities are embedded in their local economies, through gathering information on 'third stream' or 'knowledge exchange' activities—those concerned with the application of knowledge and other capabilities outside of academic environments.[28]

Fig. 38 demonstrates the strong engagement the universities share with businesses, many of whom are likely to operate locally, and local communities. Most notably, the income from collaborative research totalled £31 million in 2018, highlighting the important role that these institutions play in supporting and underpinning the levels of research and innovation we have identified.[29]

Fig. 38. Universities' engagement with business and communities, 2016/17 (unless otherwise stated)

£ million	De Montfort University	Loughborough University	University of Leicester	Total
Value of Continuing Professional Development (CPD) and Continuing Education (CE) courses	2.0	2.5	11.5	16.0
Income from collaborative research involving public funding (2018)	0.4	20.9	9.7	31.0
Value of contracts to deliver consultancy, research or facilities & equipment-related services	2.6	11.0	12.7	26.3

Source: Higher Education Statistics Authority

Collaboration and the commercialisation of R&D is enabled by the presence of the EZs. The Loughborough University Science and Enterprise Park (LUSEP) for example houses over 55 high tech companies, along with the national sports governing bodies, and the University. In addition, the £5.1m Leicester Innovation Hub at the University of Leicester has the objective of supporting the next generation of innovators and innovations.[30]

[28] https://www.hesa.ac.uk/data-and-analysis/providers/business-community
[29] Feedback from consultation indicates that, although Continuing Professional Development/Continuing Education courses tend to be locally targeted, many of the collaborative research and consultancy contracts tend to be paid by contractors operating outside of the LLEP, mainly abroad.
[30] https://le.ac.uk/news/2017/june/new-innovation-hub-at-our-university

CASE STUDY: ADVANCED MANUFACTURING AND LOW CARBON TRANSPORT COLLABORATION

The Rolls-Royce University Technology Centre (UTC) in Combustion System Aerothermal Processes, launched in 1991, acknowledges the significance of the partnership between Loughborough University and Rolls-Royce which dates back to the 1960s. It provides infrastructure for collaboration and the development of innovative technologies for current and next generation low-emission gas turbine engines.

The UTC partnership generates a significant annual research income. In the past five years, the research has also resulted in 15 worldwide patents, and directly informs Rolls-Royce product design—including the entire Trent engine family.

In addition, the UTC partnership has a strong track record in education. More than 50 students have successfully completed PhDs – an achievement recognised by the award of EPSRC funding, in 2014, for a Centre for Doctoral Training (CDT) in Gas Turbine Aerodynamics and, in 2019, for a CDT in Propulsion and Power; both in collaboration with the universities of Cambridge and Oxford, and Rolls-Royce as an industrial partner.

This accumulated success has resulted in the £20 million National Centre for Combustion and Aerothermal Technology (NCCAT). Opening later this year, on LUSEP, NCCAT will be the UK's primary hub for the development of future low-emission aero gas turbine combustion technologies. It will also train engineers in developing advanced technologies for the aerospace sector.

4.6 CHALLENGES AND OPPORTUNITIES

R&D spend in the NUTS 2 area has remained relatively unchanged in recent years, despite growth across the UK. However sectoral employment and occupational data shows that higher value-added roles and those linked to research and innovation are becoming more important in the local area.

A key challenge is to achieve faster growth in these roles and to reverse the falls in Higher Education R&D spend whilst encouraging investment by the private sector. Evidence shows that R&D spend by a company is positively correlated with underlying productivity performance. Moreover, the developing new and innovative technologies also results in wider benefits to the economy and society. This occurs as the advances and developments emerging from innovation are disseminated throughout other businesses, academia, government, and wider society. Many of the benefits of R&D are shared by other firms, particularly ones located locally, either through spill-overs, or simply because they are linked together within a value chain.[31]

[31] Econometric analysis of R&D spill-overs by sector, Oxford Economic Forecasting (2006). Value chain benefits occur when a supplier produces a better product allowing customers to make efficiency gains and hence raise their value added. These are paid for through the market. Spill-overs occur when companies become aware of and so emulate one another's innovations. These are not paid for. Proximity typically makes them easier to achieve. See 'Knowledge spillovers and sources of knowledge in the manufacturing sector' Future of manufacturing project evidence paper 18 Government office for Science 2013.

5. PEOPLE

KEY FINDINGS

- The LLEP has over one million residents and is growing faster than both the wider region and the UK average, and has a higher working age population share.
- Given the outlook for migration, growth in population is forecast to slow, but to remain faster the regional and national average.
- The occupational profile of the LLEP's residents is similar to the East Midlands as a whole, although this masks variations at a local authority area level.
- Residents of Harborough, Oadby and Wigston, Hinckley and Bosworth and Charnwood all have a greater share of 'higher skilled' occupations, in the form of managerial, professional or technical roles. By contrast, the share elsewhere—most notably in Leicester—is somewhat lower.
- The balance of occupations taken up by residents of the LLEP, and those available within its workforce, implies a shortage of opportunities within higher-value occupations. While the LLEP area retains most of its residents within the workforce, those that commute elsewhere may do so to take up higher quality jobs not available locally.
- However, our baseline forecast points towards an increasing provision of higher skilled occupations within the local workforce, which may help to retain more highly skilled residents in the workforce.
- The stock of skills held locally is supported by the flow of new graduates to the labour market each year. Over 60,000 students are enrolled across the LLEP's three universities, with particular specialisms in business & administrative studies and engineering & technology.
- Opportunities to retain both local graduates and permanent residents of the LLEP area studying elsewhere—supported by the continuing provision of good further education and school facilities—may help to further boost the supply of skills to meet future workplace needs.

5.1 INTRODUCTION

The future success of the LLEP's economy will be driven by its people. We explore the resident population of the LLEP and its local authority areas, considering how the age structure and levels of migration are forecast to change over time. We also consider the occupational mix of both residents and the workforce, commuting patterns and local skills—both in terms of the 'stock' of skills held by the population today, and the 'flow' of new skills provided by students joining the labour market in the future.

Over 1m

Residents in 2018

22% of the regional population and growing faster than East Midlands and the UK

5.2 POPULATION

5.2.1 Current population and trends

The total population of the LLEP area was 1.05 million individuals in 2018, putting it in seventh place in the Midlands Engine. This represents 22 percent of the total East Midlands population. Since the year 2000, the LLEP area has experienced significant population growth, increasing in size by 164,000 since the start of the century, an annualised growth rate of 0.9 percent, above that of

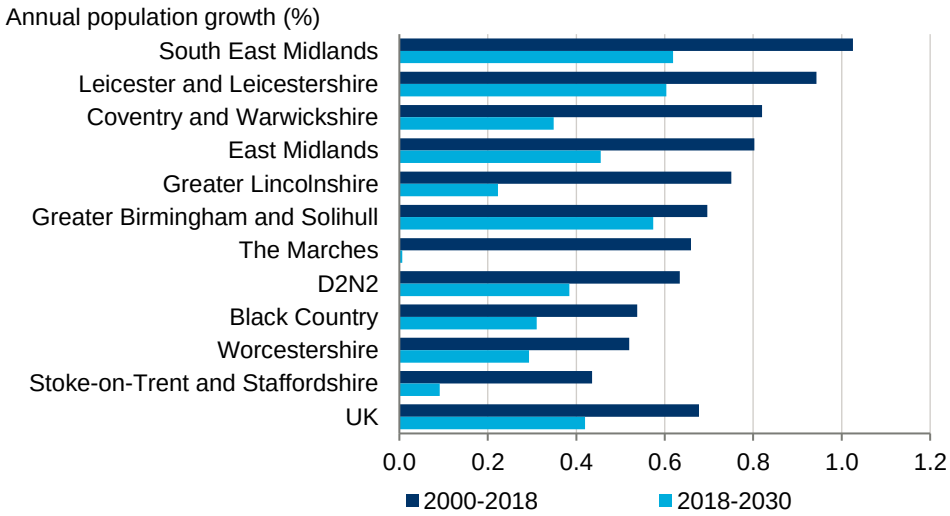
the East Midlands (0.8 percent) and the whole UK (0.7 percent). Population growth across the LLEP area represents an increase of 18 percent on 2000, second only to the South East Midlands at 20 percent and above the wider East Midlands on 15 percent.

Within the LLEP, there are wide differences in between the local authorities. Leicester constitutes 34 percent of the overall population, with smaller and more rural areas such as Melton and Oadby & Wigston making up just five percent each. Similarly, population growth has been highest in Leicester, with an additional 72,000 residents between 2000 and 2018, annual growth of 1.3 percent. Harborough also saw strong annual growth of 1.1 percent (17,000 additional residents), whilst Charnwood contributed the second most additional residents (29,000), an increase of 19 percent on 2000 population. All of the LLEP's eight local authority areas saw an increase in population between 2000 and 2018, ranging from three percent (Oadby and Wigston) to 26 percent (Leicester).

Going forward, we forecast population growth in the LLEP to slow considerably, largely as a consequence of a slowdown in the number of migrants moving to the LLEP area each year. Between 2018 and 2030, its total population is forecast to increase by 79,000 residents, a slowdown in annual growth to 0.6 percent—though still higher than both the East Midlands and UK growth rates (0.5 percent and 0.4 percent, respectively). Slower growth is most apparent in Leicester, whose population is forecast to increase by 24,000, or an average of 0.5 percent per year.

Compared to other Local Enterprise Partnerships, the LLEP remains in second place with its overall seven percent increase to 2030—behind only the South East Midlands, where an additional 157,000 residents are forecast by 2030 (an overall eight percent increase).

Fig. 39. Population growth, LLEP and comparator areas, 2000 to 2030

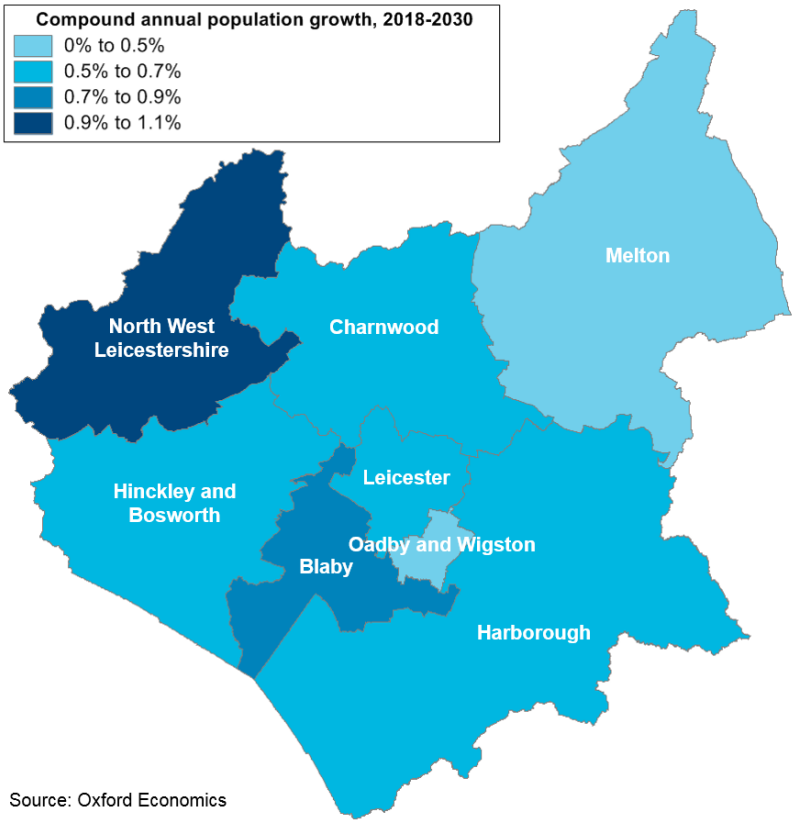


Source: ONS, Oxford Economics

As can be seen in Fig. 39 above, population growth in the LLEP has been, and is forecast to remain, ahead of the regional and national averages. This is

partly a function of the relatively younger age profile of its overall population, and also reflects a continued ability to attract migrants from elsewhere.

Fig. 40. Annual population growth, LLEP local authority areas, 2018 to 2030



Source: Oxford Economics

5.2.2 Migration

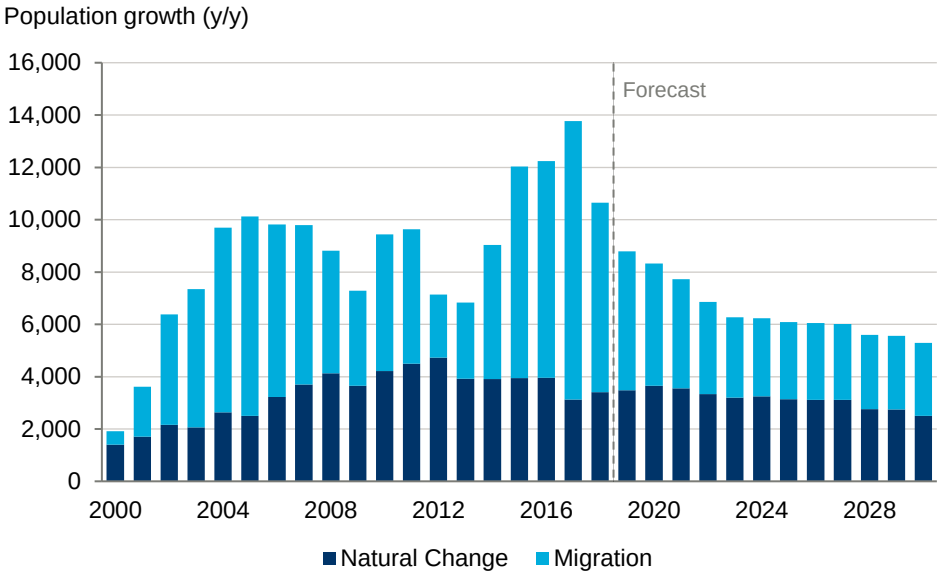
The growth in population is driven by a combination of natural factors, where the number of births exceeds the numbers of deaths in the local population, and by net inward migration. Over the period 2000 to 2017, net migration to the LLEP area stood at 95,000 residents, representing 58 percent of overall population growth over this period, a rate broadly in line with the UK as a whole.

Positive net migration is observed across each of the LLEP's local authority areas since 2000, meaning that more people have moved to each area from the rest of the UK or abroad than have left. This is most notable across both Leicester and Charnwood, where net migration has equated to 27,000 and 21,000 additional residents respectively.

Despite this historic pattern our forecasts indicate a slow-down in migration between 2018 and 2030. This is likely due to several factors with the impact of Brexit on continued EU migration a current pressure. Between 2018 and 2030, we forecast that migration will result in an increase of 48,000 residents across the LLEP (or 61 percent of overall population growth). Notably Leicester is forecast to see net outward migration over the same period, with 3,700

residents seeking lives outside of the city. This is in stark contrast to more rural local authority areas, such as Melton and Harborough, where inward migration is forecast to be somewhat more modest, and largely offset by a contraction (i.e. more deaths than births) in the existing population each year. Fig. 41 highlights the significant role that migration has played in population growth within the LLEP area, and how this is forecast to change into the future.

Fig. 41. Components of population growth, LLEP, 2000 to 2030

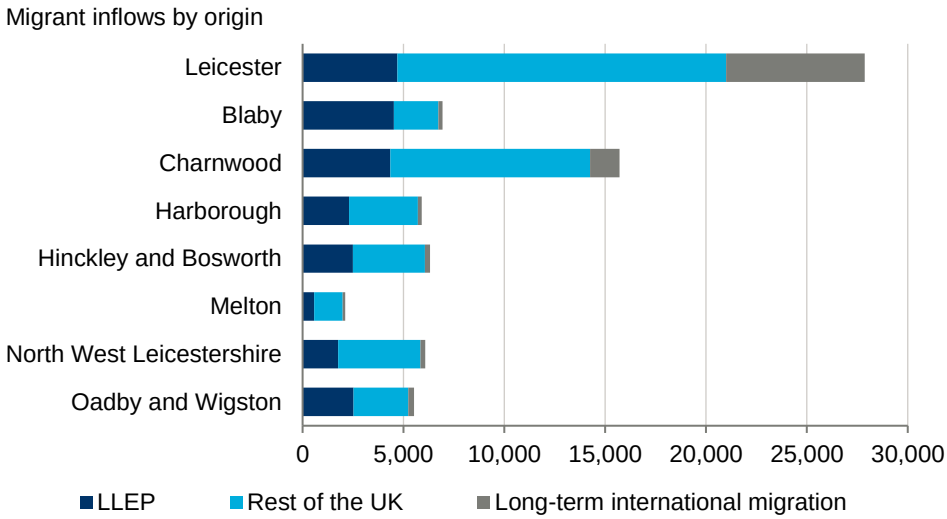


Source: ONS, Oxford Economics

Alongside the levels of migration, we may also consider where people are coming from. Analysis of both internal and external (international) migration patterns shows that 30 percent of people moving into the eight local authorities come from elsewhere in the LLEP, equalling 23,300 people in 2016/17, while a majority of 57 percent (43,600 people) moved in from elsewhere in the UK, with particularly large proportions in Leicester and Charnwood reflecting the ability of the universities to attract students from across the country.

A similar pattern may underpin the long-term international migration movements, with Leicester forming a particularly dominant share—equivalent to 71 percent of the total (6,900 people). Although a high student population is likely to be a key factor, this may also reflect the city's attractiveness to those moving from abroad. The inflow of long-term international migrants to Leicester ranks 19th across all local authorities within the UK, or eighth highest when excluding London boroughs.

Fig. 42. Migrant inflows by origin, LLEP, 2016/17[32]



Source: ONS

5.2.3 Population age

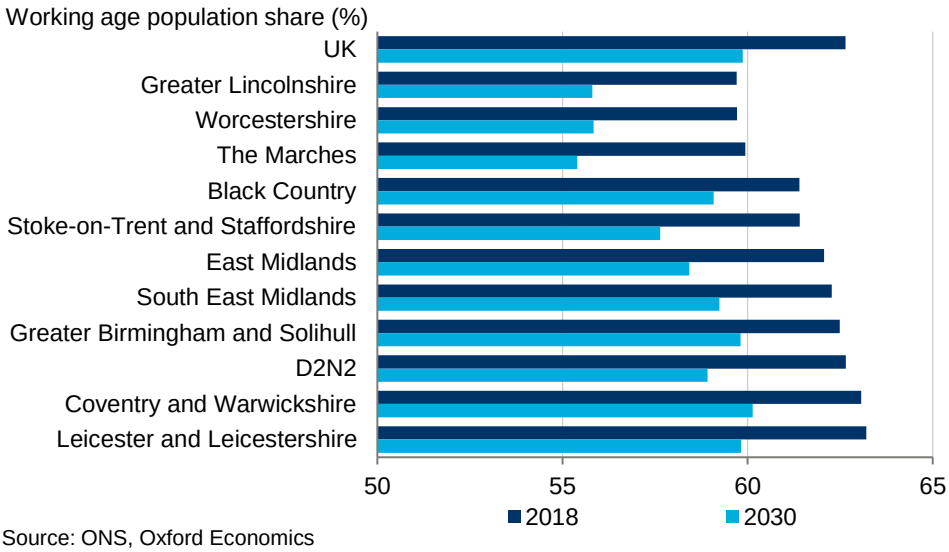
Breaking resident population down by age provides a view of how the structure of the resident population is changing, which has implications both for the availability of workers locally, but also public sector and other service needs (e.g. education, elderly care provision).

The LLEP area has a relatively large working age population (defined as those aged between 16 and 64). In 2018, its 665,000 working aged residents formed 63.2 percent of the overall population, the highest rate among the 10 Midlands Engine Local Enterprise Partnerships, and 0.6 percentage points above the UK equivalent.

Owing to the ageing profile of the population, we forecast this age structure to fall into the future. By 2030 we forecast the working age population to increase slightly to 677,000 residents, forming 59.8 percent of the population, a rate in line with the UK average (59.9 percent).

[32] Note that this excludes short-term international migration estimates, and does not consider the equivalent 'outflows'.

Fig. 43. Working-age population share, LLEP and comparator areas, 2018 to 2030



Source: ONS, Oxford Economics

Across the LLEP local authorities Leicester has the highest working age share of population, with 66.5 percent in 2018, seven percentage points higher than the lowest, Harborough, on 59.5 percent of resident population. This is forecast to fall across all local authorities by 2030. Leicester will continue to have the highest working age share but will fall 2.4 percentage points (to 64 percent).

Despite a fall in share, the absolute level of working age population is forecast to increase in five of the eight local authorities. Melton, Oadby & Wigston, and Harborough are forecast to contract from 2018 to 2030.

Fig. 44. Population and working-age population growth, LLEP local authority areas, 2018 to 2030

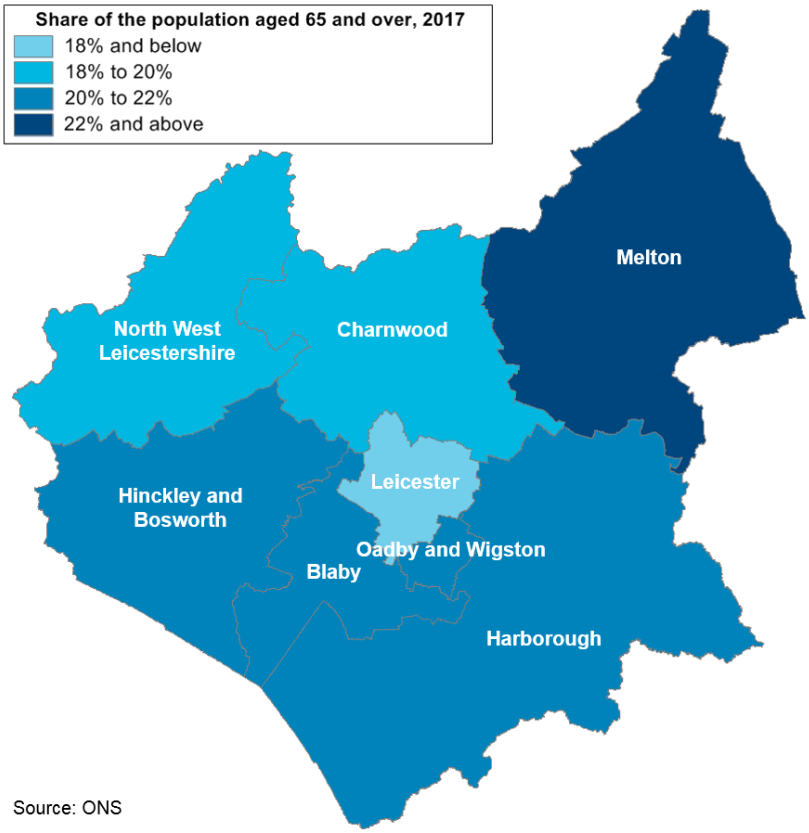
	Population change (000s)	Population growth (% y/y)	Working age population change (000s)	Working age population growth (% y/y)
Blaby	9.0	0.7	1.6	0.2
Charnwood	14.4	0.6	3.1	0.2
Harborough	7.0	0.6	-0.7	-0.1
Hinckley and Bosworth	7.5	0.5	0.1	0.0
Leicester	23.9	0.5	6.6	0.2
Melton	1.1	0.2	-2.2	-0.6
North West Leicestershire	13.1	1.0	4.1	0.5
Oadby and Wigston	2.8	0.4	-0.9	-0.2
Leicester and Leicestershire	**78.8**	**0.6**	**11.6**	**0.1**

Source: ONS, Oxford Economics

In 2018, the population over the age of 65 made up 17.5 percent of the total across the LLEP (184,000 residents). Over the next 12 years to 2030, this cohort is forecast to increase by 55,000 as the population continues to age—an increase of 30 percent. This represents 70 percent of the total population growth forecast for the LLEP between 2018 and 2030. The annual growth rate for the area's over-65 population is 2.2 percent, nearly four times the forecast for total LLEP population growth (0.6 percent).

The population over the age of 65 is forecast to increase in all local authorities in the LLEP. In 2018, Leicester had the largest 65-and-over population with 42,000 residents, but this represented the lowest share across the LLEP local authority areas, at just 11.8 percent. By contrast, 22.6 percent of Melton's 2018 population was 65 or over (12,000 residents).

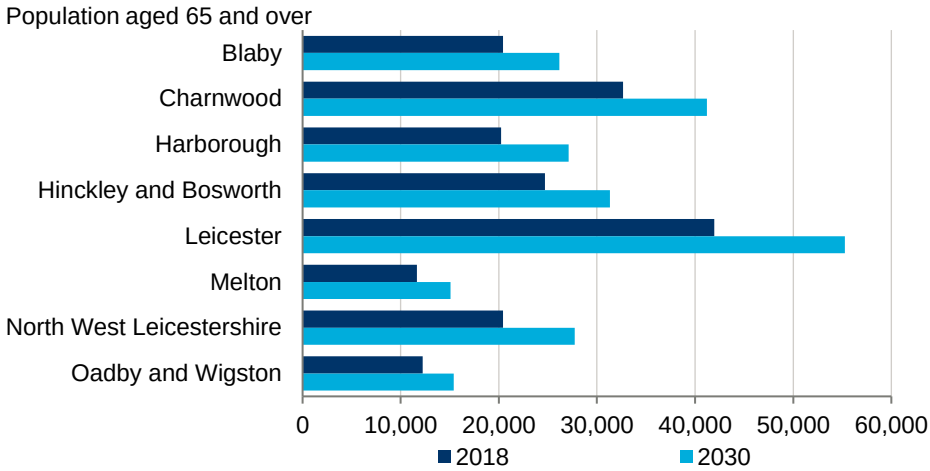
Fig. 45. Share of population aged 65-and-over, LLEP local authority areas, 2017



Source: ONS

By 2030, Melton's 65-and-over resident population is forecast to reach 28.7 percent of total population, the highest such share across the LLEP. North West Leicestershire is forecast to have the largest growth rate in over-65s, with an additional 7,000 residents driving 2.6 percent growth per year whilst Oadby and Wigston is expected to see the slowest growth in this age cohort (1.9 percent). However, this will still see over-65s rise to comprise 25.6 percent of residents.

Fig. 46. Population aged 65 and over, LLEP local authority areas, 2018 to 2030



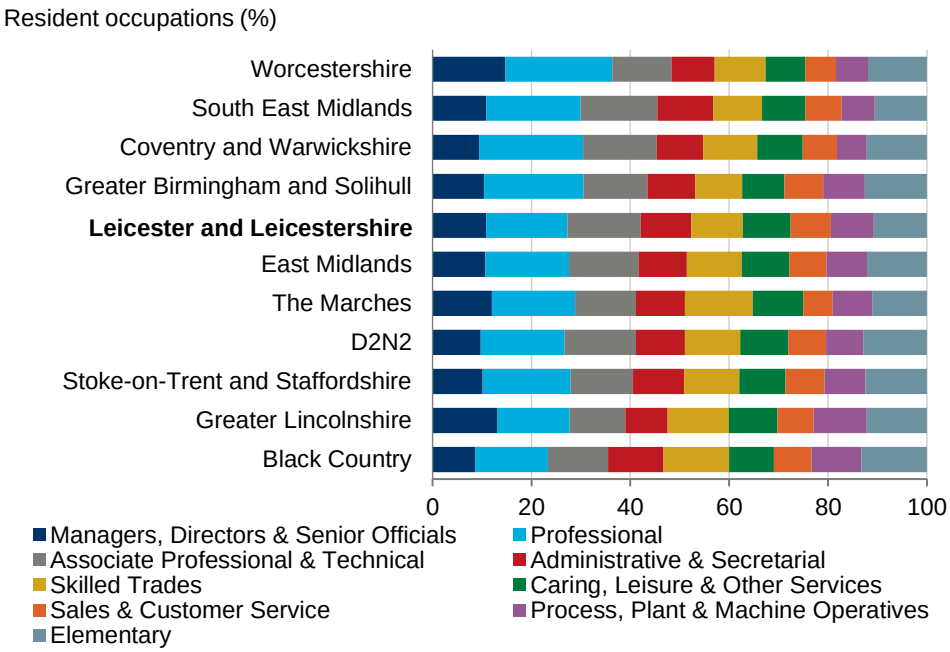
Source: Oxford Economics

The ageing of the population will be compounded by lower levels of net migration into the future. The age profile of people moving to the area is typically younger, particularly when taking up job opportunities, which has historically helped to offset the ageing of the existing population. However, with lower levels forecast into the future, the overall population will age at a faster rate than we have observed historically.

5.3 OCCUPATIONS

Generally, higher skilled occupations tend to pay higher wages, which can help to improve the economic prosperity of workers in the long run. As Fig. 47 demonstrates, the occupational profile of the residents of the LLEP shows a slightly higher share in managerial, professional and technical occupations relative to the East Midlands as a whole.

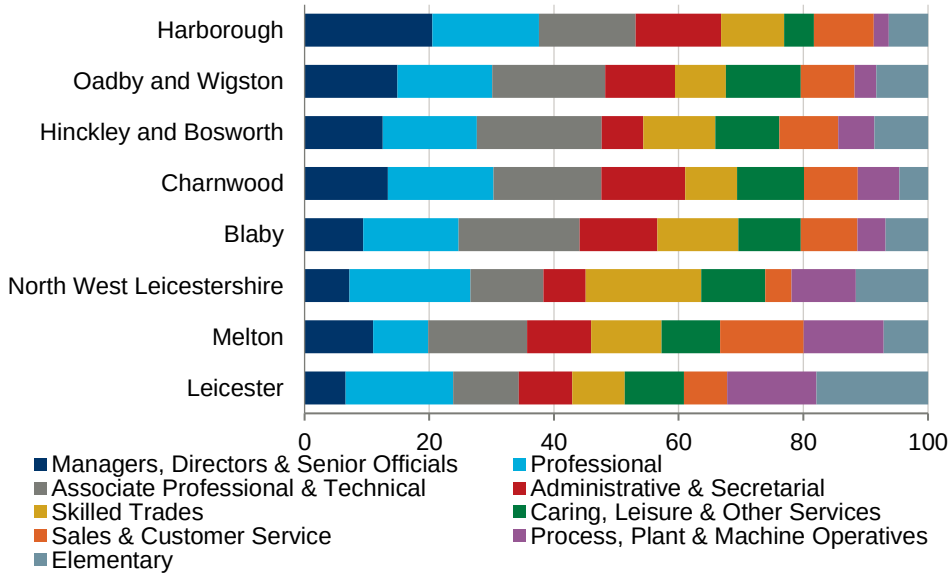
Fig. 47. Resident occupations, LLEP and comparator areas, 2018



Source: ONS

Looking more closely at the LLEP's constituent local authorities, we observe a notable variation. Harborough has the highest share of residents employed across managerial, professional and technical occupations, equivalent to over half of the resident workforce, while the rates across Oadby and Wigston (48.2 percent), Hinckley & Bosworth and Charnwood (both 47.6 percent) are similarly high. By contrast, just 34.3 percent of Leicester's residents work across these occupations.

Fig. 48. Resident occupations, LLEP local authority areas, 2018

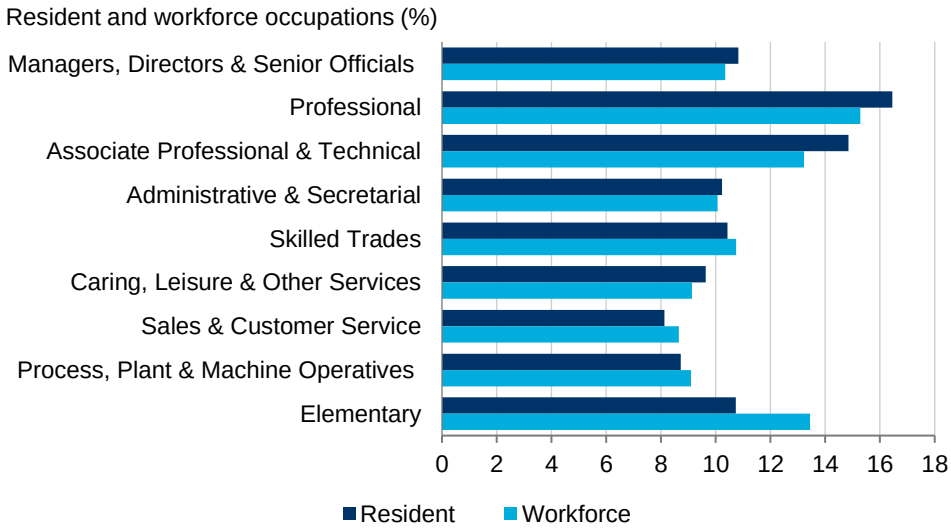


Source: ONS

A comparison between resident and workforce occupations shows the LLEP has a lower share of workplace-based managerial, professional and technical occupations (38.9 percent) than are done by the area's residents (42.1 percent). By contrast, it has a greater share of workplace jobs in lesser-skilled occupations, such as plant operatives and elementary occupations.

This may reflect a lesser availability of higher skilled, and higher paid occupations, within the local workforce, requiring residents to commute elsewhere. However, commuting patterns are often a greater reflection of preferences over where to live than to work. This finding may reflect that the LLEP area attracts workers in higher value occupations outside of the LLEP area—who would otherwise live elsewhere—to the LLEP.

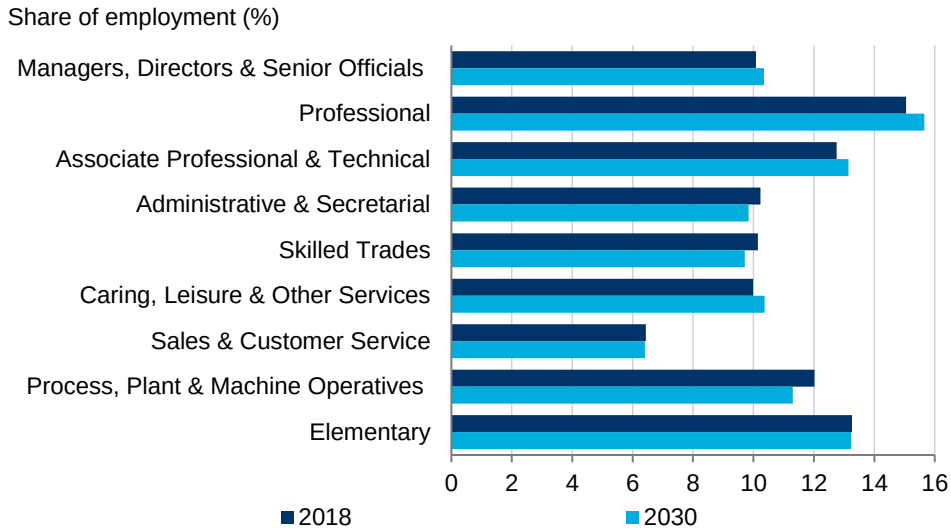
Fig. 49. Comparison of resident and workplace-based occupations, LLEP, 2018



Source: ONS

However, the occupational profile of the workforce is not fixed, and as different sectors of the economy grow at different rates, the profile of occupations required by employers will change. Of the 26,800 additional jobs generated across the economy up to 2030, we forecast that 15,000 (or 63.3 percent) will be across the managerial, professional and technical occupations. Caring, leisure & other services will also see a relatively large increase, equivalent to 4,700 additional jobs, which is partly a function of the LLEP area's ageing demographic profile (discussed in further detail in Chapter 6).

Fig. 50. Workforce occupation forecast, LLEP, 2018 and 2030



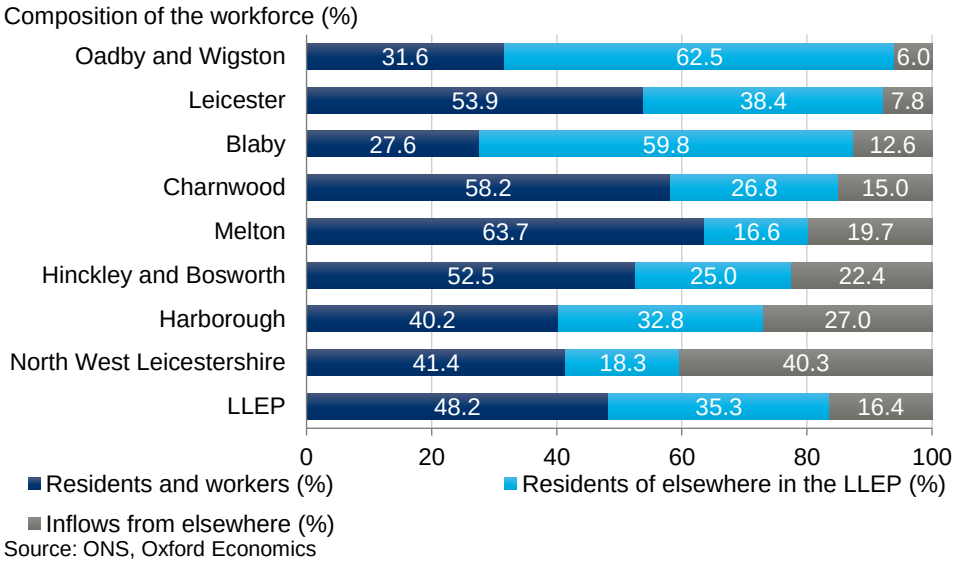
Source: Oxford Economics

5.4 COMMUTING

Many Leicestershire residents commute to work elsewhere. Their decisions are driven by a combination of job availability and location decisions. Some residents may decide (or feel obliged) to commute elsewhere to gain access to better quality jobs, while others who work elsewhere for quality of life purposes. Regardless of the drivers that underpin these decisions, the outcomes are observed differences in a number of key indicators of job quality: occupations, qualification levels and wages.

Analysis of data provided by the Census indicates the extent to which workers live either locally (i.e. in the same local authority area), in other local authority areas in the LLEP area or commute in from elsewhere. In 2011, 83 percent of the workforce of the LLEP also resided in the LLEP area. Oadby & Wigston (94 percent) and Leicester (92.2 percent) drew the largest share of workers from the LLEP area, while conversely only 59.7 percent of those working in North West Leicestershire also live in the LLEP.

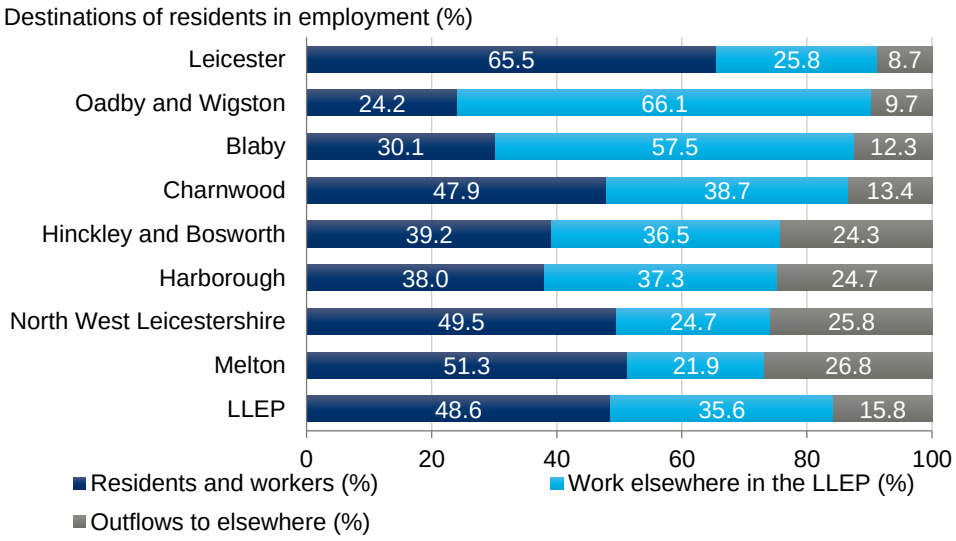
Fig. 51. Travel-to-work patterns of the workforce, LLEP local authority areas, 2011[33]



Source: ONS, Oxford Economics

A similar pattern is observed when considering movements in the opposite direction: the workplace of those who reside in the LLEP area. Both Leicester and Oadby & Wigston retain over 90 percent of residents within the LLEP area, while those areas with the lowest retention rates—such as Melton and North West Leicestershire—still see around three-quarters of residents retained within the LLEP.

Fig. 52. Travel-to-work patterns of residents, LLEP local authority areas, 2011[33]



Source: ONS, Oxford Economics

[33] Note that this analysis follows ONS guidance in excluding those workers classed under *"no fixed place"* or *"mainly work at home or from home"*.

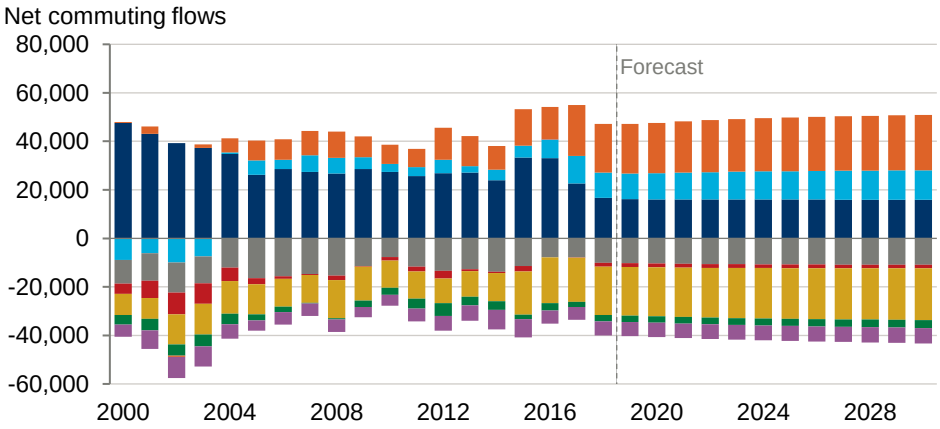
While origin-destination analysis from the Census tells us the overall proportion of movements between local authorities, through comparing resident and workplace-based employment measures, we can estimate the evolving pattern of net commuting flows throughout the LLEP area.

Overall, the LLEP area demonstrates positive net commuting. In 2018, it had 7,200 more residents in employment than workforce jobs, forming an outflow equivalent to 1.3 percent of the workforce. We forecast this share to remain broadly unchanged into the future.

This overall perspective masks the changing profile of net commuting across the LLEP's local authority areas over time. Historically, Leicester has seen a large net inflow of commuters—more workforce jobs than residents in employment—as was shown across Fig. 51 and 52. However, the levels of net inflows have fallen from 27,500 in 2011 to 16,800 in 2018, due to resident employment outstripping workforce job creation. We forecast the current net commuting levels into Leicester to remain largely unchanged into the future, as resident employment is due to increase in line with the city's workforce.

By contrast, North West Leicestershire has seen an increasing net inflow of commuters although, as was noted in Fig. 51, a larger share of its workforce come from outside of the LLEP area. Blaby is the only other local authority area with a positive net inflow of commuters.

Fig. 53. Net commuting flows, LLEP local authority areas, 2000 to 2030



Source: ONS, Oxford Economics

5.5 SKILLS

The balance between the occupations of residents and the workforce, and to some extent observed patterns of commuting, are linked to skills. We can consider skills in terms of 'demand', those required to meet the needs of employers, and 'supply', those held by local residents.

5.5.1 Skills demand

Building on the workforce occupations forecasts[34] presented in Section 5.1, we can translate demand into a required skill level, measured by qualification levels.[35] Using historic data from the ONS on the qualifications profile of workers across the 25 occupational groups, we forecast this relationship, capturing the changing skill requirements across different occupations into the future.[36] Applying this relationship to the occupations forecast for the LLEP provides a broad estimate of the overall levels of skills required in the future.

We find that in 2018, just under 40 percent of jobs in the LLEP required NVQ Levels 4+ (degree or higher) qualifications, equivalent to 205,000 jobs. An additional 26 percent of jobs (135,200) required NVQ Level 3 qualifications. However, the economy has gradually become more skills hungry and this will continue into our forecasts.

87 percent

of net new jobs by 2030 will require NVQ 4+

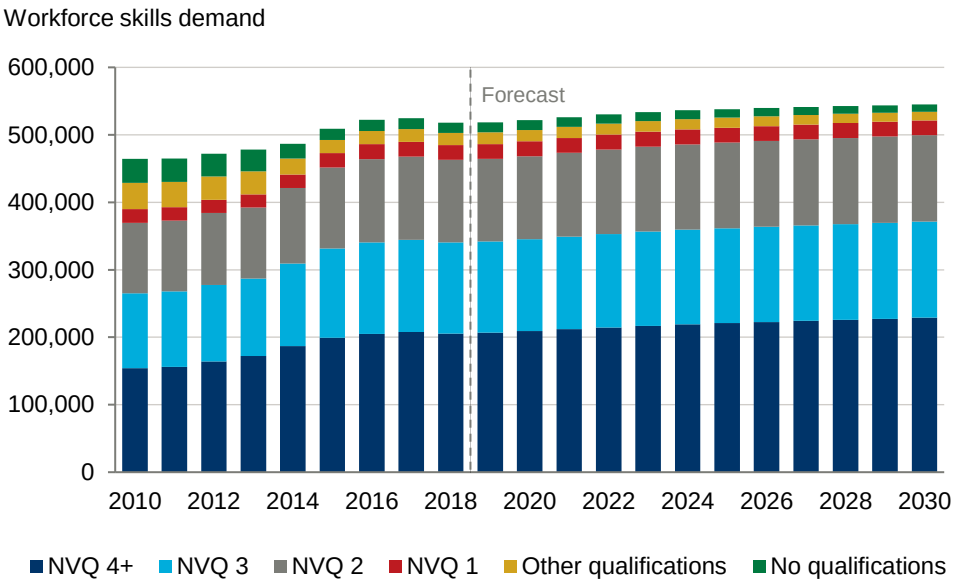
By 2030 42 percent of all jobs in the LLEP will require NVQ 4+ qualifications.

Owing in part to the growth of managerial, professional and technical occupations, we forecast a shift in the profile of workplace skills demand into the future. By 2030 we forecast that 42 percent of jobs (228,900) will require NVQ Level 4+ qualifications. This represents 87 percent of the net increase in jobs demand between 2018 and 2030. Demand for NVQ Level 2 and 3 jobs are both forecast to grow by around five percent, while other or no qualifications are forecast to contract as a share of the LLEP total.

We estimate a decrease in jobs requiring “other qualifications” (a loss of 5,145 jobs) and no qualifications (a loss of 4,580) by 2030. The number of jobs requiring NVQ 1 is effectively static. This will have implications for the unskilled and low skilled in the LLEP. A lack of labour market opportunities may push up long-term unemployment and could also push many back into education to upskill. Consequently, it could also have implications for policy makers and the Further Education sector. With regards the latter, we were told by a number of stakeholders that we spoke with during the consultation phase that the lack of recent investment in the Further Education sector has hindered the effectiveness of training and limited its ability to offer additional places. Funding available to attract lecturers was also insufficient meaning the sector struggled to compete with industry and higher education. Given the trends in skills demand, Further Education and Higher Education in the LLEP will play pivotal roles in ensuring local businesses have the skills to grow. But they will need supported.

[34] This analysis considers the relationship between occupations and skills, rather than sectors and skills, as skill level is more closely tied to occupations, while in turn the sector in which an employee works is likely to be more substitutable than their occupation.
[35] Although we recognise that in practice employers seek other, less tangible skills that are not captured within our measure of qualifications.
[36] Although we acknowledge that this will continue to captures the ‘overqualification’ of workers in certain occupations to some extent.

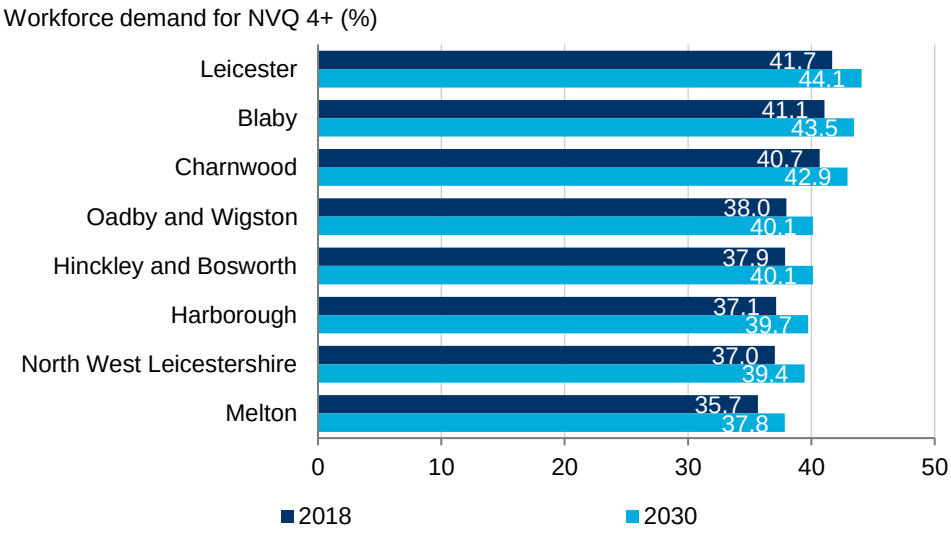
Fig. 54. Workforce skills demand, LLEP local authority areas, 2000 to 2030



Source: ONS, Oxford Economics

Focusing more specifically on NVQ 4+ qualifications, we observe some variation in the workplace profile. Leicester has the highest requirement, at 41.7 percent in 2018. Given that the city is by some distance the largest employer, this equates to over a third of all NVQ Level 4+ jobs across the LLEP. By contrast, Melton's demand for NVQ 4+ (35.7 percent) is 6 percentage points lower, and 4 percentage points below the LLEP average. Looking to the future, we observe that demand for NVQ 4+ qualifications will increase across all local authorities by 2030.

Fig. 55. NVQ 4+ skills demand, LLEP local authority areas, 2018 and 2030



Source: ONS, Oxford Economics

Our estimates above present a 'static' profile of the skills required by the labour market in each given year. They do not present a 'dynamic' profile, which measures the additional supply of skills required to fill:

- New vacancies formed by additional creation across the economy (termed 'expansion demand') and which we have discussed thus far, and
- Vacancies formed by people leaving the workforce, or moving between occupation and leaving vacancies elsewhere (termed 'replacement demand').

The Skills for the Future (2018) report shows the importance of replacement demand. It estimates that the local economy will require 166,000 new workers between 2017 and 2023, with 146,000 (or 88 percent) resulting from replacement demand. This highlights the continuing need to replace the higher skill levels of experienced workers leaving the labour market, particularly to retirement.

In addition while our demand by qualification level provides an overall perspective on the balance of skills demand into the future, it does not consider the *types* of skills that employers will require.

The Skills for the Future (2018) report provides insight into the forms of skills across the LLEP's labour market to 2030. It estimates the demand for T Level qualifications, a technical alternative to A levels for students aged 16 to 18, due to be introduced in 2020. Each T Level will provide technical knowledge and practical skills specific to one of 15 occupations, alongside an industry placement, relevant development of maths, English and digital skills, and workplace skills. Across the LLEP, this study estimates that an additional 14,100 jobs will be generated across T Level 'routes', a 3.9 percent increase on 2017 levels (361,300 jobs). Catering & Hospitality (2,700 additional jobs), Sales, Marketing & Procurement (2,400) and Management & Administration (1,800) are all forecast to experience relatively large increases in absolute terms, while each of the 15 routes will all experience some increase in jobs demand into the future.

5.5.2 Employer perspectives on demand for skills

The Skills for the Future (2018) study also surveyed almost 100 businesses based in the LLEP area to explore their perspectives on the balance between skills demand and supply in the local economy, both currently and into the future. While the Skills for the Future report provides an in-depth assessment of the survey findings, we set out an overview of some of the key points raised below.

To explore how the profiles of skills required will change in the future, the survey asked respondents to identify whether 14 different skillsets were likely to become more important, less important or stay the same over the next three years. They reported:

- **Management & supervisory** had the highest proportion of respondents who viewed this skill as becoming more important (80

percent), while a further 17 percent thought that the importance of these skills would stay the same.

- **Digital** skills were the next highest, with 70 percent of respondents identifying this skill-set as becoming more important, with a further 28 percent estimating that it will stay the same. Almost two-thirds of employers identified social media skills/proficiency as a key factor, while just under half also identified basic digital literacy, the skills needed to offer products and services online, and data manipulation and presentation skills.
- **Communication** was also deemed to become relatively more important by almost two-thirds (64 percent) of respondents. When explored in more detail, employers tended to consider face-to-face, telephone and written communication as more important, alongside effective communication with colleagues, and customers/suppliers.

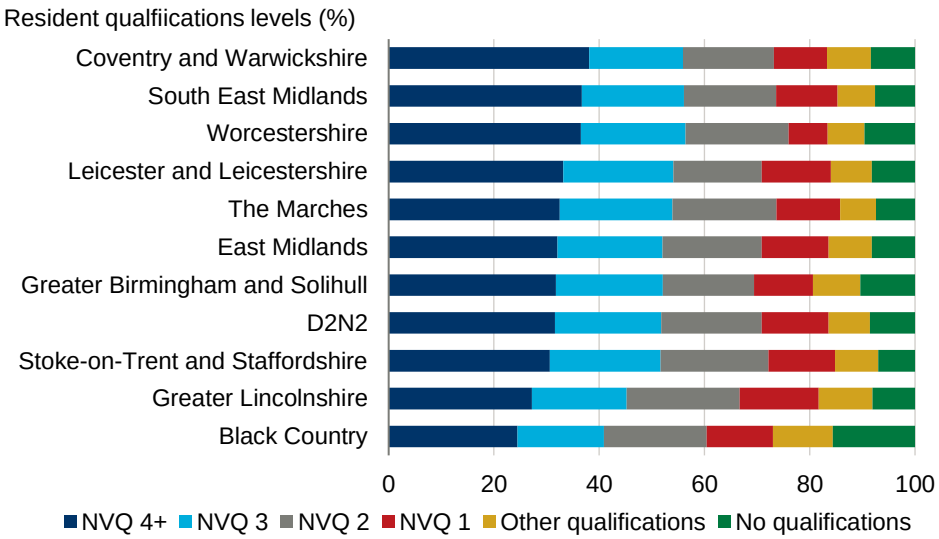
Respondents were also asked about the skills challenges they expect to face over the next decade. The survey found no common theme in the overriding challenge(s) faced by employers, although a few common issues and challenges were mentioned by multiple employers. These tended to typically include broader national issues—such as the economic and labour market implications of Brexit—or sector-specific issues that may not apply to other respondents. Difficulties in keeping pace with technological change is also identified, and which is linked to the changing definition of jobs resulting from increased automation

5.5.3 Skills supply

As the preceding analysis has shown, the occupation profiles of residents do not necessarily align to the jobs available locally, which can result in highly qualified residents commuting elsewhere to seek better job opportunities.

Overall, the residents of the LLEP area are relatively well qualified when compared to the Midlands Engine LEPs. In 2017, the latest year for which data are available, 33.2 percent (214,500) of working age residents held qualifications to NVQ Level 4 or above, the fourth highest of all Local Enterprise Partnership areas in the Midlands, and 1.1 percentage points above the East Midlands average.

Fig. 56. Highest qualification levels, LLEP and comparator areas, 2017



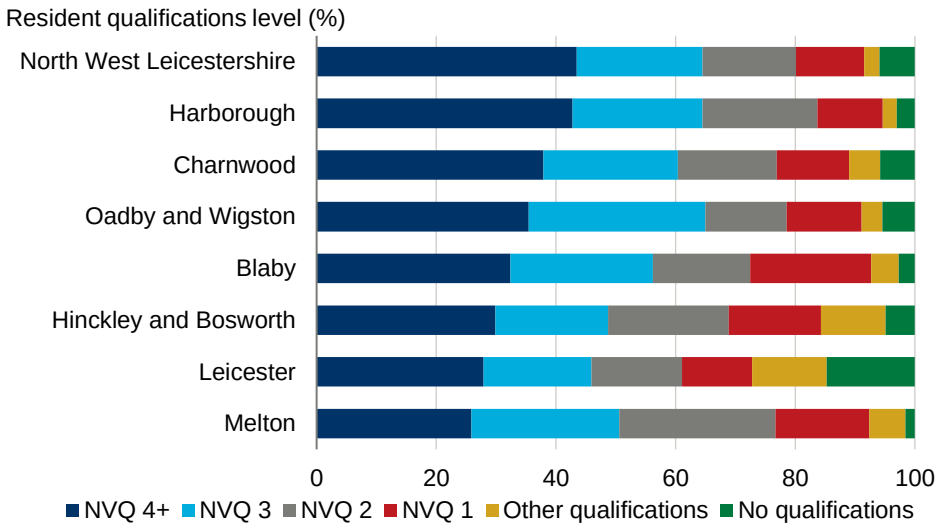
Source: ONS

However, the overall profile of the LLEP masks variations at a local level. The variation in the profile of resident occupations across the LEP's local authority areas (shown in Fig. 48) is reflected in the qualification levels of its residents. , and Fig. 57 shows that it also supports the second-largest share of residents with NVQ Level 4+ qualifications (42.8 percent), only slightly behind North West Leicestershire (43.5 percent).

By contrast, the two local authorities with the lowest shares of residents with NVQ Level 4+ qualifications, Leicester (27.9 percent) and Melton (25.9 percent), also rank lowest for these occupation groups. Leicester's relatively high student population may also distort the share of residents qualified to NVQ Level 3 (and 4+ for post-graduates), which for the permanent resident population may be even lower.

At the other end of the scale, Leicester (14.7 percent) has a notably high proportion of residents with no formal qualifications, a share 6.7 percentage points above the UK average. The true extent of this problem may be understated by this statistic alone, again due to the city's large student population. Consultees indicate a strong need for training in 'core' skills, such as in English, maths and digital training.

Fig. 57. Highest qualification levels, LLEP local authority areas, 2017



Source: ONS

However, qualification levels alone do not inform the 'employability' of residents within the local labour market. Throughout our consultation exercise, a range common themes emerged in this regard.

First, an issue of underemployment is apparent in the local economy, whereby many individuals are overqualified for the occupations they work in. Although we would expect some underemployment to occur—due to imperfect 'matching' between employers and employees in the labour market—the problem appears to be particularly pronounced across the LLEP. This suggests that the local economy is underutilising the 'human capital' available to it, which may be tied to the productivity gap outlined in Section 2.

Similarly, residents often hold qualifications in subjects that do not match the job requirements of the local economy. Consultees indicate that this particularly the case for those jobs that require utilising digital, technological and advanced manufacturing/engineering qualifications.

5.5.4 Employer perspectives on the supply of skills.

Finally, qualification levels alone do not inform the '**work readiness**' of residents. A survey of local firms as part of the Skills for the Future study suggests that—IT skills aside—there are relatively few employability issues for applicants aged 25 and over. There were however more concerns over the work readiness of younger applicants, particularly regarding 'soft' skills such as communication and problem-solving.

The survey did find however that work readiness in those aged under 25 showed some improvements, when compared to the previous 2016 survey, although it tends to vary by skill level:

- **Low skilled roles**: nearly half (44 percent) of employers that had recently recruited one or more employee in this age group rated their

work readiness as either 'good' or 'very good', while those 'fair' and 'poor' constituted 35 percent and 21 percent respectively.

- **Medium-skilled roles**: employers were more likely to deem the work readiness of young people as 'fair' than 'good or very good', although they were no more likely to identify medium-skilled employees as 'poor' than their low skilled counterparts.
- **High-skilled roles**: only a quarter of firms considered work readiness 'good or very good', although few employers had recruited young people into high skilled jobs.

The qualitative aspects of this survey also helped to identify areas within which the work readiness of young people tends to be stronger. It identifies a common consensus that the strongest attributes typically include enthusiasm for the role, and IT / digital skills and literacy. However, a range of weaker attributes are reported to include poor communication / conversational skills, problem-solving skills and resilience, and little prior employment experience. The study also identified a common weakness in the applications for roles, with poor quality CVs, covering letters and application forms often restricting younger people from being considered for certain vacancies.

For those aged 25 and above, employers tended to be relatively positive about the work readiness of employees, with relatively few identified as 'poor'. Unlike for young people, there appeared to be relatively little variation by skill level. Common positive attributes include greater prior experience and a sounder understanding of the requirements of the role, although older workers tended to demonstrate relatively weak IT skills.

The survey also explored employer attributes towards **apprenticeships**. Of employers that employ apprentices, views on the ease by which vacancies can be filled were mixed. Those who were less able to find suitable apprentices tended to struggle to find applicants with the right skills and personal attributes.

For the other set of firms, the survey also sought to explore why they do not employ apprentices. Three common themes were identified:

- that there was not a need for apprentices in their businesses;
- that they would struggle to find the time to support an apprentice; and
- that previous apprenticeships have not been successful.

The survey also sought to explore whether recent policy developments, such as the Apprenticeship Levy and creation of new standards, have changed perceptions of apprenticeship schemes. Although the survey was only able to draw on a relatively small sample, they found little change in the private sector. The survey found no evidence that existing members of staff had begun apprenticeships, while the channels through which apprentices are recruited (e.g. engagement with local schools/colleges, company websites) have not changed significantly since the previous survey.

Despite this, the over-arching consensus across employers was that apprenticeships are becoming better understood over time, although there is still a need for further improvements. This is partly a function of the financial implications of the Apprenticeship Levy, 'forcing' some employers to deepen their knowledge of apprenticeships, although a greater willingness from schools

to engage with post-16 providers on raising awareness of apprenticeship schemes is also identified as a contributing factor.

The survey also sought employers' views on their own knowledge of the local training offer. The findings were generally positive: more than 80 percent knew where to find information about local training (to some extent), while more than 90 percent knew where to find information about online training. Findings regarding the understanding of this training-related information was somewhat weaker: 27 percent did not find this information *"easy to understand"*, while 34 percent did not understand the different qualification levels.

5.6 EDUCATION

While we have so far discussed the 'stock' of skills across the LLEP area, it is also important to consider the 'flows': the skills of new workers joining the workforce. To explore this further, we consider the performance of local higher education, further education and schools in the LLEP area.

5.6.1 Higher education

Across its three universities, the LEP was home to 60,400 enrolled students in 2018, equivalent to just under 6 percent of the resident population. In 2017/18, more than 19,000 students graduated from the LEP's three universities. De Montfort University had the highest number of enrolled students (7,800), followed by the Loughborough University (5,700) and the University of Leicester (5,600).

These institutions support a relative concentration of studies across certain subjects. Graduates of business & administrative studies totalled 4,300 or 22.5 percent of the LEP total, a share 5.4 percentage points higher than the UK total (14.6 percent), with around half of students attending De Montfort University. The LEP also has a particular specialism in engineering & technology studies—particularly at Loughborough University—which forms the third highest share of graduates by subject (9.5 percent), again exceeding the UK equivalent (6.8 percent).

Fig. 58. Higher education enrolments by LLEP institution and subject, 2018

Subject	De Montfort University		Loughborough University		University of Leicester		UK
	Number	%	Number	%	Number	%	%
Medicine and dentistry	0	0.0	0	0.0	315	5.6	2.4
Subjects allied to medicine	1,205	15.5	40	0.7	205	3.7	11.1
Biological sciences	280	3.6	740	13.0	485	8.7	9.1
Veterinary science	0	0.0	0	0.0	0	0.0	0.2
Agriculture and related subjects	0	0.0	0	0.0	0	0.0	0.8
Physical sciences	235	3.0	280	4.9	430	7.7	3.7
Mathematical sciences	25	0.3	225	4.0	170	3.0	1.7
Computer science	540	6.9	165	2.9	175	3.1	3.9
Engineering and technology	400	5.1	1,195	21.0	220	3.9	6.8
Architecture, building and planning	280	3.6	180	3.2	0	0.0	2.5
Social studies	590	7.6	510	9.0	875	15.7	9.7
Law	535	6.9	0	0.0	430	7.7	4.1
Business and administrative studies	2,125	27.3	1,305	23.0	855	15.3	17.1
Mass communications and documentation	300	3.9	230	4.0	445	8.0	2.5
Languages	100	1.3	105	1.8	300	5.4	4.1
Historical and philosophical studies	65	0.8	55	1.0	345	6.2	3.5
Creative arts and design	890	11.4	515	9.1	10	0.2	7.7
Education	210	2.7	140	2.5	330	5.9	8.6
Combined	0	0.0	0	0.0	0	0.0	0.6
Total	**7,775**	**-**	**5,685**	**-**	**5,580**	**-**	**-**

Source: Higher Education Statistics Authority

However, the extent to which graduates may support the skills base within the local labour market is determined by graduate retention rates. As analysis by the Centre for Cities shows, while few cities tend to retain graduates of its universities locally, many including Leicester experience a net gain in the number of graduates each year.[37] This implies that the subject profile of the students studying elsewhere that may be attracted back to the LLEP area after graduating is also an important consideration.[38] Unfortunately data on this is not readily available across all institutions, although information provided by Loughborough University suggests that in 2016/17 only 15 percent of UK students graduating from their first-degrees were in employment in the East Midlands at the beginning of 2018, while 48 percent were employed in either London or the South East.

Almost a quarter of students enrolled at the University of Leicester are from overseas (24.5 percent), nearly 4.9 percentage points higher than the share of students nationally in 2017-18. This indicates a strong reputation globally as international students are attracted to the city to study. With a global reputation

[37] https://www.centreforcities.org/wp-content/uploads/2016/11/16-11-18-The-Great-British-Brain-Drain.pdf See Fig. 15 and 16.
[38] We recognise that many of the students identified in Fig. 49 will also be permanent residents of the LEP area

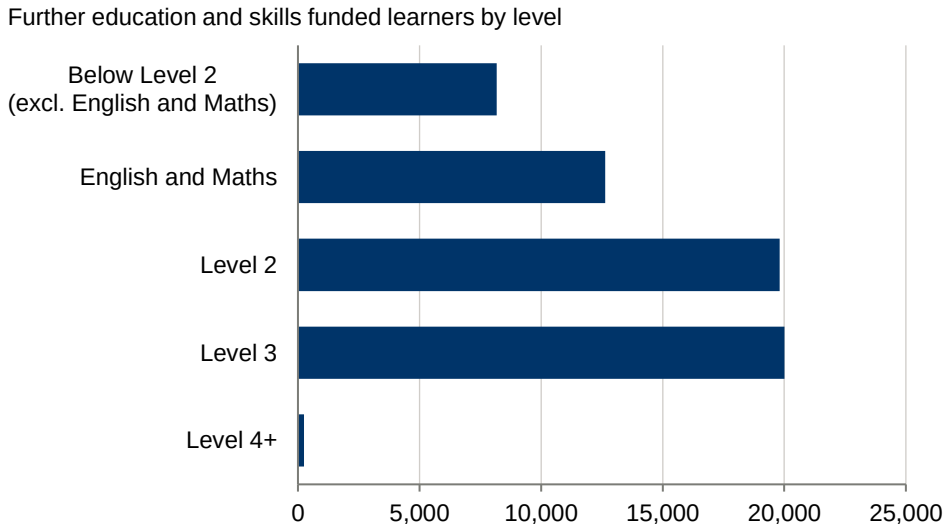
for sports-related subjects, Loughborough University has over 3,800 international students, 22.1 percent of total enrolled across all subjects.[39] Between them the three universities brought 12,800 international students to the LLEP area in the 2017-18 academic year.

5.6.2 Further education and apprenticeships

According to data published by the Department for Education, in 2016/17 there were 32,650 learners participating in some form of education and/or training across learning institutions within the LLEP.[40] 61 percent of learners were aged 19 or over, a share slightly above the England average (59 percent).

As Fig. 59 outlines, around a third of students are engaged in achieving Level 2 and Level 3 qualifications respectively. A similar share are seeking to achieve qualifications below Level 2, the majority of which are in English and Maths. Approximately 250 students were also engaged in Level 4+ qualifications, adding to the flow of higher education graduates each year, although as a proportion of overall learners, their share is relatively small.

Fig. 59. Further education and skills funded learners by level, LLEP, 2016/17



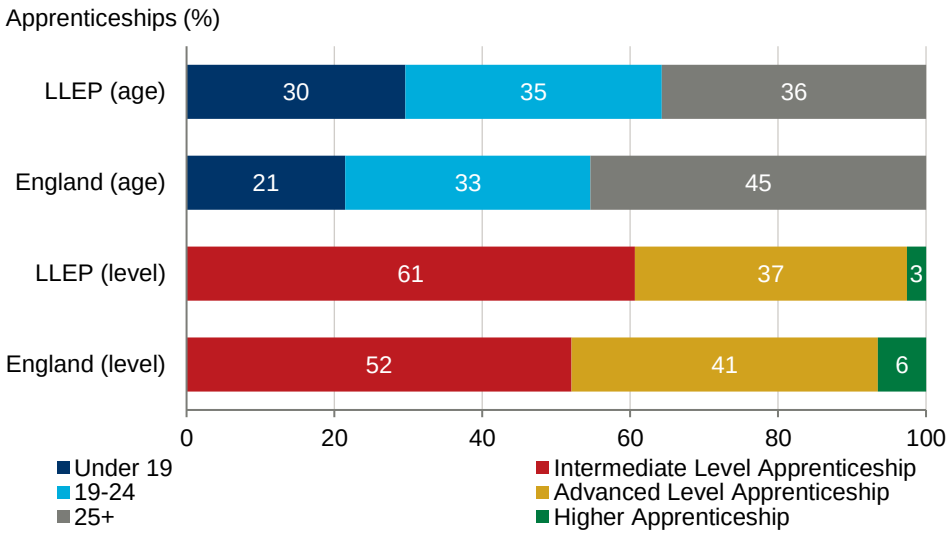
Source: Department for Education, Oxford Economics

This data also provides more detailed information by different forms of learning. According to this source, there were 9,400 apprentices in the LLEP area in 2016/17. When compared with population data, the rate of apprenticeships across the LLEP lags the England equivalent. In 2016/17, the LLEP supported just over 9 apprenticeships per 1,000 residents, well below the England equivalent of 16.3 per 1,000 residents. Of the eight local authority areas, only Melton (59.8) and North West Leicestershire (17.2) have higher rates of apprenticeship provision than the national average.

[39] https://www.topuniversities.com/university-rankings/university-subject-rankings/2018/sports-related-subjects
[40] Data is provided by institution, which we have aggregated for the purposes of this analysis.

The characteristics of apprenticeships across the LLEP also differ from the national profile. Apprentices were typically younger in age; 30 percent (2,800) were aged under 19, a share 9 percentage points above the England average. As a consequence, only 36 percent of apprentices were aged 25 or over, compared to 45 percent nationally. It also provides detail relating to the type of learning undertaken by apprentices. In 2016/17, 61 percent (5,900) were seeking to obtain an Intermediate level apprenticeship, a share higher than the England average (52 percent). The rate of those seeking Advanced (37 percent) or Higher (3 percent) level qualifications therefore lagged the national average, by four and three percentage points respectively.

Fig. 60. Apprenticeships by age and level, LLEP, 2016/17



Source: Department for Education, Oxford Economics

The Department for Education provide information on the participation and outcomes of further education within state funded schools and colleges—a subset of those participating in further education across the LLEP area. In school year 2017/18, 5,500 students achieved Level 3 qualifications across these institutions. The collective average point score achieved by students was 30.7, 2.4 points below the England average. Similarly, 77.3 percent of students achieved two substantial level 3 qualifications, a rate that is 4.7 percentage points below England. Students across Leicestershire (78.4 percent) outperformed those in Leicester (75.6 percent) by this measure.

Fig. 61. Key Stage 5 attainment, LLEP, 2017/18

	Students	Average Point Score	Percentage of students achieving two or more substantial Level 3 qualifications[41]
Leicester	2,117	30.6	75.6
Leicestershire	3,386	30.8	78.4
LLEP	5,503	30.7	77.3
England	326,897	33.1	82.0

Source: Department for Education, Oxford Economics

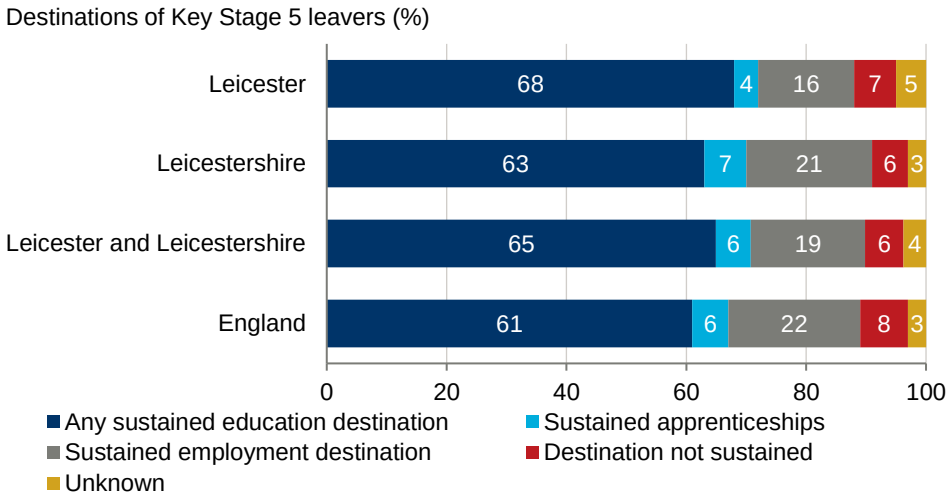
Alongside attainment rates, the destinations of further education leavers is also an important factor. The extent to which students forgo additional qualification levels to join the workforce will influence the overall qualifications profile of residents over time. Data provided by the Department for Education presents the destinations of Key Stage 5 leavers from state-run schools and colleges.

In 2017/18, 65 percent of students in the LLEP at the end of Key Stage 5 left to another education destination, a share 4 percentage points higher than England as a whole. While the rate of apprenticeship take-ups is similar, a lower share (19 percent) went into employment than across England (22 percent). Overall, a lower share were not in education, employment or training ('NEETs'), 6 percent, than across England (8 percent).

So, while the attainment levels of students across the LEP generally slightly underperform the national averages, a larger share go on to undertake additional qualifications. This may partly reflect the strong presence of universities locally.

[41] Equivalent to two A levels.

Fig. 62. Key Stage 5 destinations, LLEP, 2015/16[42]

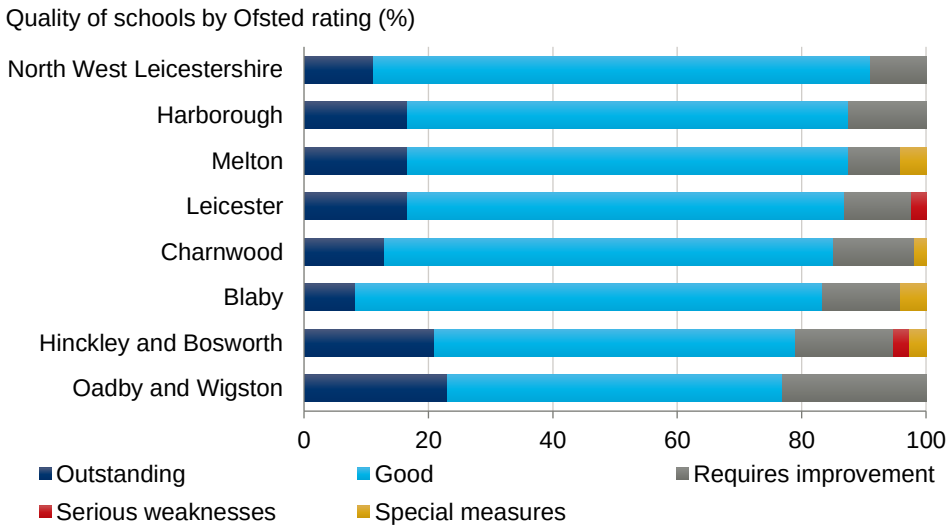


Source: Department for Education, Oxford Economics

5.6.3 Schools

Across the LLEP, the quality of schools—as measured by Ofsted gradings—is relatively high. At the time of writing (April 2019), 47 of the LLEP area's 306 schools (or 15 percent) with a rating achieved an 'outstanding' score, while 215 schools (70 percent) achieved a 'good' score. This is slightly below the average across England, 87 percent of schools achieve either 'good' or 'outstanding' scores. Only four schools across the LLEP area were in 'special measures', while a further three 'require improvement'.

Fig. 63. Quality of schools, LLEP local authority areas, 2019



Source: Department for Education, Oxford Economics

[42] This measure includes state-funded mainstream schools and colleges only. It considers the activity of leavers in school year 2015/16 one year on (i.e. during school year 2016/17).

In school year 2017/18, 10,400 pupils across schools within the LLEP area reached the end of Key Stage 4 education. Pupils across the LLEP achieved an average Attainment 8[43] score of 45, outperforming the England average (44.5) due to relatively high scores across Leicestershire (46.2).

When considering the core subjects of English and maths, students across the LLEP area also tended to outperform those elsewhere in England. A greater share (96.9 percent) were entered for both subjects, at a rate 6.8 percentage points above England as a whole, with the proportion of students receiving grades 9-5 (41.1 percent) and 9-4 (63.4 percent) similarly outperforming national averages. Although the proportion of students entering for English and maths qualifications is high by national standards, the attainment rates in Leicester lag below the national (and LLEP) averages.

Fig. 64. Key Stage 4 qualifications, LLEP, 2017/18[42]

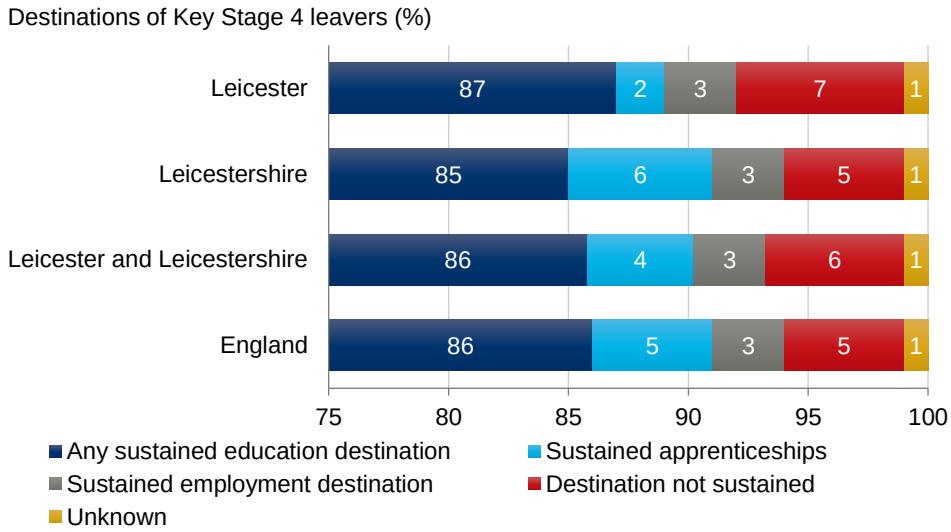
	Students	Average Attainment 8 score	English and maths		
			Pupils entered (%)	Achieved grades 9-5 (%)	Achieved grades 9-4 (%)
Leicester	3,511	42.8	95.4	36.3	56.1
Leicestershire	6,837	46.2	97.7	43.6	67.1
LLEP	10,348	45.0	96.9	41.1	63.4
England	583,617	44.5	90.1	40.2	59.4

Source: Department for Education, Oxford Economics

For Key Stage 4 leavers (i.e. those aged 16), the proportion of students leaving for further education across the LLEP area (86 percent) is in line with the England average. A lower proportion (4 percent) take up apprenticeships, due in part to the low share across Leicester (2 percent), while those not in education, employment or training (7 percent) is slightly higher than across England, again in part to a higher rate within Leicester.

[43] An average score of each student's grades across eight subjects.

Fig. 65. Key Stage 5 destinations, LLEP, 2015/16[42]



Source: Department for Education, Oxford Economics

5.7 CHALLENGES AND OPPORTUNITIES

The LEP's growing population represents both an opportunity and a challenge. While levels of new migrants moving to the LLEP area are forecast to be somewhat lower in the future—a reflection of UK-wide migration policy—the population will continue to grow at a rate above the regional and national averages. Although the LLEP area has the highest working age share (those aged 16 to 64) across the Midlands, the age profile of the population means that growth will be largely in the 65s and over. The need to provide goods and services to meet ageing populations forms a Grand Challenge faced across the LLEP and the UK as a whole.

Productivity is linked to the sectors present in the local economy, which in turn is reflected in the occupational mix of the workforce. Our analysis shows that resident occupations are broadly in line with the regional average, despite some variation across specific local authorities. A workplace-based measure indicates that a greater proportion of residents tend to occupy higher-skilled positions than are available within the local workforce, which could be a factor of either residents commuting elsewhere to take up such positions, or that choose to locate in the LLEP area for other reasons. Regardless of the factors that determine this observed pattern, securing growth in the sectors that support these higher value occupations therefore represents a significant opportunity for the LLEP area into the future.

Our analysis of the skills profile of future labour demand (measured through their relationship with occupations) indicates that the LLEP's workforce will increasingly require higher qualification levels to support growth. A key challenge for the LLEP area will be to encourage the retention of more students graduating from the three major universities—particularly in subjects that tend to be highly valued by employers, such as physical sciences and engineering & technology—to boost the local skills base.

6. PLACE

KEY FINDINGS

- The LLEP has a mixed and diverse population—particularly in Leicester—which is commonly regarded as one of its more distinctive and differentiating characteristics.
- 72.1 percent of the LLEP population was urbanised. This is over 10 percentage points below the England equivalent rate of urban living (83 percent), although its rural population are typically older in age, and have a particularly high proportion of residents in their sixties and seventies.
- The LLEP area overall has a slightly higher economic inactivity rate (23.2 percent) than the national average, although this is partly attributable to its large student population. Economic inactivity rates however tend to vary somewhat by gender and across different ethnic groups.
- Unemployment is relatively low in the LLEP, at 1.4 percent in 2018. This compares favourably to the East Midlands rate of 1.8 percent, and 2.2 percent across the wider UK.
- In 2018, residents of the LLEP area typically earned less than those in both the wider East Midlands and across the UK. Those who work in the LLEP area earn less than the average resident there.
- The average life expectancy in the LLEP is the highest for both females and males of all the comparator areas. At 83.7 years for women and 79.9 years for men, these are also both above the England averages (83.1 and 79.4, respectively).
- The LLEP area has relatively less overall deprivation than regionally, with few areas of severe deprivation tending to be concentrated in urban areas. Social mobility however is relatively poor compared to national indicators, particularly for those earlier in life.

6.1 INTRODUCTION

The national Industrial Strategy seeks to provide *"prosperous communities across the UK"*. While many of the factors that define 'place' are intangible, in this section we consider a variety of factors that both define the LLEP as a location, but also influence the economic wellbeing of its residents. We discuss factors such as the diversity of the population, differences between the LLEP's urban and rural communities, access to the labour market and wages, alongside a range of indicators that consider wellbeing, such as health, deprivation and social mobility.

6.2 DIVERSITY

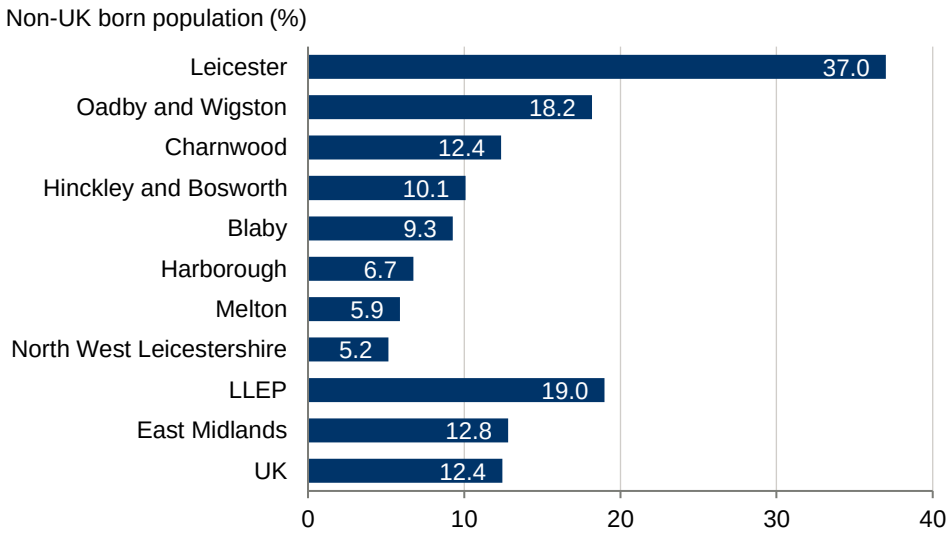
An important and distinctive characteristic of the LLEP area is the diversity of its population. A common theme throughout the consultation exercise undertaken as part of this study is that the LLEP area—and Leicester in particular—is a relatively uniquely diverse place, supporting populations from a variety of cultural backgrounds. As an example of this, Narborough Road—running from the south west of Leicester to its city centre—was identified as

one of only four 'super-diverse' high streets across the UK in a 2017 study.[44] Leicester also hosts one of the largest annual Diwali celebrations outside of India.[45]

Diversity itself is difficult to evidence, as it can capture a variety of differences in factors such as ethnicity, nationality and socioeconomic status. It can also reflect not only the profile of residents of an area, but the extent of economic, social and civic engagement across wider communities.

An simple indicator of diversity is nationality: the number of non-UK born residents of an area. This measure provides some indication of the diversity of an area, but also the extent to which it is an attractive place for international migrants moving to the UK to locate. As Fig. 66 shows, around one in five residents of the LLEP area are non-UK born, a share somewhat higher than the East Midlands (12.8 percent) and UK (12.4 percent) rates. Leicester has the largest share of any local authority area (37 percent)—equivalent to over a third of residents, and two-thirds of the non-UK born residents across the LLEP area. However, only Oadby and Wigston (18.2 percent) also has a higher share than the regional or national averages.

Fig. 66. Non-UK born population, LLEP local authority areas, 2016/17



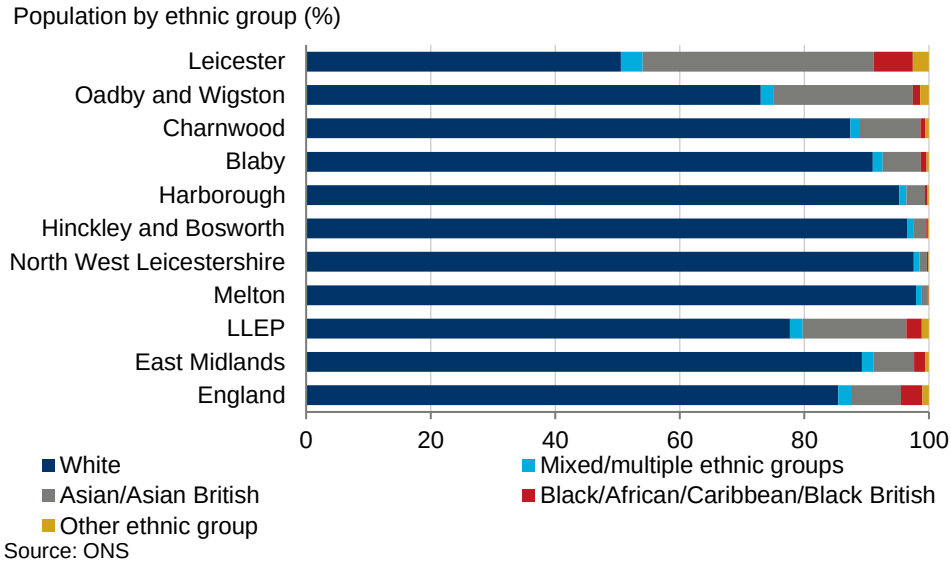
Source: ONS

However, place of birth alone is a blunt measure which does not capture the inter-generational components of diversity. Many residents of the LLEP are the children of second or third-generation migrants, who are UK-born but retain cultural links to other nationalities. As such, a key indicator of this is the ethnic mix of the population, a self-identified criterion drawn from the 2011 Census. It shows that the proportion of the population of the LLEP area that are non-white (78 percent) is 11 percentage points lower than the regional rate (89 percent), and 8 percentage points below England as a whole (85 percent).

[44] https://lsecities.net/objects/research-projects/super-diverse-streets
[45] https://www.visitleicester.info/whats-on/diwali-p704841

Across its local authority areas, Leicester stands out as having a particularly diverse ethnic mix; almost half (49 percent) of the population are identified as non-white. Asian/Asian British is the largest single ethnic minority, representing over a third (37 percent) of Leicester's population. This group within the city alone accounted for 75 percent of Asian/Asian British residents across the LLEP area, and 42 percent across the East Midlands, in 2011.

Fig. 67. Ethnicity, LLEP local authority areas, 2011



Source: ONS

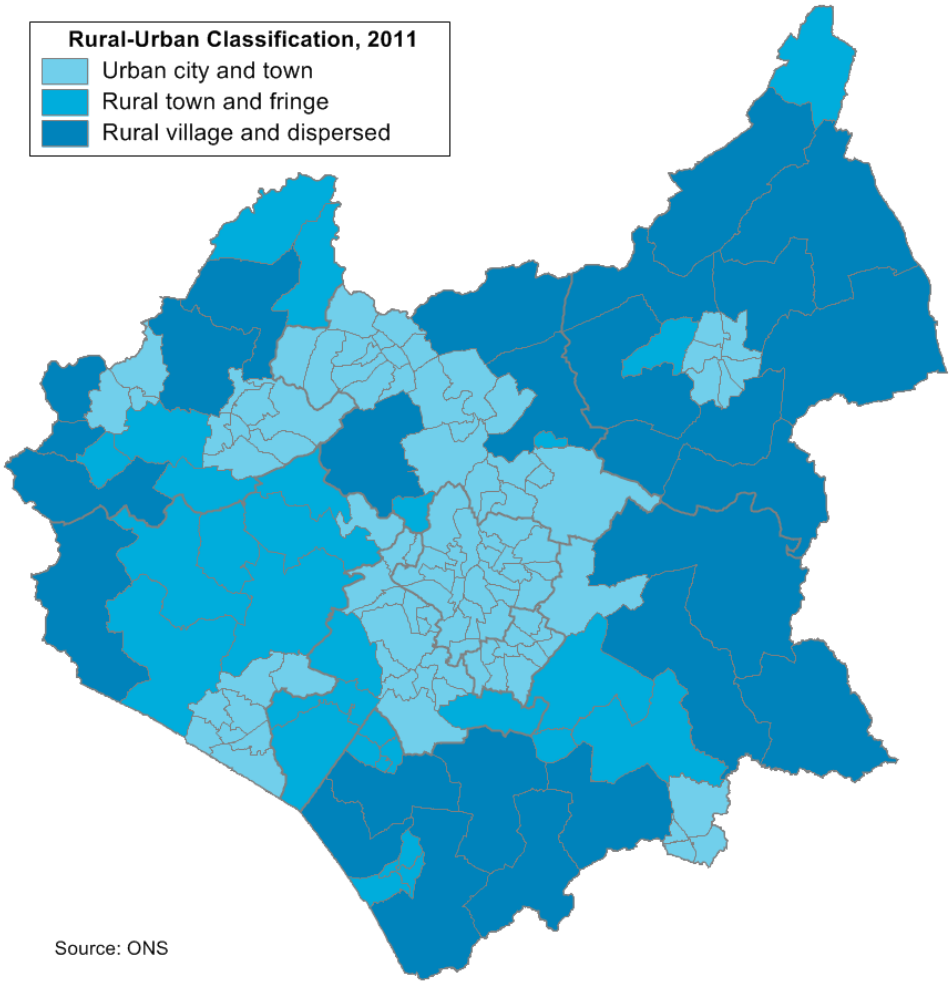
6.3 RURAL-URBAN SPLIT

A key factor in defining 'place' is the degree of urbanisation. As noted in the Leicestershire County Council "Rural Evidence Base 2018" report, the county is predominantly rural by area, with the majority of Melton and Harborough districts in the east classed rural, as well as large areas of Hinckley and Bosworth and North West Leicestershire to the west. The report finds that 82 percent of the area of Leicestershire is classed as rural. Of this, 18 percentage points are classed as Rural Town and Fringe (by the ONS), while the remaining 64 percentage points is classed as Rural Village and Dispersed.

Based on localised population estimates in 2017, 72.1 percent of the LLEP population was however urbanised. Though this is more than 10 percentage points below the England equivalent rate of urban living (83 percent).

The urban population share varies significantly between the different local authority areas, with Oadby & Wigston classified as completely urban, and Charnwood as 89 percent urban. Meanwhile, only 36 percent of the Harborough population was defined as urban in 2017. Whilst Leicester is predominantly an urban area some wards on the outskirts of the city fall under the rural classification; in 2017, 79 percent of the people in Leicester lived in urban areas.

Fig. 68. Rural-urban classification by ward, LLEP, 2011



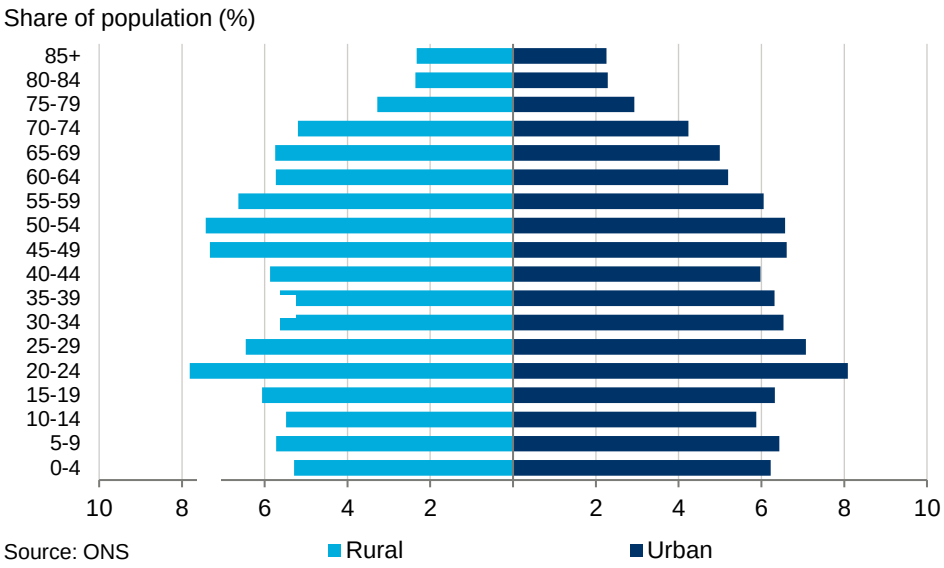
Overall, rural areas tend to be older than urban areas. In 2017, the average age of rural residents (40.8) was 2.1 years higher than their urban counterparts (38.7).

However, the extent of the rural-urban age divide is less pronounced across the LLEP area than elsewhere in England. Analysis undertaken by the Department for Environment, Food & Rural Affairs (2019) estimates that 54.5 percent of the population of rural areas across England are aged 45 or over, a difference of 13.1 percentage points on the equivalent share within urban areas (41.4 percent). [46] An analysis of equivalent data across the LLEP area shows a gap that is considerably less marked; 46 percent of the rural population are aged 45 and over, with the gap to the rural population (41.1 percent) of just 4.9 percentage points.

The age profile of the LLEP is shown in Fig. 69. Note the relatively higher proportion of rural dwellers in their sixties and seventies, compared to the LLEP's urban population.

46 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/782163/Rural_population_and_migration_February_2019.pdf

Fig. 69. Share of population by age band, LLEP, 2017



Source: ONS

The Leicestershire County Council "Rural Evidence Base 2018" report, contains population projections by Edge Analytics. They estimate that over the period 2014 to 2037 the population of Rural Village and Dispersed areas will grow by a faster rate than that of urban areas in the County (14.8 percent compared to 13.9 percent respectively). In comparison, Rural Town and Fringe areas are projected to increase by 10.1 percent over the same period. In absolute terms the growth in urban population is much greater than rural, however there are a number of important findings. The Rural Evidence Base 2018 report notes that by 2037, the 75+ age group is projected to be the largest group, with 37,900 people, an increase of 119 percent. In comparison, the 35-64 age groups experience decline between 2014 and 2037, with the 45-54 age group experiencing the greatest decline (-5,900 people, -18.3 percent). This will have implications for health services, available labour for local businesses and housing requirements.

Data on internal migration (i.e. to or from elsewhere in the UK) is not sufficiently available at a ward level to provide an indication of the extent of movements between or across the LLEP's rural and urban areas. However, internal migration between its local authority areas shows a net migration of people from Leicester and Oadby & Wigston to other local authority areas across the LEP, with Blaby and Charnwood the most popular destinations. These two local authorities saw the highest net inflow of people from elsewhere in the county at 1,100 and 1,400 respectively.

The age of migrants also differs by local authority area. Internal migrants moving either to or from Leicester are typically younger—the average leaver is aged 30 and the average newcomer is 32. Movements elsewhere are typically older, with the average age of migrants to North West Leicestershire, a more rural area, from other parts of the LLEP area the oldest at 37 years old.

We also observe a large net inward migration of 15-19-year olds nationwide to Charnwood and Leicester. This is likely due to the presence of the universities

in these local authority areas, and is followed by significant net outward migration among 20-to-24 year olds.

Fig. 70. Urban-rural population and average age, LLEP local authority areas, 2017

	Population		Average age		
	Urban (%)	Rural (%)	Urban	Rural	Difference
Blaby	70.9%	29.1%	41.4	42.1	0.7
Charnwood	88.9%	11.1%	39.3	42.5	3.3
Harborough	36.0%	64.0%	42.6	43.1	0.4
Hinckley and Bosworth	67.9%	32.1%	41.9	44.3	2.4
Leicester	78.9%	21.1%	35.0	34.0	-1.0
Melton	53.9%	46.1%	41.8	45.3	3.5
North West Leicestershire	50.6%	49.4%	41.3	42.1	0.8
Oadby and Wigston	100.0%	0.0%	41.7	-	-
Leicester and Leicestershire	**72.1%**	**27.9%**	**38.7**	**40.8**	**2.1**

Source: ONS

The “Rural Evidence Base 2018” found that rural areas tended to have higher satisfaction with their place. Rural Village and Dispersed residents were more likely to feel satisfied with their local area as a place to live (97.8 percent) compared to Rural Town and Fringe (94.1) and urban areas (93.3). In addition, Rural Town and Fringe residents were just as likely to agree that people from different backgrounds get on well together (95.8 percent) compared with Rural Village and Dispersed (94.5 percent). Respondents in Rural Village and Dispersed areas were more likely to agree that people were willing to work together to improve their neighbourhood (77.5 percent), slightly higher than urban areas (75.5) and Rural Town and Fringe (71.6).

Rural Leicestershire is not only a good place to live, it also provides a significant amount of economic activity. For example, an ERS report, “Leicestershire Market Towns Research” estimates that the eleven market towns covered in the report provide an economic value of £1.1bn and employ 25,000 workers. The report concluded that these market towns had a number of strengths including compact town centres, variety of retail and as well as strong communities. In addition, there were opportunities for additional housing, redevelopment and improved tourism offers.

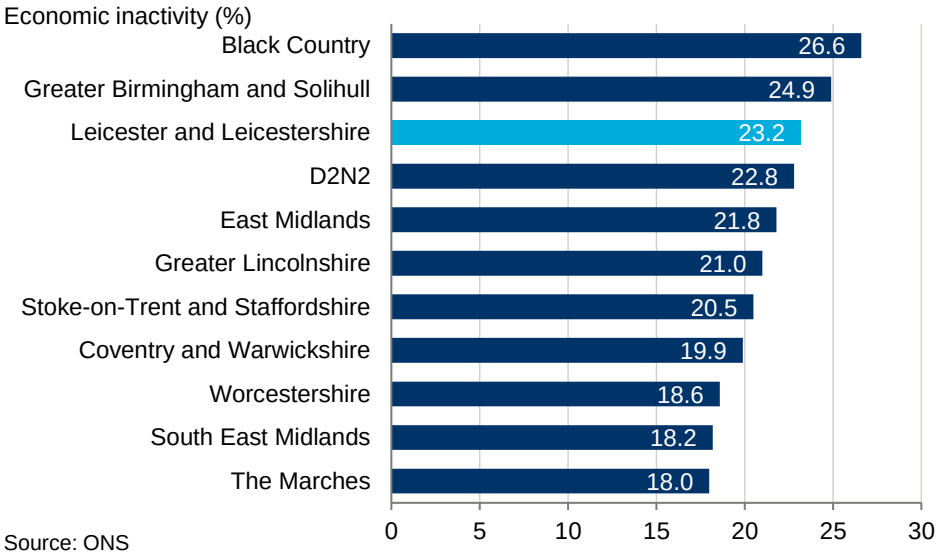
6.4 INACTIVITY AND UNEMPLOYMENT

6.4.1 Economic inactivity

Economic inactivity rates measure the proportion of the working age population (aged 16 to 64) who do not participate in the labour market, either through

employment or by actively seeking work.[47] The LLEP had an economic inactivity rate of 23.2 percent in 2018, the third highest amongst comparator areas. This sits 1.5 percentage points above the UK average rate, indicating a relatively high degree of inactivity.

Fig. 71. Economic inactivity rate, LLEP and comparator areas, 2018



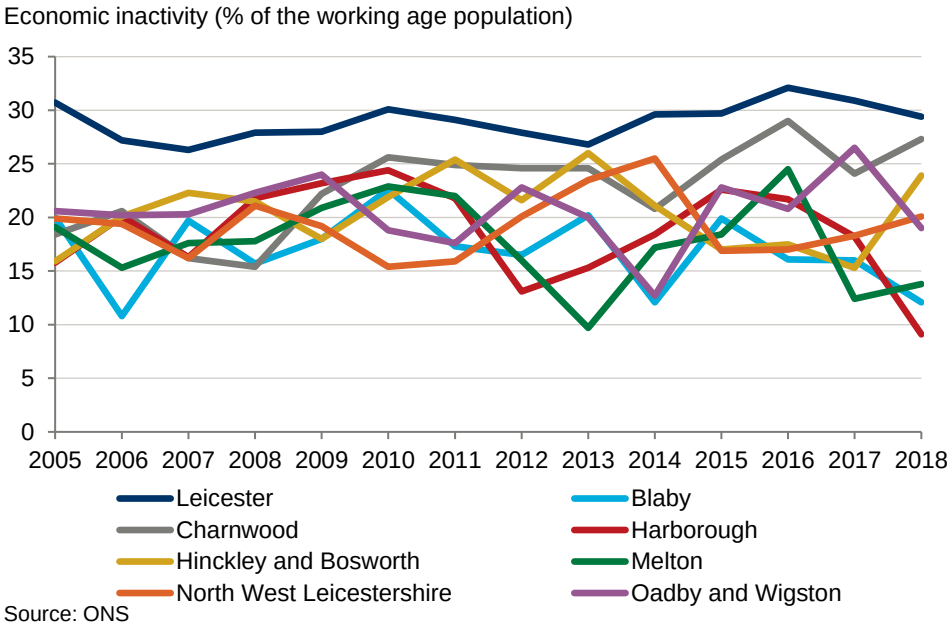
Source: ONS

Across the LLEP, the economic inactivity rate increased by 0.8 percentage points between 2005 and 2018. This was the only comparator LEP to see growth in this metric, with all other areas experiencing a contraction in inactivity rates; inactivity across the whole of the UK decreased by two percentage points over the same period.

Across the LLEP's local authority areas, Leicester consistently demonstrates the highest inactivity rate across the period from 2005, peaking at 30.9 percent in 2017, sitting at 29.4 percent in 2018. This is in part a reflection of the city's relatively large student population. By contrast, the inactivity rate in Harborough fell dramatically in 2018 to 9.1 percent (14.1 points below the LLEP average).

[47] This official definition excludes those aged 65 or over either in or seeking work.

Fig. 72. Economic inactivity rate, LLEP local authority areas, 2005 to 2018



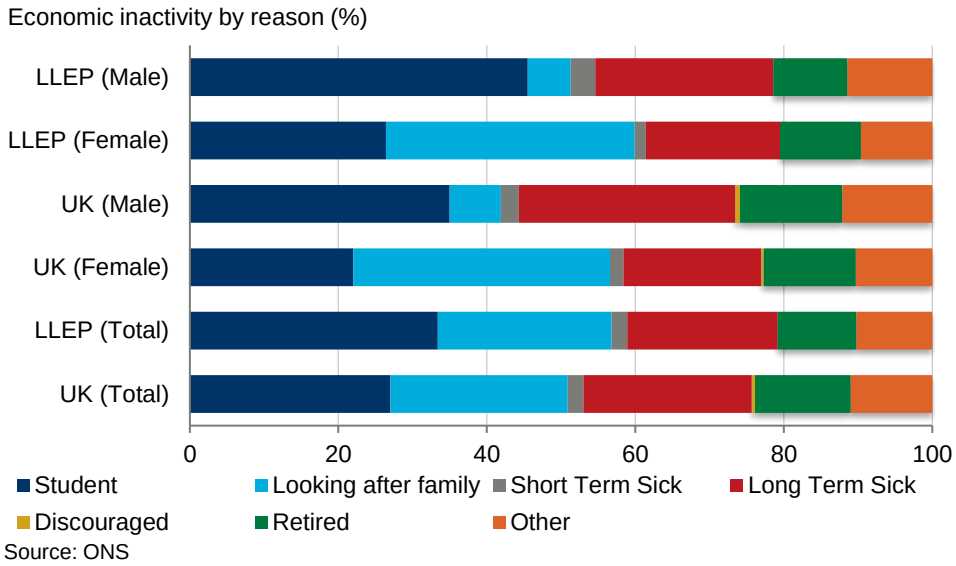
Source: ONS

The LLEP's inactivity rate for males in 2018 was 17 percent, slightly above the UK rate. Female inactivity stood at 29.4 percent, 2.8 percentage points higher than the national rate. Of all inactive 16-to-64 year olds, 63 percent were female. This difference is largely driven by females still taking on much of the burden of childcare and looking after their families. Of economically inactive females, 33.5 percent were looking after their family, compared to just 5.8 percent of inactive males. This share mirrors the UK picture (which is 34.6 and 6.9 percent respectively), and highlights the persistence of economic and cultural constraints on female participation in the labour market.

Interestingly, students make up a large proportion of economically inactive people in the LLEP. While 26.4 percent of inactive females were students (2.4 points above the UK rate), the figure is even more significant for males, with 45.5 percent of economically inactive people reported as students, compared with 35 percent nationally. The relatively large student impact reflects the presence of the LLEP area's universities, and the numbers of students they have brought to the area.

Across the LLEP as a whole, the proportion of economically inactive citing long-term sickness (20.3 percent) is below the UK equivalent (22.7 percent). The proportion who have retired early (10.6 percent) is also below the national rate (12.9 percent).

Fig. 73. Reasons for economic inactivity by gender, LLEP and UK, 2018



Source: ONS

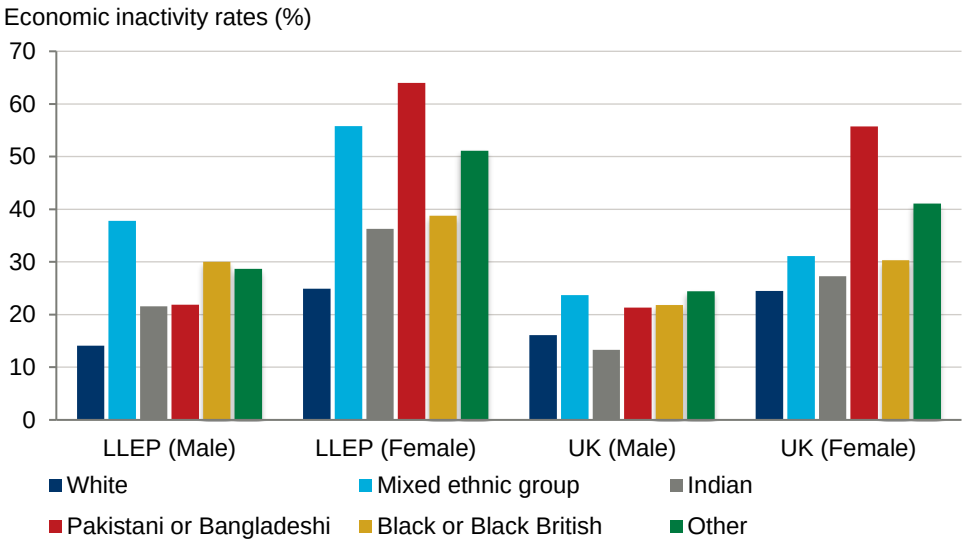
Economic inactivity can capture those who are not claimants and therefore are excluded from official unemployment statistics, but are still seeking employment. In 2018, 17.1 percent of economically inactive residents were wanted a job, a rate 4.2 percentage points below the UK equivalent (21.3 percent). A gender gap is also observed, with a higher proportion of males (19.4 percent) wanting a job than females (15.9 percent), a difference 3.5 percentage points, partly a reflection of the higher proportion of females looking after family.

Ethnicity also impacts on ONS measures of economic activity and inactivity. The LLEP area is relatively diverse; in 2018, 26.5 percent of working-age residents are of an ethnic minority, compared to 12.6 percent across the East Midlands and 14.6 percent nationally, with a particular concentration of ethnic minority residents in Leicester (55.3 percent).

Economic inactivity levels differ markedly by ethnicity and gender. Across all ethnic groups, economic inactivity rates in the LLEP area are higher for females than males, while female inactivity rates also exceed the national equivalents for all ethnic groups.

Most notably, 64 percent of Pakistani or Bangladeshi working age females are inactive across the LEP, with a similarly high (albeit lesser) rate across the UK. The gap between male and female inactivity rates (42.1 percentage points) is also highest for this group, followed by other (22.4 percentage points) and Indian (14.7 percentage points).

Fig. 74. Economic inactivity by gender and ethnicity, LLEP and UK, 2018



Source: ONS

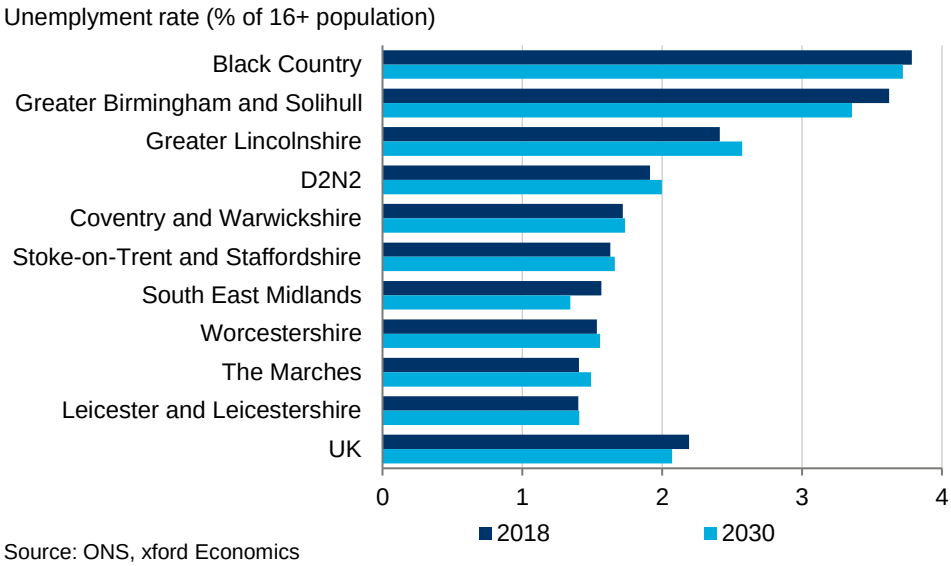
6.4.2 Unemployment

Whilst economic inactivity reflects non-participation, this is distinct from unemployment which measures those not currently in work but actively seeking employment.

Despite a high inactivity rate unemployment is relatively low in the LLEP, at 1.4 percent in 2018.[48] This compares favourably to the East Midlands rate of 1.8 percent, and 2.2 percent across the wider UK. This was the joint lowest rate across the comparator set above the Black Country (3.8 percent) and Greater Birmingham and Solihull (3.6 percent).

[48] Claimants as a share of the adult population.

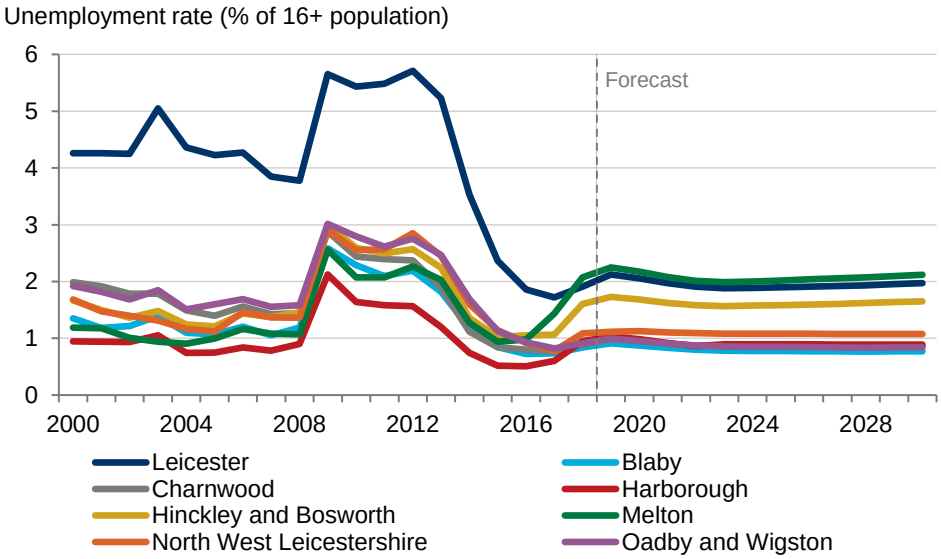
Fig. 75. Unemployment rate, LLEP and comparator areas, 2018 to 2030



Source: ONS, xford Economics

Our forecast is for the unemployment rate across the LLEP to remain broadly unchanged going forward to 2030 (1.4 percent), as an ageing population and lower levels of net migration contribute to the tightness of the labour market. This forecast pattern is reflected in all constituent areas. Melton and Leicester have the highest rates of unemployment (1.9 and 2.1 percent respectively), and this is forecast to continue through to 2030. Blaby currently enjoys the lowest level of unemployment in the LLEP (0.8 percent), remaining unchanged in our forecast.

Fig. 76. Unemployment rate, LLEP local authority areas, 2000 to 2030



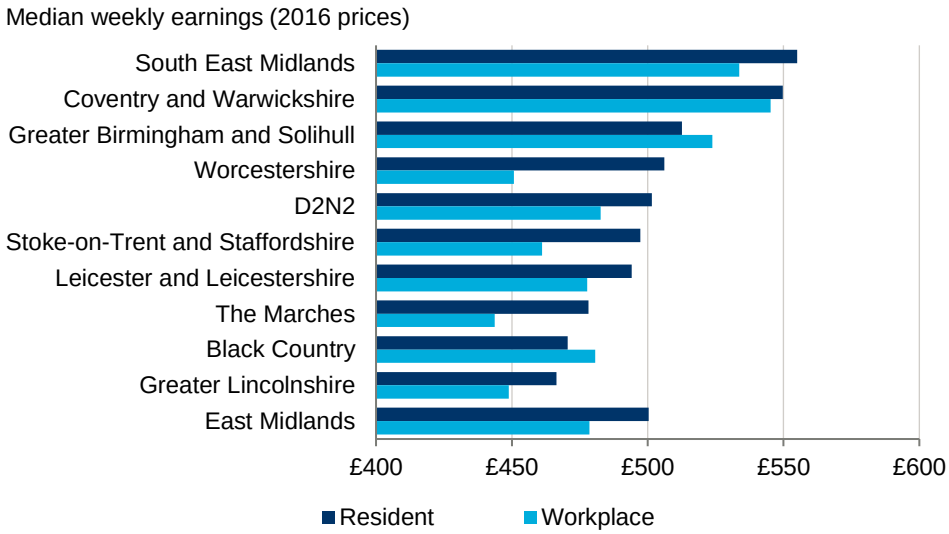
Source: ONS, Oxford Economics

6.5 EARNINGS AND INCOME

Partly as a reflection of lower levels of productivity, residents of the LLEP typically earned less than those in both the wider East Midlands and across the UK. In 2018, the median weekly earnings of residents of the LEP were £498 per week, £52 (nine percent) below the UK average (£550 per week). This puts average earnings in the LLEP area the seventh lowest of the ten Midlands Engine LEPs. Residents of Oadby and Wigston earn on average £560 per week, £85 more (or 18 percent) than those in nearby Melton.

Comparing residence-based and workplace-based earnings highlights a tendency for residents to commute outside the LEP for higher paid jobs. Those who work in the LLEP area on average earn less than residents there. The workforce typically earned a weekly wage of £481 in 2018, three percent less than residents. The wage differential of £17 is relatively small, and the seventh largest of the comparator Local Enterprise Partnership areas, compared to £55 in Worcestershire.

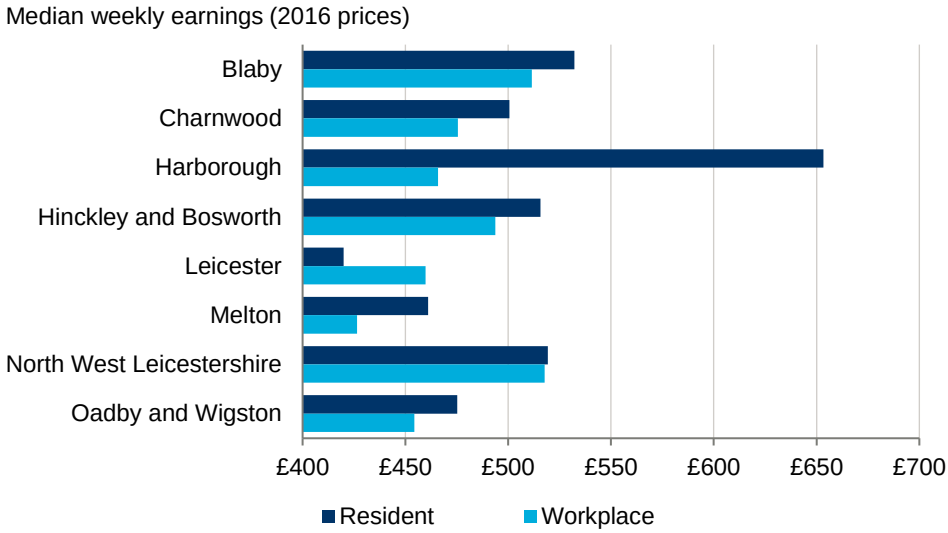
Fig. 77. Resident and workforce earnings, LLEP and comparator areas, 2018



Source: ONS, Oxford Economics

Looking at patterns within the LLEP area, Leicester is its only local authority area with resident earnings (£418 per week) below that of the workforce (£458). Meanwhile residents of Leicester earn the lowest average weekly wage within the LLEP. As a large city this could reflect some commuters travelling into Leicester for relatively highly paid jobs but living elsewhere, although the occupational mix of resident jobs shows a greater concentration of lower skilled opportunities in the city than elsewhere, implying that the extent to which this is driven by commuting into the city from elsewhere in the LLEP area may be minimal. By contrast, Harborough residents earn £183 more than those who work there, reflecting a high volume of commuters who form part of the Leicester workforce.

Fig. 78. Resident and workforce earnings, LLEP local authority areas, 2018



Source: ONS, Oxford Economics

6.6 HEALTH

The Public Health England (PHE) Health Profiles publish a range of health and wellbeing-related data.[49] The tool focuses on domains such as communities, children and young people's health, adult's health and lifestyle, disease and poor health, and life expectancy and the causes of death. It provides a range of indicators relating to each of these domains at a local authority area and sub-local authority (ward) level.

Building upon the recommendations of The Marmot Review[50], a set of 18 indicators (termed the 'Marmot Indicators') have been identified to support the *"monitoring of the overall strategic direction in reducing health inequalities"*.[51] In order to evaluate health outcomes across boroughs, while identifying the particular areas with acute health concerns, we consider a sub-set of these indicators—or similar measures—for which both ward and local authority area-level data is available.[52]

6.6.1 Life expectancy

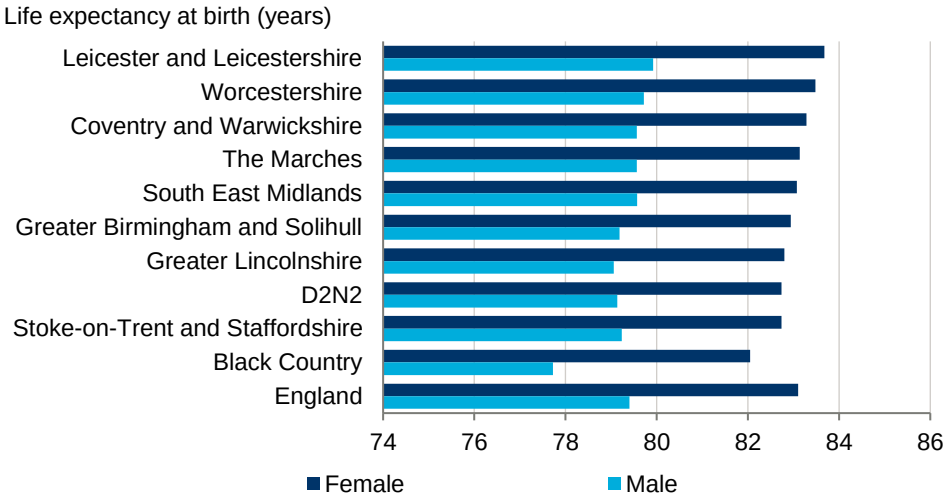
Life expectancy provides a useful metric for comparing relative health of the local population with other areas. Life expectancy at birth gives a baseline view of the general health of an area and is linked to several other local or regional factors.

Residents of the LEP have relatively high life expectancy. Analysis of Public Health England data shows that life expectancy at birth is 83.7 years for

[49] Public Health England, *Local Health* (London: Public Health England, 2018).
[50] The Marmot Review, *Fair Society, Healthy Lives* (London: The Marmot Review, 2010).
[51] https://fingertips.phe.org.uk/profile-group/marmot
[52] Using the latest available data issued by Public Health England at the time of reporting.

females, and 79.9 for males, both highest across the Midlands Engine LEP areas, and slightly above the England averages (83.1 and 79.4 respectively).

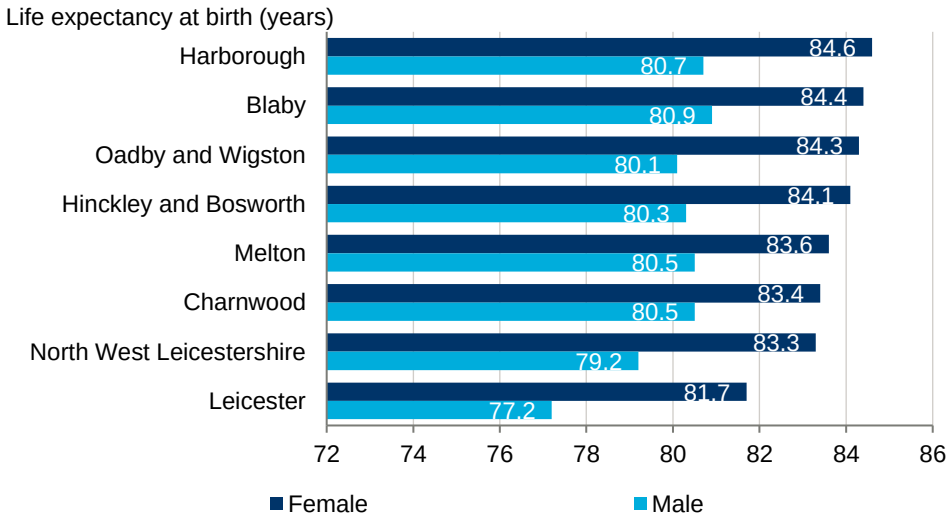
Fig. 79. Average life expectancy at birth, LLEP and comparator areas, 2011 to 2015



Source: Public Health England, Oxford Economics

The LLEP's overall high life expectancy masks some variation at local authority area level. Leicester stands out as having the lowest life expectancy at 81.7 years for females and just 77.2 years for men (see Fig. 80). Life expectancy for both genders is more closely matched across the remaining local authorities.

Fig. 80. Average life expectancy at birth, LLEP local authority areas, 2011 to 2015



Source: Public Health England, Oxford Economics

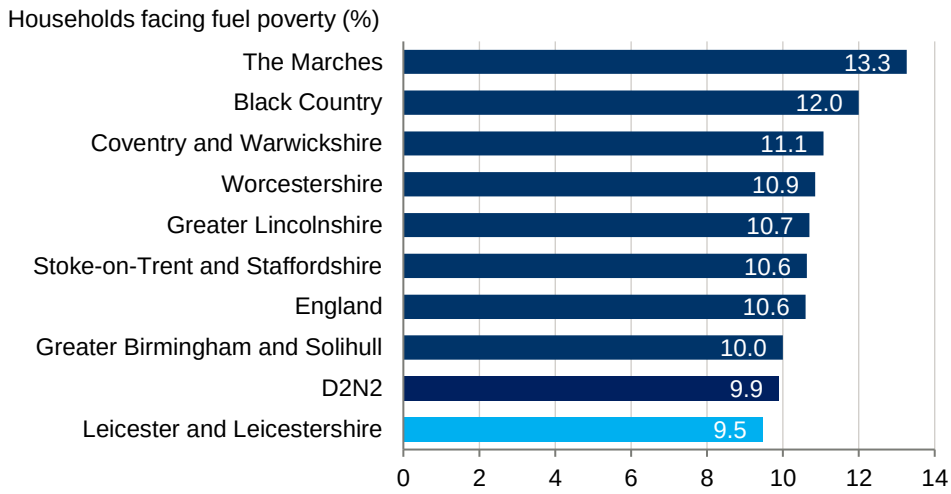
6.6.2 Fuel poverty

According to Public Health England, there is *"compelling evidence that the drivers of fuel poverty (low income, poor energy efficiency and energy prices) are strongly linked to living at low temperatures"*, which in turn are linked to a

range of negative health issues. Fuel poverty is measured as the percentage of households that have above median fuel costs, and were they to spend that amount, would be left with a residual income below the official fuel poverty line.

The LLEP performs strongly on this metric with the lowest rate of fuel poverty amongst the comparator areas, on average 9.5 percent of households faced fuel poverty in 2014, 1.1 percentage points below the England average.

Fig. 81. Share of population facing fuel poverty, LLEP and comparator areas, 2014



Source: Public Health England, Oxford Economics

Within the LLEP, Leicester has the highest poverty rate at 13.5 percent, 6.3 points higher than Blaby which has the lowest share of households (7.2 percent). The three wards with the highest incidence were all situated in Leicester (Westcotes, Stoneygate, and Spinney Hills), with the highest having 20.1 percent of households in fuel poverty. This was more than four times higher than that of the lowest ward (North Whetstone) at 4.9 percent.

6.7 DEPRIVATION AND SOCIAL MOBILITY

6.7.1 Index of Multiple Deprivation

As noted above unemployment rates in the LLEP are relatively low, however, this does not mean that social inclusion is not an issue within the LLEP area. Deprivation can be measured using several metrics that point to the quality of life within a local area. These metrics are used to calculate a relative Index of Multiple Deprivation (IMD).

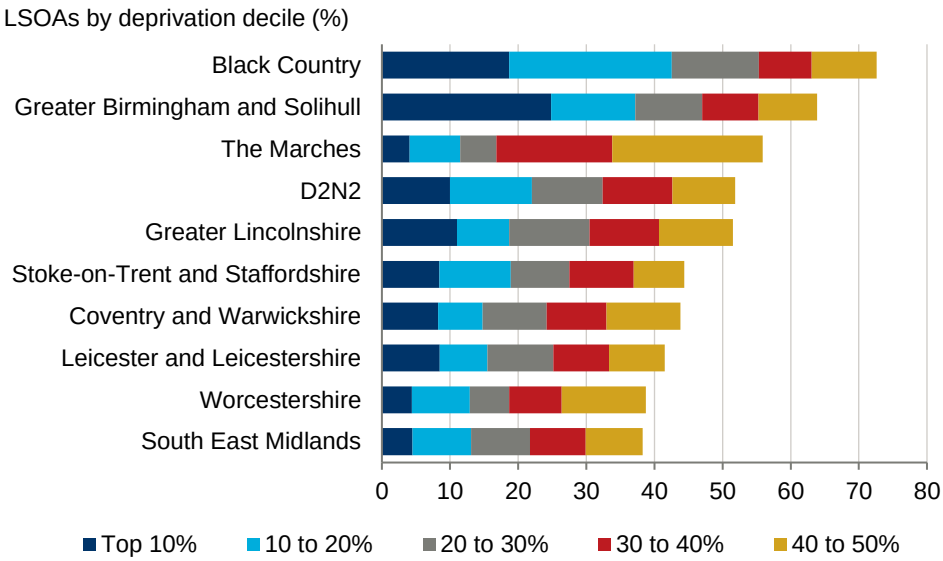
MEASURING DEPRIVATION

The English Indices of Deprivation, published by the Department for Housing, Communities and Local Government (DHCLG) in 2015, outline the extent and distribution of deprivation within local authorities.[53] They provide an assessment of deprivation across all Lower Layer Super Output Areas (LSOAs)[54] in England. Seven domains of deprivation are covered: income, employment, health & disability, education, skills & training, crime, barriers to housing, and the living environment. These are combined to calculate an overall measure of deprivation, the Index of Multiple Deprivation (IMD).

Under half (41.5 percent) of the LLEP's local areas (LSOAs) are more deprived than the England average, slightly better than Coventry and Warwickshire on 43.8 percent and over 30 percentage points better than the Black Country (72.6 percent in the top 5 deciles).

For the most acute deprivation level the LLEP has just 8.5 percent of LSOAs in the top decile for deprivation across England, the sixth lowest of the comparator areas but better than Greater Birmingham and the Black Country and better than the national average.

Fig. 82. Overall deprivation by decile, LLEP and comparator areas, 2015



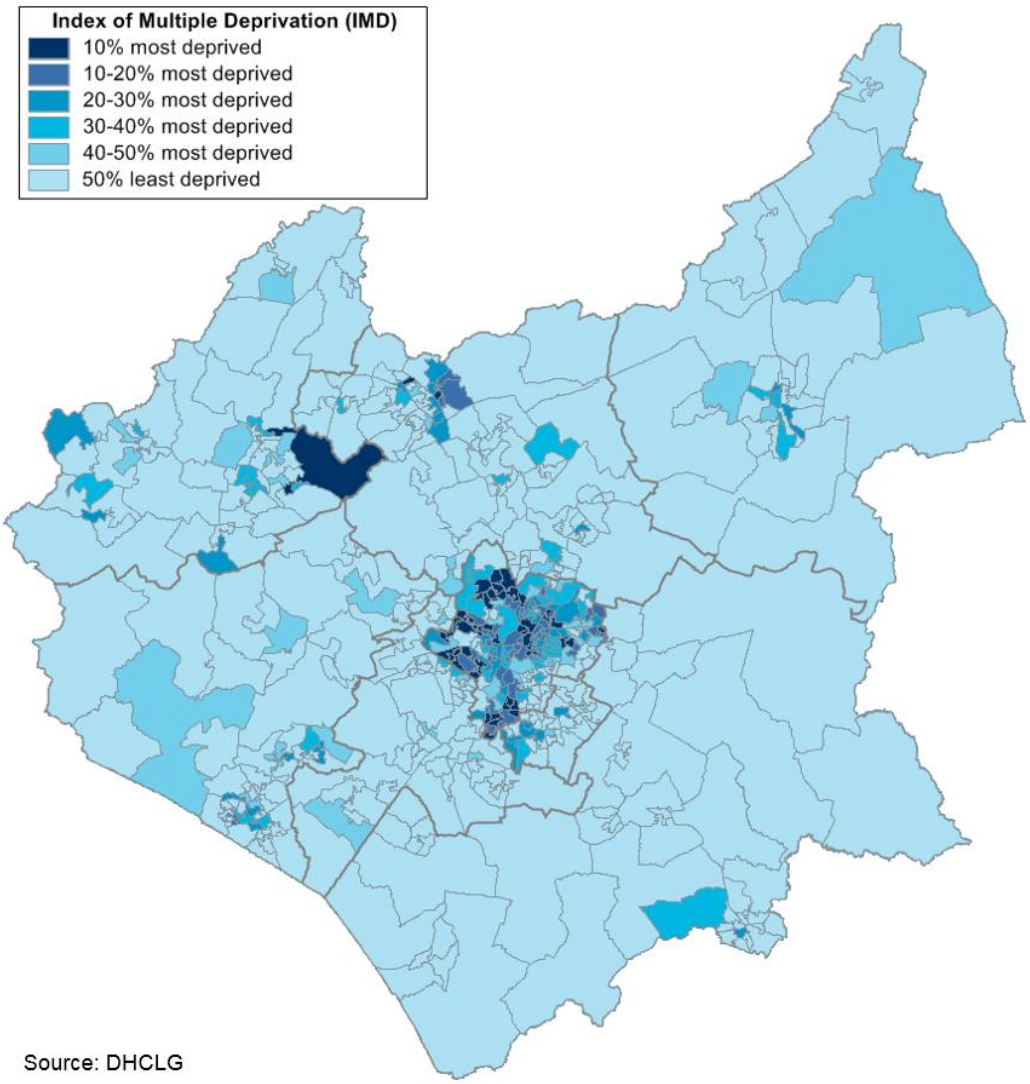
Source: MHCLG

Comparing the constituent local authorities within the LLEP there are significant differences between Leicester and other local authority areas across the LLEP.

[53] Department for Communities and Local Government, *English Indices of Deprivation 2015* (London: Department for Communities and Local Government, 2015).
[54] A Census-based geography developed for the reporting of small area statistics, that are designed to be of a similar population size to allow like-for-like comparisons, with an average size of approximately 1,500 residents, and are aligned to local authority boundaries.

23.9 percent of LSOAs in the city of Leicester are among the 10 percent most deprived nationally. Harborough with 3.4 percent, and Charnwood on two percent. The other local authorities have no LSOAs in the most deprived decile in England. In total, 84.4 percent of Leicester LSOAs have deprivation rates higher than the national average. The disparities in deprivation are clearly apparent in Fig. 83, with the most deprived areas clustered around Leicester.

Fig. 83. Overall deprivation by LSOA, LLEP, 2015



Source: DHCLG

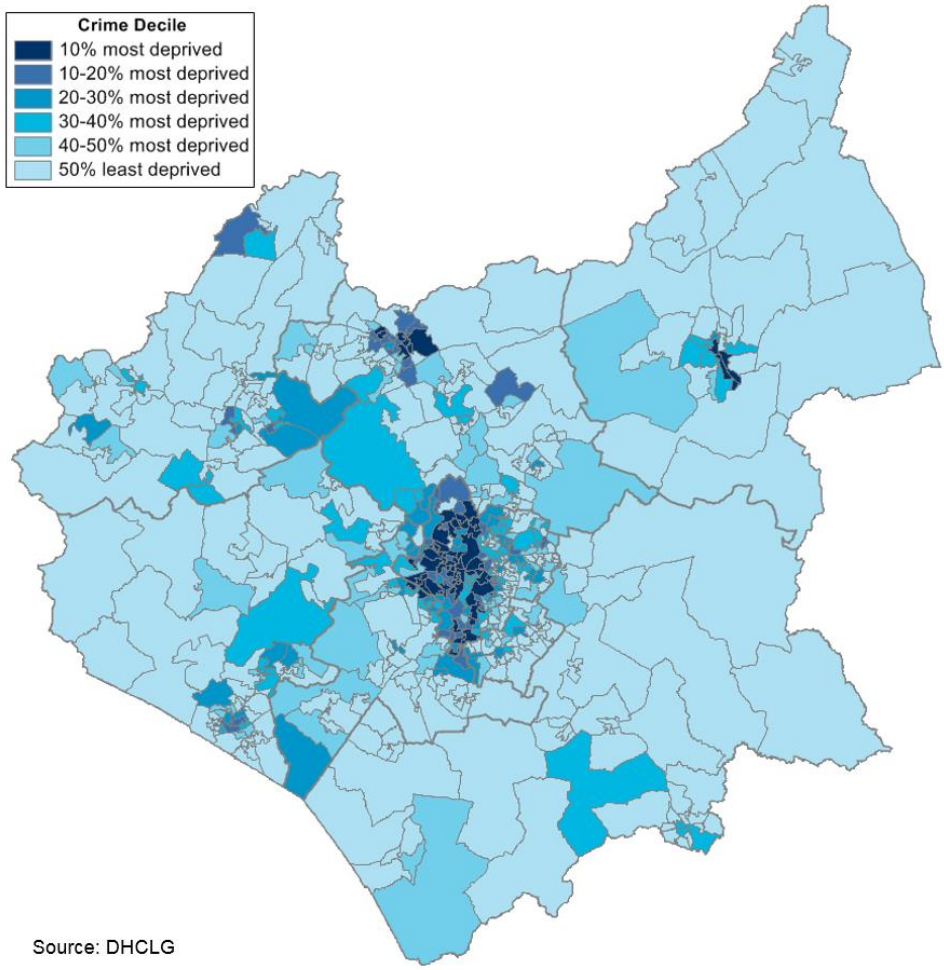
6.7.2 Deprivation domains

Whilst the IMD rate sheds valuable light on where deprivation is concentrated, as it is a weighted index of different metrics it can mask where there is high deprivation in some respects but not others.

Crime deprivation measures the likelihood of being a victim of crime either to person or belongings in a given local area. Like overall deprivation this is most apparent in urban areas. 25.5 percent of LSOAs in Leicester fall in the most

deprived decile compared to 10 percent in Melton and 7.1 percent in Charnwood. 78.6 percent of the local areas in Leicester have a crime index worse than the England average.

Fig. 84. Crime deprivation by LSOA, LLEP, 2015



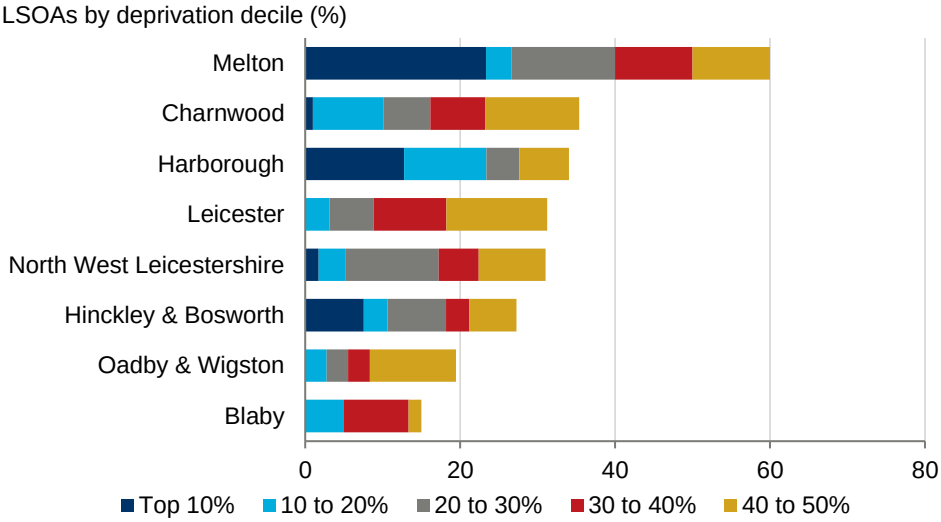
Source: DHCLG

Linked to the above, the "Rural Evidence Base 2018" notes that the vast majority of crime (77 percent) occurs in urban areas and that the crime rate per 1,000 population for all rural areas in Leicestershire is well below the England and Wales crime rate.

However, barriers to housing and services tend to be highest in rural areas rather than high density urban areas. The Leicestershire County Council "Rural Evidence Base 2018" report notes that 16 percent of rural Leicestershire Lower Super Output Areas (LSOA) fall within the most deprived 10 percent in England when it comes to Barriers to Housing and Services Domain. In addition, a third of LSOAs in rural Leicestershire falling in the top three deciles nationally, Poorer access to public services due to greater distances and irregular public transport can place barriers to services in more remote areas. More expensive house prices in sought after rural areas also puts housing out of reach for many. 23.2 percent of LSOAs in Melton fall in the top 10 percent most-deprived in England, compared to zero in Leicester. Melton is the only local authority area with a majority of areas more deprived than the England average, at 60

percent. Blaby is the least-deprived local authority area for this metric, with just 15 percent of its LSOAs more deprived than the national average.

Fig. 85. Barriers to housing and services deprivation by decile, LLEP and comparator areas, 2015



Source: MHCLG

In addition, 9 percent of rural LSOAs fall in the top two deciles nationally for Living Environment deprivation, while five percent fall in the top two deciles for Education, Skills and Training Deprivation. Looking at overall deprivation in the county, clusters of higher ranked rural LSOAs can be found in and around parts of Castle Donington, Ashby de la Zouch, Anstey, Bagworth and the eastern edge of the county in Melton and Harborough districts.

6.7.3 Social mobility

A key factor which underlines the economic inclusiveness of a place is social mobility. A recent study undertaken by the Social Mobility & Child Poverty Commission examined indicators of social mobility at a sub-national level, across the 324 local authority areas in England.[55]

The study sought to measure two key factors that are drivers of economic wellbeing: the chances available to young people of poorer backgrounds to attain the educational qualifications they need to succeed, and in turn the opportunities to convert those qualifications into a good job and standard of living. It generated a Social Mobility Index, ranking each local authority area across four different 'life stages'. We present the ranking of each of the LLEP local authority areas in Fig. 86 below.

Overall, social mobility tends to be worse across the LLEP area than England as a whole. Only two of its local authority areas—Harborough (73rd) and Blaby

55 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/496103/Social_Mobility_Index.pdf

(100th)—rank within the top half across England, while at the other end of the scale, Melton (229th) ranks within the bottom decile.

Generally, the relative social mobility of the LLEP improves with age. For those in their early years—a key stage of development—none of the LLEP's local authority areas rank within the top half nationally, with two—Charnwood (293rd) and Leicester (320th)—ranking in the bottom decile.

Social mobility in adulthood, which captures the chances of converting good educational attainment into a career, is somewhat better across parts of the LLEP, particularly in Harborough (18th)—which ranks within the top 10 percent of local authority areas nationally—Blaby (33rd), Hinckley & Bosworth (83rd) and Charnwood (95th). However, within this category there remain areas of lesser mobility, most notably in Leicester (291st) and Melton (260th).

Fig. 86. Social Mobility Index ranks (out of 324 local authority areas) and deciles, LLEP local authority areas, 2016

	Overall	Early years	School	Youth	Adulthood
Harborough	73 (20 to 30%)	253 (70 to 80%)	85 (20 to 30%)	78 (20 to 30%)	18 (Top 10%)
Blaby	100 (30 to 40%)	184 (50 to 60%)	100 (30 to 40%)	208 (60 to 70%)	33 (10 to 20%)
Hinckley and Bosworth	184 (50 to 60%)	284 (80 to 90%)	167 (50 to 60%)	110 (30 to 40%)	83 (20 to 30%)
Oadby and Wigston	205 (60 to 70%)	262 (80 to 90%)	176 (50 to 60%)	111 (30 to 40%)	179 (50 to 60%)
Charnwood	226 (60 to 70%)	293 (Bottom 10%)	213 (60 to 70%)	132 (40 to 50%)	95 (20 to 30%)
North West Leicestershire	231 (70 to 80%)	257 (70 to 80%)	209 (60 to 70%)	234 (70 to 80%)	121 (30 to 40%)
Leicester	249 (70 to 80%)	320 (Bottom 10%)	105 (30 to 40%)	42 (10 to 20%)	291 (80 to 90%)
Melton	299 (Bottom 10%)	271 (80 to 90%)	285 (80 to 90%)	224 (60 to 70%)	260 (80 to 90%)

Source: Social Care and Child Poverty Commission

6.8 CHALLENGES AND OPPORTUNITIES

The diversity of the LLEP's population is a key asset, particularly in Leicester, and is commonly regarded as one of more distinctive characteristics of the local area. This perception is not necessarily shared with many other cities of a comparable size elsewhere in the country, and as such offers the LLEP area an opportunity to further leverage this asset to help attract and retain more young people—especially the highly skilled graduates from the LLEP's universities—locally.

While unemployment rates are amongst the lowest across the Midlands, the LLEP demonstrates a relatively high economic inactivity rate, particularly for females, with notable variations also observed by ethnicity. Improving access to the labour market represents a significant opportunity, both in terms of boosting overall productivity through better utilising the 'human capital' of the LLEP area's residents, but also in ensuring that growth is inclusive and benefits all residents.

Both resident and workforce earnings however lag both the regional and national equivalents. This represents a challenge both in terms of boosting the economic prosperity of residents, but also in attracting and retaining graduates and new workers within the local workforce. Non-income indicators of wellbeing however show that the population of the LLEP area performs relatively well. Life expectancy for both males and females is the highest across the Midlands, while relative deprivation is lower than the national average, and is concentrated across a few, mainly urban pockets. However, although there are some exceptions, overall social mobility is generally poor by national standards, particularly for those earlier in life.

7. INFRASTRUCTURE

KEY FINDINGS

- While the car is an important means of travel in the LLEP, there is evidence that congestion is an issue. Most public transport routes are focused on connecting Leicester with market towns and rural areas across Leicestershire. There are fewer orbital services linking other towns.
- Public transport capacity is strong along the north-south axis, providing good links to key nearby cities and airports. Partly as a function of population growth, demand for public transport services is expected to rise in future.
- A number of key transport rail projects (e.g. High Speed 2) are planned that could significantly improve connectivity between the LLEP and key locations.
- Both local government and the private sector have reported that the demand for good quality commercial accommodation is currently outstripping supply, which has hindered growth in the LLEP. Consultees indicate a limited availability for new development sites, indicating that converting existing offices to residential use under permitted development rights was more profitable than delivering new office space.
- The LLEP had a total of 427,800 dwellings in 2017, of which nearly a third were in Leicester, and has an estimated need for over 4,700 additional dwellings each year.
- Across the LLEP, the most active local authority area for new housebuilding in 2015-16 was North West Leicestershire, with 17.3 new starts per 1,000 households. Its level of completions was also high (22 per 1,000 households), highlighting the rapid growth in housing demand for this local authority area.
- In 2018, the average house price across the LLEP was £206,000—making it the fourth-highest Local Enterprise Partnership in the Midlands Engine by this metric, behind more rural regions. Its house prices were lower than the 2018 UK average of £229,000, but higher than the East Midlands average of £190,000.

7.1 INTRODUCTION

Infrastructure can be a key factor in supporting productivity growth. Providing suitable infrastructure of a sufficient quality is key to enabling interactions within the economy, enabling producers interact with consumers, and workers with employers. As a broad term, infrastructure can capture a range of 'hard' physical assets, such as roads, schools and hospitals, alongside other non-physical 'soft' assets, many of which touch upon the factors discussed in the 'People' and 'Place' chapters. In this section, we consider four key components of infrastructure across the LLEP area: transport, housing, commercial and digital.

7.2 TRANSPORT INFRASTRUCTURE

7.2.1 Existing provision

Local and regional transport infrastructure is critical to maintaining and improving productivity levels within the LLEP. Across Leicestershire the car is still the most popular method of transport across every local authority area, with two-thirds (66.5 percent) of journeys to work taken by car or van across the

LLEP area, according to the 2011 Census.[56] As a mainly rural county travelling by car is an important means of transport for many. Private car ownership is relatively high across all local authority areas, with the exception of Leicester, which benefits from a greater provision of public transport.[57]

With a heavy reliance on motor vehicles the road network is especially critical to economic productivity. Congestion at peak times around the major urban centres of Leicester and Loughborough may be a contributing factor to lower productivity. The M1 and M69 motorways run through the LLEP area providing direct road access for Leicester and Loughborough to London and Birmingham as well as Derby, Nottingham, Sheffield and Leeds. The LLEP area is bounded to the south west by the A5, a strategically important road which sits in the middle of the logistics 'Golden Triangle'; an area informally bounded by the M1, M6 and M42 motorways that offers access to over 90 percent of the UK population within a four hour drive.[58] Leicester also sits on the A46 corridor, a road route bisecting the Midlands and providing a link between Gloucestershire and Hull, while the A42 provides links from the north of the LLEP area towards Birmingham.

Located in the centre of the county, Leicester also forms the focal point of the local public transport network. Most public transport routes are focused on connecting Leicester with its satellite towns, with fewer services also providing links between the city and other market towns and rural areas across Leicestershire. There are similarly fewer orbital services linking other towns together.

Alongside improved local transport schemes, regional connectivity is also key to fostering improved business productivity within the LEP. Leicester sits on the Midland Main Line providing direct services to London, Derby, East Midlands Parkway (for East Midlands Airport) Nottingham and Sheffield. CrossCountry services also link the city to Birmingham, Cambridge and Stansted Airport. However, capacity between Leicester and London is limited with only four direct services per hour. Daily passenger numbers on London services are also projected to increase by 40 percent from 2015 levels by 2023, adding pressure to the rail network.[59]

7.2.2 Planned improvements

A number of key transport rail projects are planned that could significantly improve connectivity between the LLEP and key locations, which may help to ease congestion across the transport network.

As part of the **High Speed 2** (HS2) rail project an East Midlands hub is planned as part of the second wave of construction. A new regional station at Toton in Nottinghamshire is scheduled for completion in 2033 and would provide

[56] https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2017/1/9/Local_transport_plan.pdf
[57] https://www.racfoundation.org/assets/rac_foundation/content/downloadables/car%20ownership%20rates%20by%20local%20authority%20-%20december%202012.pdf
[58] https://www.thenxgroup.com/2016/04/06/golden-triangle/
[59] https://www.leicester.gov.uk/media/180873/leicester-and-leicestershire-rail-strategy.pdf

important access to the HS2 network for passengers towards the LEP region. It is estimated that this regional hub will to serve a catchment of 2 million people with the best HS2 connectivity outside the capital.[60]

The Eastern HS2 connection also has the capacity to provide wider economic impacts with local firms winning delivery contracts during the construction phase. There are currently no plans for a direct connection between Leicester and the HS2 though an economic case for a Main Line connection at Leicester exists, potentially halving current journey times to Leeds.[61] Even without such a connection, transferring services from the Main Line to HS2 could provide spare capacity for north-south services running via Leicester upon completion.[62]

Upgrades to the **Midlands Main Line** are also scheduled for completion by the end of 2019 with additional proposed works beyond 2024. These include electrification and new tracks to reduce journey times and increase existing capacity. Additionally, regional plans have been put together for improved links between Leicester and Birmingham.[63] Forming part of a regional strategy for a Midlands Rail Hub with better connectivity between regional cities, if completed could increase passenger numbers and generate an additional £649 million to the Midlands economy.

The local road network is particularly critical to local connectivity and scheduled smart motorway upgrades on the M1 through Leicestershire may contribute to improving traffic flows. Improvements will also feed into proposals for a Midlands Motorway Hub planned by the regional transport body Midlands Connect. The Melton Mowbray Distributor Road has also received nearly £50 million of funding to alleviate traffic within the town. It is hoped that the scheme will open up land for infill housing and employment land development, which could support 4,500 additional homes, and 6,000 jobs.[64]

East Midlands Airport (EMA) is sited at the north of the LLEP, and is a key transport hub for the region. Providing both domestic and international routes for a range of passenger and cargo services EMA is a vital strategic asset for the LEP and a hub for the wider Midlands economy. The airport handled over 4.8 million passengers in 2018, up 13 percent over the last five years.[65] It currently provides a direct airlink to more than 85 destinations across Europe, Africa and North America.[66] EMA also handles over 320,000 tonnes of cargo

[60] East Midlands Councils, We're on board with HS2 in the East Midlands. Are you? (Chesterfield, East Midlands Councils, 2019)
[61] Midlands Connect, *Midlands Connect Project Overview – Access to HS2* (Birmingham, Midlands Connect, 2019)
[62] https://www.leicester.gov.uk/media/180873/leicester-and-leicestershire-rail-strategy.pdf
[63] Midlands Connect, *Midlands Connect Key Projects – Midlands Rail Hub* (Birmingham, Midlands Connect, 2019)
[64] https://www.leicestermercury.co.uk/news/local-news/government-agrees-495m-grant-create-1574656
[65] CAA, Airport data 2018, Table_01_Size_of_UK_Airports
[66] https://www.eastmidlandsairport.com/destinations-and-guides/a-z-list-of-destinations/

per annum, second only to Heathrow, and is a hub for several major transport logistics companies in the UK.[67]

Currently under construction is the **East Midlands Gateway**; a large logistics and freight exchange adjacent to EMA. Capitalising on the strong cargo handling facilities at East Midlands Airport the development also includes improved access to the M1 motorway and a large freight rail terminal. It is hoped that up to 7,000 new jobs will be created once the project is complete.[68]

7.3 COMMERCIAL PROPERTY

Both local government and the private sector have reported that the demand for good quality commercial accommodation is currently outstripping supply, which has hindered growth in the LLEP. There was a perception that there was a lack of sites available to develop in Leicester and that regeneration of current sites would be required to accommodate growing sectors. This was perception is in line with the findings of the "Leicester and Leicestershire Business Survey 2017". It found that 75 percent of firms thought it would not be easy to find alternative premises if they wanted to relocate.

The lack of commercial property was reportedly an issue across all types. Innes England note that in Leicester, availability of office space generally has fallen by 53 percent since 2014 and there is currently a shortfall in Grade A office the City Centre.[69] Of the 618,000 sq ft of office space available in Leicester in 2018, less than 16% was in Grade A. The majority of availability is in what Innes England describe as "good second hand" space. Partly as a result prime headline rents had reached a new high of £18 per sq ft in 2018, up from £16.50 in 2014.

Tackling this undersupply may be a challenge. The consultees reported that converting offices to residential use under permitted development rights was more profitable than delivering new office space. This was partly explained by the presence of the university students and demand for private rented and student accommodation.

Likewise, industrial office space has also seen growth in demand. Innes England report that take up in Leicester has been above the 10-year average for the sixth successive year and activity was dominated by larger lettings (two thirds of take up was 50,000 sq ft and above). Linked to this, prime rents have risen by 5% a year since 2013 and stood at £6.75 per sq ft in 2018.

With regards retail, prime high street rents were £225 per sq ft and over 15 percent higher than in 2014. Innes England note that out of town rents also remain strong.

Evidence submitted by the Leicestershire Rural Partnership highlights that rural areas of Leicestershire are suffering from lack of sufficient workspace. This includes grow on space, incubation units and space suitable for food production. They note that a 2014 "Workspace Demand Study" had identified

[67] https://www.eastmidlandsairport.com/about-us/cargo/
[68] https://www.slp-emg.com/#prettyPhoto
[69] https://www.innes-england.com/assets/downloads/Innes-England-Market-Insite-2019.pdf

sites / buildings suitable for development but insufficient finance to develop schemes was a common barrier. They also noted in their call for evidence that existing sotck of commercial space tends to be either high grade and expensive or of poor quality and used mainly for storage purposes.

7.4 HOUSING SUPPLY AND AFFORDABILITY

7.4.1 Housing supply

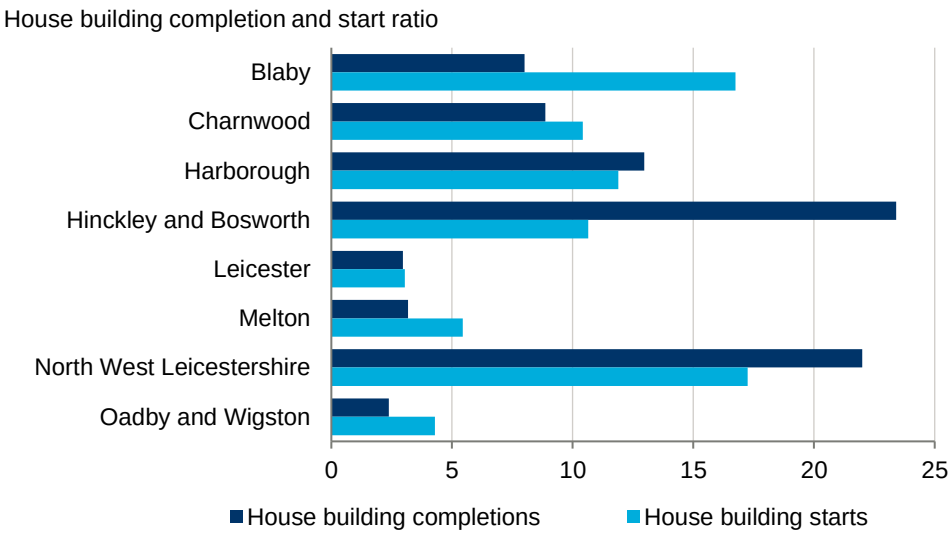
427,800
Dwellings in 2017

Nearly a third in Leicester

According to the latest Ministry of Housing, Communities and Local Government (MHCLG) data, in 2017 there were 427,800 dwellings across the LLEP area. This places it seventh among Midlands Engine comparators. With the population continuing to increase, additional demand is being placed on dwellings across the LLEP. Leicester is by far its largest local authority area, providing 31 percent of the total housing stock (133,700 dwellings).

Across the LLEP, the most active local authority area for new housebuilding in 2015-16 was North West Leicestershire, with 17.3 new starts per 1,000 households. Figures for completions were also high (22 per 1,000 households) highlighting the rapid growth in housing demand across this local authority area. Hinckley and Bosworth had the highest ratio of new build completions (23.4) whilst Oadby and Wigston had the lowest rate of completion (at 2.4). Leicester is notable for the low rates of both starts (3.1) and completions (3.0), though on a higher existing housing stock.

Fig. 87. House building completions and starts, LLEP local authority areas, 2015-16



Source: MHCLG

In order to support the LLEP area's growing population, housing need will grow into the future. The Housing and Economic Development Need Assessment sets out an 'objectively-assessed' housing need—which takes into account demographic, economic and affordability factors—of 4,716 dwellings per

annum across the LLEP area between 2011 and 2036.[70] Analysis of MHCLG suggests that the LLEP area achieved an average delivery of 4,017 dwellings per annum over the period 2011 to 2017.

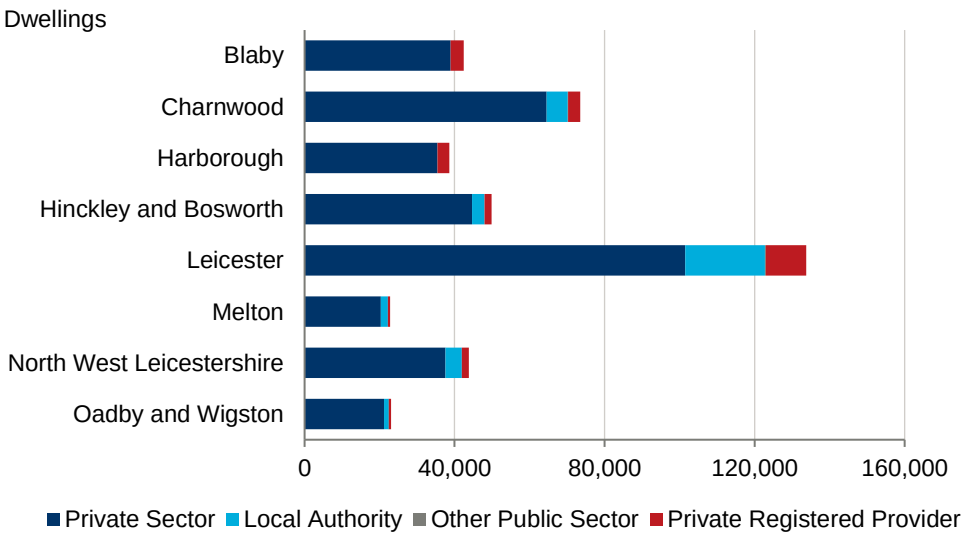
7.4.2 Tenure

The private sector dominates housing stock across the LLEP's constituent local authority areas, comprising 85 percent of total dwellings in 2017—slightly above the England average of 83 percent. The remainder is made up of tenures held by Local Authorities (nine percent) and Private Registered Providers (six percent).

In line with its large total housing stock, Leicester contains the most private sector dwellings at 102,000. However, this forms a smaller share of total dwellings than other local authority areas with just 76 percent of dwellings privately held. This compares to 92 percent in neighbouring Oadby and Wigston which has the highest share. Leicester has the highest rate of Local Authority housing, with 16 percent. Both Blaby and Harborough are notable for having no Local Authority housing provision and relying on Private Registered Providers.

Private sector tenure is becoming more prevalent across all local authority areas, with eight percent growth since 2010, indicating most new housing stock is provided by the private sector. This is particularly apparent in Leicester which has seen 11 percent growth (additional 10,000 units) over the same period.

Fig. 88. Housing tenure, LLEP local authority areas, 2017



Source: MHCLG

£206,000

Average house price in 2018

Slightly lower than the national average but higher than the East Midlands average of £190,000.

7.4.3 House prices and affordability

As in most areas of the UK, population growth and demand for housing has outstripped supply, directly impacting the affordability of housing across the

[70] GL Hearn, Leicester & Leicestershire Housing and Economic Development Needs Assessment (London: GL Hearn, 2017)

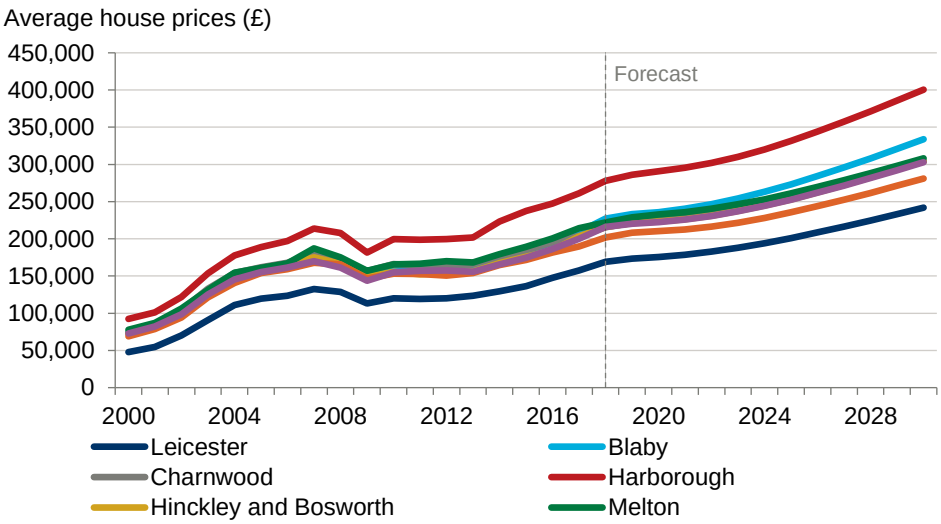
LLEP. In 2018, its average house price was £206,000—the fourth highest average in the Midlands Engine, behind more rural regions. House prices are slightly lower than the national average of £229,000, but higher than the East Midlands average of £190,000 in 2018.

House prices in the region have grown significantly over the past decade. Prices initially decreased during the financial downturn before recovering from 2013 onwards. House prices across the LLEP are, on average, £47,000 higher than a decade ago, an increase of 29 percent—broadly in line with the national average.

Our forecasts indicate that house prices will continue to grow. By 2030, we estimate that the average house price will be £87,000 higher than in 2018, taking the cost of a typical house to £303,000—an annualised growth rate of three percent per year.

The same pattern in house prices can be seen across each of the LLEP's constituent local authority areas. All regions have seen house prices steadily increase since the start of the century, followed by a contraction before moving into growth again. Harborough had the highest house prices in 2018 (£286,000), and we forecast this to continue into the future, with median prices increasing to £401,000 (up 44 percent) by 2030. Leicester has the lowest average house price at £169,000 in 2018. This is forecast to increase by £73,000 (or 43 percent) by 2030.

Fig. 89. House prices, LLEP local authority areas, 2000 to 2030



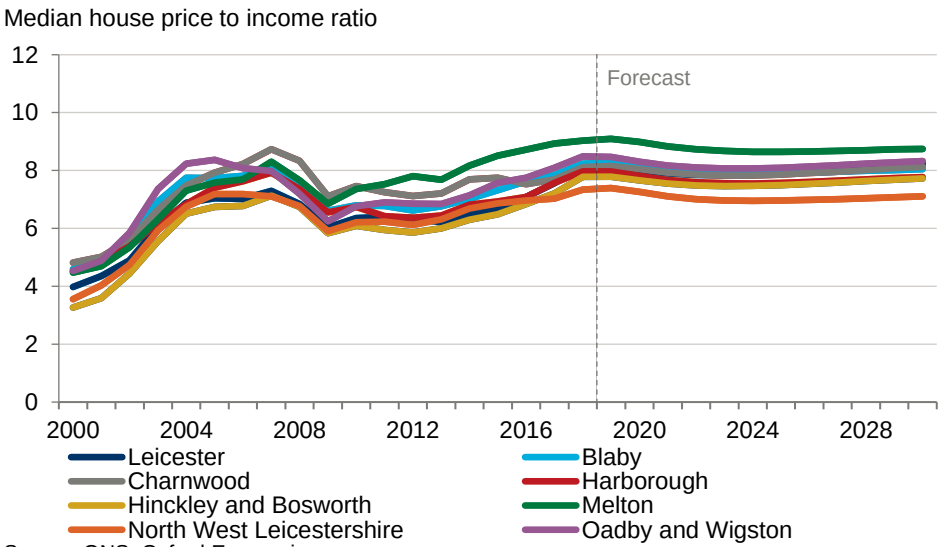
Source: ONS, Oxford Economics

Rising house prices have generated affordability issues across the LEP. In 2018 the average house price to earnings ratio was 7.9; in line with the national average of 8.0 but higher than the East Midlands regional average at 7.2.

Our forecasts suggest the price to earnings ratio will peak in 2019 before dipping slightly. This reflects our forecast for a short-term slowdown in house price growth from 2018 alongside stable wage growth. The ratio for the LLEP is forecast to be 7.8 in 2030, a fall of 0.1 from 2018.

The same pattern can be seen across each of the LLEP's local authority areas. Melton has the highest average house price to earnings ratio at 9.0—although this is largely driven by relatively low resident earnings—and is forecast to remain the least affordable borough, although the ratio is forecast to 8.7 in 2030. North West Leicestershire is currently the most affordable borough in the partnership with an average ratio of 7.3 and forecast to fall to 7.1 in 2030.

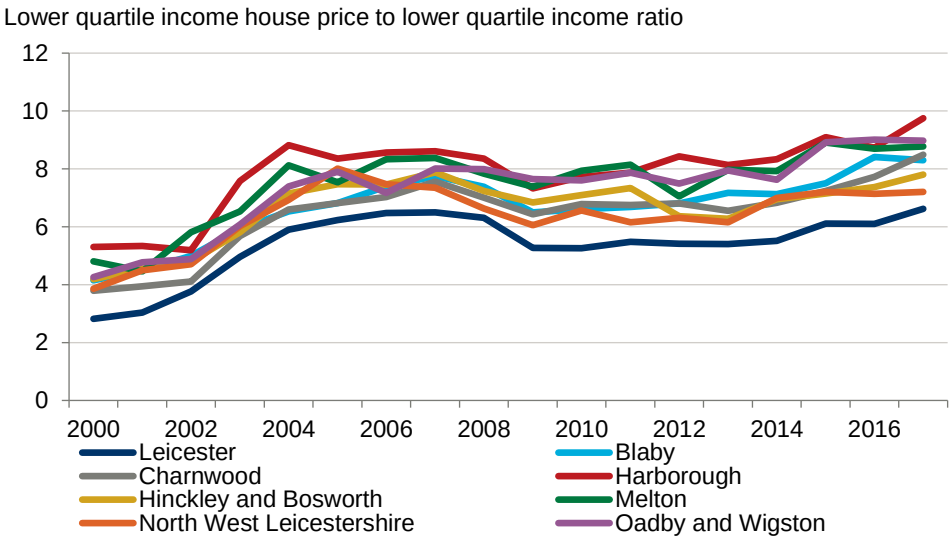
Fig. 90. House price-to-income ratios, LLEP local authority areas, 2000 to 2030



Source: ONS, Oxford Economics

Focusing on ratios for the lower quartile incomes and lower quartile house prices highlights a continued low level of affordability. The consistently most affordable borough was Leicester where house prices were 6.6 times larger than lower quartile incomes in 2017, a 135 percent increase on the ratio in 2000. Harborough had the least affordable ratio in 2017 at 9.8, an increase of 84 percent over the same period.

Fig. 91. Lower quartile house price-to-income ratio, LLEP local authority areas, 2000 to 2017



Source: ONS

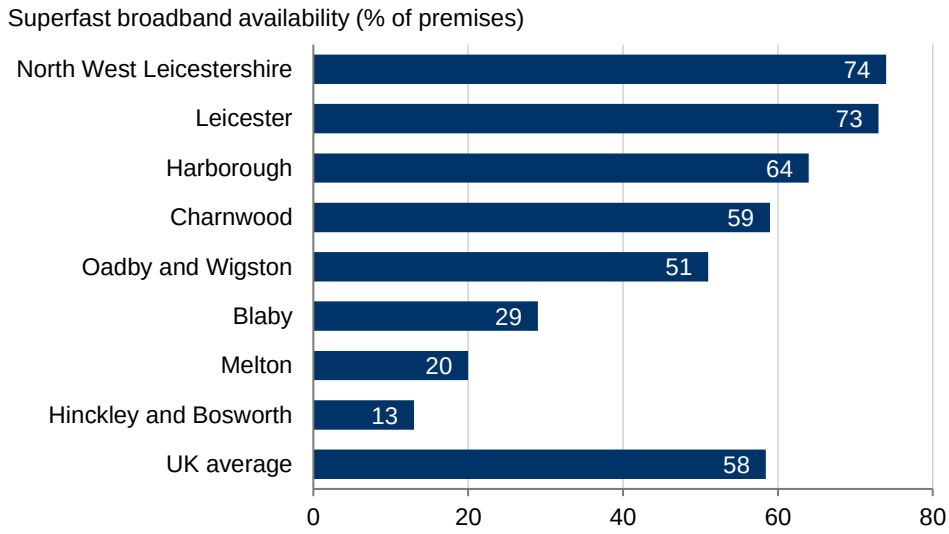
7.5 DIGITAL INFRASTRUCTURE

Digital connectivity is an increasingly important form of infrastructure. For firms, having access to fast and reliable internet connections is a vital component throughout the production process, helping businesses across various sectors find suppliers and sell products. Data gathered by OFCOM provides local authority area-level data relating to broadband connectivity.

While digital infrastructure alone cannot drive business growth, a lack of sufficient capacity and reliability within the network—particularly for factors such as broadband speed—can act as a constraint. Fig. 92 below therefore presents the proportion of premises that received superfast broadband in 2017. It shows a wide discrepancy across the LLEP local authority areas. On the one hand, North West Leicestershire (74 percent) has a share 16 percentage points above the UK local authority area average, with Leicester (73 percent), Harborough (64 percent) and Charnwood (59 percent) also exceeding this. However, the UK average masks a wide variation on superfast broadband provision nationally; although it has the LLEP's highest rate, North West Leicestershire ranks just 141st of 391 local authorities for this measure.

At the other end of the scale, superfast broadband provision access is available to only a minority of premises in Blaby (29 percent) and Melton (20 percent), and most notably in Hinckley and Bosworth (13 percent), which ranks as the tenth lowest rate of provision across all UK local authorities. The Leicestershire County Council report "Rural Evidence Base, 2018" also notes that rural areas of the County suffer from lower broadband speeds that have a limiting effect on the rural economy.

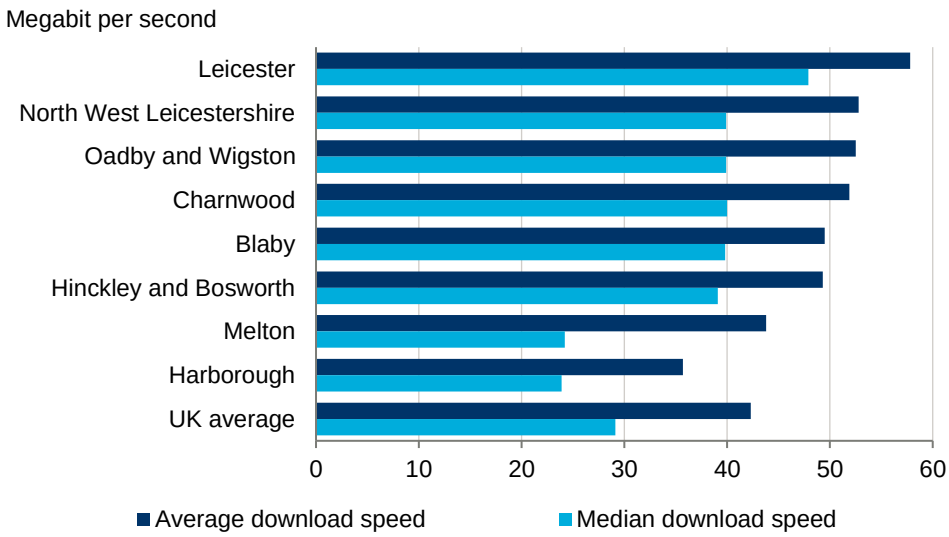
Fig. 92. Percentage of premises with access to superfast broadband, LLEP local authority areas, 2017



Source: OFCOM

Digital connectivity may also be considered in terms of the reliability of service. OFCOM measure both the average (mean) and median broadband speeds across local authorities, presented in Fig. 93. Generally, broadband speeds across the LLEP area are better than the UK local authority area average, with Harborough and Melton (for median speeds only) the exceptions. Leicester is the best performing local authority area, with median download speeds within the top 10 percent of local authorities nationally.

Fig. 93. Broadband speeds, LLEP local authority areas, 2017



Source: OFCOM

7.6 CHALLENGES AND OPPORTUNITIES

Owing to its strategically advantageous location in the middle of England, Leicestershire—and Leicester in particular—benefits from relatively good transport infrastructure provision. Rail links provide direct services to major

cities and airports, with capacity and journey times set to improve with access to High Speed 2 services, while access to the M1 and M69/M6 motorways also provide good road connections. The LLEP area's population has historically been relatively reliant on private car ownership—partly a reflection of the rural nature of many of the LLEP area's settlements—which is contributing to increasing congestion, which population growth will continue to exacerbate into the future. Overcoming the disruptive and environmental costs of this will continue to be a key challenge for the LLEP area into the future.

The growing population will also place a burden on other aspects of infrastructure, most notably on housing. With demand continuing to outstrip supply, particularly in urban areas such as Leicester, housing affordability has worsened, with house price growth exceeding income growth across all local authorities, and across different income levels. The challenge of ensuring that a sufficient supply of housing is maintained across all local authorities will be a key factor in ensuring that affordability does not continue to substantially worsen into the future. Ensuring the provision of a suitable quantity and quality of commercial floorspace will also be important in enabling local businesses to grow. Digital infrastructure also reflects a challenge for the LLEP area, and whilst overall speeds are relatively good, many particularly rural areas suffer from poor access to broadband services.

8. GRAND CHALLENGES

8.1 INTRODUCTION

The UK Government's Industrial Strategy sets out four Grand Challenges that focus on global trends that will transform the future of the national economy.[71] The Grand Challenges seek to put the UK "*at the forefront of the industries of the future, ensuring that the UK takes advantage of major global changes, improving people's lives and the country's productivity"*. The Grand Challenges consist of:

- Artificial Intelligence and data;
- Ageing society;
- Clean growth; and
- Future of mobility.

While separated into distinct categories, the Grand Challenges are in many ways related to one another. For instance, improved Artificial Intelligence and robotics can be utilised to provide care for the elderly population, while the need to de-carbonise the economy make the future of mobility intrinsically linked to cleaner, low-carbon or renewable technologies.

Across the LLEP and other Local Enterprise Partnerships, there will be examples of individual businesses or higher education institutions seeking to tackle or exploit these challenges. While beneficial, unless this activity becomes sufficiently developed, it is unlikely to put the local economy or the UK at the forefront of these industries. Instead, local economies should identify where they have a particular strength or capability that will enable a critical capacity to excel in one or more of these areas.

Given this, we consider how the LLEP economy is positioned to contribute to, or prioritise, each of the four challenges in further detail below.

8.2 GRAND CHALLENGE 1: ARTIFICIAL INTELLIGENCE AND DATA

The Industrial Strategy sets out an ambition of putting the UK *"at the forefront of the AI and data revolution"*. The increasing use of automation and data-driven technologies can generate various economic and social benefits but, as with most innovations, the benefits and costs are not necessarily spread evenly across the population, with automation often replacing low value-added jobs. This Grand Challenge therefore represents both an opportunity and a challenge to the LLEP area which we have seen has many low value-added roles in the economy.

The manufacturing sector in particular is experiencing rapid technological change thanks to robotics and the emergence of new materials and manufacturing processes, and there may be more opportunities to be grasped than seemed likely a decade ago. Our forecasts indicate that manufacturing

71 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

GVA is forecast to grow by 0.9 percent per year up to 2030, despite a contraction of almost 11,000 jobs, reflecting in part the increased automation of industrial processes.

This represents a challenge for the local labour market, in terms of retraining and reskilling those suffering job losses. As the economy readjusts to a more technologically advanced future, many 'traditional' occupations within manufacturing for instance will be replaced by emerging jobs in other sectors, reflected in our forecasts presented in Section 3. With a high concentration of economic activity across manufacturing and transportation, the LLEP is relatively vulnerable to increasing automation.

However, the challenges faced by some sectors of the economy are to some degree offset by opportunities elsewhere. The LLEP area has the opportunity to develop a range of industries in the field of 'big data' and AI. The **Space Park Leicester** for example, which is due to open in 18 months (at the time of writing) will sit within an EZ and activity at the Park will focus on developing satellite technology and perhaps more importantly the downstream applications of space-enabled data. It will harness the University of Leicester's strengths in Space research / activity in one location with the initial aim of enabling the private sector to harness Space data and for logistics and transport services, environmental services and agriculture amongst other possible uses. Indeed, the LLEP Local Industrial Strategy Prospectus (July 2018) notes the opportunities in Space Technologies along with Advanced Manufacturing and Engineering.

We have been informed by the University of Leicester that a number of major international private sector businesses have committed to establish themselves at the Park when it opens. Alongside the presence and involvement of the University of Leicester (which has the largest number of space academics of any University in the UK) and the pull of anchor tenants, the University will also provide access to their super computer facilities (DiRAC)[72]. Consequently, it is hoped private sector businesses in the field of data analytics will be attracted to set up helping to develop a critical mass of activity on the Park.

Furthermore, the University has further ambitions for the Space Park. In phase 2 and 3 of developing the Park, the focus will be on satellite manufacturing given the anticipation that the commercial demand for satellites and Space data will have grown significantly. The aim is that the evolution of the park will develop first the downstream application of Space data, and eventually compliment this with the manufacturing of the satellites. With a critical mass of activity in this field, it is hoped supply chains and networks will be established and encourage further growth.

In addition to the Space Park we are aware of other pockets of activity in data analytics. We have provided a few examples below and some earlier in the report. However, all of these are linked to the involvement of the local universities and there doesn't seem to be strong evidence that the private sector has developed significantly in this area to suggest the LLEP is at the forefront of AI and Data. Likewise, there isn't compelling evidence that there

[72] https://www2.le.ac.uk/offices/itservices/ithelp/services/hpc/dirac

have been significant volumes of University spin-outs and start-ups clustering and driving growth in AI and Data.

Nevertheless, the Universities are key assets for the LLEP and their potential to work with the local private sector, as well as to attract new businesses in the fields of AI and Data should be supported by the LLEP. The plans for the Space Park are also well advanced and will build on the unique strengths of the University of Leicester. Therefore, AI and Data would appear to be an area that should be targeted for support and development.

Case study 1: Loughborough University and Apical Ltd

A partnership between Loughborough University and Apical Ltd (now part of ARM, Loughborough office) has supported the development of advanced image signal processor technology used across the mobile and broadband sectors as well as in on-camera video analytics. The technology allows machines to "see" and interpret the world around them, just as we do. The company is supporting ongoing PhD research at the University that will extend the technology's applications, and is currently considering projects that will focus on machine learning in driverless vehicle technology, robotics and smart cameras.

The ability to drive growth in data-intensive activities is linked to the **digital infrastructure** available to firms operating across the LLEP area (not just in the Space Park). As part of the Local Industrial Strategy Prospectus, the LLEP has set out the aim to develop digital connectivity to ensure maximum coverage of full fibre and ultrafast broadband. Although essential for data analytics and AI it should also help improving productivity more generally in the economy.

To unlock the full potential of AI and Data, collaboration should continue between higher education and the private sector. The three local universities appear to play a key role in innovation in the local economy and their involvement will be essential to support the development of the private sector in the fields of AI and Data, both in terms of innovation and in terms of an adequate flows of appropriate skills.

Case study 2: Big data and intelligent transport systems

Loughborough University is working on intelligent transport systems for network operators, vehicle manufacturers and drivers, in order to reduce road traffic accidents and congestion which cost the UK £50 billon a year.

Its map-matching (MM) algorithms make geo-spatial data far more reliable allowing the development and validation of accurate positioning and crash mapping methods for different location-based services including collision avoidance, emergency response, navigation and route guidance, and lane-departure warning.

Highways England relies on the University's expertise, advanced algorithms and risk mapping techniques to produce its national safety strategy and annual reports - highlighting accident hotspots and roads vulnerable to congestion so that improvements can be made.

This analysis also supports Highways England in its aiming-for-zero programme to reduce road casualties and fatalities amongst drivers and road maintenance staff.

The technology has also been adopted commercially by industry and vehicle manufacturers, including Renault, especially in their car navigation and collision avoidance systems, providing drivers with real-time data to reduce journey times by avoiding congestion and accidents.

8.3 GRAND CHALLENGE 2: AGEING SOCIETY

An ageing population represents a growing societal challenge into the future. The population of the LLEP is characterised by an ageing population with high levels of life expectancy, linked to generally low levels of deprivation. Across the LLEP area, 70 percent of the overall population growth will be from those aged 65 and above. There will therefore be a growing requirement to support the specific needs of an ageing population. Linked to this the British Medical Journal reported that the digital health industry was already worth £19bn globally in 2017. Developing innovative solutions to the needs of an ageing population represents an opportunity for growth.

Whilst we were reminded during the consultation phase that the LLEP area has an above average health and social care sector it does not by extension mean the LLEP has key strengths to realise the commercial opportunities that an ageing society brings.

The LLEP area does have a range of specific research and innovation-related assets in this area, but once again the evidence points to higher education taking the lead rather than the private sector.

De Montfort University is very active in research that will support an ageing society. Along with the two local healthcare providers and Age UK they established the **Leicester Academy for the Study of Ageing.** The aim will be to research the challenges that come with ageing and using a multi-disciplinary approach develop solutions. In addition, De Montfort University are working with healthcare and industry professionals to improve patient care by adopting the latest digital technology. Their **Digital Health and Care Unit** can, in collaboration with primary care teams, use their digital technology on up to

1,000 patients. The technology includes phone apps, web-based analysis, wearable devices and biometric sensors.

De Montfort University has also established the **UK-China Gait and Health Innovation Institute** with Qianhan Technology in China. The institute will investigate the links between mobility and degenerative disorders like dementia in the elderly. While Qianhan Technology have developed wearable technology, De Montfort University will take the lead on analysing the substantial amount of data generated by the equipment. They will try to establish accurate predictors of those with the highest risk of developing ill health.

Likewise, De Montfort University has been leading projects such as a four year €3.88m project to develop advanced technologies (such as smartphones, tablets and wearable sensors) to help dementia patients better manage their conditions. Although aimed at supporting an ageing society the project relies on expertise in AI and data analytics to work.

The LLEP also has the **Life Sciences Opportunities Zone** (LSOZ) at Charnwood Campus, offering facilities to support innovation and growth of local firms active in life sciences. The Charnwood Campus is concentrating on activity in bio-medical and pharma, the products of which will likely be in increasing demand with an ageing society.

In addition, the Loughborough Science and Enterprise Park is focusing research in fields such as advanced engineering and sport both of which are likely to have many opportunities for real world applications to support our ageing society. The **Defence and National Rehabilitation Centre** at Loughborough University already offers world-class facilities for military casualties and there could be synergies with the needs of an ageing population. Loughborough University's School of Sport, Exercise and Health Sciences is also undertaking research into the interplay between physical activity, sedentary behaviour and health.

Case study 3: a start-up helping to address the ageing society

Alcuris is based in the Loughborough Science and Enterprise Park. Its first product is a digital telecare platform that monitors the day-to-day activities of vulnerable people and builds a database of behaviour patterns, alerting family members if there is any unusual activity. It aims to ensure independence for vulnerable individuals and those living with conditions like dementia, peace of mind for their loved ones and insights for the health and social care sector. It is a scaleable, interoperable platform that keeps pace with IoT advances to gather real-time, actionable data, held securely in the cloud, accessible to authorities and families. Currently no telecare platform has achieved this.

A 2016 Loughborough University graduate Alex Nash launched the company with an Innovate UK Innovation Award. He has raised over £1.3m investment to deliver MVP which is in paid product trails with local authorities, with industry-standard accreditation in process. Fifteen technical jobs have been created, with further expansion before the end of 2019. Alcuris is engaged in the Dementia House, an interdisciplinary collaboration between the University and BRE (Building Research Establishment) to help educate builders, carers and relatives on how to better support those living with dementia.

There is therefore evidence that the higher education sector is very active in researching the needs of an ageing population and developing a mix of hardware and software solutions. However, there is less evidence that the private sector has developed a critical mass to lead research and the commercialisation of products related to this Grand Challenge.

While there appears to be more private sector activity in life sciences, perhaps most notably at the Charnwood Campus, this is different from healthy ageing and tackling the needs of an ageing society more generally.

8.4 GRAND CHALLENGE 3: CLEAN GROWTH

The global shift towards lower carbon technologies and renewable energy offers a significant opportunity to the UK economy. The energy sector forms a particularly large concentration of jobs across the LLEP, and there are examples of research and activity by both the higher education and private sector.

The Loughborough Science and Enterprise Park includes activity in fields such as energy, low carbon and advanced engineering. According to the website over 75 companies are on site employing over 2,200 people[73]. There are several organisations active in the area of low carbon research, including:

- Cenex—a consultancy that specialises in the adoption of low carbon and fuel cell technologies;
- The Centre for Renewable Energy Systems Technology (CREST)—a research facility that undertakes R&D in renewable energy technologies, including wind and energy storage;
- Apetrel—a startup developing software for electric vehicles;
- Energy Simulation Solutions Ltd—provides computing services and cloud-based software tools to the construction sector, with a focus on energy efficiency and low carbon design;
- Forest Rock—a software development and engineering business that focuses on the Internet of Things;
- In-Cycle—a research consultancy that aims to improve the resource efficiency of consumer products and their packaging; and
- Microtech Ceramics—a private company that has developed a ceramic product to improve emissions in internal combustion engines.

There are also organisations involved in energy-related research, including:

- The Energy Technologies Institute—involved in projects that accelerate the development of affordable, clean, secure technologies;
- Energy Holdings plc—delivers clean energy solutions for the distributed energy, diesel replacement, automotive, and aerial drone markets;
- BSI—global provider of standards and assurance services, which at Loughborough evaluates a range of gas and electrical products;
- DNV GL—advisor to the global oil and gas industry, aimed at making operations smarter and greener; and

[73] https://www.lusep.co.uk/

- Intelligent Energy—which develops, manufactures, and commercialises fuel cell products.

8.5 GRAND CHALLENGE 4: THE FUTURE OF MOBILITY

Recent technological developments have altered the profile of travel. As outlined in the Industrial Strategy, we are *"on the cusp of a profound change in how we move people, goods and services around our towns, cities and countryside"*.

Car ownership as a method of transport is particularly important across the LLEP area, particularly through connecting its rural population. However, increasing congestion is commonly cited as an issue, particularly around Leicester. A growing population will further exacerbate this problem. Innovative approaches to improving mobility—for instance, through the use of increasingly automated vehicles—offer a significant opportunity to overcome these issues, enabling further economic and environmental benefits to occur.

A key asset for the LEP is the MIRA Technology Park, an Enterprise Zone located on a former RAF airfield in the west of the LLEP area. Over £300m has been invested to date, and the Park offers a range of development space across a 340 hectare estate, making it *"Europe's most comprehensive independent automotive technology facility"*. According to the website "the region boasts over 1,500 automotive sector companies, including seven volume car manufacturers, 7 commercial vehicle manufacturers, 9 bus and coach manufacturers, 6 design centres, the majority of the Formula 1 teams and many global Tier 1 suppliers and technology specialists." Meaning the Technology Park is close to many companies in the sector.

The Park also has a number of world-renowned automotive and transport engineering firms, including Jaguar, Land Rover, Aston Martin, Honda, Lockheed Martin and Pirelli, among others.[74] This therefore could be a key asset in putting the LLEP area at the forefront of new automotive technologies.

There are also a range of further investments planned to support and enable growth and innovation in this sector. Indeed a £26m investment in a driverless vehicle testing track next to MIRA Technology Park has been approved[75]. It will focus on testing autonomous vehicles at high speed. In addition, more than £8m is to be invested in Bruntingthorpe Proving Ground near Lutterworth to develop a test area for driverless car technology[76]. This second site will focus on how driverless cars safety negotiate junctions.

Meanwhile the skill needs of a growing sector will be met by the **Logistics Institute of Technology**, led by North Warwickshire and South Leicestershire College.

[74] https://www.miratechnologypark.com/
[75] https://www.leicestermercury.co.uk/news/local-news/campaigners-lose-2nd-battle-bosworth-2042474
[76] https://www.leicestermercury.co.uk/news/leicester-news/second-multi-million-pound-driverless-2267331

8.6 TARGETING INTERVENTIONS

A review of local specialisms along with evidence from our consultations shows there could be opportunities for the LLEP to drive innovation in the Grand Challenges. The LEP has pockets of strengths in these areas, but with the exception of transport related research most innovation and activity are led by or are linked to the involvement of the local Universities rather than in clusters of private sector firms. Nonetheless Higher Education has specialisms and with support from the LLEP are likely to be able to quickly drive developments across the Grand Challenges.

Space technology is absolutely at the heart of the digital revolution. It is a huge opportunity for LLEP, but only if much more is done to build a private sector company base, clustering around the university research capabilities. At present there are assets to build on, and plans in place, for this to become a future strength. For example, with regards to AI and data revolution the activity expected at the Space Park, as well as the local expertise in Space and advanced engineering suggests the local economy is well positioned to drive innovation in this sector. Furthermore, the concentration of businesses and jobs in lower value-added logistics, manufacturing of food and the manufacturing of textiles in the LLEP suggests there could be real benefits from the local commercialisation and adoption of AI and big data analytics. Data analytics and AI will also underpin much of the work that will take place during the research into the other grand challenges.

With the future of mobility, the LLEP is at the centre of the UK transport network, on the M1 and close to East Midlands Airport. This central location is an asset in itself. The LLEP also has its own particular issue of relying heavily on private car ownership. This combination may create opportunities for testing and applying new technologies within the sub-region, both with respect to logistics and commuting (we already highlighted the work in autonomous vehicle testing) and then potentially building a productive base within the Midlands Engine on top of that research learning. This would involve collaboration with others in the Midlands Engine, and would include heavy involvement by local authorities to position the LLEP as a place where experimental new technologies are welcomed, developed and applied, with a view to those that succeed becoming embedded within the area. This links with MIRA Transport Park and presence of firm such as Lockheed Martin, Aston Martin, Bosch, Land Rover, and Jaguar already in the area.

With regards the ageing society challenge, Loughborough University's strength in sport and De Montfort's research into meeting the needs of the elderly could provide a base around which a cluster of companies that meet the needs of older people in terms of fitness, mobility, well-being, etc could develop. However, private sector growth in this area hasn't happened to date and therefore this area of research needs a cluster-building strategy.

The regards clean growth there are a range of examples of businesses and academic research, but that there does not overall appear to be a greater specialism than average. Many Universities across the country have clean growth or low carbon research agendas, and many local economies have built clean growth and related activity into their local strategies. Therefore, we are not convinced this should be the focus of the LLEP.

9. CONCLUSIONS

9.1 INTRODUCTION

Throughout this report we have identified the main challenges and opportunities that have emerged for the LLEP area in terms of productivity and its five foundations—business environment, ideas, people, place and infrastructure. We have also considered how the LLEP is placed to tackle the four Grand Challenges. In this section we offer some further thoughts which build on this evidence base and the findings of our consultation exercise. We then outline a range of potential economic priorities for the LLEP area, and how these outcomes might be monitored.

9.2 CHALLENGES AND OPPORTUNITIES

9.2.1 Productivity

Low **productivity** is the major challenge faced by the LLEP, and to some extent the Midlands as a whole. Productivity is a key determinant of the pay and living standards of the LLEP area's residents: in the long run, increasing productivity levels is the way workers become richer, businesses grow more profitable, and living standards improve. In some senses, almost all of the challenges and opportunities faced by the LLEP area relate to how to enable or promote improved productivity across its economy.

We have shown that other factors (many of which are likely to be local), rather than the sectoral structure account for the bulk of the 'productivity gap' to the rest of the UK. While the LLEP area has a lower share of generally higher-value sectors (and by extension, a larger share of lower-value sectors), when compared within sectors, we observe that the local economy underperforms the national equivalents.

While focus tends to be placed on new and emerging sectors which can help to tackle some the UK's Grand Challenges, promoting the emergence of new sectors—without improving the performance of the LLEP's existing industrial base—is unlikely to greatly reduce the productivity gap. Similarly, policy interventions that seek to overcome issues with the sectoral structure of the local economy (i.e. by seeking to attract higher-value sectors) are unlikely to be successful if they are contrary to the fundamental economic drivers that determine why businesses locate where they do in the first place.

Instead, a general effort to uplift productivity across existing sectors is more likely to improve overall productivity performance of the economy. This can generate a virtuous cycle where improving productivity performance helps to attract firms that are operating in higher-value sectors, which in turn help to retain higher education graduates further supporting improvements in productivity. The challenge therefore lies in understanding why local businesses in traditional sectors currently underinvest in technology and skills development and how the LEP and other key stakeholders can encourage the private sector to address to do so.

9.2.2 Skills, graduates and the labour market

When focussed on the drivers that influence local productivity performance, attention is often turned to **skills**. Generally, we have not identified this as a major constraint in aggregate terms: despite some variation at a local authority area level, the overall population of the LLEP area is more skilled than the regional equivalent. However, the Skills for the Future report did highlight some issues with work readiness of young people.

Instead, the issue may come in the form of 'matching' within the local labour market: are highly skilled residents able to find suitable occupations within the LLEP area? Comparisons between resident and workplace occupational mix highlight the propensity of some residents to commute outside of the LEP to secure employment in higher paid occupations.

Linked to this, anecdotal evidence points to a potential **underemployment** issue. There are a range of factors that may cause this. A prevalence of lower value sectors may partly contribute to this, while the propensity for many to work within family businesses is also cited as a contributing factor. Enabling these individuals to find employment in the occupations most closely tied to their skill levels can unlock the latent potential of the local economy.

Our analysis indicates the significant and wide-ranging benefits that the LEP's three major universities make to the LLEP area, both in their overall contribution to its economy, and through supporting R&D and innovation. Despite this, one significant opportunity is linked to the **retention of graduates**. The balance of evidence suggests that the LLEP area struggles to retain its students within the local labour market once they leave university. This is linked to the local job opportunities, which at present do not support a sufficiently large critical mass of high-value, high-paying occupations that can act as a 'pull factor' to retain graduates within the local labour market.

Alongside their sheer number, the types of qualifications gained by students across the LLEP area is also an important factor. Local universities specialise in a range of subjects, such as the physical sciences and engineering & technology studies, where skills tend to be relatively scarce and are therefore particularly valued by the labour market. These skills may be helpful in not just adding to but replacing the existing skills held within the local workforce. Evidence gathered through our consultation exercise highlights a concern that many of the 'traditional' industries such as manufacturers that are operating locally are worried about replacing skills of their older workforce.

However, skills shortages are not confined to higher education. Evidence gathered through consultation indicates that there is a continuing and significant shortfall in certain **vocational subjects** at the further education level, impacting local manufacturers. A continuing challenge is to ensure that local colleges and further education institutions offer the types of skills that local firms demand, both today and into the future. Part of solution will likely be linked to the need for investment in the further education sector which has suffered from years of austerity.

9.2.3 Businesses

Business size can influence productivity. Larger firms tend to be more capital-intensive, and thus support higher levels of productivity—exploiting the economies of scale that have enabled them to grow to their current size. Generally, policies that seek to attract large firms to a local area tend to demonstrate only limited success. This is because the locational decisions of such firms are typically driven by a broader range of factors—such as geographic advantages, access to markets, their labour market catchment and proximity to suppliers—which are often difficult or impossible to influence at a local policy level. As such, greater opportunities tend to exist in encouraging growth amongst the indigenous business base.

While official statistics indicate that the size mix of businesses is similar to the national economy, we believe this is likely to mask a large number of 'hidden' firms, operating below the VAT and/or PAYE thresholds. Evidence suggests that across Leicestershire, and within Leicester in particular, there is many micro-sized **'missing' firms**. While the scale and nature of these firms is not known, anecdotal evidence characterises them as often family-owned and tending to operate in lower value sectors, such as textile manufacturing. Such operators may lack the financial means or have the willingness to take the risks associated with making capital investments to 'scale-up' production, and thus are unlikely to compete with larger, more productive firms at a regional or national level.

Policy interventions should consider how to support growth in these firms. Smaller firms can suffer from a lack of exposure, and suitable policy interventions may be as simple as to promote such operators. Further consideration should also be given to the barriers to growth for such firms, and whether the existing stock of premises offered across the LEP is suitable to enable these firms to grow.

The rural economy accounts for a significant amount of VAT registered businesses in the LLEP and the Rural Evidence Base 2018 shows they have slightly different priorities and barriers to growth. Consequently, an LLEP wide business support programme may not be appropriate unless it recognises the different needs of rural businesses and sectors that tend to favour rural areas.

In addition, the LLEP could also benefit from a series of cluster strategies that aim to foster private sector activity around the key strengths of each University. As noted in the previous section, there are examples of innovation and research, but much is being led by higher education. A key challenge is to make sure the private sector in the LLEP benefits and a critical mass of activity in each areas is achieved.

9.2.4 Location

The LLEP's economy has a number of key strengths based around its location and connectivity. Not only does it benefit from a central location, it also has a number of strategically important road and rail links, along with a growing

airport (the second largest freight airport in the UK, behind only Heathrow[77]). Unsurprisingly logistics activity is a key feature across the local economy.

While a dominant feature of the local economy, the balance of evidence suggests that there are further opportunities to expand in this area, particularly in the context of the '**future of mobility**' grand challenge. A common theme throughout our consultation exercise concerned whether the LEP is fully utilising its potential in this area. Centres of innovation such as the MIRA Technology Park and Space Park Leicester offer leading R&D activity in transport, advanced engineering, energy and low carbon. Widespread adoption of the latest technology and processes coming out of this research could have major spill over benefits to key sectors of the local economy such as manufacturing and logistics.

However, an obvious weakness and hence a barrier to growth has been congestion on the roads and railways. Most consultees were quick to point out the central location of the LEP and hence the great opportunities the economy has for sectors such as logistics and distribution. However, they were also keen to point out that congestion was currently having adverse impacts on mobility (a weaknesses also highlighted in the Strategic Growth Plan, December 2018[78]). There was also a feeling that it was difficult to travel East – West in the LEP and investment was required to better connect the more rural parts of the LEP such as Melton and Harborough with the relatively more urban North West of the LEP.

In addition to the above, Leicester City is located adjacent to Loughborough, giving significant local combined scale. In reality these are really twin cities at the heart of the Midlands Engine. They are in the middle of Birmingham, Nottingham, Peterborough and Northampton (and looking a little further, Cambridge and Milton Keynes). Given this, they face intense competition within the Midlands to attract private sector investment. This makes raising productivity even more challenging given inward investment by the private sector can be particularly effective in raising productivity. Raising the position of the twin cities within England's hierarchy is therefore vital.

A strategy to raise perceptions of Leicester/Loughborough could pay dividends, if it builds on those cities' unique capabilities. These particularly include space and sports, which are central to innovation in the areas of AI and data analytics and the ageing population respectively. In addition, given its location between major cities in the Midlands Engine, it could be a good testing ground for new technologies in the future of mobility challenge area.

Around these twin cities, the LLEP boasts a network of market towns that provide significant economic activity as well as unique locations that could be targeted in a future visitor strategy.

77 https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2018_annual/Table_14_International_and_Domestic_Freight.pdf

78 https://www.llstrategicgrowthplan.org.uk/wp-content/uploads/2019/01/Final-LL-SGP-December-2018-1.pdf

9.2.5 Quality of life

A key strength across the LLEP area is the high quality of life it offers. This should help attract skilled individuals and retain graduates if adequate job opportunities can be created.

Many of the rural settlements across Leicestershire benefit from a broad range of environmental and historic assets. Although the pattern is not uniform across all areas, a common theme is that these rural areas on the whole tend to be relatively affluent: although data on earnings (the 'flow' of wealth) demonstrate levels broadly similar to the regional and national picture, this can disguise a significant 'stock' of wealth in these areas. Similarly, the quality of life is reflected in the (albeit crude) indicators such as high life expectancy and low levels of deprivation, while other factors such as the quality of local schools is also key to attracting and retaining highly skilled workers locally.

In terms of its urban offering, Leicester benefits from a vibrant cultural and nightlife economy, arts and entertainment facilities, sports teams, and a strong retail provision, all of which have a positive impact of quality of life. In addition, the city has a multi-cultural and diverse population, and the presence of two large universities which support a significant term-time population.

Despite the factors outlined above, we should not ignore the local pockets across the LLEP area where **deprivation** tends to be most acute. The ability of public and voluntary sector partners to address the drivers of deprivation have been constrained over recent years due to ongoing austerity measures, which continue to have an impact on local government finances and are likely to persist going forward.

This makes it all the more important to promote economic growth, and especially growth that is **inclusive**. While the direction of causation arguably tends to flow from economic success to social conditions, the reverse is also important. People who live in households and neighbourhoods with multiple challenges are less likely to be successful in the labour market, even when they have the necessary qualifications and related attributes. Tackling deprivation and raising the quality of the local environment across these areas are therefore likely to raise economic performance, and vice versa.

9.3 POTENTIAL ECONOMIC PRIORITIES

We have so far identified a range of opportunities and challenges faced by the LLEP economy. However, what are the key economic priorities for the LEP?

The central objective of policy is to raise productivity levels. It is central to the Local Industrial Strategy policy and with future demographic trends meaning businesses will not be able to meet additional demand as easily as before through expansion of the workforce, productivity improvements will be the driving force behind future growth. Furthermore, the labour market has low levels of unemployment and high levels of resident employment. So, there isn't the need to focus on employment creation for the sake of it. Any efforts on job creation must be in promoting high-value added activity linked to the strengths of the LLEP.

Given the above, the diverse economy of the LLEP, the presence of three leading Universities and their research specialisms, and the fact the private sector hasn't created sufficient high-value jobs to retain higher numbers of graduates we would suggest the following priorities:

- **Encouraging local businesses to adopt new technology, new processes or develop the skills of employees** would have a significant impact on the local economy, productivity and wage levels. Though this will be difficult given the substantial base of micro family businesses that need to be engaged. Therefore, there is likely to be a need to raise local awareness of the scale of the prize if small businesses move up the value chain. Of course, if this is successful, **sufficient business advice will be required to support this** change in local businesses.
- The business base will also **need appropriate skills** and hence on-going and effective communication between the private sector and education is essential. Though as noted previously, Further Education may need significantly more funding to invest in up to date technology and equipment to train students.
- A future objective is to improve **the retention of higher numbers of University graduates**. The LEP boasts three leading universities, yet their skilled graduates often move elsewhere. By moving the economy up the value chain there will be greater numbers of appropriate jobs created. With a greater number of graduates there will also be more scope for R&D activity in the private sector which would help the LEP move closer to the UK targets. We would suggest the LLEP develop **strategies to promote the clustering of the private sector** around the specialisms of the University.
- We would also suggest that the LLEP **takes a long-term view of promoting and supporting research** linked to the Grand Challenges. Whilst there may be some "quick wins", it will likely take ten years or more to see significant growth.
- All of the above needs support by **continual improvements in infrastructure** including road, rail, schools, FE colleges, commercial space and housing. The rural economy in particular needs better broadband access and its businesses arguably rely more on the road network than those in urban locations.

9.4 KEY PERFORMANCE INDICATORS

9.4.1 General principles

In order to measure the progress of the economic priorities listed above, we consider a range of indicators that can help the LEP in monitoring and measuring performance into the future.

Generally, we can broadly **categorise** performance indicators of this nature can into the following three groups:

1. Those that capture the **inputs** of, or resources allocated/enabled by, public sector organisations and voluntary partnerships operating in the

area: for instance, this could include the scale of capital investment, spending on supporting SMEs, or rates of housing delivery.
2. The **outcomes** of such activity: such as educational outcomes, levels of small business creation; and
3. The **performance** of the economy itself: measured across a range of headline indicators such as employment levels, productivity growth, economic participation and/or unemployment rates).

The first and to some extent second of these groupings are issues that tend to lie within the domains of local institutions, and thus reflect the most appropriate targets that can be actively influenced by policy interventions. While these factors will help to determine the overall performance of the economy, either directly or indirectly, it is also subject to a range of broader regional, national and international drivers which cannot be influenced at a local level.

Next, we may consider the types of **variables** that are to be measured, for instance:

- The **absolute level** of any indicator: e.g. the number of people in work;
- **Change** over time: and if so, over what period; and
- Performance **relative** to regional and/or national geographies: e.g. the share of total business starts across the East Midlands.

Our advice is that all of these matter, and that it makes sense to be pragmatic and flexible over which is stressed. The absolute performance of an indicator may be better or worse depending on how the East Midlands or UK overall is performing, and the sensible approach is to be realistic and honest about whether over- or under-performance on that measure has reflected local factors, or broader economic influences.

Similarly, it is important to consider whether the outcomes generated by different performance indicators align to one another. For instance, seeking to expand levels of employment, while also encouraging productivity improvements, may be to some degree substitutes—as firms typically either add to the workforce or invest in better machinery. While this is not always the case, particularly in growing and successful sectors where investing in workers and machinery are more complementary, it is nevertheless a factor to consider in considering the relationships between the different indicators.

Finally, there are more technical issues about how quickly indicators are available, their frequency and reliability. For example, the Claimant Count measure of unemployment is published speedily and is reliable and rarely revised, but nowadays tends not to capture very well the total number of people who want to work but are not working. The Labour Force Survey measure is better at picking up the many people who think of themselves as unemployed but who do not claim relevant benefits, but it is based on a small sample and often gets heavily revised. Similarly, other measures—such as the Index of Multiple Deprivation, or to take an extreme example, the Census—may provide reliable information but with greater infrequency.

9.4.2 Suggested indicators to adopt

In light of our suggested economic priorities, and the general considerations listed above, we present below a suggested list of potential indicators.

Following the 'foundations' outlined in the UK industrial strategy, and the pattern of this report, we group these into six themes. For each, we provide potential indicators which could be used to measure progress across the different challenges.

Fig. 94. Indicators

Key themes, local opportunities and challenges	Example measures
Theme 1: Productivity	
Overall performance	Productivity gap relative to the UK
Sectoral performance	Productivity gap relative to the UK for key identified sectors (i.e. the extent of 'local factors')
Theme 2: The local economy and business environment	
Relative headline performance	GVA and employment growth, relative to the region/UK
Sectoral structure	Key growth sectors as a share of overall GVA
Local strengths	Employment location quotient of key sub-sectors
Business characteristics and performance	Registered businesses per 1,000 population Change in businesses by size band (particularly 'micro') Business births and deaths as a share of total stock Five-year business survival rates
Theme 3: Ideas	
R&D expenditure	R&D expenditure levels by source Overall expenditure as a share of GVA
Patents	Rate of patent applications per capita
Economic indicators	Change in GVA/employment high-tech and knowledge-intensive sectors Change in employment in scientific and technical occupations
Universities	Higher education rankings Value of engagement with businesses and communities
Theme 4: People	
Occupations	Workplace and resident occupation mix
Commuting/job creation	Balance of net commuting by local authority area
Resident skills	Qualifications of the adult population Higher education and further education performance Destinations of school leavers
Theme 5: Place	
Economic participation and access to work	Economic inactivity rates by gender and/or ethnicity, relative to the region/UK Claimant count levels and change
Living standards	Resident and workforce earnings growth
Health	Life expectancy, relative to the region/UK Index of multiple deprivation
Theme 6: Infrastructure	
Congestion	Public transport usage Travel time measures for the Strategic Road Network and local 'A' roads.
Housing supply and affordability	Housing approvals, commencements and completions House price to earnings ratio

Source: Oxford Economics

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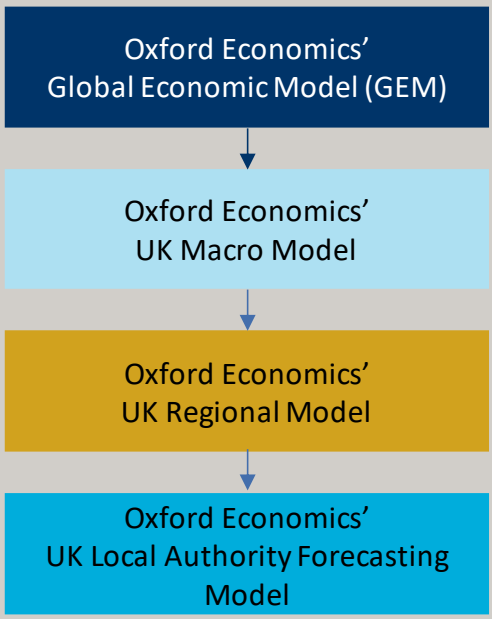
APPENDIX 1: LOCAL AUTHORITY DISTRICT FORECASTING MODEL

Oxford Economics Local Authority District Forecasting Model sits within the Oxford suite of forecasting models. This structure ensures that global and national factors (such as developments in the Eurozone and UK Government fiscal policy) have an appropriate impact on the forecasts at a local authority level. This empirical framework (or set of 'controls') is critical in ensuring that the forecasts are much more than just an extrapolation of historical trends. Rather, the trends in our global, national and sectoral forecasts have an impact on the local area forecasts. In the current economic climate this means most, if not all, local areas will face challenges in the short-term, irrespective of how they have performed over the past 15 years.

Fig. A1. Hierarchal structure of Oxford Economics' suite of models

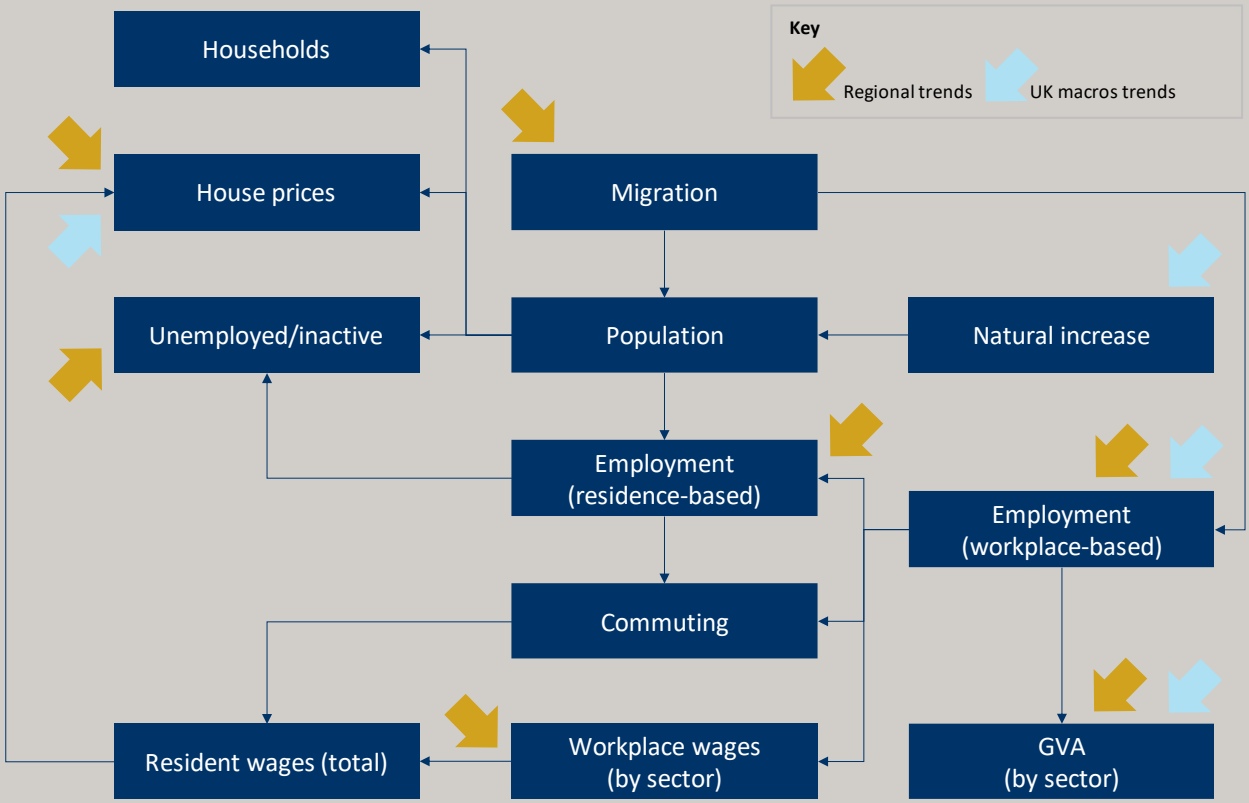


Our local forecasting model depends essentially upon three factors:

- National/regional outlooks – all the forecasting models we operate are fully consistent with the broader global and national forecasts which are updated on a monthly basis.
- Historical trends in an area (which implicitly factor in supply side factors impinging on demand), augmented where appropriate by local knowledge and understanding of patterns of economic development built up over decades of expertise, and
- Fundamental economic relationships which interlink the various elements of the outlook.

The main internal relationships between variables are summarised in Fig. A2. Each variable is related to others within the models. Key variables are also related to variables in the other Oxford Economics models.

Fig. A2. Main Relationships



The forecasts are produced within a fully-integrated system, which makes assumptions about migration, commuting and activity rates when producing employment and population forecasts.

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